UNIVERSITY-BASED OPEN ACCESS PUBLISHING

State of Play

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Contents

Executive summary

This report, prepared for SPARC Europe, sketches the landscape of university-based not-for-profit publishing in Europe with a primary focus on open access publishing of journals. It provides a view of the different types of initiatives in terms of their size, operational and business models, technologies used, stakeholder involvement, concentration of scientific fields, growth, as well as regional characteristics and recommendations for SPARC Europe and DOAJ.

The report attests to a rich and continuously evolving ecology of open access publishing initiatives in universities in Europe and elsewhere. Beyond the commercial publishing models, it appears that university libraries are largely the foci of intense activity in journal publishing and books (primarily where a university press exists), while national governments are moving towards building national collections, national portals and services paid for by public funds to make research published within the country more relevant and accessible internationally. This ecology is primarily populated by small publishers who are largely invisible, and much smaller numbers of large and medium- sized university-based activities. At the same time, a growing number of innovative initiatives in the University and outside, mostly initiated by scholars and University Presses, eager to experiment in developing a fair and sustainable scholarly communications system, attests to a vibrant and swiftly-evolving landscape.

Fragmentation permeates this landscape, especially at the level of medium and small-sized initiatives, which suggests that services may not be as effective as required by the research community, and that more coordination, collaboration and systematization is necessary between such initiatives. Further, information on them is especially hard to discover, particularly in Europe, and they are mostly discovered on a case-by-case basis. Precisely this fragmentation and lack of systematization and information prevents the drawing of safe conclusions on some of the issues researched in this report, such as for example measuring the output of initiatives, i.e. the numbers of open access journals run by such initiatives and the numbers of open access articles, a significant part of which do not appear in main registries, such as DOAJ or DOAB. More concrete conclusions, however, can be drawn in other areas: the first is that such initiatives largely concern journal publishing and are mostly led by research libraries, who have thoroughly embraced the concept of open access and, at least in the United States, are gradually and confidently assuming the role of publishers. Presses are often involved, especially where the open access publication of books is concerned. Organizations of national scope are involved in such cases where initiatives are conceived of as having a national impact/mission and one of measuring and/or promoting quality of national scientific publications. Second, there appears to be more publishing in the SSH by means of the university and public/national infrastructures (e.g. national portals) than there is in the STEM disciplines. Finally, these initiatives are nearly exclusively financed through government/national grants or institutional subsidies and as part of the mission of the universities or libraries, that is paid for through their existing budget. Some of them already demonstrate long-term commitment on behalf of the funding institutions, which support their mission. In general, however, few possess concrete business models and solid financial planning, an area with urgent need of improvement. An exception to this are new

initiatives within and outside of Academia with a specific focus to explore sustainable funding models for open access.

In terms of the services provided, most university publishing with respect to journals covers technological infrastructure provision (in Europe largely the open sources software OJS, in the USA Digital Commons repository software powered by BePress and the open source DSpace repository software), training and support, advice on how to start a journal and copyright advice, retro-digitization, indexing, and occasionally provision of DOIs, dissemination, help with graphic design of online publication. Library-led initiatives are largely not involved in the editorial process, which is left to the journal editors, and for the greatest part do not provide production services. In other words, they do not provide two types of services that a traditional publisher does, unless there is a University Press involved. The apparent fragmentation and invisibility of small-scale efforts also indicates that there is more to be done with respect to promotion and marketing of the publications, as well as of the services offered. The work done by libraries in publishing best aligns with their role as a university gateway to knowledge, that is providing access to scientific information, and aligned to the educational mission of the university, and less to that of a publisher, in particular in Europe. A more dynamic publishing environment is felt where University Presses are involved and collaborations with libraries are forged. The press, further, lends 'legitimacy' to library publishing activities and to its aspiring role as a publisher.

Information regarding the organization of university publishing (especially with respect to library-based activities) is not widely and systematically available in Europe. Some countries display rigorous activity among universities, with most universities having their open access publishing initiative set in the library (e.g. Latin American countries, Spain, Italy), and others less so, but there is usually at least a handful of centers of expertise in each country. In some countries (Latin America, France, Canada, Spain) universities have the benefit of services set up by the state to promote their local publishing activities and serve the needs of Universities and scholars. Nonetheless, nearly all of the systematic flow of information on such initiatives derives from work carried out by American university libraries and related organizations that have since long articulated the need for more systematization and collaboration in view of improving and scaling up the work, as well as raising its impact and significance with the research community. There is ample room for improvement in this area in Europe, which will help capitalize on achievements, strengthen university publishing as part of the mission and responsibility of the university, as well as dispense with the general impression that such efforts, at the university or national level, are 'not professional enough' and pertain to publications of lower quality than those of commercial publishers.

Encouragingly, there is concurrently intense experimentation and innovation taking place, with respect to open access journals, as well as to monographs, in particular in the Humanities. New scholar-led publishing companies emerge, with transparent procedures and business models that provide services to universities and researchers (Open Library of the Humanities, Ubiquity Press, Open Book Publishers, the Collabra and Luminos services by the University of California Press, among others). New collaborations between libraries and existing university Presses lead to a revival of University Presses, in Europe as well, and/or to the establishment of new open access University Presses (e.g. UCL Press, Stockholm

University Press). It is optimistic that most new ventures launched in the last couple of years, especially the private scholar-led ones, are launched with the necessity for a fair and transparent scholarly communications ecosystem and one that is financially sustainable.

Introduction

This report sketches the landscape of university-based not-for-profit publishing in Europe with a primary focus on open access publishing of journals. It aims to provide an understanding of the different types of initiatives in terms of size, operational and business models, technologies used, stakeholder involvement, concentration of scientific fields, growth, as well as regional characteristics.

On account of the wealth and diversity of the different initiatives taking place in Europe and elsewhere, this report cannot be perceived as comprehensive. Rather, it points to important issues that need to be addressed, while gathering as much information as possible and highlighting particular cases of interest, which serve to illustrate the various points made. It is inevitably influenced by the availability or scarcity of information regarding initiatives, with an emphasis on literature available in the English language. Thus, while it is clear that Europe is literally blooming with University-led initiatives, there is exceptionally little information provided on them by their initiators. In this context, the self-reflective discourse regarding the university and the library as publishers initiated by American institutions is very useful in casting a light on important issues pertinent to European activities.

To understand the landscape on the basis of numbers primary research was carried out with an emphasis on obtaining numbers from aggregators and/or large portals/indexers, under the assumption that they are indicative of general trends (scientific fields, Annex I). These aggregators are, for example, DOAJ and the portals of all large national initiatives discussed in the first section of this report. Using DOAJ as a guide, an effort was made to locate large and medium-scale university-based initiatives, which are presented in Annex II.

The report first focuses on large national or thematic initiatives, then turns to mid-sized and small university-based initiatives primarily in North America and Europe, examining noteworthy activities in some countries, and then discusses open access monographs in the Humanities and new innovative initiatives.

The European university-led publishing ecosystem is, overall, a very fragmented one, according to the research that follows. Very small initiatives, largely invisible and undocumented, dominate the landscape, and systematic information is not available but requires extensive effort to be discovered. The report argues that more systematic collaboration between initiatives and assistance to scholars with unique/small publishing activities will help the entire system in terms of efficiencies and quality. Finally, it is noteworthy that a significant part of these initiatives focus on the SSH, the latter in particular traditionally using publication venues outside of the commercial/corporate publishing system.

Large open access publishing initiatives in national and disciplinary contexts

History-Development

The first large-scale open access initiatives for university publishing emerged at the end of 1990s and early 2000s primarily as national initiatives in countries with languages other than English, and apparently where commercial publishers had less activity. Their starting points were not always the same, but it is accurate to state that with the opportunity provided by technology and the internet they sought to enable the online presence, wide dissemination, international appreciation and promotion of the scientific publications of specific countries, regions, disciplines or languages which were not being served by the mainstream commercial academic publishing business. Additionally, some of them sought to measure and improve the quality and quantity of nationally published scientific output (national citation indexes; e.g. SciELO, SCIndeks, Redalyc).

These initiatives are primarily focused on journal publishing, although some enriched their services with monograph publishing and other services at later points. Not all begun as open access initiatives or as purely publishing initiatives, although they placed an emphasis on open access since the outset and have subsequently evolved mostly as open access initiatives. In this context, publishing should be understood in the widest sense of the word, ranging from displaying the publications in open access in a single platform to offering embedded document layout and xml publication production services to journal editors. The more recent efforts, launched after the mid-2000s have a more clear-cut mission aligned to open access aimed at enabling, validating and further enriching the publication activities of universities and scholarly societies in various countries.

The most important initiatives in terms of the size of publications and publishers served, the continuity of operations through time and their impact are SciELO (Brazil and Latin America), Redalyc (Mexico and Latin America), Érudit (Canada), OpenEdition (France), the INASP Journals Online Initiative, Africa (AJOL) and a number of countries in Asia and Latin America, J-Stage (Japan), RACO (Catalunia), HRČAK (Croatia), SCIndeks (Serbia), DergiPark (Turkey). With the true exception of OpenEdition, which offers systematic services for eBooks, scientific blogs and scientific events calendars as additional services, the rest of the initiatives are focused nearly exclusively on journals. SciELO, Redalyc, and SCIndeks in particular also focus on citation services and/or bibliometric indicators. As initiatives of national significance, all of them operate nearly exclusively with public funds, and/or are supported by the institutions that run them as part of their mission. The mission of OpenEdition and Érudit is to serve the publishing needs of the SSH community in French-speaking countries and beyond.

All in all, it is the author's estimate that these central platforms publish more than 3.5 million articles, largely in open access and more than 5000 journals, not all of which are

indexed in DOAJ.[1]Numbers are approximate and drawn from the publicly available information on the platforms, as it stood in January 2015 (table on p.10). Specific counts on open access journals and articles are for the most part not provided, while further problems in counting open access journals and articles are caused by the fact that in some countries these can be found in more than one platforms.[2]

Most of the early initiatives, which launched before 2005, have demonstrated systematic growth in content for more than ten years. Growth is also witnessed by the expansion into other types of publications, such as monographs, PhD Theses etc. (OpenEdition and recently SciELO, and to a lesser extent Érudit), by the enrichment and systematization of services offered, by the improvement of the technological basis (this can be observed clearly with OpenEdition and SciELO). Indeed, SciELO has succeeded in developing a national indexing and publishing service that resulted into open access being the primary mode of disseminating research in Latin America (an estimated 97% of publications from Brasil are in open access), in a total of sixteen countries including South Africa, as well as increasingly greater visibility of some of the SciELO journals in WoS and Scopus.[3]The impact of OpenEdition and Érudit in electronic and primarily open access publishing in the SSH has been significant, especially in the case of OpenEdition, so that both are considered 'national research infrastructures' and receive specific subventions by their respective governments. Érudit is the only of the nine 'advanced installations for research' (installations de recherché d'avant-garde) in the SSH in Canada, and was just awarded a 1.4 Million Canadian dollar grant by the Canadian Foundation for Innovation (FCI).[4]OpenEdition is part of the French National DARIAH infrastructure and supported by special funds by the Ministry of Education for five years as a centre of excellence.[5] OpenEdition, initially launched as revues.org to serve journal publishing in the SSH, is now the gateway to four platforms, one for journals, one for books, one for scholarly blogs as an alternative publishing venue (hypotheses), and one for the recording of scholarly events in the SSH (Calenda). All three platforms were launched in the last three years, while OpenEdition, as described below, appears to be essentially the only large-scale initiative with an explicit business plan in place.

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[1] This can be explained, at least in part, by the fact that some journals from these collections do not fulfill all the necessary criteria. Nonetheless, the perception that many journals from such 'national' platforms are not listed in DOAJ, whereas they should be, is repeated many times in bibliography, e.g. in Rodrigues and Abadal 2014, 2148; Morrison, Salhab,Calvé-Genestand Horava (2015), p. 7.

[2] For example, it has been estimated that Brazilian journals are available in 1.8 platforms on average. In Spain, journals are available in 1.1 platforms. This could potentially be attributed to the fact that and unknown number of SciELO journals is published in the internet and then also appear separately in the SciELO platform. Rodrigues and Abadal 2014.

[3]The impact of SciELO is discussed in the 2014 book published by the service celebrating the 15 years of its operation (Packer, A. et al. (eds) 2014), with previous bibliography.

[4]http://www.Érudit.org/documents/apropos/communique_Éruditfci.pdf. The effort to bring together into a single access platform and infrastructure Érudit as well as three other initiatives in the SSH in Canada (an infrastructure project named Synergies and funded by the SSHRC), apparently failed. This main portal appears to function, but to no longer be 'fed' with new publicationshttp://www.synergiescanada.org/ . Thus, Érudit is now the main platform for online and primarily open access publishing in the SSH in Canada.

[5]Personal communication, Pierre Mounier, Assistant Director, Open Edition.

Launch	Portal	Main functions	Country	No Journals	Open Access	No Articles
1998	Erudit	Journal portal; expanded to books, theses and data	Canada	330	80% open access	Unclear. more than 30000
1998	African Journals online	Journal portal	Africa (INASP)	491	181 open access journals	102545
1998	SciELO	Journal portal; expanded into books; evaluation and citation index services	Brasil	1223	all open access	530706
2000	OpenEdition (initially revues.org)	Portal to four platforms: Journals, books, Blogs (hypotheses.org) and scientific meeting calendars (Calenda). Initially only journal portal, www.revues.org	France	393	not all journals open; 90% of articles open	86000
2002	Redalyc	Journal portal; bilbiometric services	Mexico, Latin America, Spain, Portugal	932	most likely open	369560
2005	J-Stage	Journal portal	Japan	1,724	open access	2350906
2006	Hrčak	Journal portal	Croatia	378	unclear how many open	120504
2007	SCIndeks	Journal portal; national citation index service	Serbia	411	1/3 open	150000
2007	RACO Revistes Catalanes amb Accés Obert	Journal portal	Spain/Catalonia	429	all open access	148517
2007-2011	JOL Asian Journals	Journal portals	Asia and Latin America (Bangladesh, Vietnam, Philippines, Nepal, Sri Lanka, Mongolia) and Latin America (Honduras, Nicaragua)	411	nearly all open	44681
2014	Dergi Park	Journal portal	Turkey	504	all open access	117926

Operational models

The operational models of these initiatives differ on the basis of their mission and founding history. Initiatives that were developed to promote national publications and publishing are usually top-down approaches initiated by one or more institutions and centrally funded through public funds. This is, for example, the case with SCIndeks, Hrčak, Dergipark, J-Stage and SciELO. OpenEdition, Erudit, Redalyc and RACO, on the other hand, are collaborations, which began at the University level and then, in the case of the Francophone initiatives, received public funding support. In its JOL platforms, INASP, a UK-based charity, provides technical support, hosting and training and collaborates with important organizations in developing countries, mostly universities, to help local journals become published online in open access. Simon Fraser University in Canada provides the hosting for some of the Asian JOL platforms, presumably as a service towards developing countries.

The services offered by these large-scale initiatives vary in their type and breadth. They primarily comprise the publishing platforms for hosting and access, support/training for using the technology, OJS or other, occasionally, but not always, a back-end peer-review tool (usually through OJS), indexing with other services, permanent identifiers, evaluation/citation index and bibliometrics, promotion/marketing, retro-digitization services, production services, subscription and sales of print and/or electronic versions. The public information available in the platforms does not always afford a clear understanding of the full range of services offered by each of these initiatives. Unless the service is oriented toward evaluation of the journals at the national level (e.g. SciELO, Redalyc, SCIndeks), the common denominator is the technology offered to the publishers to host and make accessible their content (current and past), as well as the ability to manage the peer-review, where required, and possibly DOIs. The editors are responsible for the scientific part of the work, the peer-review, the editorial boards, and the production. In this sense these platforms mainly act as technology providers and help train the publishers in open access electronic publishing. In none of the platforms is there a mention on responsibilities regarding long-term preservation or copyright consulting to the publishers, although it is not unlikely that the later does take place (on the basis of information offered by smaller-size initiatives). It is clear that only a handful of services offer the ability for document production online in various formats (OpenEdition and Erudit) and possibly only one offers distribution services (mass channeling to Amazon and other services), both typical publisher functions.

The initiatives under discussion facilitate the publishing activities of universities, scholarly societies, government institutions and other mostly not-for profit research performing organizations.[6]Only in few cases are for-profit publishers served, mainly in OpenEdition and

[6] Explicit and measured information is generally not available on their websites on this and research is necessary in order to locate the types of publishers. SciELO, for example, largely serves Universities and Scholarly Societies in Latin America (Packer 2015), while the Turkish Derği Park largely serves Universities, Scholarly Associations, Government, Foundations and Hospitals with its publishing service (index of types of institutions displayed in the initial webpage of the service at http://dergipark.ulakbim.gov.tr/ . Similarly, Érudit, serves university publishing, university presses,

revues.org, but these are small-publishers as well. An examination through faceted browsing in a couple of the platforms reveals that they enable the publishing activities of large numbers of publishers, most of whom only publish one journal, which they may not have been able to publish by themselves otherwise. For example, the 392 journals of Open Edition are published by 299 publishers, with an average of 1.3 journals per publisher. In the collection, 257 publishers publish just one journal, 21 publish 2 journals, and the remaining anywhere between 3 and 11 journals, which is the highest number of journals published by a publisher. Most publishers within OpenEdition are university presses and scholarly societies. Scholarly societies with one or two journals are common in the rest of the platforms as well.

Coverage of scientific fields

Official metrics are generally not available with respect to the scientific fields that these initiatives serve, and there is pressing need for them regularly to make public metrics reports that detail scientific areas covered by journals and articles, as well as the open access versus closed articles.[7] To reach an approximation, counts were made from information provided in the platforms, which cannot be fully trusted, as a comparison with the officially published information from SciELO suggests. A further problem regarding the inability to obtain numbers is the diversity of practices in classifying the journals within subject areas, and probably also the articles, observed in all platforms, which underscores the need for systematization in this area and explicit and publicly accessible methodology. Detailed figures for the scientific fields on each platform on the basis of the Frascatti Manual classification system are provided in Annex I along with the methodology for the calculations and main observations.

Despite the aforementioned issues, two important conclusions can be drawn from this exercise: the first is that, taken together, the share in Social Sciences and the Humanities forms a sizeable part of these open access journals in most cases, and the exclusive object of the francophone efforts. Specifically: the share of SSH journals in SciELO is estimated at 52%, in Redalyc 70%, in Hrčak 61%, in RACO 79%, in Derği Park 56%, and 42% in SCIndeks. SSH hold a small share within the Japanese J-Stage (7%), while the various JOLs display rather unimportant shares, with particularly small shares for the Humanities (usually 7% and less, close to 1%). In the cases where the SSH journals form the largest share among scientific fields, the same may not necessarily be the case for the actual output in articles, where their share becomes less prominent, as the SciELO case indicates. This could be explained by the slower pace of publications to be observed in the SSH compared to the STEM fields. The second conclusion to be drawn is that the patterns in the scientific fields clearly differ widely between the different countries, and this could be taken to reflect different intensities in scientific interest in these countries. Nonetheless, the significance of the specific patterns cannot fully appreciated or decoded without a comparison to more comprehensive country publication patterns from Scopus and WoS.

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and scholarly societies in Canada. Faceted browsing in the portal of openedition.org reveals that most of the publishers there are university presses and other, not-for-profit, societies and small publishers.

[7] The situation is even worse in the case of medium or small initiatives, as discussed below, and the area of metrics for publishing is one that should be developed.

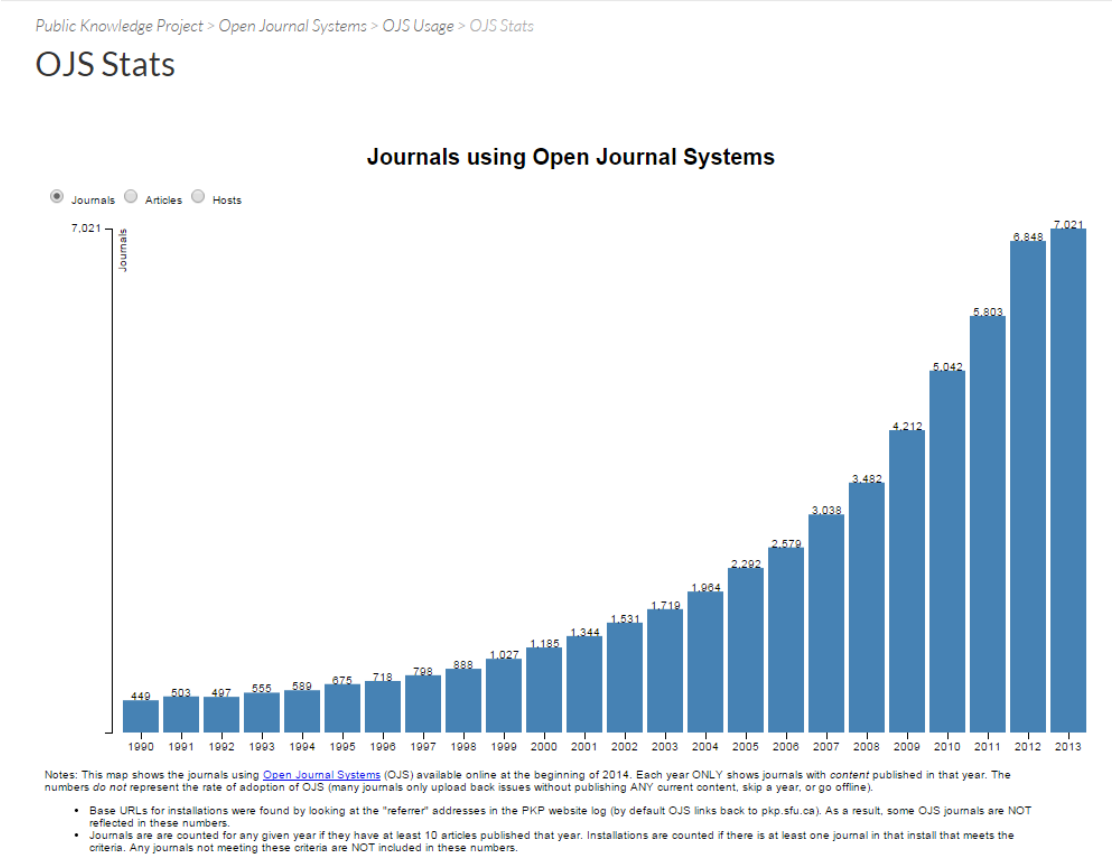
Technologies

In terms of technologies and tools used for publishing, many of these services, especially the early ones, are based on their home-grown technologies, which they continue to use. This is the case with Érudit, SciELO, OpenEdition, Redalyc, SCIndeks, J-Stage and Hrčak. Some of them use the Open Journal Systems (OJS) as a back-end tool for the journal peer-review process and offer training on the use of the tool (e.g. SciELO, OpenEdition, SCIndeks and Hrčak). It is unclear from these platforms how many journals over the total operate with OJS, but indications suggest this would only be a small part.[8] More recent initiatives, such as RACO, the Catalan Journal portal with 429 journals, as well as for Derği Park, the Turkish journal portal, with 504 journals, use OJS as the main platform to provide a single access point, online editorial software and search capabilities to a long list of journals hosted on a single OJS installation, effectively creating a portal of journals. The same is done in the case of all the JOLs initiated by INASP, including AJOL, all of which use a single OJS installation to create a journal portal and offer journal hosting and publishing services. Thus, for those early initiatives that developed their own software platforms, the locally developed software is used to contain and display the publications, export them to indexes and other databases, while the OJS is apparently being selectively used for the online editorial process. Recently OJS begun to be used also as a platform to host large numbers of journals.

Among the systems developed to support these initiatives the most impactful and advanced in terms of their functionalities worth discussing here are the open source software OJS, developed by the PKP, Lodel, the open source software developed by OpenEdition, and the software developed and used by SciELO. The Open Journal Systems is a journal management system. It provides the user interface, content management system and management and archiving of the editorial workflow (submissions, reviewer selection-peer review, publication). It also handles print and online subscription management. It is interoperable with OAI-PMH and new useful plugins are being developed constantly for interoperability with other systems (e.g. Repositories, CrossRef, OpenAIRE, ORCID etc). An OJS installation can host one or many journals. On account of its user-friendliness and faithful transfer of journal editorial workflows online, the OJS is apparently the most-used system for journals in general, and has recently found use as a host of large journal portals. PKP estimates that there are approximately 2.475 hosts (installations) of OJS around the world with 7.000 journals and 330.936 articles.[9]The relatively easy process of installing OJS afforded so many thousands of installations, which led, at the same time to the observed fragmentation, particularly since OJS (unlike BePress examined later) does not offer a central harvester. There has been an exponential growth of OJS uses since 1990, when it was first developed and used, as shown through the PKP statistics represented below.

[8] In the case of revues.org (OpenEdition) these journals are less than 20 among the close to 400 journals contained in the platform (Pierre Mounier, personal communication). Most of the journal editors simply chose to run the peer-review process presumably via email and subsequently to set up the final articles online and display them online through the OpenEdition platform.

[9] https://pkp.sfu.ca/OJS/OJS-usage/OJS-stats/



One of the functions that OJS does not perform is to manage the page setup and layout and the markup in different languages, such as xml, which has to be performed outside of the tool. However, this a step that PKP is moving towards, in collaboration with other organizations. PKP has also developed the Open Monograph Press, a modular tool very similar to the OJS, for the management of book publications. This tool is still in its early stages of development and does not yet enjoy wide use, although some organizations are experimenting extensively with it for monographs, such as Athabasca University Press and the National Documentation Centre ePublishing programme.

Lodel is a system that has been developed by OpenEdition to manage journal and book publishing. Unlike OJS, Lodel is built with the concept of a central platform. It is centrally run by OpenEdition for publishers and offers all its publishers the possibility to work on editing their publications in xml markup language online through the system in a simple way that does not require special skills, as well as directly publish them online by themselves.[10]This is done through a single platform, which effectively operates on the Software as a Service system and publishers do not need to develop local installations. The system is used both for journals, as well as for open access books that were recently launched by OpenEdition. In the case of Lodel the xml markup tool is embedded in the system and each publisher can process his/her own publication, which is then published in html, epub and pdf. Lodel is also

[10]http://www.openedition.org/10905?lang=en

connected to major book and eBook distributors, and manages library subscriptions. Lodel has been developed by OpenEdition, although its basic components are offered as open source software. Lodel is not used to manage submissions and peer-review and thus, for those journals of OpenEdition that need this online feature OJS is used as a value-added service, which is paid for. OpenEdition recently developed functions for scientific blogs and for the recording of scientific events in the SSH as components of Lodel, also run under the same principle, ie through a central platform. They are also free to download as open source software.

The technological infrastructure of SciELO is now also based on open source software, after changes in direction that were decided on the technological front in recent years.[11]Operations are now run on a central system (it was previously separately installed in each of the countries participating in the SciELO programe) in the Software as a Service Model (Saas).[12] Publishers send xmls or pdfs to SciELO, which then translates them, where necessary, and incorporates into the central system to produce the publications. Therefore, this system does not offer the publishers online management of the production process, as does Lodel, but it undertakes to manage publication production centrally.[13]This presumably creates more labor for the SciELO operations team. Both systems are based on standard OAI-PMH protocols and all have the ability to export the metadata and content to other systems. SciELO exports to indexers such as PubMed Central, Google Scholar, DOAJ etc. Further, since the purpose of SciELO was also to serve as a means of evaluating domestically published journals, the exported metadata and references are then processed to a develop citation index and obtain citation indicators. The same can be observed with Redalyc and SCIndeks, both of which serve to produce metrics for national use in evaluation exercises.

Licensing

Most of the open access articles available and delivered through these platforms and initiatives are likely gratis and not libre. Licensing information is largely not provided for most of the platforms. Sample searches performed with downloaded articles on all of them also showed that only in two cases of these service providers were licenses available in journals, and this was by no means consistent. A good example is Érudit: a search there showed that one journal had a CC-BY-NC license on downloaded pdfs of articles of an issue published two or three years ago. Nonetheless, the license was not machine-readable, which would be another significant obstacle for machine-aided reuse of that article. Yet another journal within Érudit, a new journal, presents no license information whatsoever in it. The above indicate that not enough emphasis is placed by these major initiatives on helping standardize licenses among publishers.

Some more information regarding licensing practices is available for SciELO, which, nonetheless does not agree with actual information provided on the country, journal and article level. According to the recent publication celebrating the 15 years of SciELO, in order

[11]Described by Santos and Packer 2014 and Packer et al. 2014.
[12] Packer et a. 2014
[13] Santos and Packer 2014.

to proceed into agreements for the development of national collections in various countries, SciELO requires them to have fulfilled certain conditions, one of which is that open access and CC licenses have been adopted.[14] However, a search through all of the national collections of the SciELO portal showed that only four country SciELO portals present licensing information: Brazil, South Africa, Portugal, Peru. The licenses are Creative Commons in all cases for non-commercial reuse (CC-BY-NC), and, in two of them additionally share-alike licensing terms (Brazil and Portugal; CC-BY-NC-SA). The licenses apparently affect the respective country sites and their contents, ie the contents of the journals that are delivered through the respective SciELO country portals. Nonetheless, licensing terms could not be discovered in a few searches performed on journal articles available through these particular portals and the terms may not be obvious to users. Overall, it is clear that while a lot of work has gone into making content available online in open access, as well as helping scholars transition into an open access publishing mode, there is much to be desired in terms of licensing that will actually allow reuse. Finally, it should be mentioned that one portal, that of Serbian SCIndeks, specifically prohibits the systematic downloading of entire bibliographic databases, which, again, is rather restrictive and certainly not conducive to machine-intensive research or TDM.[15]

Funding and sustainability

All of the initiatives discussed here are funded through public government funds, either directly during the development phase, as one-time or repeated grants, and/or as sustained in-kind support of public institution(s) delivering the services as part of their mission. This type of funding has continued for a long-time, in some cases for fifteen years (e.g. SciELO, OpenEdition, Érudit). The long-term sustainability of most of these initiatives comes into question, however, and in nearly all cases, outside of relying on government funds and grants (which in many cases, with the demonstrated value can be justified) there does not appear to be adequate financial and business planning in place or at least explicitly publicly available information on it. Only a small fraction of the journals that are run on these national platforms charge APCs and authors for the greatest part do not need to pay for open access publications. Thus, cost-retrieval among these initiatives practically does not exist. Their public nature and the fact that a sizeable percentage of the journals belong to the SSH, scientific areas that are traditionally supported by institutional and not competitive funding and culturally opposed to the concept of paying for APCs, makes the question of the funding model for these initiatives even more complex and pressing.

Directors of these initiatives begin to perceive the pressing need to demonstrate value and improve services with the aim of continuing to receive public subventions, as well the need to diversify their sources of income. An effort towards diversifying income resources and defining a business model for growth is known at the moment only for SciELO and OpenEdition. The latter is actually the only initiative to have a business model to secure

[14] Packer, Cop and Santos in Packer et al (eds) 2014.

[15] SCIndeks declares that systematic downloading of the database or its parts for the purpose of re-publishing, or otherwise disseminating SCIndeks is considered violating copyright of the database publisher and owner of metadata, which is protected by law. http://scindeks.ceon.rs/

revenue already in place since 2011, the 'freemium' model.[16] The freemium model entails providing open access to the html of publications and charging for the value-added services, such as the pdfs, epubs and library services such as MARC records, the possibility to embed calendars of scholarly meetings in the SSH (e.g. conferences) in institutional online calendars, among others. The freemium model established by OpenEdition is, effectively, a new type of subscription model directed to libraries as gateways to knowledge in universities and research institutions. Charges are defined according to the GDP of the country and the size of the university. OpenEdition gives two-thirds of these earnings back to the collaborating journals and publishers adopting the freemium model, which is important for their ability to continue with editorial and production operations, and keeps the remaining third of the earnings for the further development of the platform and the services. It thus appears to be a fair model in sharing profits that are redirected towards more development. The earnings from this model have not been made public, but they are apparently only a share of the total costs of operations of OpenEdition, which still seeks additional and different income resources, such as grants and charges to editors for value-added services (e.g. the OJS tool for managing peer-review online as a premium service).

Recently published information on SciELO indicates that the initiative, thus far funded centrally by the Brazilian government and the governments of the other collaborating countries with dedicated funds supplemented by institutional funds, seeks to develop a more sustainable business model and become autonomously funded.[17]To this end, it is establishing a programme that will lead to a new methodologies that will help raise the international profile of the journals and appreciation of them, as well as introduce APCs to support publishing and the journal editors and publishers aiming at a basic cost of 150-200 per article. Thus far only a small fraction of SciELO journals charges APCs.[18]It is unclear whether these APCs will apply to all the journals, or whether there will be a choice to implement the suggested changes or not be supported by SciELO as a publisher. This model also presupposes that APC funds will be available in Brazilian research institutions and/or centrally to be able to support such an arrangement. Finally, it should also be noted that these diverse financial resources appear to be all public (national funders, universities etc), but that APCs may act as a mechanism that will install competition among the various journals for the authors. SciELO, running on a reported budget of 3 million US dollars a year dedicated government funding, is now more pressed than ever to increase the international impact of its journals and establish a business model, after the announcement, in October 2014, by the Brazilian research funding agency CAPES that it would subsidize a deal of 10 million dollars with foreign publishing companies (among which Elsevier, Wiley etc) to enable Brazilian researchers to publish in open access in prestigious international journals. Considering that the internationalization of Brazilian publications was at the heart of the

[16]Mounier 2011.

[17] This is aspiration of SciELO according to the presentation made by Abel Packer in the COASP Conference 2014 that took place in Paris (slides and video presentation available at http://oaspa.org/conference/presentations-coasp-2014/).

[18]*How much does it cost to publish in Open Access?*.SciELO in Perspective. [viewed 15 February 2015]. Available from: http://blog.SciELO.org/en/2013/09/18/how-much-does-it-cost-to-publish-in-open-access/

SciELO concept at its inception, and that this has apparently partly failed, this is indeed a tremendous pressure and challenge.[19]

In sum, there is a number of large platforms primarily for journals serving university publishing in many countries, initiatives at the large scale and top-down, as well as institutional collaborative initiatives, which operate largely with public and institutional funds outside of the commercial/corporate publishing sphere. In terms of subject-matter there is an emphasis on the SSH for journals, while in terms of the output in articles it appears that medical and health sciences have a larger share. In some cases, primarily Latin America and south Europe, national initiatives are implemented to promote, provide access to and improve the quality of nationally published journals. In terms of technologies, some of the initiatives rely on locally developed software, while the use of OJS as a platform for large numbers of journals is becoming increasingly important. Information regarding licensing in these platforms is not consistent and while they provide access to an estimated over three million articles, these are likely mostly gratis open access. Finally, with the exception of OpenEdition, such initiatives do not appear to have diverse financial modeling and their existence relies usually on single source governmental/public/institutional subsidies, which is a risk for their sustainability. Therefore more work is urgently required in this domain.

[19] A recent article on this topic questions Brazil's insistence to develop a state-sponsored publishing industry and its ability to compete with multinational publishers.http://www.scienceforbrazil.com/online-access-opens-divisions/ . Meanwhile, SciELO directors report that SciELO journals are currently nearly exclusively populated by Brazilian authors and editorial boards/reviewers and nearly exclusively in the Portuguese language.

University-led publishing

A DOAJ-led environmental scan

An examination of the situation in open access publishing within universities around the world using a variety of means, namely information from the registry of the LPC, faceted browsing by country within DOAJ, as well as literature, reveals a flourishing environment powered by evolving technologies, and library interest in facilitating the transition to open access of university-based publications. Hundreds of universities around the world are helping university scholars and scholarly societies publish their journals, mostly by developing journal portals with OJS as a means to host many journals. Journal publishing is the primary activity of open access university-based and library-led initiatives, which appear to take off in the mid-2000s.

The main overall findings are presented here, the result of research within DOAJ, but they seem to be largely confirmed by information located by other means, that is the LPC registry and specific desktop and literature research. The following section turns to examining regional contexts and approaches, which are important in open access publishing, with an emphasis on efforts taking place in Europe, the United States, Canada and Australia. Europe will be visited last, because here efforts are significantly less systematized than in the USA and Canada, very little research having been published on this topic.

Among the vast list of universities involved in such publishing activities, only a handful appear to be publishing over 50 journals and even less over 100 journals. Around 40 universities publish between 10 to 50 journals, with less universities belonging to the upper range than the lower. These are mostly published by libraries and most of them offer immediate open access, but not all journals are open access or peer reviewed. Numbers should be treated with caution, since in most cases these initiatives had to be discovered through research with DOAJ as the starting point and own knowledge, while DOAJ numbers often differ as compared to those of the publishers. Below the mid-size category there is a veritable ocean of universities, societies and other organizations publishing up to ten journals, but, as most statistics and searches within DOAJ show, for the most part publishing one or two journals. An indicative list of University-led initiatives with the numbers of journals they publish compiled through combined search of DOAJ and the LPC directory 2015 as starting points is presented in Annex II.

A faceted browsing in the more than 10000 journals registered with DOAJ in early February 2015 reveals, as already demonstrated before, that very few (commercial) publishers can be credited with large collections of journals listed in DOAJ, that numerous universities have publishing programmes between ten and twenty or so journals, and that approximately half of the DOAJ journals are unique publications by publishers listed there: namely, 4196 publishers were responsible for one journal each. The next largest category was that of 413 publishers with 2 journals each, then 157 publishers with 3 journals each, 82 publishers with 4 journals each, 45 publishers with 5 journals each, and from there on much smaller categories of publishers until the top commercial publishers with the most journals are reached. This fragmentation in open access publishing, already pointed out by researchers, along with lack of coordination of activities attested especially in Europe, leads to lack of

economies of scale with all that this entails.[20]The discussion offered later in this document below also points to this direction. A cautionary note that is necessary here is that DOAJ does not display accurate information regarding the platforms on which journals are hosted. Thus, if DOAJ journals are hosted in OpenEdition, the only way to know this is by noting the URL of the journal as belonging to OpenEdition.

The growth of journals and articles in DOAJ appears to be steady over the years, while sudden drops and rises in numbers in recent years could be attributed either to the addition of retro-digitized materials and/or removal of journals from the directory (Annex III). The countries with the largest shares of journals in DOAJ appear to be the United States, Brazil, the United Kingdom, India, Spain, Egypt, Germany, Romania, Italy, Iran (Annex III). Journals from the United States, United Kingdom, Egypt, Germany and India can largely or to significant extent be attributed to commercial publishers, whereas it is evident that in countries such as Brazil and Spain, Romania, Iran, Italy, they are mostly attributed to Universities, and sometimes (Italy) to University Presses.

A review of the top 30 fields for open access publishing as represented in DOAJ for articles and journals, shows that Medical and Health Sciences are at the top for both journals and articles followed by Social Sciences (Annex III). Further information to be gleaned from DOAJ is that approximately 70% of the journals listed do not have any form of charges, whereas the remaining 30% that do mostly correspond to activities of commercial publishers.[21]In a detailed study of APCs in DOAJ, Morrison et al. 2015 report the percentage of DOAJ publishers with APCs at 26% also mostly attributed to commercial publishers. The difference between the two numbers may suggest an increase of publishers with APCs, and this remains to be seen in another future study focusing on APCs in DOAJ journals. A further important issue illuminated by DOAJ is that apparently less than half of the journals listed there (4300) provide licensing information at the journal level with the most common license the CC-BY (2288). At least half of these licenses are attributed to commercial publishers, and most to Hindawi. At the article level, 60% of the articles appear to be licensed, namely 1120736 out of 1841414 articles in DOAJ in the beginning of February 2015, with slightly more than half of them licensed with CC-BY licenses. Clearly licensing is a domain where more work is necessary.

North America and Australia

University-led publishing, mostly spearheaded by university libraries and/or university presses in collaboration with libraries, is much better documented and understood in North America on account of the very active role of the research library associations and other associations there (ARL, CARL, SPARC etc). They have placed critical attention on the issue of university and library publishing since the mid-2000s at a moment when the various initiatives begun to gain momentum and when it became clear that a refocusing to bring publishing back into the mission of the university was important and a field of action for

[20]Frantsvåg(2010) calculated the percentage of small-scale operations to .
[21]Out of the 10286 journals listed in DOAJ in the beginning of February 2015, 6375 were listed as having no charges, and 3075 as having charges.

libraries and university presses.[22]New journals and publishing efforts established in North America promote the new role of the libraries as publishers within scholarly communications and collaboration with university presses, as well as help develop the skills of the new professionals.[23]The Library Publishing Consortium was founded in 2014 in order to strengthen this capacity that is being gained by the libraries to offer an alternative to commercial publishing and one that aligns better with the mission of the university to provide public good, in the form of open access, as well as aligns better to its educational mission.

Surveys carried out in the United States, Canada, as well as Australia, illustrate clearly the wide extent to which libraries, and therefore universities, are involved in such activities and some of the important issues raised. In **Australia** 64% of the Australian Universities are involved in publishing; 25 universities publish 126 open access journals, with an average of five journals per institution.[24]In **Canada**, a couple of surveys indicate a deep involvement of university libraries in open access publishing and especially journals. The most recent survey, 2010/2011 survey among members of the Canadian Research Knowledge Network, the Canadian national consortium of university libraries, showed that 15 out of the 33 responding libraries provide their own journal hosting platforms.[25] Interestingly, only 2 of them reported as having more than 1.1 FTE staff devoted to this activity. The most common size of collections was between one to five journals, whereas only two libraries hosted more than two journals and one press between 11 and 20 journals. With most libraries supporting open access publishing on their own, Canadian libraries are seeking for additional/alternative funding for the open access publishing activities, inside their institutions and from the government. Shared infrastructures and services were perceived as necessary in order to solidify existing initiatives and embed them as core parts of the mission of the libraries, thus reducing the risk for them.[26] The rapid developments in Canada, the home country of the Open Journal Systems, are best understood in terms of numbers through the following graph, tracking the development of 9 Canadian libraries recorded as having open access publishing services for journals in 2009 by Richard, Koufogiannakis and Ryan (2009), and what exists in their portals today. All of the following library services are based on the OJS platform.

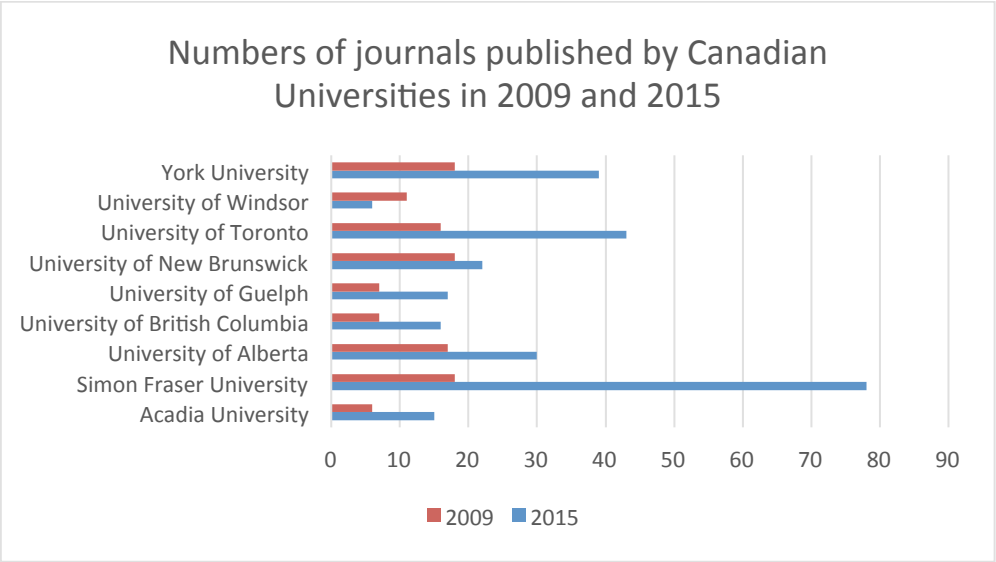
[22]The *Ithaka Report* on University Publishing in a Digital Age clearly articulated a number of issues around university publishing that were emerging at the time of its publication in 2007; Brown, Griffiths and Rascoff 2007

[23]Maron, Miller, Watkinson and Kenney 2013. A new report on academic libraries as publishers that was just released in March 2015 was not taken into account. Bonn, M. and Furlough, M. 2015. Getting the Word Out: Academic Libraries as Scholarly Publishers, Association of College and Research Libraries A division of the American Library Association Chicago, http://www.ala.org/acrl/sites/ala.org.acrl/files/content/publications/booksanddigitalresources/digital/9780838986981_getting_OA.pdf

[24] McIntyre et al 2013, p. 3.

[25]Taylor et al. 2013.

[26]This was an issue identified in the CARL survey, published in Bupree and Fernandez 2014.



In the United States a couple of reports published in 2012 summarized the situation with university-led publishing there, gleaned through a survey conducted among members of the ARL, the Oberlin Group and University Library Group with publishing activities. It revealed that half of the 43 libraries that participated in the survey (55%) had or were interested in developing library publishing programs. Existing programmes published anywhere between one and six journals in 2010, most of which were online only and less than three years old.[27]More current and more comprehensive information regarding the activities of libraries with publishing programmes can be obtained, however, from recent work by the Library Publishing Coalition, a consortium with more than 60 members in North America put in place to promote the library as publisher.[28] Its explicit mission is to "promote the development of innovative, sustainable publishing services in academic and research libraries to support scholars as they create, advance, and disseminate knowledge". Its explicit vision is to advocate for the creation of library publishing services and articulate their value for faculty, students, staff and other library stakeholders, to provide organized leadership to address the needs of the library publishers as communities of practice, and to provide better and increased communication and collaboration, new research and shared documentation, to liaise with other non-profit publishers who share interests and concerns, such as university presses, scholarly societies, and other mission-related publishers.[29]LPC fosters 'collaboration, knowledge-sharing, and the development of common practices for library publishers' in order to serve better the needs of the academic community. This initiative, thus, precisely addressed the lack of a central space or forum for information-sharing of library-based open access publishing.[30]

The LCP provides an annual forum for libraries with an interest in digital publishing services, addresses the lack of information on library-publishing by compiling a *Library Publishing*

[27]Crow et al 2012 and Mullins et al. 2012.
[28]http://www.librarypublishing.org/
[29]http://www.librarypublishing.org/about-us/mission [Accessed: December 21, 2014].
[30]http://www.librarypublishing.org/about-us/background [Accessed: December 21, 2014].

Directory, conducts research, builds relationships with other organizations, develops advocacy and awareness materials, provides training and learning opportunities for professionals and students, gathers statistics and tracks trends in the fields, explores collective purchasing agreements for effective resource use, develops collective marketing strategies. The 2015 *Library Publishing Directory* features124 libraries, mainly in the US and Canada, and to a very small extent also in Europe, Australia and South Africa.[31] The *Directory* provides qualitative and quantitative information regarding the publishing activities of each of these 124 libraries, and a valuable introduction.

The main findings of the 2015 *Directory* point to a tendency towards open access publishing, services provided inside the campus as well as outside of it, with an emphasis on open access and the research/educational mission of the university; funding for these publishing activities which do not charge APCs is usually provided by the library and/or university. Finally, in the North American context publishing explicitly comprises a broad range of activities, such as for example the repositories.[32] More specifically, the following evidence-based information is significant:

- Publisher libraries serve primarily faculty and student needs on campus, but at least half work with off-campus partners as well (scholarly societies, non-profit organizations, library consortia research institutes). More than a quarter collaborate with a university press.
- They mostly publish journals, but also technical/research reports, faculty and/or conference papers and proceedings, ETDs, and undergraduate theses.
- A total of 432 faculty-led campus-based journals were published by LCP members, 97% of them in open access.
- A total of 214 campus-based student led journals were published, 94% of which in open access and with 71% of the libraries publishing at least one journal of student research.
- 195 journals were published by libraries with partners outside their institution and only 57% of them were open access.
- 55% of all journals were peer reviewed.
- On average, LPC libraries publish anywhere from one to ten journals. In a few cases, university libraries publish significantly more than ten journals
- 56% of the libraries published at least one monograph and 47% at least one textbook.
- The most common platform used is the OJS (43%), while 41% uses Bepress, 29% uses the repository software DSpace for publications, and other software.
- Only 10% of these libraries reported charging APCs, while most provide services through their operating budgets, along with other non-library campus funds, grants and sales revenue.

[31] http://www.librarypublishing.org/sites/librarypublishing.org/files/documents/lpc_dir_2015lpd.pdf [accessed: December 21, 2014]. Approximately 110/124 libraries are from the United States and Canada.

[32] All information on the contents of the 2015 Library Publishing Directory stem from its introduction, pp. vi-ix (S. K. Lippincott and K. Skinner).

- Libraries reported employing anywhere from 0.15 to 17FTE, and on average they employ 1.8FTE professional staff for publishing activities.
- They provide a wide range of editorial, production and technical services, the most common being metadata assignment support, author copyright advisory services, digitization services, training, hosting supplemental content, analytics, cataloguing, general outreach. The main service is providing a publishing platform.
- Libraries generally expect to grow and formalize their services, as well as work on data management services, monograph titles and new services for authors and editors.

Statistics recently released by Bepress, the technology provider for the 41% of the libraries with publishing programmes that participated in the LPC survey, give further insight into these publishing activities, corroborating some of the above results and adding nuances on others, namely the disciplinary preferences for the journals. Bepress is one of the innovators in the field of scholarly publishing, broadly conceived, which sprung out of the University of Berkeley in 1999.[33]It is the leading repository provider in the United States, and also provides tools for peer-review, with a particular emphasis on tools for law reviews, and the Selected Works, a researcher-based publication profiling tool based on repositories. Further to this, Bepress developed a vast harvesting and indexing service, the Digital Commons Network[34], where all publications, whether simply deposited in an institutional repository developed by the company or published in a journal supported by the company, can be accessed. This is a function not supported by OJS, which does not index centrally literature published with it around the world. The Digital Commons Network provide access to 1.181.397 open access documents from 368 institutions and is fully searchable and browsable by discipline (late January 2015).

In a recent report Bepress provided statistics based on 696 journals published with its software across 187 collaborating institutions, mostly in the United States, approximately half of which, according to the above must be members of the LPC. The following are the most important findings[35]:

- There is a rapid growth in journal publishing.
- 94% of the journals published with Bepress are open access.
- Open access journals attract a large readership, with significantly higher download counts than subscription journals.
- The journals are overwhelmingly in the SSH.
- Most institutions (140/187) publish between one and four journals.
- Approximately 8% of the institutions publish more than 10 journals and the percentage is growing.
- Most journals are faculty journals, followed by law reviews and student journals.
- A number of libraries are developing more professional services for publishing, such as acquiring DOIs and helping with Indexing in databases and archives.

[33] www.bepress.com
[34] http://network.bepress.com/
[35] The findings are published in Busher, Kamotsky and Taylor 2014.

More issues on systematizing services and further development were identified through the 2010 ARL/Oberlin/Library Group library publishing survey discussed above, along with workshops that took place as part of a collaborative project on library publishing service, run by Purdue University Libraries, the Libraries of Georgia Institute of Technology and the University of Utah.[36]All of the issues identified are critically important for libraries publishing in Europe as well, but in the latter case they have been neither formally explored nor articulated. The following five areas were identified as important for further work on the basis of the survey and the subsequent workshops: technology infrastructure; policies and processes; sustainability planning; collaboration and organization. With respect to technology, interest was expressed in shared platforms that can serve many institutions. This may be particularly relevant for institutions with an interest in developing only a few journals or publications and without access to technology support, or unwilling to direct resources there. Guidance and coordination on developing a publishing programmes, services and policies was viewed as important. Sustainability appears as a major issue for further work. Respondents to the survey mentioned that publishing initiatives are supported overwhelmingly by reallocating library budget, and less through temporary institutional funds and external grants. Libraries thus expected to earn income from additional services. Nonetheless, only 15% of the libraries reported having a business plan, while having one identified as significant from the outset of the initiative is important. Collaboration between publishing libraries as well as presses was viewed as a necessity, both for further systematizing the existing knowledge, as well as for sharing resources, good practices etc. Finally, working on formal and informal training and skills enhancement for librarian-publishers was viewed as very important.

In sum, the data from North American libraries indicate an increasing interest from libraries in offering publishing services as an integral part of their mission, and a consistent effort to systematize these services, improve them, and organize themselves around them. Open access publishing is at the forefront, along with an emphasis in the educational role of publishing in universities. Library-based publishing appears to be serving largely the SSH. A large number of libraries offers publication services, usually for a small number of journals a few libraries offer more extensive services and long lists of journals. The collaboration between library and university presses is also observed, and recently presses are becoming parts of university libraries.[37] Publishing is broadly conceived in these services and includes repository services. Journals are run mostly on OJS and increasingly on the centralized commercial service by Bepress,[38] which is effectively a repository with overlay journal functionalities. This provides a central harvester which entails more visibility, as well as the ability to obtain accurate statistics on various issues, something that is not currently possible with the OJS. Libraries are concerned with retrieving income for these services and are understand the urgency of developing business models, which they overwhelmingly lack.

[36] Published in Mullins et al 2012.
[37]Current models in library-press partnerships are reviewed by Roh 2014.
[38]According to the 2010 survey on library publishing OJS was used in 57% of the cases and Bepress in 25% (Mullins et al 2012), while in the 2014 LPC survey OJS was used in 43% of the cases and Bepress in 41%.

The European Landscape

A survey of most European countries for open access publishing using DOAJ, the information listed through the OpenAIRE and UNESCO country websites and literature review indicates that mid-sized open access publishing initiatives can be accounted for in most European countries, and that they are mostly based on the OJS system (Annex II). They are not very many, but if their spread is indicative, it can be assumed that one or two such important initiatives may exist in every country, some still likely undiscovered. A regional approach is followed within Europe as well, since some countries demonstrate more advancement than others in systematizing activities, and particular traits can be observed in different places. The focus is placed in countries where more information is available and easily retrievable. A few more initiatives appear in Annex II than are discussed here.

The **Nordic countries** are most likely the ones where the approach towards open access university-run publishing has been most systematically, collectively and thoughtfully addressed in Europe, as well as supported by government funds for well over a decade. Journals published by universities and societies in Denmark, Sweden, Norway and Finland are largely included in the research evaluation system and qualified journals in the SSH receive government grants through the Joint Committee for Nordic Research Councils for the Humanities and the Social Sciences.[39]The Nordic countries perceived relatively early the opportunity to move journals to open access and enhance the role of the university library as a publisher, that is soon after the mid-2000s, and concurrently with the extensive discussion on open access publishing in universities opened in the United States, having already focused on this issue also through the development of DOAJ in 2003. A project that brought together the countries from 2007 to 2009, the Nordic Open Access Publishing Project,[40] resulted into studies on all aspects of open access publishing, resources available to everyone trying to develop open access publishing as a sustainable model in their country, and into transitioning a large number of journals run by universities into open access journals. At present, it appears that a large number of Nordic universities run journals which are open access, thanks to concerted efforts.

In the Nordic countries, it appears that OJS largely supports library-led university publishing. A list produced by in the frame of the NOAP project, lists Nordic journals that are based on OJS, and these are approximately 179, as of the summer of 2014.[41]The largest publishing programme appears to be that of the University of Aarhus State and University Library, which hosts 48 journals, whereas other Universities host smaller numbers, but usually between 10 and 20. An in-depth study is necessary in this case, as well as others, to show which journals are actually active research journals and which may represent archival material or cultural journals and other similar types of publications. The DOAJ provides a different and rather fragmented picture for university and association publishing in the Nordic region, the same as in most other countries, with most university publishers publishing around one journal (and rarely more) in all Nordic countries. It will be taken as a

[39] http://www.nos-hs.org/prognett-nos-nop/Home_page/1253964310884 For the year 2015 the NOS-HS provisioned 400000 euros as subsidies to journals in the SSH published in the Nordic countries, whether they be print or online toll or open access.

[40] http://www.ub.uit.no/wiki/noap/index.php/Main_Page

[41] http://www.ub.uit.no/wiki/noap/index.php/Nordic_Journals_using_OJS

relatively accurate reflection of the situation in the Nordic countries. Sweden appears to be an exception, largely owed to the activity of the private publisher Co-Action, who is credited with 25 out of 65 journals indexed in DOAJ, the country with the most journals charging APCs, again attributed to Co-Action, as well as the country with most consistent use of licenses, for the same reason. In general, despite the work carried out in open access by the Nordic countries, more coordination appears necessary in the front of licensing, as well as possibly in creating economies of scale to overcome fragmentation. Another aspect, calling for attention, and recently receiving some in the Nordic countries, is that of measuring the share of open access publications. According to a recent study, in Sweden open access correspond a little more than 10% of the national publication output.[42]

Finally, the Nordic countries have been recently experimenting very systematically with the question of funding gold open access. Norway has quickly moved to set up an APC system and thus most Norwegian Universities have their open access funds set up.[43] In the summer, the Norwegian Research Council announced that it will give universities with existing APC funds back 50% of the money spent by them on APC funds.[44] These funds will most likely be directed towards the large commercial open access publishers and the question is whether any of the 42 open access journals listed in DOAJ for Norway, and mostly run by Universities and associations will change their model to an APC model or not.

In **Italy,** it is likely that the strong consortium of university libraries and the cohesive environment provided by the high speed university internet provider, CINECA, resulted into a large number of OJS-based university publishing services situated in the libraries, nearly exclusively focused on journals. Monographs are also published where University Presses exist. All the large and old universities have notable activity in journal publishing and nearly all universities appear to be involved in publishing in open access, even if it is usually very small, one or two journals. The country counts approximately eight medium size initiatives using OJS to publish up to 31 journals (Firenze University Press), with a strong focus on the SSH. Further, a small publishing company in Italy, PagePRESS, publishes 78 journals on an OJS platform, charging APCs. CINECA appears to be the technology provider of the OJS for some of them (eg University of Milano), as well as centrally hosts journals for Italian Universities.[45] Overall, although progress is certainly to be seen in the number of initiatives, and indeed in the relatively large number of medium size initiatives, it is very hard to obtain information regarding their services from the websites, which are usually simple OJS portals, with no information on them other than the journals themselves. There is, however, exceptions, such as the University of Salento, which essentially runs an electronic publishing operation on an OJS installation, which includes not only journals, but also open access books and PhD Theses, all in open access. The University of Firenze Press is another good example. In this case, however, it is the longstanding University Press which undertook the role of publishing open access journals, again on an OJS platform, and not the library. An

[42]Fathli, Lundén and Sjögårde 2014.
[43]A list of the Norwegian universities with APC funds can be found at http://www.openaccess.no/faq/fond-arkiv-tidsskrift-i-norge/publiseringsfond-ved-norske-uh-institusjoner/
[44]Frantsvåg 2014.
[45]Personal communication, Ilaria Fava (CNR).

interesting and exceptional case is the University of Trieste Press, which publishes journals in open access, approximately 60, but more aligned to the American system, they are published in the institutional repository. The press, as does the University of Florence, also publishes books in open access. The Italian university-based publishing initiatives do not require APCs. The information for Italy in DOAJ appears to be more or less representative of the known efforts in the country.[46]

Research in DOAJ indicates that nearly all of the journals in the system from **Spain** are published by Universities and not by commercial publishers who are responsible for approximately for one-third of the research publishing.[47]The country is characterized by strong participation in the open access movement in Latin America and is a leader internationally with the universities at the forefront of this effort. University publishing efforts there use the OJS system and it appears that on average there is more universities in Spain with six or seven journals, than can be observed in other countries. Spain is one of the top countries in terms of journals in DOAJ, counting 559 journals. Half of those journals provide licensing information, which is generally a high share as compared to other countries, with the only exception of the UK where it is higher, and the preference is for CC-BY-NC-ND licences. These journals overwhelmingly do not charge APCs for publishing. Some of the Universities publish significant numbers of journals in one OJS platform, such as the Universitá Compultense de Madrid (80), the University of Murcia (57), the RECYT portal by FECYT (56), the University of Barcelona (22), the University of Granada (22), the CSIS (37) etc. Despite this proliferation, only in very few cases is it possible to find concrete information on these portals regarding services, which in itself indicates that a lot of work to systematize and capitalize collectively on what has been gained is necessary. Two important initiatives that provide more information than others are that of the Universitá Compultense de Madrid and that of the CSIS. Both of them provide information regarding the services and provide information to publishers on journal evaluation, the significance of quality and how to achieve the latter.

The focus on the quality of journals published in Spain can be attributed, at least partly, to FECYT. In view of improving the quality of journals published in there FECYT started a journal evaluation programme, whereby more than 600 Spanish journals are being evaluated at regular intervals.[48] This system was gradually adopted by the national evaluation agency for the evaluation of the universities in Spain, and now journal editors voluntarily submit their journals to evaluation. In this way, journals published in the country and mostly by non-commercial publishers are admitted in the national evaluation system. FECYT acts as an intermediary to provide lists of journals accredited by it to Thomson Reuters and Scopus, as well as provides to those wiling publishers who have been favorably evaluated an OJS-publishing platform, the RECYT platform, which hosts now 56 journals. This successful activity by FECYT, which has been adopted for the evaluation of the national journals, has the possibility of improving the quality of journals and in fact of the open access journals and

[46]Personal communication Ilaria Fava, whom I thank for an extended list of all the known open access university-based publishing activities known to her in Italy.
[47]Abadal et al. 2009.
[48]http://calidadrevistas.fecyt.es/Paginas/Home.aspx

publishing activities within Spain as well.[49]FECYT's influence in this respect is apparent in the information provided in the CSIS journal website on attaining and assessing journal quality. Further work will undoubtedly be necessary for business planning, especially for those operations with numerous journals, since there is no apparent provisions about this (or at least visibly), and the initiatives most likely run on university and library budgets.

In parallel, **Portuguese** University publishing is being served by numerous initiatives, as is the case with Spain and the Latin American countries on account of SciELO and other iniatitives. The university of Porto and the Lusofone University for the Humanities and Technology each have OJS portals for their open access publishing journal initiatives. Additionally, the country is being served by SciELO, Redalyc and the new service for journal hosting provided by RCAAP, which encompasses 13 open access journals, offered to universities in the SaaS model. Most of them are in the SSH.

In **Greece** the National Documentation Centre, the organization charged to aggregate, preserve and disseminate the scientific output of the country and a proponent of open access, has an open access publishing service which begun with the transition of a single journal from print to open access in 2007 and now encompasses 17 journals, which are soon to become 20, a service under development for new open access monographs and proceedings. All journals but one are in the SSH. These activities are financed through structural funds, run by a department specifically formed to point to the significance of open access online publishing in the SSH. Business planning is lacking. It is becoming increasingly obvious, however that this will be necessary now, in order to sustain this service and meet the increasing demand presented by universities and scholarly societies towards a service that is gaining visibility in the country. Besides technology, EKT provides publishers with consulting services on transparent editorial processes, copyright, training on the OJS platform, indexing services, permanent identifiers and retrodigitization. It does not provide layout and copyediting services and does not interfere in the peer-review process. EKT serves universities and scholarly societies in the Humanities. EKT considers itself a publisher and carefully selects the organizations to whom these free services are offered with minimum standards. To meet the demand and for greater efficiency and visibility EKT is moving towards consolidating its journals on a single OJS platform that will effectively be the portal for the journals run by EKT. EKT uses 1FTE to organize and support further development of the service and at this moment approximately 1FTE for IT support. Grants and diverse funding sources are being sought to expand the ePublishing activity and, if possible, become the major ePublishing service for university-based publishing in Greece. A central gateway provides information on the services offered and the activity, on the publishers, and search and browsing functionalities. Besides EKT, a number of open access journals are published in the country by universities and societies, but not more than 50.[50]They often use OJS, but some are based on proprietary platforms. Many of them are actually retrodigitizations of journals that have recently ceased to exist, put forward by

[49] http://recyt.fecyt.es/

[50] The total can be gleaned between listings in DOAJ for Greece and the listings in the main Greek harvester of institutional collections, www.openarchives.gr (under journals).

university libraries. A couple of private publishers working in the medical sciences have emerged offering services to medical societies for their journals.

An interesting model on university publisher has been put forward by **Igitur**, a publishing service in the library of the University of Utrecht, operating in the Netherlands, a country dominated by large commercial publishers, as also recorded by DOAJ. Igitur publishes a little over 20 journals from the university and scholarly societies. Igitur conceived of a new model to help the journals it serves, predominantly in the SSH, gradually acquire healthy sustainable business models. The service does not view itself as a publisher, but rather as a mediator and an incubator that will help SSH journals gradually transition to viable market models, presumably with commercial publishers.[51]This is a model that merits detailed discussion since it presumes from the outset that the appropriate venue to publish scientific journals is a commercial publisher and not the university itself. And, further, that a commercial publisher can only develop sustainable business models. Nonetheless, the observation is important because it places an emphasis on the fact that journals need some form of revenue to survive and be able to continue their operations, along with more general business planning. Finally, it is important because it shows that at a moment when it acquired critical mass in journal publishing Igitur chose not to grow as a publishing initiative of the university, possibly unable to develop a sustainable business model to sustain itself within the complex university ecosystem.

Turning to the **United Kingdom,** a search in the DOAJ reveals the extent to which commercial publishers have penetrated the open access publishing market. Of the 664 journals listed there, 250 are by BMC, 67 by Dove Medical, and then, Ubiquity, Wiley and OUP appear with many less journals each, 18, 14 and 11, respectively. Below this threshold follow some publishers with a few journals, some private, such as Sage, and a few Universities, notably the University of Edinburgh, and the ocean of publishers, mainly universities and societies, with one or two journals. In contrast to other European and Latin American Countries, two thirds of the UK journals in DOAJ charge authors: it is all of the journals attributed to commercial or other private publishers, university presses, some societies and in some cases some universities with single publications. Unlike other countries in the DOAJ, the UK has a good 'score' in terms of licensing. Two thirds of the UK journals in DOAJ carry CC licenses and in most case CC-BY licenses. It is possible that this is part of the effect of the obligatory gold open access policy for the UK that is witnessed in the DOAJ. Taken together, the journals from UK and Sweden in DOAJ seem to indicate that when handled by private publishers, journals more consistently possess licensing information.

Two Universities in the UK appear to be very active in open access journal publishing and there is discoverable information about, the University of Edinburgh and the University of St Andrews. Each has a journal hosting service of about ten journals that are hosted in a single OJS platform and the services are explicit about publishing in open access exclusively and run by the respective libraries. Both provide standard services to university clientele, researchers and students, that is hosting of the journal and training in OJS, advice for copyright and licensing, managing ISSN, DOI and indexing, providing statistics to journal

[51] Werner 2013.

editors, digitization of back journals. Both websites offer adequate documentation of the services, and in particular the University of St Andrews offers information on how to start a new journal within the University, which is very useful for prospective editors. It should be noted that in the case of Edinburgh, this activity operates outside of the University of Edinburgh Press, an established press that does not appear to engage very much in open access publishing. In other words, the collaboration attested in North American universities between University Presses and libraries in open access publishing is missing here. Both universities provide these services from the library's own resources and they come free to the editors. Discussions on sustainability of the services and potential growth are beginning, however, as witnessed by the information released from a workshop and a webinar on open access publishing in the UK libraries during the summer and the fall of 2014.[52] At the same time, the role of the library in the UK is being negotiated, with UK librarians asking themselves whether they are publishers or whether they should be publishers in the first place.[53] The difference in the approach between UK and US libraries is interesting in the sense that the latter do not ask whether they should be publishers, but accept that they are turning themselves into publishers and are swiftly acquiring the skills for this.

Further developments are taking place elsewhere in Europe that cannot all be documented effectively here as this lies outside the scope of the present work. They all, however, point to the same conclusion: namely that there is a lot of open access publishing, especially of journals, taking place in European Universities, and that most major Universities in each country have one or two and less frequently more journals, exceptionally more than twenty journals. They can be published by the library, or the university press, but not exclusively. It is often the case that individual departments publish their journal online and that a few such instances can be observed within the same university (for example a faceted search in DOAJ for the journals of the Free University in Berlin). Library and press initiatives tend to be more visible because they are often placed on journal platforms, which are more discoverable than single instances of journals. More work is necessary on behalf of libraries publishers in articulating clearly their services to become visible and, as presumed on the basis of the lack of relevant information, in acquiring business models.

In sum, great variability at the regional and national level, fragmentation and an apparent lack of coordination are the main characteristics of university publishing in Europe, of which there is a lot of initiatives. The Nordic countries demonstrate the most progress in addressing systematically the issue of transition to open access, while countries such as Italy, Spain and Portugal have placed an emphasis on providing OJS as a service for university publishing. Even in these countries, however, with extensive repository and journal publishing networks operated by most major universities there is lack of coordination. It is clear that a few centers of expertise or critical mass in journal publishing exist in many or even most European countries, while it appears that most universities publish one or two journals and scholarly societies independently publish their own journals. Libraries are the

[52]The seminar was organized by the UKSG http://www.uksg.org/libraryaspublisher .
[53]This was discussed during a workshop on libraries as publishers in Edinburgh in the summer of 2014 reported in the blog of the Edinburgh library http://libraryblogs.is.ed.ac.uk/loch/2014/08/07/a-university-library-as-a-publisher-workshop-discussion-and-swot-analysis/

main actors in university journal publishing, and isolated departments or scholars the main actors of single journals, which form, according to the information gleaned from DOAJ, the largest category. The library publishing services offered mostly align with their mission as gatekeepers of the university output, and are mostly financed by institutions (where information on this is available), while they mostly do not charge APCs. Libraries are not collectively and systematically addressing their publishing activities as is the case in the United States, which results into lack of information and systematization, and, ultimately, in lack of efficiencies and economies of scale. Therefore, they need assistance in improving and coordinating their services, while scholars who lead journals need more information and instruction on the services available and developing journals that will have impact. Overall, university-led journal publishing activities in Europe require systematization and collaboration between the involved actors in order to achieve impact on various aspects, such as the services offered, funding models, exploration of potential collaborative schemes, among others.

Open monographs in the Humanities

The Landscape

Publishing in the form of a book is a very important way of communicating research in the Humanities. The rapid developments in open access, therefore, had consequences for publishing monographs in the Humanities and extensive discussions have been taking place regarding open access to monographic output in these fields, including whether open access to monographs should be obligatory for performance evaluation in the UK.[54]Widespread discussions and initiatives for open monographs materialized later and at a slower pace than the discussions and initiatives about open access journals. Nonetheless it appears that open access is now becoming accepted among research communities and open access books and initiatives for open access monographs are on the rise.

In principle, open access to monographs in the Humanities has moved with hesitant steps from releasing out-of-print books openly in the internet as part of retrodigitization initiatives with print-on-demand options, to digitally-born new monographs in open access and new University Press and Library initiatives, as well as private and scholar-led initiatives for open book publishing, such as Open Monograph Press and Open Book Publishers. Discussions on open access monographs have been strong in the past few years in North America, as well as in Europe. The EU-funded project OAPEN produced a study in 2010 on open access models for eBooks in the Humanities and Social Sciences setting the scene at the time.[55] At the same time, OAPEN's success was translated into national projects, OAPEN-UK and OAPEN-NL, with the mission of studying monograph open access publishing in the UK and the Netherlands.[56] Finally, OAPEN became a foundation, which now manages DOAB, the Directory of Open Access Books, presently listing around 2500 open access monographs from publishers primarily in Europe.[57] In recent report by Jisc, a national monograph strategy roadmap is presented, which proposes a national and collaborative infrastructure for monographs published in the UK in the next five years with open access as the default.[58]

In terms of current university-based practices open access books appear to have provided a new arena for action to University Presses, whose primary output is usually books; thus open access monographs represent a natural next stage of development for them. Open access was identified as the future model by University Presses in a report on Business Models published by the American Association of University Presses (AAUP) a few years ago.[59]Established University Presses usually provide open access publishing as a branch of their other (toll) book publishing activities, and usually not as the exclusive way of

[54]Open access publishing models for eBooks in the Humanities have been discussed extensively by Adema 2010, through the OAPEN project. Open access is described as the publishing model of the future in a 2011 report of the AAUP on sustaining scholarly Publishing. On monographs being included in research evaluation cf. the recent report by HEFCE, which decided not to include open access to monographs as a criterion for the REF. HEFCE Monographs and Open Access Report (2015). Most recently it is discussed by Eve 2014a.
[55]Adema 2010.
[56] http://www.oapen.nl/ and http://oapen-uk.jiscebooks.org/
[57] www.doabooks.org
[58] http://www.jisc.ac.uk/reports/a-national-monograph-strategy-roadmap
[59] Withey et al. 2011.

publishing. This is the case with large and commercial University Presses, such as OUP and CUP, as well as with mid- and small-sized University Presses, such as Cornell University Press, Penn State University Press, Amherst University Press, Manchester University Press, Firenze University Press, among others. Open Access monograph publishing can be, in some cases, the main objective of new and distinct initiatives of Presses dedicated to this particular aim (ie open access publishing), with dedicated financial resources, such as the case of two new initiatives by the University of California Press (Luminos and Collabra), examined below, part of the newly developed open access publishing branch UC Press Open. Further, a few University Presses have been established from the outset as open access presses, such as the Athabasca University Press in Canada.

University Presses increasingly collaborate with University Libraries specifically in the domain of open access publishing, and in many cases, in the United States, eventually become embedded as services of the University Libraries. The press-library partnership has become rather common in the United States, Canada, Australia and in some cases in Europe. The partnership enhances mission-based publishing and is probably a more effective pooling of resources and complementary expertise at a time when both Presses and Libraries are faced with serious financial challenges. In such partnerships the library may be the technology partner and the one providing expertise on open access and the handling of archival material, metadata, indexing and similar services, but it is the University Presses that lend their reputation of quality (through peer-review) and expertise specifically in book production, publishing and marketing to such joint initiatives.

In the United States in particular there is a wave, whereby existing University Presses become part of the Library and/or the administrative structures of the University supervised by the Library (under the Dean of Libraries).[60] A representative example of this is the case of Purdue University Press. The Press was established in 1960 to enable dissemination of research undertaken in the University and soon became established in publishing in areas for which its parent university is famous, including business, technology, health, veterinary medicine and other select disciplines in the humanities and sciences. It publishes approximately 30 books a year and 15 journals, a number of them in open access, in collaboration with Purdue University Libraries. As early as 1992, responsibility for the Press was transferred to the Dean of the Libraries and the Press is now a unit of Purdue Libraries. As described in its website, in 2012 "publishing within Purdue Libraries was reorganized in order that staff with skills in this area could also serve the less formal scholarly publishing needs of the Purdue community (e.g., the production of technical reports, conference proceedings, preprint collections, student journals) while still maintaining the Press's reputation for excellence in producing peer-reviewed books and journals in subjects relevant to the University".[61]Further to the relationship with the library on the physical move of the Press into the Library area "This move (in 2009) reflects a recognition of the converging paths of librarians and publishers in the digital age, and the exciting potential of an

[60] Bonn, M. and Furlough, M. 2015, op.cit. ftn. 23 extensively discuss this in the edited volume, which could not be taken into consideration here. The case of Purdue University Press is also discussed as a case study.

[61] http://www.thepress.purdue.edu/pages/history-mission

integrated approach to scholarly communications. In its location at the center of campus, the Press can also better fulfill the part of its mission that focuses on efficiently supporting the dissemination of scholarly research conducted at Purdue, and enhancing the university's global reputation". Apart from the convergence of the publishers and the librarians inside the campus, ultimately on account of their very similar missions, the clear perception in work division is that the Press's primary responsibility lies with 'formal' publishing needs (ie peer-reviewed needs in books and journals), while the library's main responsibility lies with the 'less formal' publishing needs, such as technical reports, conference proceedings, student journals etc. This situation bespeaks of a potentially significant obstacle with library publishing in general, that of the 'legitimacy' of the library as a publisher; a relatively conservative academic system may not yet be ready to accept the library as a publisher, a capacity which is strongly connected to the ability to orchestrate the peer-review process, which, in turn, guarantees the quality of the published research.

Nonetheless, this is not always true, as bespeaks the relatively rare until now formal establishment of a University Press by a Library, where there was none before. In this case electronic publishing and open access are the primary realms of work of such a Press. Such initiatives have been taking place in Canada and in Europe (primarily in Germany and now elsewhere), presumably where there is still space for the development of new university presses. They lend to Universities a new active role in the dissemination of the research they produce as primarily not for profit publishers and a formal acceptance of the role of the library as a publisher. Representative initiatives of this type, which started flourishing in the early 2000s, are the Australian National University Press (formerly ANU ePress), Göttingen University Press in Germany, and the establishment last year of the UCL University Press and Stockholm University Press by the respective University Libraries.

Established by libraries, such presses provide services in the areas that libraries are expert in, such as indexing, open access and repositories, as well as the traditional editorial, production, sales and marketing support, all under the auspices of the library. The Göttingen University Press is a representative example.[62] It was established in 2003 by the State and University Library of Göttingen, and provides repository-based publishing services. The press publishes in two categories of publications, the University Publications/Imprint (Universitaetsdrücke), reserved for university publications without review, and the University Press publications, which are the high-quality peer-reviewed publications. The first can be interpreted as the types of publications that libraries typically place openly online in repositories, while the second is the type of work traditionally attributed to presses and commercial publishers with quality as the main objective of the publication. Nearly all of its output is open access and it offers the full range of services of a press and a library combined (consulting, production, editorial, marketing, distribution etc). Aggregate information on these library-led ventures in Europe are, again, difficult to locate but some information can be gleaned from websites of relatively recently formed Association of European University Presses and the annual conference on Academic Publishing in Europe.[63]

[62] Information on this press from Bargheer and Schmidt (2008).

[63] http://www.aeup.eu/aeup/ and the http://www.ape2015.eu/ (academic publishing in Europe conference).

An important stakeholder in open access monograph publication and SSH publishing generally in Europe is certainly OpenEdition. The initiative, which started with journals, is swiftly expanding into open monographs in the SSH by establishing collaboration agreements with University Presses in Europe and beyond, while the volume of books it publishes is expected to grow in significantly in the future. The OpenEdition Books platform[64] gives new life to retro-digitized books by collaborating publishers, which are mostly offered through the freemium programme, as well as provides to them the e-infrastructure for publishing new books. OpenEdition has received a substantial grant from the French Ministry of Education for the retro-digitization and open access to books published in France in the SSH. The platform currently contains 1802 books, of which 75% (1347) are in the freemium model, 350 books are in toll access, and 97 books in full open access for all of their formats. It contains the books primarily of French university publishers, as well as of societies and private publishers in the SSH, but also university publishers in other countries, such as Mexico, Belgium, Italy.

Outside the university library and press publishing setting, open access monographs are published by private and scholar-led companies with the mission of rendering books openly accessible. Such a company with consistent activity since its establishment in 2008 is the Open Book Publishers, a private open access monograph not for profit publisher established by Cambridge University scholars. Since its launch the press has published around 50 books in open access.

Funding for open access monographs

The economics of monographs have been studied in depth by university presses and other university publishers and are embedded in their practices, since important parts of their revenues derive or until recently derived from print book sales. Monographs are expensive to produce, both in research labor and production labor, as well as have the potential to earn profits for long periods. Thus, financing and cost retrieval with respect to open access monographs has been a topic of discussion since the early stages of experimentation with open access monographs and an essential component of it. It is clear that diverse streams of funding are necessary for producing books, whether in print or in digital open access modes, and that open book university publishers (ie Presses, libraries and collaborative initiatives) and recently launched private initiatives realize this and swiftly diversify their strategies.[65]Monograph publishing within institutions, primarily university presses, has always relied heavily on institutional support and grants, and it is very likely that in the new open access mode of publishing these will continue to form a large part of the diverse mix of

[64] http://books.openedition.org

[65] Withey et al. 2011 extensively on this. An economic analysis of business models for open access monographs is offered as part of the recent HEFCE investigation on this subject-matter with many interesting points on different models (Economic analysis of business models for open access monographs, Annex 4 to the HEFCE Monographs and Open Access Report (2015)). The study discerns six different business models in open access monograph publishing based on the operational and funding approaches: the traditional publishers; a new university press; mission-oriented open access; freemium open access; aggregator/distributor; author payment model. These are evaluated against a set of criteria, namely quality, sustainability, dissemination, diversity, innovation and integrity.

funding streams that will contribute towards the sustainability of a new scholarly communications ecosystem.[66] Public funders and foundations are stepping into this challenge, understanding the significance of open access and of monographs. In this effort, among other institutions, the Mellon Foundation is emerging as an important supporter in enabling new forms of scholarly communications, including open access, and in enabling open access monographs in particular, as is clear from recent grants in this direction amounting to a few million of US dollars.[67]

Aside from institutional funds, grants, institutional in-kind support and print sales that form the core funding for open access publishing initiatives of monographs, there are two main types of funding/income-retrieval strategies/mechanisms that university publishers and new open access publishers systematically implement, often simultaneously, which also apply to journal publishing: the so-called 'freemium' model (a demand-side mechanism) and the Book Processing Charges (BPCs). With the freemium model open access is provided to the HTML and pdfs, epub files, MARC records etc, that is added-value services, are offered to member institutions for a fee. This mechanism has been adopted since approximately 2011 by OpenEdition both for journals, as well as more recently for the books aggregated in the book platform, as well by publishers such as Open Book Publishers and Ubiquity Press. Readers access the texts in html and institutions get more files and records, statistics etc. by subscribing to this programme. Open Book Publishers and Ubiquity Press also offer discounts to scholars of subscription institutions in publishing fees. Despite the aversion of scholars in the Humanities towards APCs and BPCs, a brief survey of practices among presses and new initiatives, institutional and private, indicate that most actually rely on BPCs and expect their authors and their institutions to be able to contribute towards open access book publishing. For example UCL Press, Ubiquity Press, the University of California Press, Open Book Publishers, Stockholm University Press, among others. Understandably, both BPCs and APCs presuppose the existence of distinct streams for relevant funds within the institutions and/or funders, otherwise this system does not work. New initiatives, described below, strive to develop alternative and collective funding mechanisms precisely to avoid author-side charges. Research carried out for this report leads to the conclusion that exclusive reliance on one type of revenue stream is very dangerous for the sustainability of any university-led publishing initiative, including book publishing.

New Innovative Initiatives

Innovative initiatives in open access are launched in Europe and elsewhere, and only a representative sample can be examined here, as case studies, with an emphasis in the Humanities. They are primarily the work of established university presses and scholar-led private initiatives. Their characteristics are transparency and fairness in the economics and in charges; experimentation with the economies of open access; transparency in the policies and processes; the active involvement of diverse stakeholders of the scholarly

[66] Withey et all. 2011; Adema 2010.

[67] http://mellon.org/news-publications/articles/humanities-open-book/and http://mellon.org/news-publications/articles/piecing-together-publishing/ as well as further funding just announced for open access monographs in the University of California Press (cf below section on innovative initiatives).

communications ecosystem in the initiatives from the outset; effort to support new modes of scholarly publishing and improve the existing one (ie books and journals). It cannot be said that the university library is a major initiator in this fast-paced innovative environment, but an actively participating and very important stakeholder in it; it participates by financing part of the operations of such initiatives.

An innovative initiative in the field of open access publishing with an emphasis in the Humanities and a few years of operation is Ubiquity press. It started in 2012 by UCL scholars as a UCL-based startup, and is now an independent publisher and technology provider. It publishes journals and monographs and, importantly, a new type of journal, the data journal, with numerous open access data journals in the Humanities and the Social Sciences.[68] In terms of its financial model, Ubiquity charges APCs of 300 pounds and BPCs of 3000 to 9000 pounds (depending on size of book and service level), both significantly lower amounts than commercial publishers charge, and combines them with institutional membership to provide discounts for researchers of those institutions for journal publishing, or use the institutional membership money towards covering the cost of the publication of a book by academics of the institution with Ubiquity press. Alternatively, institutions may agree to cover the costs of articles and/or books published by eligible researchers in return for a 5% discount on all APCs and/or BPCs. A similar mixed model and low pricing is also the strategy implemented by Open Book Publishers.

Aside from publishing Ubiquity significantly is simultaneously, and possibly primarily, a technology provider that enables the development of open access University Presses, Scholarly Society Presses or scholar-led Presses, where the institution would like to outsource the technology. It envisions the creation of a network of presses that shares infrastructure and some other resources, and forms a Board that determines the future of the Network. Thus, Ubiquity Press is the technology provider behind the newly established and scholar-led publishing company Open Library of the Humanities, as well as behind the newly-founded open access Stockholm University Press and the soon-to launch open access university Presses of Westminster and the joint Press of the Universities of Cologne and Munich. Its role may become significant for the development of new, purely open access University Presses in Europe, which are closely aligned to University mission and wish to outsource technology. Thus, Ubiquity Press is a dynamic player with multiple roles (publisher, technology provider) in the rapidly evolving open access scholarly communications ecosystem.

Two new initiatives just launched by the University of California Press, one on open access books, Luminos, and another on open access journals, Collabra, are promising and require discussion in the context of innovative approaches.[69]They are both housed under UC Open Press, the newly established open access publishing branch of the University of California Press. They both display very careful planning both in terms of their funding models, as well

[68]The data journal is a new form of publication, comprising papers that are peer-reviewed methodological discussions on primary research data (and not interpretations of them), which are deposited in open access repositories and linked to these articles. Data journals are currently a path towards gradually moving to openly accessible research data and obtaining credit for it.
[69]www.collabra.org and http://www.luminosoa.org/

as in terms of editorial practices. Luminos, dedicated to open access monograph publishing in the Humanities and Social Sciences will apparently be technologically supported by the California Digital Library (CDL). UC Press and the CDL just received a 750K dollar grant from the Mellon Foundation for the advancement of the open source software used as repository and open access publishing activities of the California University System to be used in workflows of the new Luminos initiative, and as seed funding for the generation of new content for books at the outset of the initiative.[70]Luminos books will be published under the same rigorous editorial review as the rest of the books published by the UC Press. The initiative possesses an editorial board to secure the high quality of relevant processes. Collabra, the open access journal publishing initiative of the UC Open Press is a mega journal, currently in three core fields: Life and Biomedical Sciences, Ecology and Environmental Science, Social and Behavioral Sciences. The press plans to expand the initiative in the Humanities, and other disciplines. An editorial board with specialities in the said three fields frames the journal.

Both Luminos and Collabra display careful planning in terms of sharing the costs of publishing, and taking into account the relationships between various stakeholders in the scholarly communications ecosystem in doing so. Aside from providing open access to high quality monographic output Luminos explicitly seeks to experiment with sharing costs in book publishing in view of accomplishing sustainability in this open access model. Various sources of income are provisioned for Luminos, namely, among the ones discerned from press releases and the website, UC Press resources (in kind and presumably in cash through print sales), presumably institutional funding from the University of California, grant funding (e.g. the newly acquired Mellon grant), BPC funding, and voluntary library subscriptions. To offset a $15,000 book publication fee, the author is asked to contribute a BPC of 7500$. The rest is contributed by the other financial resources described above. Inability to pay when authors merit to be published is not a reason for rejection, and authors are eligible for waivers, which are covered, again, from the remaining resources. If no funding is available at the press through them authors are eligible to publish traditionally (ie in toll access), where no fees are required. In the FAQ section of Luminos it is stated that open access books are published in an expedited time-scale as compared to the regular toll access books. Therefore, in addition to the access and visibility that open access books under this new UC Press imprint offer, authors are essentially first directed to open access publishing within the press. Libraries also have a role in Luminos. Unlike the freemium model, the one adopted here offers them MARC records and usage data without any membership fees. However, an optional membership program with an annual fee of 1000$ in which they can participate goes towards supporting researchers in their work (author waiver fund) and making the work open access (2000$ per book title fee paid for by libraries).

The Collabra mega journal model is interesting and different from other current models also because money is given to the editors in their various roles, which can be ‘paid forward’, that is waived and directed back to the research community. Collabra charges APCs of 875$, which are generally low compared to what large commercial publishers charge. 625$ serve

[70]http://www.cdlib.org/cdlinfo/2015/03/05/uc-press-and-the-california-digital-library-receive-750k-grant-from-the-andrew-w-mellon-foundation/

to maintain the journal and its services, while the remaining 250$ are directed towards a researcher fund. Researchers with a role in the journal, as editors and reviewers, obtain points on the basis of the work that they do according to a predetermined scheme (for example the reviewer gets more points than the executive editor) and a couple of times a year their points are turned into money value. They may chose to keep the money, or direct it to the development of publication funds in their institutions, or direct it towards the author fund for the Collabra journal. In this way, researchers receive part of the revenue, but can also 'pay it forward' to the research community of their choice, which is an innovation in open access publishing as it stimulates the practice of open access and enhances competition.[71]With Collabra the UC Press explicitly aims to create a journal that removes expensive barriers, rewards participation and creates value for all parties involved. The Press proudly declares that it is its ability as a not for profit publisher that allows to experiment in view of achieving the above as a mission-minded and community-centric effort. Further to this, with Collabra, the UC Press explicitly commits to experimenting with openness and transparency of the peer-review process. Reviewers can chose to remain anonymous or not, and authors may chose to display reviews with their articles or not. In this way, the responsibility of the transparency of the system and the related results of practices are explicitly and transparently an outcome of researcher practices. With Luminos and Collabra, the University of California Press, a prestigious and old US University Press, makes a bold entry in open access publishing, an activity thus far handled by the CDL's eScholarship programme (repository overlay publishing system), which, however, unlike a press, serves only the faculty members of the University of California system.[72] Again, the relationship of activities between the University library and a strong and active University Press comes sharply to the fore, with the library maintaining a more 'traditional' role and the Press assuming the more innovative and potentially profitable publisher activities that extends outside of the campus. These two initiatives of UCP are most interesting not only in providing open access to the end products, but as well because at the same time they encourage openness at other stages of the research process, such as during the peer review, and transparency in the economic models.

Similarly, Open Humanities Press and OpenEdition should also be mentioned as innovative initiatives for the Humanities and the Social Sciences here not only because they have both existed for a few years or more than a decade (in the case of of OpenEdition) and contributed to the advancement of the open access agenda in the Humanities, but additionally because along with the Open Access agenda they have advanced the significance of experimenting with alternative modes of publication. Thus, the Open Humanities Press, established in 2008 by scholars and led by scholars, aside from publishing journals and books with very high editorial standards, it also experiments with alternative modes of publishing in open monographs through various thematic series, such as open-ended books, living books etc. on specific topics. Their series *Living Books About Life*, for example, is a series of curated, open access books about life -- with life understood both philosophically and biologically -- which provide a bridge between the humanities and the sciences. Books in the series are open to ongoing collaborative processes of writing, editing,

[71]Such waived money is normally redirected to the same press toward the author's fund.
[72]www.escholarship.org

updating, remixing and commenting by readers. Along the same lines, Open Edition has rigorously developed and promotes a new platform for scientific blogs named '*Hypotheses,* which is managed by scholars and is in great demand all over the world. Thus far, Open Edition operates approximately 800 active scientific blogs from its blog platform and is seeking for collaborations to advance new methods for publishing, for integrating this type of scholarship or further transforming it and for implementing alternative methods of peer review.

Some new scholar-led initiatives bring the issue of funding open access sharply to the fore as a central part of their mission by exploring collaborative funding models that do not entail author charges for Humanities' scholars, but rather foster collaboration between stakeholders and, significantly, libraries, to enable publication without APCs/BPCs. The principles for such a collaborative funding model were proposed in 2014 by Rebecca Kennison and Lisa Norberg in their White Paper entitled "A Scalable and Sustainable Approach to Open Access Publishing and Archiving in the Social Sciences and Humanities".[73] Their proposed model is a central fund comprising payments by HEIs and other related institutions based on various parameters (including number of students, researcher etc). Funds are obtained through a competitive grant process directly to support distribution, access and long-term preservation infrastructure of the publishing partnerships. Aim of this proposal is to convert traditional subscription publications to open access ones in a way that is fair, sustainable and collaborative.

Knowledge Unlatched is an effort in this direction of collaborative funding, whereby libraries collaborate in funding the release or unlatching of monographs once the nominal cost of the book set by the publishers has been reached. The more the participant institutions, the cheaper the cost of the book per institution. Knowledge Unlatched begun with a pilot unlatching of 28 books by participating publishers in 2014 to a great success, with the participation of more than 200 libraries.[74] Nonetheless, the question remains for researchers on how this model will be able to scale up.[75]

A project based on a similar concept of collective funding of open access publications in the Humanities is the *Open Humanities Library (OLH)*, a project that launched in 2014 with the aim of developing a mega journal in the Humanities, and which has received seed funding from the Mellon Foundation. The concept behind it is that collaboration between stakeholders, primarily libraries who pay, but also funders and publishers, as well as researchers, will eventually lead to a collaborative model for financing high quality publications in the Humanities. The model envisioned does not require the author to pay in order to publish, is fair in terms of pricing and sustainable in the not-for-profit model of PLOS. OLH is a researcher-led project and aside from the desire to contribute in developing a sustainable open access publishing ecosystem in the Humanities, it also aspires to bringing about editorial and research novelties, such as the concept of the mega journal with overlay journals. Authors will have, therefore, two entry points into this system: one, the base

[73] http://knconsultants.org/wp-content/uploads/2014/01/OA_Proposal_White_Paper_Final.pdf
[74] Results of the pilot scheme http://collections.knowledgeunlatched.org/wp-content/uploads/2013/09/KU_Pilot_Progress_Summary_Report4.pdf
[75] So Eve 2014b.

megajournal, which will store everything, and as a second the overlay journals. The overlay journals will 'curate' articles from the base megajournal where thematically appropriate, but presumably also provide the means through which to apply post-publication peer-review, which is also envisioned by OLH in a model that will transition towards the PLOS review approach.[76]While apparently new overlay journals are envisioned and calls are already out, it is clear that the project directors also aim at incorporating existing journals to transfer into the OLH platform in view of acquiring sustainability, preservation services etc.[77]It is envisioned that in the next year at least 250 articles and as well as books will be published through the platform. For the books, OLH has entered into agreements with specialist book publishers such as Open Book Publishers, Oxford University Press, Cambridge University Press and others. Ubiquity Press is the technology provider for the Mega journal, whose workflows are based on the OJS, which was modified by Ubiquity to fit the workflow of a megajournal. Libraries, especially in the USA, have begun to pledge commitments in funds for the first test publications and researchers calls for paper submissions in specific thematic areas.

While the project has just launched, the future is promising for OLH and the possibility that it in fact becomes an important hub bringing together stakeholders to enable scholarly communications in the Humanities is strong. The reason is, on the one hand, that the mission to achieve a fair and sustainable open access publishing ecosystem for the Humanities resonates with most stakeholders who may be willing to pay for services of value. On the other hand, a mega journal with content arriving in it from various directions (i.e. new articles, old journals, new books, old books) has the potential of scalability in volume and thus the swift enrichment of this platform with content, which will be very attractive to scholars of various disciplines. Finally, the inclusionary model conceived by the directors, with all types of stakeholders and all innovators effectively being included in an apparently balanced way in this model, makes the possibility of success rather high.

Conclusions

A rich and continuously evolving ecology of open access publishing initiatives is clearly discernible in Europe and the world, empowered by technology, the belief in open access as the way of performing and publishing research from now on and the desire to develop a sustainable scholarly communications ecosystem. University libraries have a leading role in these initiatives and eagerly assume the role of the publisher, primarily of journals. Large-scale initiatives (journal portals) at the national level exist in some countries, aimed at promoting access to, the visibility of and improving the quality of national publications or are dedicated to promoting open access scholarship in the SSH. Large journal publishing initiatives take place in a select number of universities across Europe and world, the largest ones located in Latin America, in Spain and Italy. This ecology of university publishing initiatives is dominated by a small number of medium-sized initiatives, and mostly by a veritable ocean of really tiny initiatives, mainly single journals of scholarly societies,

[76]Eve 2014b.
[77]Eve2014b.

university departments or groups of scholars. The focus in terms of journal subjects is on the SSH, while in terms of articles health and related fields display higher numbers, as indicated by DOAJ and SciELO. A steady growth of journals and articles can be observed through DOAJ, although precise and authoritative numbers are hard to obtain and a significant portion of the available literature is, in reality, gratis open access.

Large-scale national initiatives are often implemented in a centralized top-down approach and do not necessarily succeed in improving the quality of the journals as appreciated by the scientific community for professional advancement (e.g. SciELO in Brazil). Medium and small scale university-led initiatives focus more on services that align best with the traditional role of the library in indexing, advice on copyright, retro-digitization and archiving, as well as technological support primarily through the OJS platform for journals. Production and marketing is apparently generally not offered, unless a University Press is involved, as the partner providing these services. Where a press is involved or a library-operated press, focus is also on monographs, and information regarding services more widely available. In most library-led initiatives the information regarding services is minimal or non-existent and efficient and accessible documentation is even lacking in large national initiatives.

Further, unlike the case in the United States, in Europe such medium and small-sized initiatives do not coordinate with each other in principle, resulting in lack of efficiencies and, likely, quality. Thus, attention is necessary towards the systematization of services within and between universities. Collaboration between universities offering such services is absolutely necessary to this end. Such collaboration and coordination should enable an articulation of aims, scope of services and improvement of the quality of services and will provide more information to scholars seeking assistance with their journals. Single instances of journals (scholar/society-led) also need assistance with respect to locating relevant services and standardizing processes and quality. Where larger platforms with established services exist, this may be a better solution for them, than isolated journals, which are probably less visible. The question of scale is therefore very relevant here and will only be touched upon in the form of a couple of indicative questions: what kind of scale is the optimal scale in terms of efficiency and quality of the services rendered? Can and should medium-scale initiatives move towards aggregating more content and publisher-customers outside of a strict market economy and what does this mean organizationally or in terms of funding?

Other areas in need of immediate attention in university-led publishing are funding models, technology use and licenses. Most initiatives are apparently funded by national and/or institutional funding and grants. Very few initiatives have systematic business or financial plans and a lot apparently rely on single sources of funding, which puts their sustainability into question. The overwhelming majority of open access institutional publishing does not require APCs, with the exception of Presses publishing monographs, where BPCs are normally required. The obvious costly business of producing monographs has led university publishers to explore funding for open access monographs since the outset of the relevant discussions and the result is more attention on this by all parties involved. With respect to technology, while large initiatives may use proprietary technology, an increasing turn towards open source technologies, especially for journals, can be observed. The OJS is the

leading open source software for journals, while some institutions publish journals in their repositories. More collaboration is necessary also to overcome the fragmentation resulting from thousands of single instances of OJS installations, which, in a parallel development, is increasingly being used as a portal for many journals. BePress in the United States offers its own repository and journal overlay software which harvests all installations, and therefore overcomes the problem of fragmentation and provides information on various aspects of publishing (numbers of journals, institutions, subjects etc.) that is useful for evidence-based policy and planning. Finally, more attention is necessary regarding licensing open access publications. A simple search in DOAJ shows that most of the journals listed there are apparently not licensed. It can be said, however, that greater care is displayed with monographs, on account of their high significance for Humanities scholars, in terms of explicit licensing.

Encouragingly, a significant number of innovative initiatives are materializing within the university, mainly where university presses exist, but also outside of it, run by small scholar-led companies with a mission to promote open access and contribute towards a fair and sustainable scholarly communications ecosystem. Some of the initiatives are significantly directed to the SSH, with an emphasis to monograph publishing, or to the financial sustainability of monograph publications and the financing of open access in the Humanities. Thus, an alternative landscape to that of large and corporate publisher is gradually being formed, with many initiatives taking place. The question arising is how many of them will succeed in their aims, by achieving scale and impact, and how much this may in the meanwhile cost to universities and funders who are also eager to contribute to a financially more reasonable scholarly communications system and are thus called to support financially numerous initiatives simultaneously.

Overall, the situation with University-led publishing is very clearly a fragmented one, especially in Europe, resulting into low visibility and possibly low quality of services. Significant room for coordination among initiatives and standardization of services exists, in view of establishing university-led and non-corporate open access publishing as a trustworthy and respected mode of publishing, and one which empowers the university itself as the main producer, gatekeeper and disseminator of scientific knowledge.

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Annex I: Counts of subject areas of journals

Numbers of journals were obtained from the portals of the large scale initiatives indexed below. In most cases specific numbers were available to designate publications in specific subject areas. The latter were mapped into Frascatti where possible. It was not possible to map the information from all portals into Frascatti, because the information was not so granular for some of them (eg. Hrčak, Redalyc and J-Stage). *Thus, ultimately the indicator that is most meaningful across the platforms is the share of SSH journals versus that of the other disciplines.*

It should also be noted that since one journal may belong in one or more scientific fields, the numbers provided do not reflect numbers of journals, but rather the share of the various areas in the total of the journals.

Main observations

The following patterns can be observed specifically, with the most reliable numbers deriving from statistics provided by SciELO.

- In SciELO, according to recently published statistics, which do not agree with numbers to be obtained from the platform itself regarding the scientific fields of the journals, the predominant thematic area is that of Health Sciences with 31% share in the journals and 43% share in the articles and a second largest thematic area the Humanities, with 29% and 18%, respectively.[78] The much lower share of articles in the Humanities presumably reflects the lower rate of publication turnover of researchers in the Humanities. The statistics published by SciELO are also interesting in pointing out the different orientations of the different countries within the platform. Thus, for Brazil, the first share in terms of journals is in Health followed by the Humanities, for Argentina in the Humanities followed by the applied Social Sciences, and for Chile in the Humanities followed by the Applied Social Sciences. In all three areas, however, the highest share of articles is in the area of Health.
- For Redalyc, which provides the possibility to search journals in the Social Sciences and the Humanities, the SSH account for approximately 70% of the journals indexed in the service, 660 out of the 932, and a little more than 75% for RACO, while the Turkish Dergi Park indicates that 56% of the journals in the platform (289) are in the Social Sciences and the Humanities.
- In the case of J-Stage of Japan, the disciplinary direction is clearly focused towards Medical, Health Sciences (39%), Engineering and Technology (21%) and Natural Sciences (20%) and much less towards the Humanities, which has only a 7% share in the journals.[79]
- In AJOL, the greatest share in the scientific fields of journals among the open access journals is in Medicine, followed by the Social Sciences and Natural Sciences. The

[78]The source of the official statistics is Packer 2015.

[79]Source of precise fields of journals https://www.jstage.jst.go.jp/AF03S040Init Caution is necessary as journals have been assigned to more than one fields. The pie has been produced by mapping the fields given by J-Stage into the first tier of the Frascatti manual classification.

interest in publishing scientific results in medicine and allied fields produced in Africa is reflected in the overall large share of medical journals in the AJOL collection.[80]

- Asian JOLs (Bangladesh, Nepal, Sri Lanka) with significant content, show a clear predominance of journals in the medical and health sciences, with share anywhere between 33 and 44%, followed by natural sciences. Social Sciences feature also relatively high in the shares of journals, while, on the other hands, there is practically very few journals in the humanities (close to 1%). By contrast, in the Philippines JOL the Social Sciences journals occupy the largest share (31%), followed by the Humanities journals (24%). Combined, the SSH journals are 55% of the total.
- In HRCAK the largest share of journals is in the Humanities (32%), followed by the social Sciences (29%), a total of 61% among disciplines within HRCAK.
- SCindeks contains journals that are closed, as well as journals that provide open access to their content, and these represent approximately 42%. They present a more or less even breakdown of scientific fields among journals. Most of the Serbian journals listed, are in the Social Sciences, where however, approximately 1/3 of the journals are in open access.

[80] Ezema 2010.

SCIELO

SciELO statistics were drawn from Packer 2015.

Figura 1. Distribuição do total de periódicos e artigos indexados na Rede SciELO por área temática

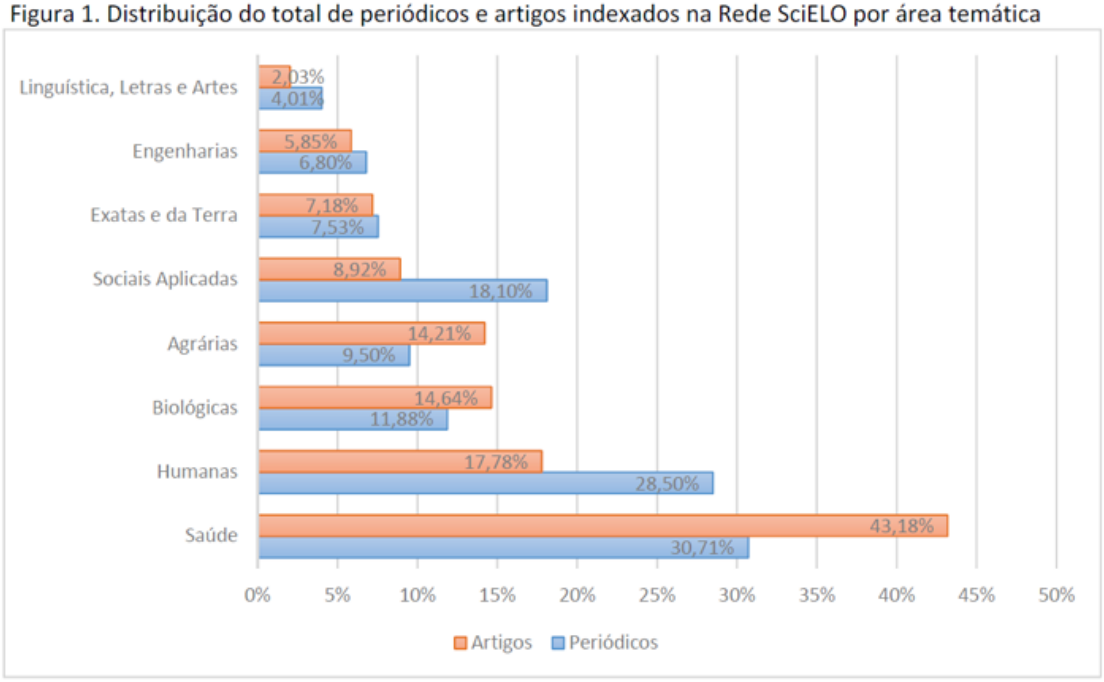


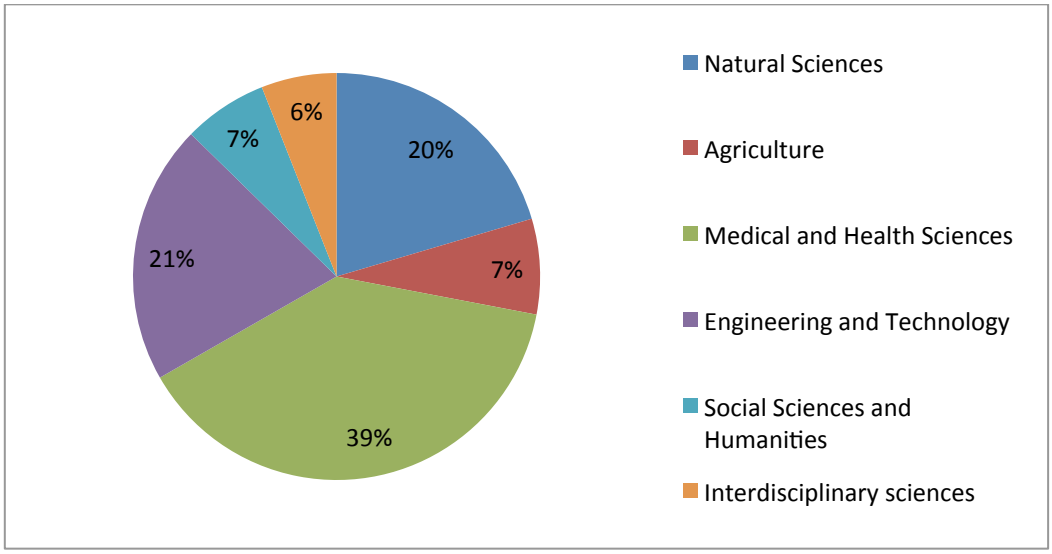
Tabela 2. Distribuição do número total de periódicos e artigos indexados nas coleções da Argentina, Brasil e Chile por área temática

Área temática	Periódicos			Artigos		
	Argentina	Brasil	Chile	Argentina	Brasil	Chile
Saúde	13%	33%	16%	30%	46%	37%
Humanas	42%	28%	28%	29%	16%	19%
Biológicas	15%	13%	14%	19%	16%	17%
Agrárias	8%	13%	8%	4%	20%	8%
Sociais Aplicadas	18%	12%	25%	14%	5%	17%
Exatas e da Terra	12%	6%	11%	11%	6%	11%
Engenharias	1%	6%	8%	0,5%	5%	7%
Linguística, Letras e Artes	7%	4%	9%	6%	1%	7%
Total	120	342	106	21.516	277.124	45.338

J-STAGE

J-Stage journal area numbers were taken from the portal and then transcribed to Frascatti.

Frascatti	J-Stage	
NAT	Math	80
NAT	Physics	197
NAT	Chemistry	250
NAT	Earth Sciences and Astronomy	168
MED	Biology, Life Sciences Basic medicine	554
AGRI	Agriculture and Food Science	365
MED	General Medicine, Social Medicine and Nursing Studies	429
MED	Clinical Medicine	412
MED	Dentistry	188
MED	Pharmaceutical Studies	281
ENG	Nanosciences and Material Sciences	286
ENG	Architecture and Engineering	239
ENG	Mechanical Engineering	241
ENG	Electrical and Electronic Engineering	226
NAT	Information Sciences	288
MULTI	Interdisciplinary Sciences	400
SSH	Humanities and Social Sciences	322

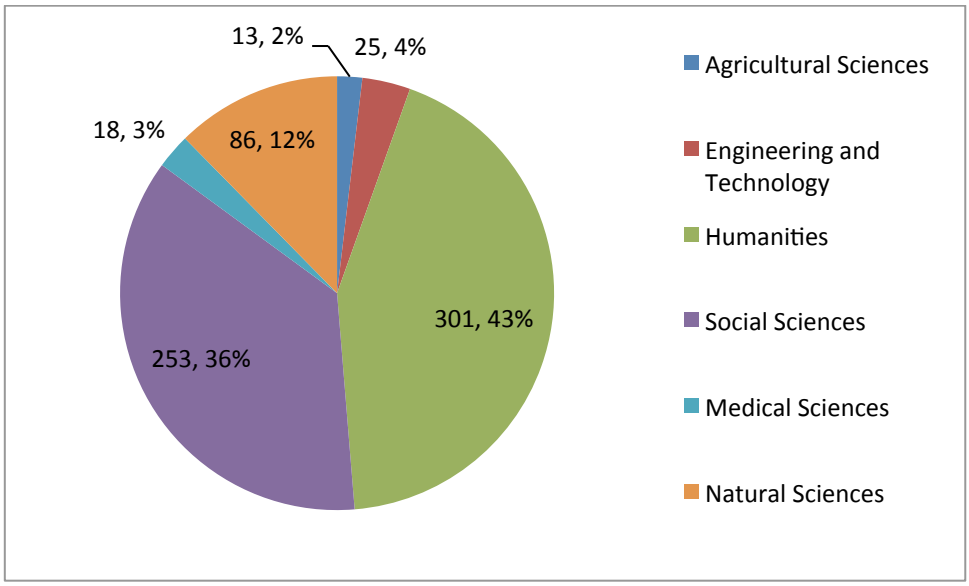


Share of journals in various scientific areas within J-Stage

RACO

The extended areas of journals within RACO were taken from the portal

Frascatti	RACO	
AGRI	Agriculture in General. Related Sciences. Forestry	13
ENG	Engineering. Technology in General	12
ENG	Chemical technology. Chemical and related industries	6
ENG	Various industries. Trades and crafts	2
ENG	Industries, crafts and trades for finished or assembled articles. Cybernetic and automatic technology	4
ENG	Building; trade; Building materials.	1
HUM	Generalities	22
HUM	Fundamentals of Knowledge and Culture	50
HUM	Organizations. Association. Congresses. Exhibitions. Museums.	6
HUM	Metaphysics	1
HUM	Religion. Theology	4
HUM	Architecture	14
HUM	Plastic Arts	1
HUM	Drawing	4
HUM	Painting	1
HUM	Graphic Arts	1
HUM	Photography	2
HUM	Music	4
HUM	Language.Linguistics	71
HUM	Archaeology. Prehistory	40
HUM	History. Science of History. Ancillary Sciences. LocalHistory	53
HUM	General History. History of individual places	27
MED	AppliedSciences. Medicie. Technology	2
MED	General medicine	16
NAT	NaturalSciences	86
SS	Librarianship	6
SS	Newspapers. Journalism	7
SS	Philosophy.Psychology	14
SS	Psychology	5
SS	MoralPhilophy. Ethics	5
SS	Social Sciences	129
SS	Management and organization of industry	7
SS	The arts. Recreation. Entertainment. Sport	23
SS	Physical Planning. Regional, town and country planning.	12
SS	recreation. Entertainment. Games. Sport	4
SS	Geography. Biography. History	24
SS	Geography	17

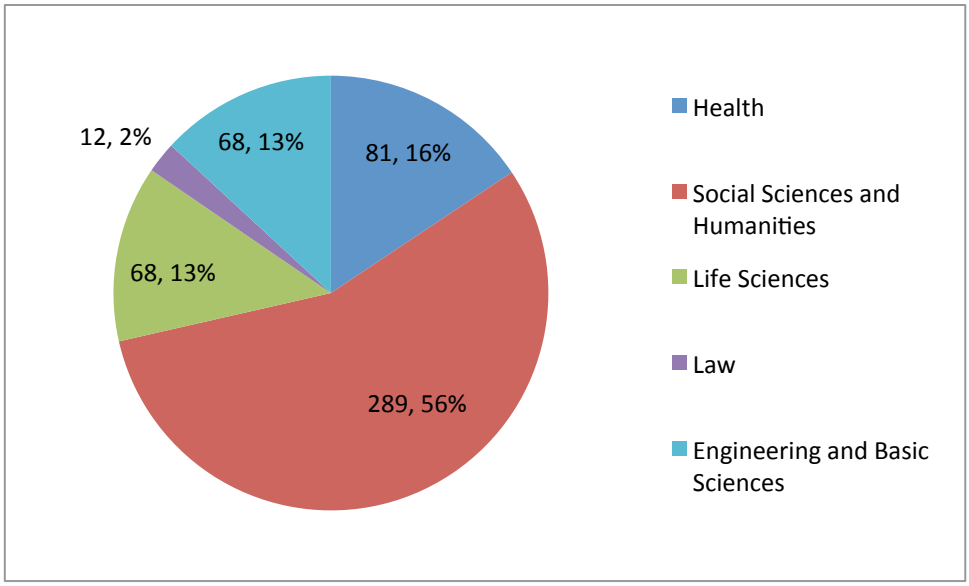


Numbers of Journals and shares of various scientific areas among RACO journals

DERGI PARK

Derği Park numbers were derived from the portal, and no further classification was possible. In the case of Derği Park each journal has only been classified into one category.

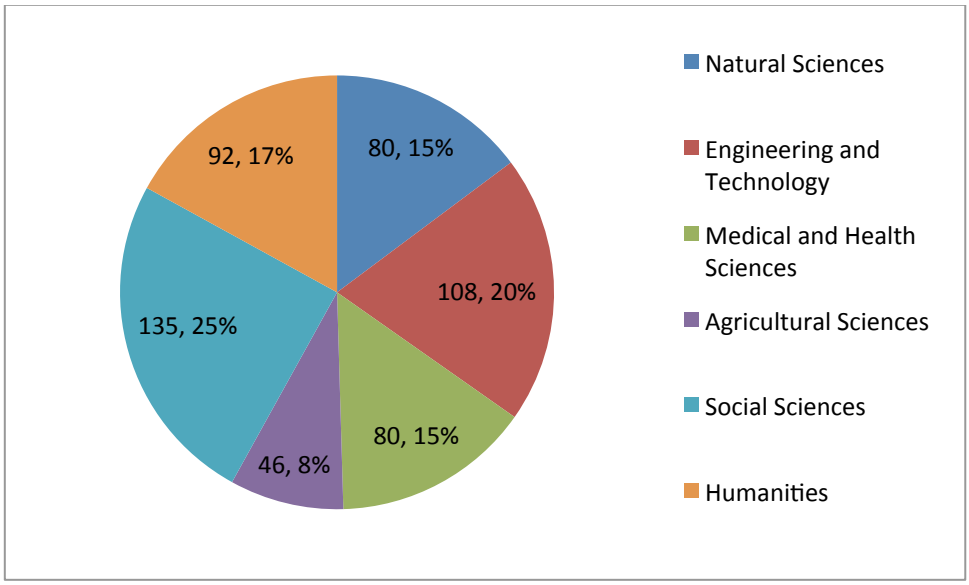
DerğiPark	Journals
Health	81
Social Sciences and Humanities	289
Life Sciences	68
Law	12
Engineering and Basic Sciences	68



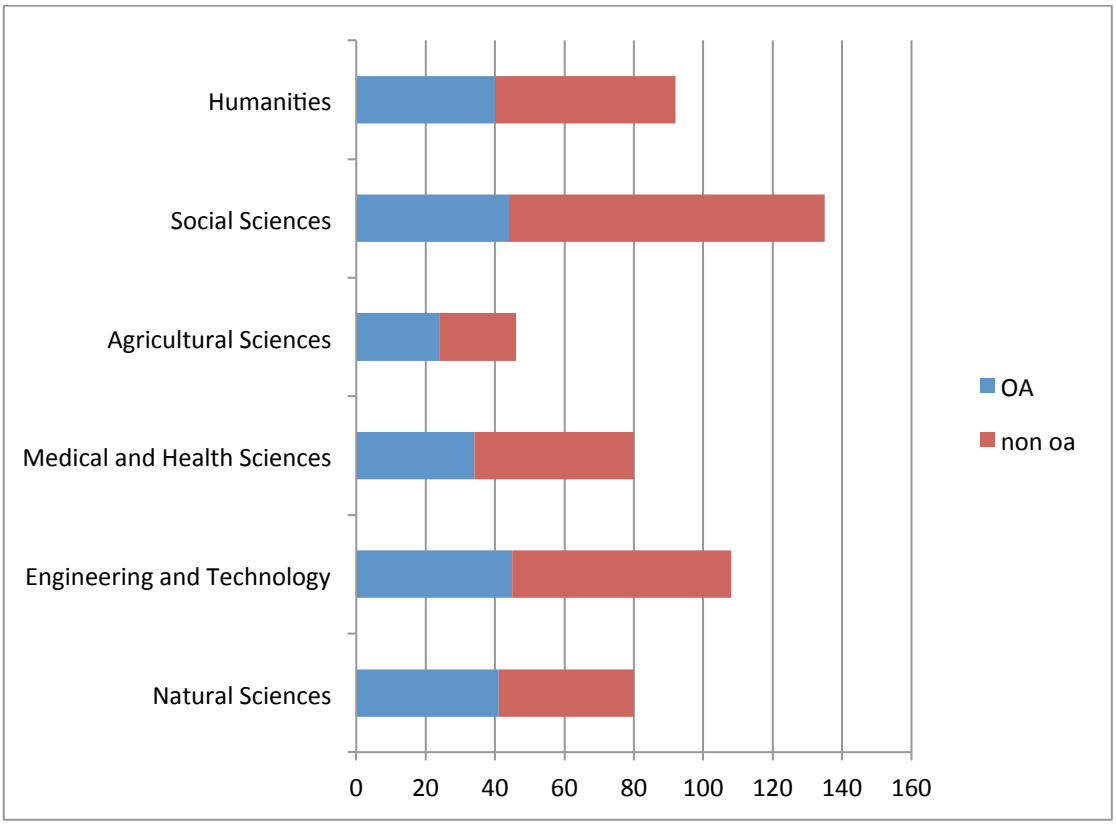
SCIndeks

The classification of the journals in the Frascatti manual is taken directly from SCIndeks which follows it. The journals were counted for each category. Open access journals were counted within each category and they amount to a total of 42% of the journals, according to the thematic distribution below.

SCIndeks	Total journals	OA	Non OA
Natural Sciences	80	41	39
Engineering and Technology	108	45	63
Medical and Health Sciences	80	34	46
Agricultural Sciences	46	24	22
Social Sciences	135	44	91
Humanities	92	40	52



Share of disciplines within all journals in SCIndeks

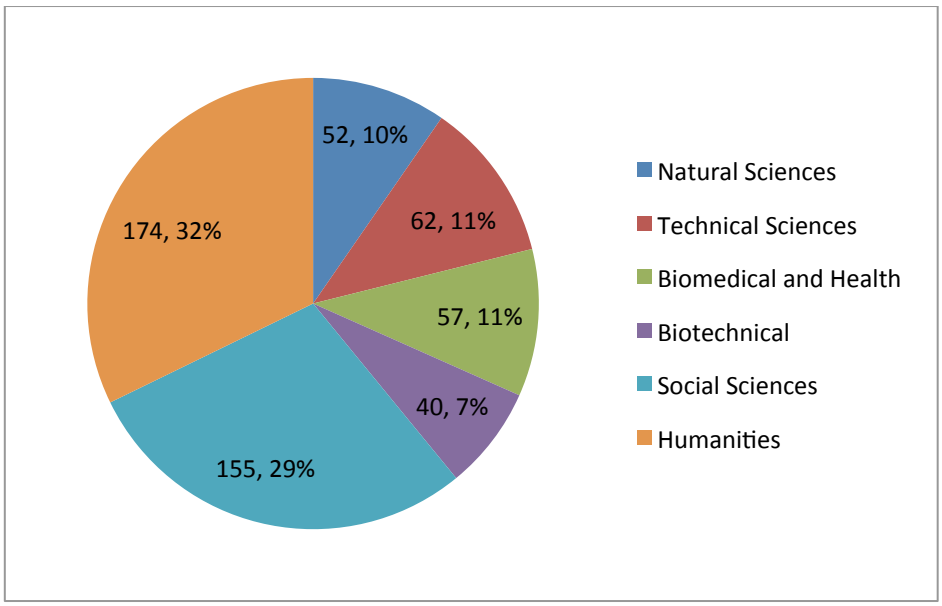


Open access and toll access journals by discipline within SCIndeks

Hrčak

The table presents the classification of the Hrčak, which could not be mapped into Frascatti. The journals were calculated for each category. The SSH combined take 61% share of the journals.

Hrčak	Journals
Natural Sciences	52
Technical Sciences	62
Biomedical and Health	57
Biotechnical	40
Social Sciences	155
Humanities	174

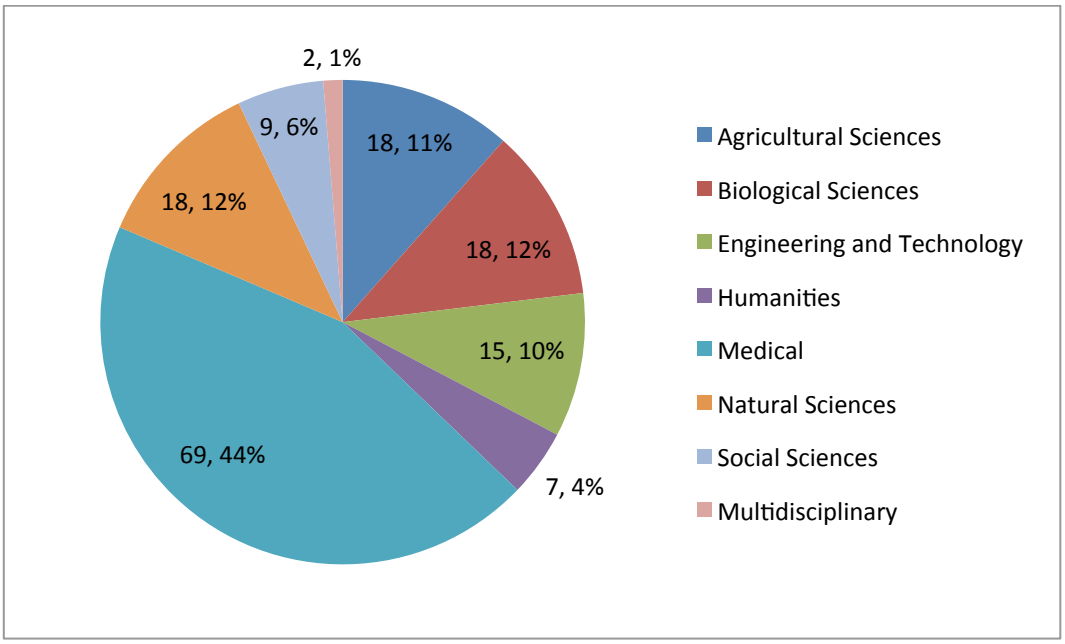


Numbers and shares of journals among disciplines within Hrčak

Bangladesh JOL-INASP

The scientific areas were mapped into the Frascatti Manual classification system.

Frascatti	Bangladesh JOL-INASP	
AGRI	Argiculture	12
AGRI	Veterinary sciences and related subjects	6
BIO	Biological Sciences	18
ENG	Engineering	8
ENG	Technologies	7
HUM	ARTS	2
HUM	Humanities	4
HUM	Linguistics, Classics and related	1
MED	Medicine and Dentistry	63
MED	Subjects allied to Medicine	6
Multi	Multidisciplinary	2
NAT	Environmental Sciences	3
NAT	Mathematics and Computer Sciences	3
NAT	Physical Sciences	12
SS	Education	1
SS	Law	2
SS	Library and Information Sciences	2
SS	Social Studies	4

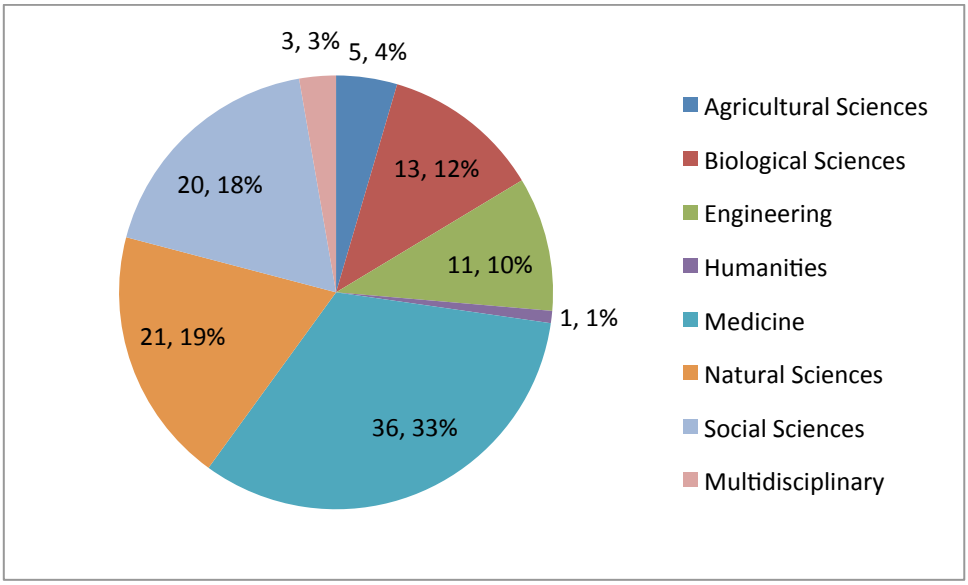


Numbers and shares of journals among disciplines within the Bangladesh JOL

Nepal JOL

The scientific areas were mapped into the Frascatti Manual classification system.

Frascatti	Nepal JOL	Journals
AGRI	Agriculture	5
BIO	Biological Sciences	13
ENG	Engineering	4
ENG	Technologies	7
HUM	Historical and Philosophical Studies	1
MED	Medicine and Dentistry	31
MED	Subjects allied to Medicine	5
Multi	Multidisciplinary	3
NAT	Environmental Sciences	4
NAT	Mathematics and Computer Sciences	2
NAT	Physical Sciences	15
SS	Business and Administrative Studies	3
SS	Education	3
SS	Mass Communications and Documentation	1
SS	Social Studies	13

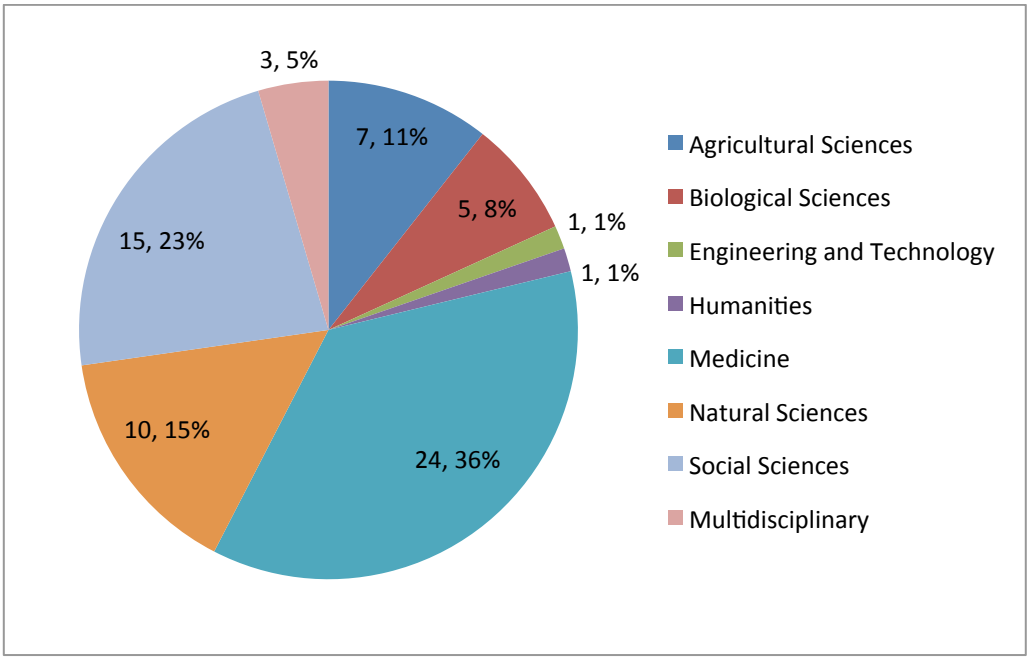


Numbers and shares of journals among disciplines within the Nepal JOL

Sri Lanka JOL

The scientific areas were mapped into the Frascatti Manual classification system.

Frascatti	SriLanka JOL	Journals
AGRI	Agriculture	7
BIO	Biological Sciences	5
ENG	Engineering and Technology	1
HUM	Humanities	1
MED	Medicine and Dentistry	20
MED	Subjects allied to Medicine	4
MULTI	Multidisciplinary	3
NAT	Environmental Sciences	1
NAT	Mathematics and Computer Sciences	3
NAT	Physical Sciences	6
SS	Architecture, Building and Planning	1
SS	Education	2
SS	Law	1
SS	Social Studies	11

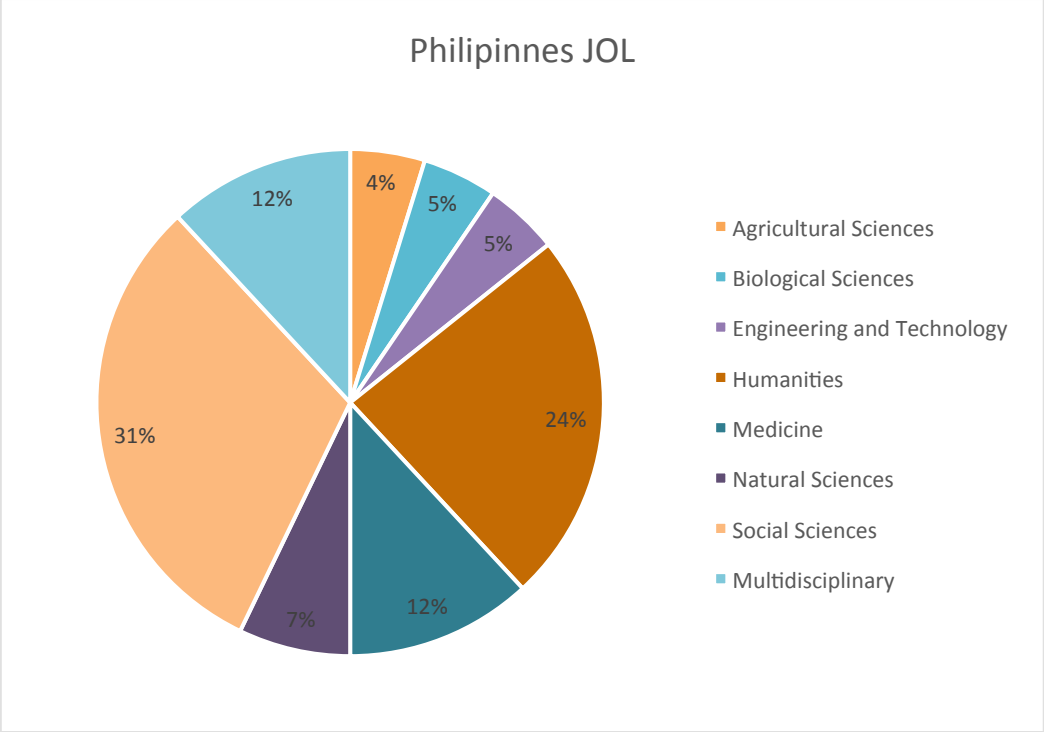


Numbers and shares of journals among disciplines within the Sri Lanka JOL

Philippines JOL

The classification into scientific areas of the 43 Philippines Journals were performed by the author on the Frascatti manual from the list in the website.

Philippines JOL	Journals
Agricultural Sciences	2
Biological Sciences	2
Engineering and Technology	2
Humanities	10
Medicine	5
Natural Sciences	3
Social Sciences	13
Multidisciplinary	5



Numbers and shares of journals among disciplines within the Philippines JOL

Annex II: Universities with large and medium-sized initiatives

Large-scale initiatives in universities (over 50, over 100)

1. Spain: Universita Compultense de Madrid. 80 journals on an OJS platform http://revistas.ucm.es/
2. Spain: RECYT 56 journals http://recyt.fecyt.es/index.php/index/about
3. Spain: Unievrsity of Murcia 57 journals http://revistas.um.es/index/index
4. Italy: Universita degli Studi di Trieste: 62 journals on a repository platform http://www.eut.units.it/EED
5. USA: California Digital Library 78 journals on their own open source system www.escholarship.org
6. Mexico: Universita Autonoma de Mexico: 116 journals on an OJS platform http://www.revistas.unam.mx/
7. Brasil: University of Sao Paolo http://www.revistas.usp.brmore than 100 journals
8. Brasil: Universitade Federal do Parana 58 journals http://OJS.c3sl.ufpr.br/ojs2/index.php/index/about
9. Chile: University of Chile: more than 100 journals on OJS http://www.revistas.uchile.cl/

Medium sized- initiatives (over 10 to-50)

Countries in alphabetical order.

Australia

1. University of Technology ePress, Syndey 10 journals http://epress.lib.uts.edu.au/journals

Belgium

2. University of Liege: http://popups.ulg.ac.be/ 17 journals on local platform

Brazil

3. University Federal de Santa Caterina 43 journals on OJS https://periodicos.ufsc.br/
4. Pontificia Universidade Catolica do Rio Grande do Sul 25 journals on OJS http://revistaseletronicas.pucrs.br/OJS/index.php/index/index

Canada

5. Ccsenet 35 or so journals http://www.ccsenet.org/journal/
6. University of Alberta: about 30 journals http://ejournals.library.ualberta.ca/ unive Alberta journal hosting about 30 journals. Open to any Canadian journal, explicitly open access

Denmark

1. University of Aarhus State and University Library 48 journals on OJS http://OJS.statsbiblioteket.dk/
2. Royal Library 14 journals on OJS https://tidsskrift.dk/
3. Allborg University 14 journals on OJS http://journals.aau.dk/index.php/index/about
4. Roskilde University 17 journals http://rossy.ruc.dk/OJS/

Estonia

5. University of Tartu Press 13 journals on OJS http://OJS.utlib.ee/

Finland

6. National Defense University, Finland Finnish Society of Military Sciences22 journals http://OJS.tsv.fi/index.php/index/about

Greece

7. National Documentation Centre/NHRF http://epublishing.ekt.gr -18 journals on OJS

Italy

8. Universita degli Studi del Salento: 20 journals on OJS http://siba-ese.unisalento.it/
9. Universita degli Studi di Firenze: 31 journals on OJS http://www.fupress.net/
10. Universita degli Studi di Milano: 27 journals http://riviste.unimi.it/index.php/index/about
11. Universita degli Studie di Bologna: 20 journals http://journals.unibo.it/riviste/
12. Universita degli studi di Roma La Sapienza 13 journals http://OJS.uniroma1.it/
13. Universita degli Studi di Torino 13 journals http://www.OJS.unito.it/

Lithuania

14. Mykolas Romeris University online journals on OJS, 9 journals https://www3.mruni.eu/OJS/

Norway

15. University of Tromso 13 journals on OJS http://septentrio.uit.no/

Portugal

16. University of Aveiro journal portal, 22 journals on OJS http://revistas.ua.pt/
17. Universita Lusofona 28 journals on OJS http://revistas.ulusofona.pt/index.php/index/about

Slovenia

18. University of Ljubliana faculty of arts 12 online open access journals on OJS http://revije.ff.uni-lj.si/

Spain:

19. CSIS 37 journals on OJS http://revistas.csic.es/index_en.html
20. University of Granada 22 journals (Portal de revistas de la Universidad de Granada) in open access using OJS http://revistaseug.ugr.es/b
21. University of Barcelonia 18 journals http://revistes.ub.edu/index.php/index/index
22. Polytecnic university of Madrid publishes 13 journals on OJS http://polired.upm.es/index.php/index/about

Sweden

23. Lund University about 17 http://journals.lub.lu.se/

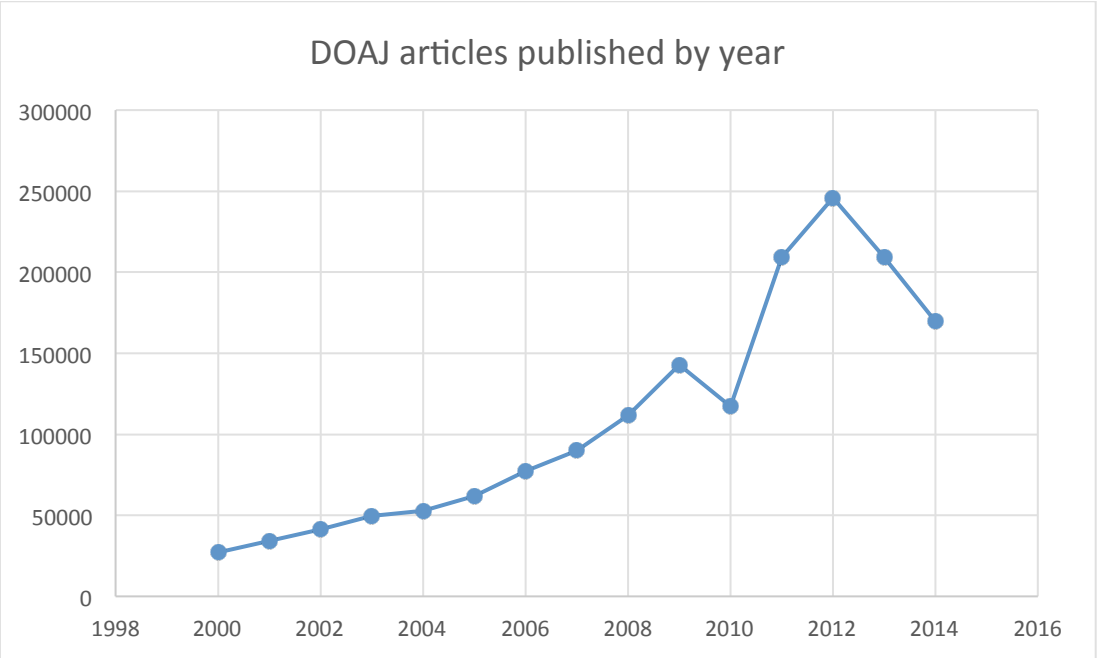
United Kingdom

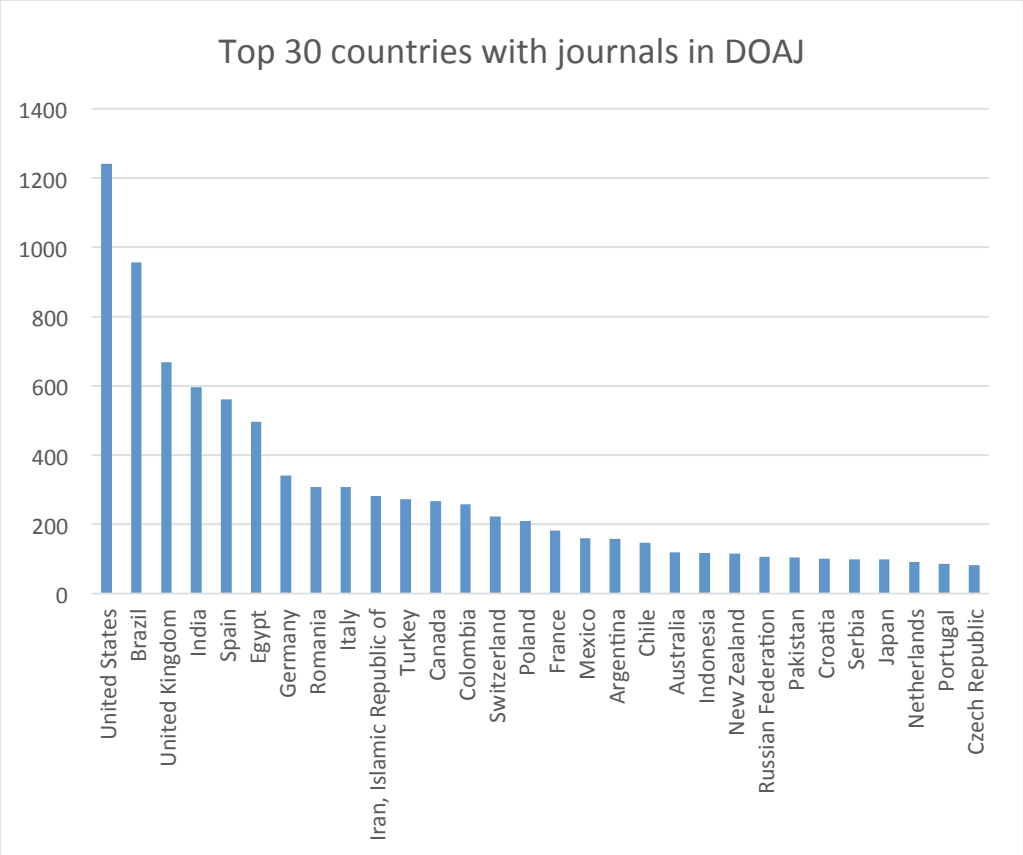
24. The University of Edinburgh library has 9 journals on OJS http://journals.ed.ac.uk/
25. University of St Andrew has 10 journals on OJS https://www.st-andrews.ac.uk/library/services/researchsupport/journalhosting/

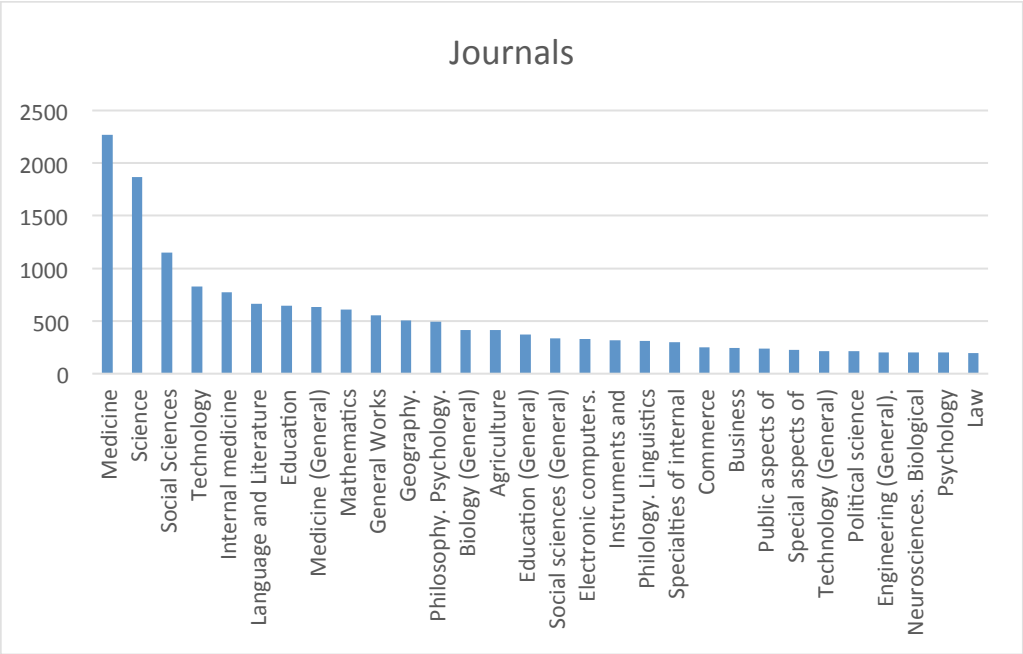
United States (information from LPC Directory 2015)

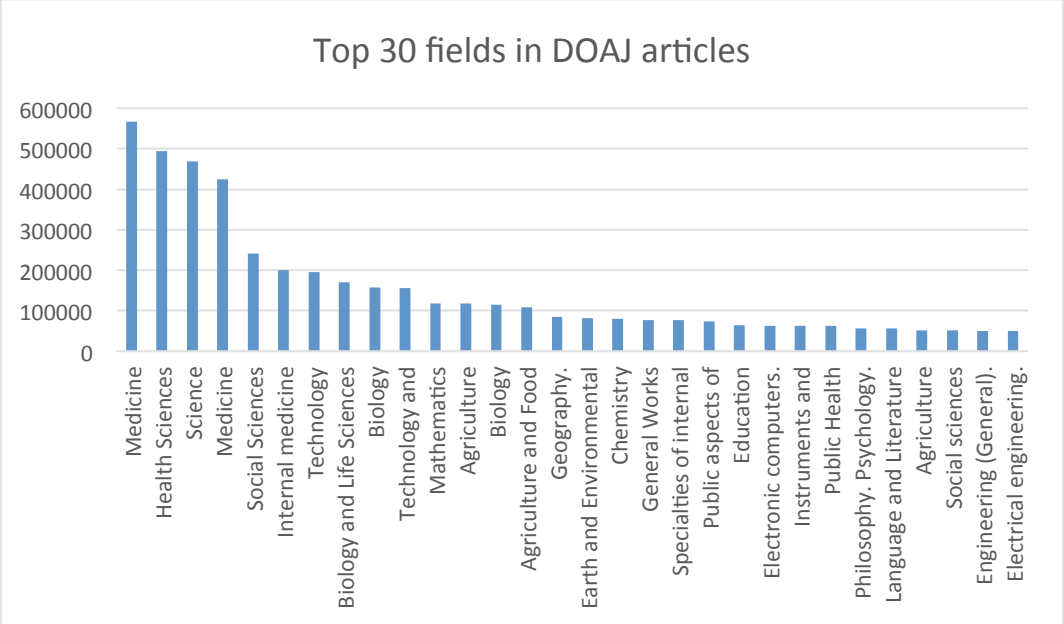
26. Bringham Young University 26 journals
27. Indiana University 18 journals
28. McMaster University 10 journals
29. Purdue University 16 journals
30. University of California 43 journals
31. University of Kansas 18 journals
32. University of Pittsburgh 11 journals
33. University of South Florida 14 journals

Annex III: DOAJ metrics






Journals
2500
2000
1500
1000
500
0
Medicine
Science
Social Sciences
Technology
Internal medicine
Language and Literature
Education
Medicine (General)
Mathematics
General Works
Geography.
Philosophy. Psychology.
Biology (General)
Agriculture
Education (General)
Social sciences (General)
Electronic computers.
Instruments and
Philology. Linguistics
Specialties of internal
Commerce
Business
Public aspects of
Special aspects of
Technology (General)
Political science
Engineering (General).
Neurosciences. Biological
Psychology
Law


Top 30 fields in DOAJ articles
600000
500000
400000
300000
200000
100000
0
Medicine
Health Sciences
Science
Medicine
Social Sciences
Internal medicine
Technology
Biology and Life Sciences
Biology
Technology and
Mathematics
Agriculture
Biology
Agriculture and Food
Geography.
Earth and Environmental
Chemistry
General Works
Specialties of internal
Public aspects of
Education
Electronic computers.
Instruments and
Public Health
Philosophy. Psychology.
Language and Literature
Agriculture
Social sciences
Engineering (General).
Electrical engineering.