IBIMA Publishing
Communications of International Proceedings
https://ibimapublishing.com/p-articles/38COMM/2021/3854721/
Vol. 2021 (36), Article ID 3854721

Ontology of Scientific Content in Scientific Social Networks

Oleg GRIMOV

Southwest State University, Kursk, Russian Federation

grimoleg@yandex.ru

Correspondence should be addressed to: Oleg GRIMOV; grimoleg@yandex.ru

* Presented at the 38th IBIMA International Conference, 23-24 November 2021, Seville, Spain

Abstract

Ontological features of scientific content distribution in modern conditions of information and communication technologies development are described in the paper. The author says that the basis of these technologies is social media, in particular, social networks. Key characteristics affecting the possibilities of scientific activity within the framework of social networks are multimedia, interactivity, hypertextuality. Main formats and types of scientific content placement in social media are described. It has been shown that specialized scientific networks with significant functional potential are the most important. Ontological status of scientific content on scientific social networks is analysed. It is proved that this status is ambivalent since scientific social networks combine ethos of free open science and characteristics of commercialization. As a result, scientific content can act both as an object of exchange/gift and as a market product. In conclusion, promising directions of further research of scientific social networks are given.

Keywords: scientific social networks, science, content, knowledge.

Introduction

In modern society science performs multiple functions and can be analyzed from different methodological positions. Thus, science can act as a social institution, as a sphere of human activity, as well as a form of social consciousness. Despite widespread criticism of scientific worldview (Feyerabend (1975); Law (2004)), it is fundamental in the modern world in our opinion. In this regard, the question of dissemination and development of scientific worldview becomes especially important in modern conditions. We find that, new institutions and practices related to the use of information and communication technologies are becoming increasingly important along with traditional forms. New digital technologies are actively used for production, distribution, storage, consumption of scientific content (sociohumanitary analysis of modern digital technologies is given in (Aseeva and Budanov (2019); Boev and Kamensky (2015); Grimov and Kamensky (2019); Mayakova (2019)). In the context of new information and communication technologies development, it is possible to produce and broadcast scientific knowledge in a new way in its various forms. Qualitative breakthrough in the formation of modern technological and sociocultural appearance of civilization ensured the formation of so-called social media - social Internet communication tools that is a network. These communicative tools extend both the understanding of communicative practices and formats of content produced. Social media corresponds to the information technology ideology of WEB 2.0 and determines not only the content of the Internet, but also practice of content production.

Cite this Article as: Oleg GRIMOV, Vol. 2021 (36) "Ontology of Scientific Content in Scientific Social Networks", Communications of International Proceedings, Vol. 2021 (36), ISBN: 978-0-9998551-7-1, ISSN: 2767-9640. Article ID 3854721.

Results and Discussion

The main type of social media is social networks. Social networks have the following characteristics:

- multimedia; provides rich multi-format content capabilities through built-in social media services and applications. This quality contributes to significant possibilities of adapting content to a specific communication platform;
- interactivity; a variety of multi-user space options, where each participant is not only a consumer but also a content producer and can participate in communication practices online;
- hypertextuality; special architecture of social networks is formed, which ensures syncreticity of their space-time continuum. Thanks to this, communication, social relations, and dissemination of information are ensured.

Scientific content can be distributed and developed in a variety of formats in various types of social media:
- popular science content in social media communities (in various groups, communities, channels);
- means of network communication (instant messengers and online conference services: Skype, Zoom, Viber, Telegram, etc.) are an important means and a tool for organizing scientific interaction;
- scientific social networks, which provide extensive opportunities for the creation, presentation, storage and dissemination of scientific content;
- various online scientific and educational projects (including online discussion platforms, training courses, etc.) that can operate on various communication platforms.

Scientific social networks have a special place in the range of described services and technologies, which we will describe more detailed further. But first of all, we want to note another important aspect. Historically, various Internet sites and platforms related to business communication can be traced. So, evolutionarily classical scientific social networks are preceded by business or professional networks like LinkedIn, many of whose functions are subsequently borrowed by scientific and academic networks. Historically, such resources have focused on the following functions: self-presentation, finding new contacts and expanding social ties, finding work, posting vacancies and recruiting personnel, creating groups and communities. So, this platform played the role of a virtual labor exchange in many ways, which is currently widely represented on some online freelance exchanges (Grimov (2020)).

Scientific social networks are a unique phenomenon that transforms standards and formats of scientific communication, its economic and ethical aspects. Some authors (Medvedkov et al (2019)) say that a distributed network of scientific partnership between representatives of various countries/regions is an example of an academic network. It is used to exchange scientific materials and experience. It is the category of scientific exchange that becomes key in studying scientific social networks.

A.M. Feigelman and D.Y. Shatalov-Davydov (2019) describe ontological outlines of modern scientific social networks on the basis of "sovereignty" (Bataille (1991)) and "trading zone" (Galison (1999)) concepts. The sovereignty of J. Bataille is understood as the realization of those opportunities and potentials that are not associated with practical utilitarian benefits. So, sovereign is what goes beyond usual rationality, categories of utility. That, what is subject to free circulation (in an approximate economic sense) as a kind of surplus is sovereign (some kind authentic). Modern science, as authors show, on the contrary, is instrumental, rational, operational, and focused on achieving practical result. The category of "exchange zones" as an important concept of sociology of scientific knowledge reveals modern scientific communication on the other hand. Exchange zone is a special location ("front line") at the junction of various disciplines (in the case of interdisciplinary studies), discourses (both intra-scientific and extra-scientific), as well as between scientific community itself and society as a whole. At the same time, the concept of an exchange zone develops in its own way such concepts as material and semiotic Hinterland network (Law (2004)) and the lines of territorisation /deterritorisation in the system of J. Deleuze and F. Guattari (Deleuze and Guattari (1972)).

Feigelman and Shatalov-Davydov wonder is sovereign science possible in Bataille understanding? And they conclude that it is in the exchange zones that those excesses of freely circulating knowledge that do not fall under utilitarianism of ordinary institutional science can form. They call modern scientific social networks an example of such an exchange zone: "in the absence of any institutional forms and structures that determine communication, it tends to turn into free exchange in presence or appearance of any common language. An example of attempts at such an extra-institutional exchange is well-known portals Academia.edu, Researchgate, etc. " (Feigelman and Shatalov-Davydov (2019), p. 70). Researcher S.V. Shibarshina points to the following features that allow us to interpret scientific social networks as zones of exchange: "real communication" here-and-now ""; (conditionally) open access to information and its evaluation in the form of comments, discussions, "open reviews," etc.; global coverage; multiculturalism... This contributes to the formation of a special type of communicative freedom, namely, overcoming the boundaries of previously stable social ties and relations, as well as offline barriers and official hierarchy" (Shibarshina (2019), p. 81). Theoretically, the practice of «giving» can be observed on scientific social networks, which is manifested in free access to published scientific content; scientific social networks at the same time allow you to both distribute content and consume it. It can be in various statuses within this gift. However, it should be noted that not all information and not all social networks are free. But some scientific and academic online platforms can be paid (providing paid access to content, a special system of ratings and user accounts that allows expanding

functionality at an additional cost). Thus, these trends (scientific knowledge as an object of gift and a market product) are simultaneous.

We also note that free conversion of scientific knowledge is possible in the mode of so-called public science - educational activities, popularization of science. In this case scientific knowledge tends to be common getting rid of institutional financial and other restrictions. It is getting common not only for ordinary people because of activity but also because of collaborative activities. The practice of scientific crowdfunding is widespread- so-called crowd science- collecting donations from public for scientific activities, scientific volunteering, etc. As a result, social space of science is getting truly open, free, and dialogic. At the same time, some authors note that general logic and functionality of scientific social networks are quite consistent with the economic model of capitalism. Kupriyanov et al write: "Academic social networks are digital platforms that combine functions of scientific repositories and scientific citation systems" (Kupriyanov et al (2019), p. 65-66). It is indicated that materials/content posted on the network immediately become an object of peculiar relations regulated by special logic of academic capitalism: "Reputation indices are made up not only of citations, but also of downloads, views, mentions, tweets, comments, recommendations, transfers.... Users load documents on to the network that undergo a kind of "turnover" and thereby gain points, creating a "cost" that determines the "value" of both the issue and the author. In this system, posted document is equivalent to the product, and the resulting rating is its value, expressed not in money, but in points " (Kupriyanov et al (2019), p. 66). The authors distinguish the idea of free competition in unified conditions, scientific individualism, meritocracy, openness as the main markers of neoliberal science observed in scientific social networks (Kupriyanov et al (2019), p. 61). As we see, these characteristics quite correspond to ethos of scientific social networks. At the same time, these "market" properties of scientific social networks are indicated regardless of paid or free access to content, solely on general principles and grounds.

It is necessary to note that scientific social networks are currently not only one of the most important means of scientific communication, but also a repository, a base of scientific information. A.V. Gasilin on the example of Academia.edu platform says that scientific social networks... "are characterized as an integral part of the Open Science network project, which acts as a high-tech alternative to both traditional systems of scientific publication and review, and commercial bases of scientific articles. The structure of Academia.edu combines features of social network and electronic base of scientific articles" (Gasilin (2018), p. 73).

Thus, a scientific social network can be an alternative to a variety of paid bibliographic databases, being the embodiment of open, accessible science. However, despite this, on the one hand, there is a partial discrepancy between formally proclaimed ethos of free open science, and on the other, the tendency to monetize and commercialize access to scientific content in scientific social networks, as well as in scientific publishers and databases.

Conclusions

It can be concluded that scientific social networks combine signs of free exchange and conversion of scientific content, its "giving" in line with free open science, as well as signs of academic capitalism, including commercialization, which nullifies network, free and equal nature of dissemination of scientific information in them. Moreover, combinations of features of open and "commercial" science in each scientific social network are different. As we see, scientific social networks significantly affect the processes of scientific communication, status characteristics of scientists, etc. But do they change the very structure of science and scientific knowledge, its institutional shape? This should be a key question in the study. We believe that scientific social networks affect social parameters of scientific knowledge, mechanisms for its development and dissemination. At the same time, scientific knowledge itself and its inherent logic cannot be changed. This problem comes with another important question: Is scientific social network fully a tool and a mean of academic mobility, or is it simply expanding and facilitating existing communicative interactions without creating anything fundamentally new? Answers to these complex questions should be one of the areas of further research on scientific social network.

Acknowledgement

The study was carried out with the support of the Grant of the President of the Russian Federation MK-5019.2021.2 "Scientific social networks as a resource of academic mobility"

References

- Aseeva, I. and Budanov, V. (2019), `Some issues of ethical regulation of «digital» society` Proceedings of the 34 th International business information management association conference (IBIMA), 13-14 November 2019, Madrid, Spain, 9679-9683.
- Bataille, G. (1991), The accursed share, volume I: Consumption, New York, Zone books.
- Boev, E. and Kamensky, E. (2015), `An innovation civilization in the context of the anthroposphere crisis of the technogenic society`, *Asian social science* 11(4), 328-335.

- Deleuze, G. and Guattari, F. (1972), Capitalisme et schizophrénie: L'Anti-Edipe, Paris, Minuit.
- Feigelman, A.M. and Shatalov-Davydov, D.Y. (2019), `Unproductive community and exchange zones: the possibility of sovereign science`, *Bulletin of Vyatka State University* 3 (133), 67-75.
- Feyerabend, P.K. (1975), Against method: outline of an anarchistic theory of knowledge, London, New left books.
- Galison, P. (1999), `Trading zone. Coordinating action and belief`, *The science studies reade*, New York, Routledge.
- Gasilin, A.V. (2018), `Academia.edu: marketing of social networks as a "new organ" of open science`, *Philosophical problems of information technologies and cyberspace* 1 (14), 73-91.
- Grimov, O. (2020), `Commissioned educational and scientific works as a freelance activity: socio-economic aspects`, *Economic Annals-XXI* 186 (11-12), 152-160.
- Grimov, O. and Kamensky, E. (2019), `Digital reality: social ontology and empirical indicators of the problematization in the mass-media space of Russia` Proceedings of the 34 th International business information management association conference (IBIMA), 13-14 November 2019, Madrid, Spain, 9274-9282.
- Kupriyanov, V.A., Khvatova, T.Y. and Dushina, S.A. (2019), `Scientific capitalism in academic social networks and analysis of its influence on scientists`, *The digital scholar: philosopher's lab* 2 (4), 61-81.
- Law, J. (2004), After the method: mess in social science research, New York Routledge.
- Mayakova, A. (2019), `Risk analysis of the modern anthropotechnical environment` Proceedings of the International Conference on Sustainable Development of Cross-Border Regions (SDCBR), 19-20 April 2019, Barnaul, Russian Federation, 395, 1, DOI: 10.1088/1755-1315/395/1/012007.
- Medvedkov, E.B., Baibolova, L.K. and Kalabina, A.A. (2019), `Creation of a sustainable academic network in HIEDTECH project`, *Proceedings of KSTU named after I. Razzakov* 52, 163-172.
- Shibarshina, S.V. (2019), `Scientific communications and collaborations in the Network as possible exchange zones`, *Sociology of science and technology* 10 (2), 75–92.