

ROMANIAN SPATIAL PLANNING RESEARCH FACING THE CHALLENGES OF GLOBALIZING SCIENCES

Alexandru-Ionuț PETRIȘOR

PhD (Ecology), PhD (Geography), Habil. (Urban planning), Associate Professor and Director, Doctoral School of Urban Planning, “Ion Mincu” University of Architecture and Urban Planning & Senior Researcher I and Scientific Director, National Institute for Research and Development in Constructions, Urban Planning and Sustainable Spatial Development URBAN-INCERC, Bucharest, Romania, e-mail: alexandru_petrisor@yahoo.com

Andrei MITREA

PhD, Lecturer, Department of Urban Planning and Territorial Development, School of Urban Planning, “Ion Mincu” University of Architecture and Urbanism, Bucharest, Romania, e-mail andrei.mitrea@uauim.ro

Abstract. There shouldn't be any doubt that globalization not only affects economies, but also other areas of scholarly interest, such as the research environment. Within research, multi-disciplinary approaches are now being utilized on a grand scale. As a result, the joint evolution of scale and multi-disciplinarity seems to direct modern research from the 'potholing' towards the 'sky-diving' approach. In this context, many countries where the research tradition was affected by isolation are trying to catch up fast and compete within the global research ecosystem. However, some of the research domains have a longer tradition and developed their own rules, which are rapidly adopted by other fields, in order to equal the visibility of their predecessors. The positivist approach, consisting of statistically analyzing data resulting from experiments, which are, in turn, designed to test hypotheses derived from empirical observations or theoretical reasoning based on a literature review, has left an important fingerprint on current research practices. It also appears to be related to the pressure of publishing research, translated into the 'publish or perish' adage, and more recently, to the use of scientometric approaches to assess the value of articles, based on their citations. These new trends, along with an emerging competition between the scientometric giants, Thomson-Reuters and Scopus, facilitated the evolution of 'predatory journals', but also engendered a propensity towards designing hybrids between science and economy or between science and social networking. At the same time, the pressure resulted into individual unethical behaviors; some authors are no longer interested in delivering their results to the appropriate audience, but are looking instead for those means that could facilitate their academic or research promotion. Consequently, some journals are also attempting to meet these needs. The global race for research competitiveness, measured in terms of scientific yield and citations, primarily affects fields where articles and citations are not the traditional outputs, such as the humanities

and social sciences in general and planning-related disciplines in particular. When discussing planning, it has to be stressed out that research has a merely societal value and is not aimed at developing products that can foster economic growth or delivering scientific articles that profoundly change the theoretical perspectives. Simply put, research in planning aims at increasing the safety and welfare of people. As a consequence, planning research topics have shifted from providing scientific grounds to regional development policies, to addressing research quality and social responsibility or producing research guidelines. This article looks at the particular case of Romanian planning research based on SCImago data, in an attempt to assess whether this field is able to meet these global challenges, especially after the consistent, albeit uneven, in terms of goal and pace, application of new research policies designed after joining the European Union, which were aimed at increasing its article output and its international visibility. The findings indicate that the numerical growth of articles and publications is spectacular in Romania for most fields, and even more so within the humanities, the social sciences and planning. However, the question remains whether this impressive growth is supported by an increase in quality. We have therefore left aside matters such as the globalization of authors, topics or citations. These aspects require a more in-depth research effort.

Key words: globalization, positivism, scientometry, SCImago, multi-disciplinarity.

1. Introduction

These are interesting times for science, as several new trends have taken center stage over the past few years. Summarizing the changes of academic thinking in a keynote speech at the International Academic Forum joint Asian Conference on Sustainability, Energy, and the Environment and Asian Conference on Social Sciences, Professor Stuart Picken (2015) mentioned that the way of doing science moved from 'potholing' to 'mountaineering' and now to 'sky-diving', *i.e.* from conducting research on a very narrow and specific subject, towards moving to a specific topic with an interdisciplinary view. In parallel, thinking within research has gradually shifted from linear (start point), to lateral (seeing links) and to dialectical (experiencing contradictions), thereby reflecting the internationalization and inter-disciplinization of science (Figure 1).

This trend is consistent with Lawrence's remark (2007) according to which interdisciplinary papers have better chances of acceptance for publication than uni-disciplinary ones. Apart from this publication bias, inter-disciplinarity increases the power of research (Petrișor, 2013) in times characterized by sudden changes, political fragmentation, fast circulation of information and conflicting values (Booher and Innes, 2002).

This new way of making science seems to be influenced by the positivist approach in all of its aspects (Ryan, 2006). On the one hand, the "publish or perish" slogan seems to be a direct consequence of positivism (Antunes, 2004); results must be disseminated by publication (conditioned by their validation through the peer review process), because apparently their value seems to reside in the number of citations (Ha *et al.*, 2006; Lawrence, 2007).

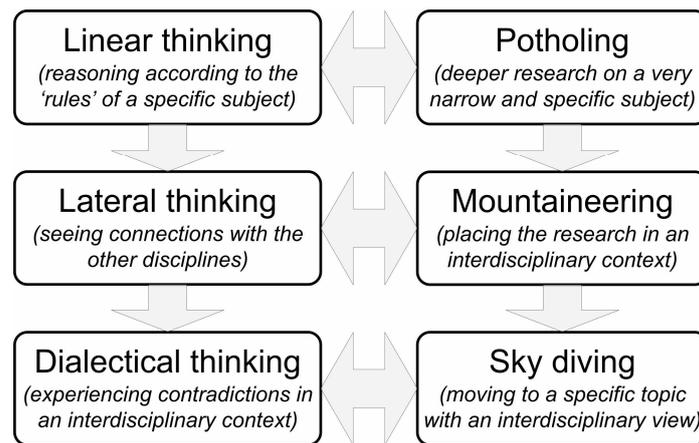


Fig. 1. Paradigm of the new interdisciplinary science (based on Picken, 2015).

Today however, the simple acquisition of citations is not sufficient. A wide range of citations metrics, have been developed to measure the quality of research and compare researchers and journals. They are now used extensively (Lawrence, 2007), with the impact factor and Hirsch index being the most common. Nonetheless, the process of developing new metrics still continues. On the other hand, the positivist approach required a certain structure of articles, mirroring the research process: first, the author develops one or more hypotheses, based on a literature review; the methodological section then describes the methods used to test them and the results the author has obtained, and, finally, the discussion section addresses the relationship between the results and original hypotheses (Meheus, 1999). The validity of results is indicated by the analysis of statistical data resulting from the experiments (Petrișor, 2010).

In addition to the positivist influence, globalization (Nerad, 2006) and the wide spread of inter- and trans-disciplinary research approaches have left a significant fingerprint on all disciplines, including the social sciences and the humanities (Petrișor, 2013). At this point, we wish to stress the idea that planning research has merely a societal value and is not aimed at developing products that can foster

economic growth or at delivering scientific articles that dramatically change existing theoretical perspectives (Petrișor, 2014).

Against this background, it was the planning-related disciplines that were primarily affected. While traditionally planners, including those in academia and research, measured their scientific yield in plans, the new policy forced them to publish. This article is trying to examine the impact of the new publishing-focused research, globalization and positivist influence on the spatial planning research ecosystem in Romania.

2. Challenges of publication in contemporary science

As mentioned earlier, the essential paradigms governing the publishing realm have changed during the recent period. Academic and research promotion criteria based on metrics have distorted the behavior of scientists (Lawrence, 2007), but also that of journals. Some authors are no longer interested in delivering their results to the appropriate audience, but are looking instead for those means that could facilitate their academic or research promotion; as a consequence, some journals are also attempting to meet their needs. The extensive use of self-citations and citation stacking (Jones, 2013; Krell, 2014) prompted Scopus, the well-known

content indexing service, to re-evaluate all journals included in their database and to discard those with weaker ethics. Hence, the peer review process gradually shifted from analyzing the technical quality of articles to extending the analysis to the entire research process and, finally, to assessing the potential impact of an article, i.e. its citeability (Selvarajoo and Robert, 2013; Björk, 2015; Kangas and Hujala, 2015; Pontille and Torny, 2015). Since most published articles address basic research, the model is applied to all disciplines; statistical analyses seem to be required due to this publication bias, and not as a real necessity (Keat, 1979).

Within such a context, a new 'species' of journals appeared. Predatory journals promise an easy-discoverable research repository, providing open access to readers, but charging the authors instead (Butler, 2013; Kangas and Hujala, 2015). There are other 'advantages', including a return to the old-style, technical quality focused peer review (Selvarajoo and Robert, 2013; Petrișor, 2016), and discounts advertised using a language borrowed from the business world (Atkinson, 2013; Petrișor, 2016).

In addition to mixing science with business (the 'predatory journals' case), journals have taken advantage of the Internet (Kangas and Hujala, 2015). Most printed journals developed an online version and numerous online journals appeared. Predatory journals appear, almost exclusively, online. The use of the Internet has resulted into adding downloading / visualization criteria to the classical citation counts (Priem and Hemminger, 2010). Furthermore, Altmetrics have developed Altmetric indicators, an alternative measurement addressing the societal value of research, based on the discussion of articles in the social media (Liu et al., 2013).

Consequently, some journals started to advertise their content within social media networks.

3. Additional pressure set on planning-related disciplines

At this point, it might be helpful to provide a concise overview of the publishing practices during the last few decades. Hence, by the end of the 1970s, social sciences defined the perspectives for assessing the efficiency of dissemination and the adequacy of research for phrasing social policies (Coleman, 1978). The first critical analyses aimed at providing scientific grounds to regional development policies appeared in the 1980s (Gore, 1984). During the 1990s, large samples of social journals were used to build up indicators for measuring the relevance of research (Nederhof and Zwaan, 1991; Crespi, 1998; Judge and Haughton, 1998; van Dalen and Henkens, 1999). Starting from the 1990s and continuing into the 2000s, some authors phrased clearer proposals for improving the quality of research within the social sciences in general, and within planning research in particular (Hopkins, 2001; Starbuck, 2003, 2006; Lauria and Wagner, 2006; Webster, 2006; Akkerman *et al.*, 2008; Gilbert, 2009). At present, researchers tend to address research quality and social responsibility of researchers jointly (Thérèse and Martin, 2010; Goldstein and Maier, 2010; Lowe *et al.*, 2013; Glerup and Horst, 2014), and turn previous recommendations for improving research in research guidelines (Murnane and Willett, 2011).

However, this general picture is not consistent across disciplines and across countries. Planning-related disciplines, such as architecture, urban and territorial planning in particular, and social sciences in general, are among the latest affected by the research ecosystem created by the application of the 'publish or perish'

principle. In these fields the growth was even more spectacular, as articles are not necessarily the main output (Huang and Chang, 2008) and they often cite non-journal sources (Archambault *et al.*, 2006).

4. Romania as a case study

This situation is even more visible in Romania, a country that had to change its ways of doing science after joining the European Union. An analysis carried out around 2005-2006 revealed the gap between the visibility of Romanian scientists through publications and citations within an international context, and called for a new research strategy aimed at reducing this gap, by increasing, amongst others, the number of Romanian journals (Repanovici, 2011). This policy was applied consistently, albeit with slight differences with respect to aim and pace, resulting into an overall increase of the scientific production of more than six times during 2008-2013 (Pajić, 2015).

The data used in this study originated from SCImago journal data, which can be retrieved free of charge from <http://www.scimagojr.com/journalrank.php>. The website can display the number of journals for a specific subject (or group of subjects) and region (or country). The use of SCImago data involves adopting their classification; planning is a sub-topic of the social sciences, while in Romania planning-related disciplines are included in Arts and Humanities.

Figures 2, 3 and 4 display the worldwide and Romanian dynamics journals, focusing on social sciences, and particularly on the planning-related subjects, compared to basic sciences (physics and astronomy).

Figure 2 shows that despite the spectacular growth of the number of

social science journals, compared to all subjects, but especially with basic disciplines (physics and chemistry), their number is still low (all social sciences journals sum up to less than physics and chemistry taken together). This trend reveals the fact that publication became customary to these disciplines only recently.

The Romanian situation (Figure 3) confirms this trend. In this case, it is even easier to notice the lag between social sciences, where the first journals appeared only in 2004, and physics and chemistry, where journals existed at the beginning of the period. The number of journals dedicated to social sciences, and also the two planning-related topics (Urban Studies and Geography, Planning and Development), show the fastest growth rates among Romanian journals, especially compared to Chemistry and Physics and Astronomy, where the number of journals tends to stabilize after 2011-2013.

The fast growth of the number of Romanian journals, irrespective of subject, visible in Figure 4, which compares the total number of Romanian and worldwide journals, is most likely a consequence of the research policies started in 2005 and applied at different paces, but somehow consistently, and aimed at reducing the gap between the visibility of Romanian science within the international research ecosystem.

This overall spectacular growth shows that Romanian urban planning research is ready to take on the challenges of globalization and able to compete in the European research ecosystem (Florescu and Mitrea, 2015).

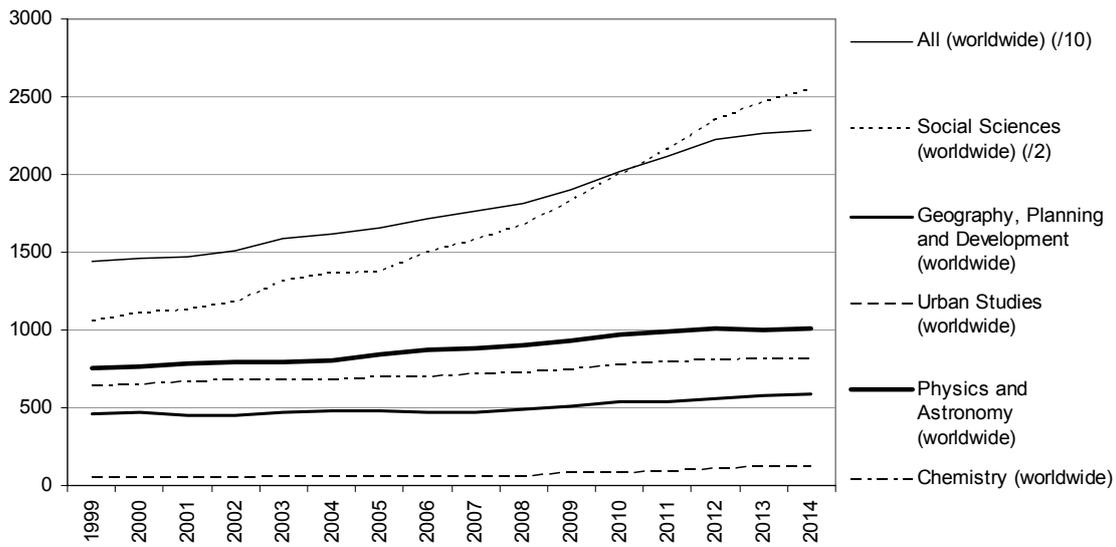


Fig. 2. Worldwide dynamic of the number of journals by specific subjects, based on SCImago data (<http://www.scimagojr.com/journalrank.php>).

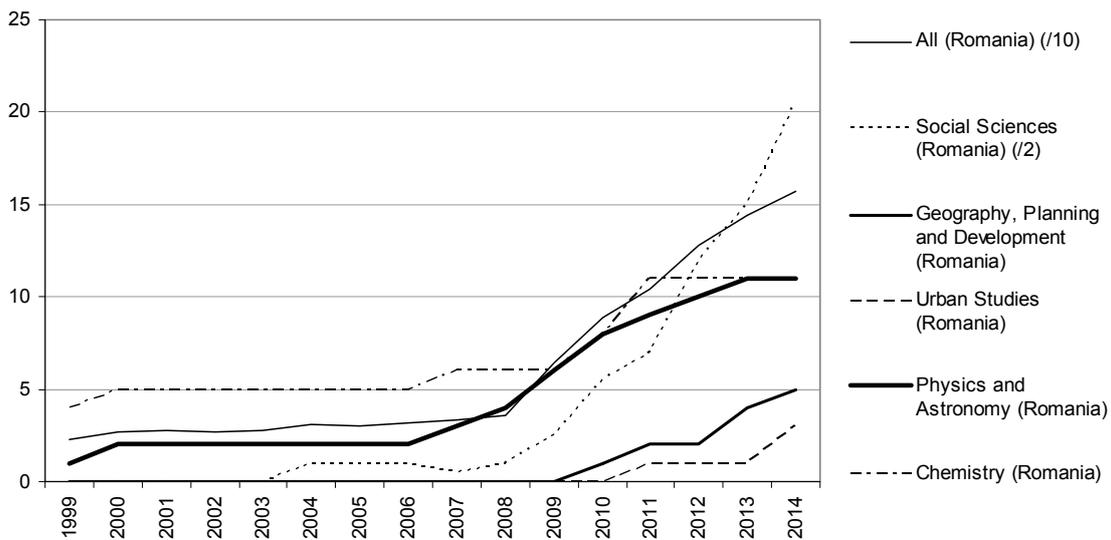


Fig. 3. Dynamic of the number of Romanian journals by specific subjects, based on SCImago data (<http://www.scimagojr.com/journalrank.php>).

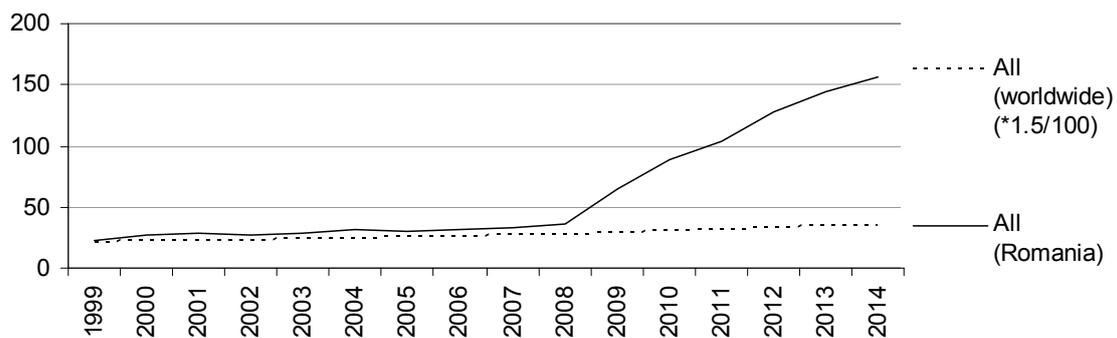


Fig. 4. Dynamic of the number of Romanian and worldwide dynamic of the number of journals irrespective of subject, based on SCImago data (<http://www.scimagojr.com/journalrank.php>).

5. Conclusions and further research

These new ways of doing science, and particularly the pressure to publish, have certainly influenced the Romanian research ecosystem, particularly within areas where publications were not the main output, such as spatial planning. In a rapidly changing context, the system provided a fast answer, showing its adaptation potential by increasing the number of publications and articles. At a first glance, the Romanian research environment, particularly that evolving within the social sciences, seems to possess the ability to match up to the international scene.

However, these findings are based only on the figures; future studies should address whether these articles and publications are also able to face the global competition in terms of quality. Globalization of authors, topics or citations can provide a better answer to the question whether this growth is only mimicking the global trends or it is significant in qualitative terms as well.

REFERENCES

- Akkerman S., Admiraal W., Brekelmans M., Oost H. (2008), *Auditing Quality of Research in Social Science, Quality & Quantity* **42(2)**: 257-274.
- Archambault É., Vignola-Gagne É., Côté G., Larivière V., Gingras Y. (2006), *Benchmarking scientific output in the social sciences and humanities: The limits of existing databases*, *Scientometrics*. **68(3)**: 329-342.
- Antunes D. (2004), *The transformative approach*, in: Buono A. F., *Creative Consulting: Innovative Perspectives on Management Consulting*, Information Age Publishing, Greenwich, CT, USA, pp. 303-324.
- Atkinson R. J. (2013), *Academic journals: Are open access article publishing charges enabling a dark side?*, *HERDSA News* **35(3)**, <http://www.roger-atkinson.id.au/pubs/herdsa-news/35-3.html>
- Björk B.-C. (2015), *Have the "mega-journals" reached the limits to growth?*, *PeerJ* **3**: e981.
- Booher D. E., Innes J. E. (2002), *Network Power in Collaborative Planning*, *Journal of Planning Education and Research* **21(3)**: 221-236.
- Butler D. (2013), *The Dark Side of Publishing*, *Nature* **495(7442)**: 433-435.
- Coleman J. S. (1978), *The Use of Social Science Research in the Development of Public Policy*, *The Urban Review* **10(3)**: 197-202.
- Crespi G. S. (1998), *Ranking the Environmental Law, Natural Resources Law, and Land Use Planning Journals: A Survey of Expert Opinion*, *William and Mary Environmental Law and Policy Review* **23(1)**: 273-297.
- Florescu T., Mitrea A. (2015), *Romania, The Planning Review* **51(1)**: 64-65.
- Gilbert A. G. (2009), *Towards Sustainable Academic Research: Should Social Scientists Write Less?*, *Twenty-First Century Society* **4(3)**: 257-268.
- Glerup C., Horst M. (2014), *Mapping Social Responsibility in Science*, *Journal of Responsible Innovation* **1(1)**: 31-50.
- Goldstein H., Maier G. (2010), *The Use and Valuation of Journals in Planning Scholarship: Peer Assessment versus Impact Factors*, *Journal of Planning Education and Research* **30(1)**: 66-75.
- Gore C. (1984), *Regions in question: Space, Development Theory and Regional Policy*, Methuen, London, UK.
- Ha T. C., Tan S. B., Soo K. C. (2006), *The Journal Impact Factor: Too Much of an Impact?*, *Annals of the Academy of Medicine in Singapore* **35**: 911-916.
- Hopkins L. D. (2001), *Planning As Science. Engaging Disagreement*, *Journal of Planning, Education and Research* **20(4)**: 399-406.
- Huang M.-H., Chang Y. W. (2008), *Characteristics of Research Output in Social Sciences and Humanities: From a Research Evaluation Perspective*, *Journal of the American Society for Information Science and Technology* **59(11)**: 1819-1828.
- Jones J. F. X. (2013), *The impact of impact factors and the ethics of publication*, *Irish Journal of Medical Science* **182(4)**: 541.
- Judge E., Haughton G. (1998), *Comment. The UK Research Assessment Exercise in Planning: The Promotion of Irrelevance to the Real World?*, *Planning Practice and Research* **13(1)**: 9-12.
- Kangas A., Hujala T. (2015), *Challenges in publishing: producing, assuring and communicating quality*, *Silva Fennica* **49(4)**: 1304.
- Keat R. (1979), *Positivism and statistics in social science*, in: Irvine J., Miles I., Evans J., *Demystifying Social Statistics*, Pluto Press, London, UK, pp. 78-86.
- Krell F. T. (2014), *Losing the numbers game: abundant self-citations put journals at risk for a life without an impact factor*, *European Science Editing* **40(2)**: 36-38.

- Lauria M., Wagner J. A. (2006), *What Can We Learn from Empirical Studies of Planning Theory? A Comparative Case Analysis of Extant Literature*, *Journal of Planning Education and Research* **25(4)**: 364-381.
- Lawrence A. P. (2007), *The mismeasurement of science*, *Current Biology* **17(15)**: R583-R585.
- Liu C. L., Xu Y. Q., Wu H., Chen S. S., Guo J. J. (2013), *Correlation and Interaction Visualization of Altmetric Indicators Extracted From Scholarly Social Network Activities: Dimensions and Structure*, *Journal of Medical Internet Research* **15(11)**: e259.
- Lowe P., Phillipson J., Wilkinson K. (2013), *Why Social Scientists Should Engage with Natural Scientists*, *Contemporary Social Science* **8(3)**: 207-222.
- Meheus J. (1999), *The positivists' approach to scientific discovery*, *Philosophica* **64(2)**: 81-108.
- Murnane R. J., Willett J. B. (2011), *Methods Matter. Improving Causal Inference in Educational and Social Science Research*, Oxford University Press, New York, NY, USA.
- Nederhof A. J., Zwaan R. A. (1991), *Quality Judgements of Journals as Indicators of Research Performance in the Humanities and the Social and Behavioural Sciences*, *Journal of the American Society for Information Science and Technology* **42(5)**: 332-340.
- Nerad M. (2006), *Globalization and its impact on research education: Trends and Emerging Best Practices for the Doctorate of the Future*, in: Kiley M., Mullins G., *Quality in Postgraduate Research: Knowledge creation in testing times*, CEDAM, The Australian National University, Canberra, Australia, pp. 5-12.
- Pajić D. (2015), *Globalization of the social sciences in Eastern Europe: genuine breakthrough or a slippery slope of the research evaluation practice?*, *Scientometrics* **102(3)**: 2131-2150.
- Petrișor A.-I. (2010), *Ethical Issues in Epidemiological Data Analysis*, *Romanian Journal of Bioethics* **8(1)**: 101-109.
- Petrișor A.-I. (2013), *Multi-, trans- and inter-disciplinarity, essential conditions for the sustainable development of human habitat*, *Urbanism Architecture Constructions* **4(2)**: 43-50.
- Petrișor A.-I. (2014), *Where is the research of human habitat going?* [in Romanian], *Reper* **17**: 42-44.
- Petrișor A.-I. (2016), *Evolving strategies of the predatory journals*, *Malaysian Journal of Library and Information Science* **21(1)**: 1-17.
- Picken S. (2015), *Closing address at the joint 5th Asian Conference on Sustainability, Energy and the Environment and 6th Asian Conference on Social Sciences*, The International Academic Forum, Kobe, Japan.
- Pontille D., Torny D. (2015), *From Manuscript Evaluation to Article Valuation: The Changing Technologies of Journal Peer Review*, *Human Studies* **38(1)**: 57-79.
- Priem J., Hemminger B. M. (2010), *Scientometrics 2.0: Toward new metrics of scholarly impact on the social Web*, *First Monday* **15(7)**, <http://pear.acc.uic.edu/ojs/index.php/fm/article/view/2874/2570>
- Repanovici A. (2011), *Measuring the visibility of the university's scientific production through scientometric methods*, *Performance Measurement and Metrics* **12(2)**: 106-117.
- Ryan A. B. (2006), *Post-positivist approaches to research*, in: Antonesa M. Fallon H., Ryan A. B., Ryan A., Walsh T., Borys L. *Researching and Writing your thesis: a guide for postgraduate students*, Maynooth Adult and Community Education, Maynooth, Ireland, pp. 12-26.
- Selvarajoo K., Robert M. (2013), *Open Access and Individual Merits in Scientific Publishing*, *Advances in Systems Biology* **2(1)**: 4-5.
- Starbuck W. H. (2003), *Turning Lemons into Lemonade. What Is the Value in Peer Reviews?*, *Journal of Management Inquiry* **12(4)**: 344-351.
- Starbuck W. H. (2006), *The Production of Knowledge. The Challenges of Social Science Research*, Oxford University Press, New York, NY, USA.
- Thérèse S., Martin B. (2010), *Shame, Scientist! Degradation Rituals in Science*, *Prometheus* **28(2)**: 97-110.
- van Dalen H. P., Henkens K. (1999), *How Influential Are Demography Journals?*, *Population and Development Review* **25(2)**: 229-251.
- Webster C. (2006), *Editorial: Ranking Planning Journals*, *Environment and Planning B: Planning and Design* **33(4)**: 485-490.

Received: 9 December 2016 • **Revised:** 20 December 2016 • **Accepted:** 16 January 2017

Article distributed under a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License (CC BY-NC-ND)

