Open Access and Soft Power: Chinese Voices in International Scholarship

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Abstract

Networked digital technologies and Open Access (OA) are transforming the processes and institutions of research, knowledge creation and disemination globally: enabling new forms of collaboration; allowing researchers to be seen and heard in new ways; and reshaping relationships between stakeholders across the global academic publishing system. This paper draws on Joseph Nye's concept of 'Soft Power' to explore the role that OA is playing in helping to reshape academic publishing in China. It focusses on two important areas of OA development: OA journals and national level repositories. OA is being supported at the highest levels and there is potential for it to play an important role in increasing the status and impact of Chinese scholarship. Investments in OA also have the potential to help China to re-position itself within international copyright discourses: moving beyond criticism for failure to enforce the rights of foreign copyright owners and progressing an agenda that places greater emphasis on equality of access to the resources needed to foster innovation. However, the potential for OA to help China to build and project its soft power is being limeted by the legacies of the print era, as well as the challenges of efficiently governing the national research and innovation systems.

Introduction

In May 2014 Chinese Premier Li Keqiang addressed the World Research Council's annual meeting in Beijing. In a speech peppered with the language of the Open Science movement, Premier Li spoke of his government's commitment to "… establishing a publically funded mechanism for Open Access (OA) to scientific knowledge in order to bolster the common development of scientific research in China and the world."[1] These were not empty words: fostering more open flows of knowledge, widening access to research and encouraging collaboration between Chinese scholars and scientists and their counterparts around the world are being placed at the heart of the new leadership's economic transition strategy. Several major Chinese research funding bodies have now followed the example set by research councils in the United States, Europe and Australia: issuing mandates requiring OA for published research outputs as a condition of funding and significant investments are being made in Chinese OA infrastructure projects. The ideals of Open Science and the sentiments of the international OA movement are becoming an important element of efforts to increase the quality of Chinese research, bolster domestic innovation and to expand the capacity of China to meet the scientific and technological demands of economic transformation.

This paper draws on Joseph Nye's concept of 'Soft Power' (1990) in its examination of the role that OA is playing in reshaping China's academic publishing system, along with the internationalisation of research and publishing. It considers the extent to which OA is helping China to tackle inequalities in global knowledge landscapes by increasing the quality, visibility and impact of its research. The first section of the paper briefly introduces Nye's concept of Soft Power and explains its relevance to understanding efforts to internationalise and reform China's academic publishing system. It then goes on to outline some of the challenges facing this system as it transitions from a highly fragmented, state-funded, print-sector, towards a more market-focussed and internationalised system that depends heavily on digital production and distribution. Next, the paper explores some of the ways in which OA is being used to improve efficiency, transparency and international reach of China's journal literature using two important types of OA development: government-initiated national level repositories and publisher-initiated OA journals. Finally, the paper concludes by considering the transformative potential of OA and the barriers to change in the Chinese context.

Soft Power and Academic Publishing

The term "Soft Power", developed by Harvard political scientist Joseph Nye (1990, 2002), has become a familiar feature of the discourses surrounding politics and international relations over the past two decades. Nye's concept of Soft Power, which builds on earlier work by Carr (1954) and Lukes (1974), refers to an ability to achieve political ends through attraction and co-option, rather than by coercion or payment. For nation-states Soft Power depends on the capacity to shape agendas and to create conditions in which it is attractive for others to act in a desired manner. Nye observes that it has become more costly in relative terms to achieve desired political or economic outcomes through coercive force. At the same time, globalisation and the rise of the multinational corporation have created new opportunities to shape the geopolitical landscape through commercial and cultural channels. As a result: *'…the definition of power is loosing its emphasis on military force and conquest that marked earlier eras. The factors of technology, education, and economic growth are becoming more significant in international power, while geography, population, and raw materials are becoming somewhat less important.'* According to Nye, the sources of a nation's soft power are much more likely to emanate from civil society than government; from cultural value rather than propaganda; and from cooperation rather than competition.

The importance of Soft Power has not been lost on China's leaders. The PRC government is making substantial investments in the projection of Chinese language, culture, perspectives and influence beyond its borders: through foreign aid and development programs; education; cultural diplomacy; the international expansion of Chinese news organisations; and by providing financial incentives and support for the distribution of Chinese cultural products into international markets. Ensuring that China is perceived as an originator and exporter of knowledge and innovation, rather than the passive consumer of the knowledge and innovation of others, is an important part of this process and has become a national priority (Cho and Jeong 2008). Scholars are being encouraged to publish in foreign journals in the hope that doing so will strengthen the international reputation of China's research and higher education sectors. Since 1990 China's research assessment system has placed a premium on foreign publications (Yan 2009), emphasising the importance of publishing in SCI (Science Citation Index) indexed journals and providing incentives for publishing in particular outlets. Scholars that succeed in publishing in top-ranked journals like Nature, Science and Cell are receiving

cash awards of up to RMB 1 million ($166,600).[2] Academic publishers are also being encouraged to expand their international influence and 'go abroad'. Funding is being provided to support the translation of Chinese works into English and to encourage collaboration with foreign publishers, as well as the publication of English language journals in China.[3]

These policies are undoubtedly producing results: there has been a sharp increase in the number of Chinese papers published in international journals over the last decade. Between 1996 and 2012 Chinese authors published 2,680,395 scholarly documents indexed by the Scopus database (including journal papers, refereed conference papers, and book chapters, mostly in the English language) – propelling China to second place in the world in terms of the total number of publications contributed by a single nation's researchers to the indexed literature.[4] In spite of this, the proportion of world-class scientific and technological innovation originating in China does not appear to be growing as quickly as it should. In 2014 China is ranked at just 207 in the world in terms of citations per published document. On average just 6.17 indexed citations were recorded for each document written by Chinese authors. This compares to 20.45 citations per document by a US author; 18.29 per document for authors from the UK; and 16.73 citations per Australian document.[5] Even more alarmingly, 35% of the SCI indexed papers written by Chinese academics have received zero citations.[6] China's citation rate places it on par with nations making much smaller investments in research such as Nigeria, Romania and Djibouti. Although the limits of citation indexes as a measure of impact or influence are well known, the trend is repeated in other areas where innovation is often measured such as patent registrations. As the Wall Street Journal observed, in 2010: "...*China accounted for 20% of the world's population, 9% of its GDP, 12% of its R&D investment, but only 1% of overseas-registered-patents, half of which originated in transnational corporations*."[7]

There is growing concern among Chinese policy-makers and academics that encouraging Chinese researchers to publish in highly-ranked foreign journals may be reinforcing, rather than challenging, inequalities in global knowledge landscapes.[8] A lack of domestic publishing capacity is forcing Chinese authors to depend on a system that operates in a foreign language, where ownership and control reside outside the Chinese territory, and where assignment of copyright to the publisher is standard. The head of China's publishing and press bureau estimates that over 95% of China's most important research outputs are now published by foreign commercial publishers and locked behind pay-walls.[9] Although publication in top-ranked foreign journals is going some way to boosting the international prestige of Chinese research institutions,[10] it is having a devastating impact on the visibility and impact of Chinese scholarship within China. The assignment of copyright to foreign publishers is limiting the access of Chinese researchers and the Chinese public to the knowledge and ideas needed to boost domestic innovation. Competition from international journals for the best Chinese papers also means that fewer high quality papers are being submitted to Chinese journals, further undermining the quality and impact of local titles (You 2008). The Chinese government worries that the country is losing its control over research and innovation and forfeiting the "power to speak" (huayuquan) in the global scholarly communication system.[11]

Open Access
Questions about how China might better manage its relationship with the international journal system are being made more complex by transformative changes impacting on processes of

knowledge production, certification and dissemination globally. In *Opening Science: The Evolving Guide on How The Internet is Changing Research, Collaboration and Scholarly Publishing,* Bartling and Friesike (2014) observe that: *"A culture that grew after the first scientific revolution some 300 years ago and that has brought humanity quite far is on the verge of its second profound metamorphosis. It is likely that the way that researchers publish, assesses impact, communicate, and collaborate will change more within the next 20 years than it did in the past 200 years."* Open Access is playing a key role in this metamorphosis: ensuring that an increasing portion of the peer reviewed scientific literature is available for unrestricted world-wide electronic distribution. Innovations like Creative Commons licenses are combining with digital technologies for sharing and distribution to enable new forms of engagement. There are good reasons to believe that China's goals for its own research and innovation system may be more closely aligned with the OA movement than with the closed models of copyright that have proven to be so challenging for the nation in the past.

China has been the subject of criticism from trading partners for its failure to comply with foreign standards of protection for intellectual property rights (IPRs) for more than a hundred years (Alford 1995, Grinvald 2008). A great deal of progress has been made in developing a legal framework for the protection of intellectual property rights since initiatives to reform China's economy and increase international trade began during the late 1970s. However, low levels of enforcement remain a significant source of tension between China and established exporters of intellectual property rights. There is growing scepticism about the benefits to developing nations, including China, of compliance with a system which many believe favors the interests of established exporters of intellectual property related products (Chang 2008). Even within nations in which the role of intellectual property rights in the production and distribution of creative and cultural content is well established, a growing body of commentators suggest that overly restrictive IP systems favor key interest groups at the expense of public access to knowledge and content, and are preventing the creative and collaborative potential of new technologies, such as the Internet, from being fully realized (Lessig 2004).

OA is a powerful mechanism for widening access to scholarship and broadening its audience beyond University-based "knowledge elites". It also helps to reduce inequalities in access to the knowledge and resources needed to support education, enable technological development and innovation. As such it is a likely site for soft power dynamics, with potential to help China to achieve its innovation and development goals while lowering the costs of accessing the intellectual resources that it needs in order to do so. The truly transformative nature of the Internet and the digital technologies that are making OA possible are also making it possible to challenge the position of dominant players within the scholarly communication landscape. Open and networked digital technologies are enabling new approaches to publishing, peer review, funding and dissemination. This is providing China's policy makers with the opportunity to reduce the nation's dependence on international legacy publishers and to tackle inefficiencies within their own system by using OA to help foster greater transparency, accountability and efficiency into the Chinese scholarly communication system. The next sections of this paper consider two important ways in which this is occurring: the construction of state-funded, national-level OA repositories; and through the growth of Chinese OA journals.

Chinese National Level Open Access Repositories

In contrast to many other countries, where individual universities are developing small-scale "green" institutional OA repositories, fully funded national-level OA repositories are enabling open scholarship on an extremely large scale in China. [12] These repositories are also being used to address concerns over the trustworthiness and efficiency of the closed journal system. There is growing concern among younger Chinese academics, in particular, that innovative work may be rejected by influential Chinese journals and plagiarised by peer-reviewers. This lack of trust within the journal system is having a chilling effect on scholarly communication.

Science Paper Online (SPO) is a major OA project sponsored by the Chinese Ministry of Education, which is working to help address these problems. SPO has adopted a 'publish first, peer-review later' model that provides academics with the opportunity to protect themselves against plagiarism by providing authoritative evidence of first publication. Papers are made available on the SPO site no more than a week after they have been submitted and SPO pays expert peer-reviewers to produce a formal report on each paper submitted to the repository. This report is made publically available via the site. Members of the SPO community are also encouraged to comment on and rank one-another's papers, providing authors with an important opportunity to test their ideas and gather feedback from their peers, without fearing that their work will be stolen. Authors receive an official certificate indicating the paper's deposit and online publication date, as well as its quality ranking. The costs of operating the SPO platform are absorbed entirely by China's national ministry of education and the service is offered at no cost to either Universities or individual researchers. Authors also retain their copyright and are free to publish the same paper in a more traditional outlet, if they choose to do so. According to its homepage statistics, to date SPO has published 76,500 original papers from almost all discipline areas.

The adoption of OA mandates by major academic institutions and funding bodies across the world since 2012 has prompted a new wave of large-scale OA platform development in China and national-level investments in more conventional OA repositories are also being made. The Chinese Academy of Sciences Institutional Repository Grid (CAS IR Grid) is one example: launched in 2013 the CAS IR Grid is an integrated platform linking the 89 institutional repositories operated by CAS research institutes, improving their visibility and discoverability in the digital landscape. CAS has introduced an OA policy, requiring its researchers to deposit their final manuscripts in the repositories indexed by CAS IR Grid in order to have them counted for assessment, grant and promotion purposes. In contrast to Science Paper Online, which focuses on original preprints of Chinese language scholarship, about one third of full text items archived in the CAS IR Grid are English language papers already published by international journals. The Grid is having a measurable impact on both domestic and international access to top-level research publications by Chinese academics. By the end of 2013 over 400,000 articles had been deposited in the CAS IR Grid. The Grid had recorded more than 14 million downloads, nearly 40% of which originated from outside mainland China (Zhang 2014).

Open Access Journals in China

Chinese journal publishers are also exploring 'gold' approaches to enabling open access. In contrast to 'green' institutional repositories, which make pre-prints or the final manuscript of a paper available in OA, 'gold' routes to OA involve making the final, published version of a paper available on an OA basis. In most markets "gold" journals require authors to pay an 'Article Processing Charge'

(APC) upon acceptance of their paper in order to cover their operational costs. However, because government support and institutional sponsorship for flagship journals remains common, a large number of Chinese OA journals are able to operate without relying on APCs. According to a survey of the 308 OA journals published by Chinese learned societies, 55% make content OA immediately upon publication (no embargo is applied) and 91% do not charge APCs.[13] Perhaps surprisingly to those unfamiliar with the finer details of China's publishing landscape, APCs are generally associated with low-quality *closed* journals in China, rather than with OA. This is because "trash" journals (Hvistendahl 2011) are unable to support themselves through subscription revenue and so often depend on their ability to charge authors APCs or "page fees". In order to maximise revenues these journals have lowered their quality standards – in some cases publishing anything that is submitted to them as long as the author is willing to pay. The journals also retain copyright in the papers that they publish and lock them behind paywalls: the worst of all possible worlds from a scholarly communication perspective.

An important factor in the emergence of predatory journals in China has been the fragmented nature of the scholarly publishing landscape, combined with the impacts of a shift away from a centrally planned economic model and market-based reforms. Since 1990 government subsidies have been withdrawn from all but a small percentage of scholarly journals, as part of a wider process of market-based reform of the publishing sector. Publishers have been encouraged to find market-based ways of supporting themselves and very few have been able to do so based on subscription revenues alone. Chinese journal publishers own an average of just 1.6 journals titles each (You 2008) and are often under-resourced and poorly positioned. At the same time scholars have been encouraged to publish more and more papers in order to win jobs and secure promotion. Many lower-ranked Universities, in particular, have been willing to accept 'publication certificates' issued by journals as evidence of scholarly achievement and little effort has been made to scrutinize the quality of the outputs being claimed. This has created demand for opportunities to publish low-quality or 'junk' papers, and willingness among scholars to fund their own publication costs - fuelling the growth of predatory publishing.[14] By contrast, China's OA journals tend to be owned and operated by research institutions or learned societies and to have access to sufficient funding and support, so have no need to accept low quality papers or to engage in predatory behaviour. This helps to explain why China's OA journals are generally more stable, higher quality, and more frequently cited than their closed counterparts.

However, China's OA journals also face challenges. The decentralised nature of the OA journal landscape means that visibility and discoverability of Chinese OA journal articles remains a problem (Qin and Liu 2011). OA databases are being established to address this challenge: The China OA Journals (COAJ) platform was launched in 2010, supervised by the Chinese Academy of Science and operated by China Science Press, the platform aims to provide access to all of the OA journals published in China. 788 OA journals are currently listed, ranked according to the level of openness from A to D. In its first year of operation the platform attracted over half a million visits (Zhou 2013); 83.3% of these were from within China.[15] In spite of this important progress, national level OA databases have not been able to challenge the dominance of subscription journal databases. Journal databases and digital aggregators such as CNKI, Wanfang, and Weipu play a key role in helping Chinese journals to access library markets. They also provide libraries with an affordable, convenient means of providing access to a very large number of journal titles and remain the dominant source of Chinese language scholarly content within higher education institutions.

The Open Dynamics of Soft Power and Constraints

The emergence of OA as an international movement over the past fifteen years is providing China with a powerful opportunity for closer alignment between its research and innovation goals, and those of major research funding bodies, governments and scholarly communities all over the world. The language of OA and Open Science are helping China to move beyond criticism for failure to enforce the rights of foreign copyright owners, and to re-cast itself as a leader and innovator in the OA space. Investments in OA repositories have the potential to help China to improve its domestic scholarly communication infrastructure: encouraging researchers to engage in practices likely to increase the quality of the scientific research that they are conducting. OA digital repositories are providing trustworthy, locally owned and managed mechanisms for certifying scholarly outputs, as well as providing reliable systems for communication, sharing and collaboration. They are also helping to reshape international perceptions of China's academic publishing system: signalling the government's determination to tackle a lack of efficiency and transparency in academic publishing; its willingness to make major investments in research and innovation infrastructure; and its ability to use the open and networked characteristics of digital technologies in innovative ways to achieve specific goals.

Although the OA movement is still in its infancy, digital technologies and open approaches to copyright licensing have the potential to reshape global landscapes of communication of scholarly knowledge. A great deal has been written about the power of OA to help address the structural inequalities in access not just to knowledge, but also to the means of its certification and dissemination (Harnad 2010, Veletsianos and Kimmons 2012, Peters 2013). Ensuring that Chinese voices and Chinese scholarship are seen and heard in international spaces has been a driving goal of China's long-running 'going-abroad' strategy. Projecting an image of China as a creator and disseminator of knowledge and innovation, rather than the passive consumer of the knowledge and innovations of others, is essential to building the nation's Soft Power. Domestic investments in OA infrastructure are offering Chinese policymakers an alternative to competing directly with legacy publishers. There are also signs that OA is helping to increase the accessibility and visibility of Chinese publications.

In the longer term, China's decision to not only invest in OA, but also to join a growing chorus of international voices arguing for more open approaches to the certification and dissemination of the scientific literature may also help the nation to manage the costs of accessing foreign content. As more of the scientific literature is made available free of charge to end users, Chinese researchers stand to benefit from investments in OA by research funders and Universities in the United States, Western Europe and Australia. Furthermore, the rise of 'gold' OA business models may represent an alternative to attempts to reform a dysfunctional scholarly publishing system from within. China is now able to purchase professional publishing services from international publishers on increasingly favourable terms: leveraging the size of its scholarly population to ensure that international publishers attend to the dissemination needs of Chinese scholars. Leading funding bodies and national level institutions in China have begun to negotiate with gold OA publishers for bundle discounts on APCs. Library consortiums like CALIS (China Academic Library & Information System), which negotiated affordable access for Chinese Universities to subscription databases provided by Elsevier, Wiley, and Springer (Douglas 2014), have potential to play an internationally leading role in reducing publishing costs on a gold OA basis. This is providing Chinese authors with access to high

quality knowledge certification and dissemination services that the domestic publishing infrastructure has struggled to provide.

The rise of OA publishing may also be creating new opportunities for Chinese publishers to compete with transnational corporations for scholarly communication market-share, both within the Chinese language market and more widely. Although subsidies have largely been withdrawn from smaller journals over the past fifteen years, top-ranked journals continue to enjoy substantial financial support both from the state and from the research institutions that they are associated with. This is providing Chinese journals with an advantage when it comes to developing competitive OA models. Less than 10% of the OA journals published by Chinese learned societies apply author-side Article Processing Charges. Furthermore, state-backing is encouraging a shift away from market fragmentation, towards the formation of very large publishing corporations. China Publishing Group and China Education were listed among the top-tier of globally ranked publishing companies in 2014 (Wischenbart 2014). These government-backed publishing corporations have the potential to act as a strong disruptive force in the global academic publishing industry, particularly as the international publishing landscape is being remade by open and networked digital technologies.

As Nye points out, soft power is more effectively generated through civic organizations and civic/ cultural knowledge exchanges than government propaganda. A public commitment to OA is helping to signal the value being placed on collaboration, knowledge dissemination and international engagement at every level within the Chinese higher education system. OA is also helping to bolster the brand credentials of Chinese Universities and research institutions: signalling a commitment to the global project of science; and going some way toward helping to overcome stereotypes of Chinese society and education as rigid, authoritarian, lacking in creativity and unable to innovate. These are important developments in the context of a global education market estimated to be worth US$3 trillion annually[16]. In the context of very large investments in research higher education now being made by China's government, OA is helping to ensure that Chinese Universities are attractive collaborative partners for foreign Universities eager to deepen their engagement with Asia.

However, it is important to acknowledge the persistence of limitations placed on China's Soft Power by linguistic barriers, and the inability of OA alone to overcome these. Global trends towards the Anglicization of scholarly communication mean that English is now the dominant language for the international dissemination of research outputs (Steger 2003; Cargill & O'Connor 2006). Although there has been an explosion in the number of Chinese researchers publishing their work in SCI indexed journals, the proportion of Chinese researchers able to speak or publish in English remains small. The bulk of China's scholarship[17] continues to be created by researchers with little or no English language proficiency, and made available in Chinese. Although making this body of literature available on an OA basis undoubtedly has advantages for scholarly communication within Chinese-speaking communities, it does little to enable the projection of Chinese soft-power more widely.

China's research policy is attempting to address linguistic barriers to the international dissemination of Chinese scholarship by offering incentives and financial support for translation. However, a shortage of capable translators, particularly with relevant disciplinary backgrounds and domain-specific expertise is presenting a major problem for scholars that wish to take advantage of these schemes. Even when Chinese researchers are able to publish their work in English, linguistic barriers place them at a disadvantage: making it harder to present complex arguments or to communicate

their ideas with either the clarity or subtlety available to highly trained native-speakers. Professional proof-editing services provided by commercial vendors, usually carried out by native English speakers, are helpful. However, they only go part-way to mitigating the communicative obstacles facing Chinese authors. Cultural differences in academic writing style, research methodologies, and even the ideological perspectives informing the scholarship itself create deep challenges for the international accessibility and impact of Chinese scholarship. This is especially true in the Humanities and Social Sciences, and perhaps hints at the importance of culture, as well as content, where Soft Power is concerned.

Furthermore, it is difficult for government-initiated projects in a nation as large and complex as China to avoid the over-emphasis of simplistic performance metrics at the expense of sustainable long-term development. The central government's rush to build nation-wide OA platforms, its hurry to increase the international rankings of academic institutions, its concern with the number of Chinese papers published in foreign journals and willingness to provide subsidies and financial incentives for certain kinds of publishing behaviour are all distorting the scholarly communication landscape. One result is that an increase in the absolute number of Chinese papers appearing in indexed foreign journals has not been associated with a corresponding increase in the quality or impact of Chinese scholarship. Rather, China has created a system that rewards "high input, low impact" and where "high quantity, low quality" have become the norm.

Concern with soft power is inspiring Chinese stakeholders to think about the role and value of scholarly communication and the academic publishing system in new ways. According to Xu Fei, the General Director of Shanghai Jiaotong University Press "..the key to successful internationalisation is high quality research and scholarship created in China. Simply publishing Chinese content overseas is not enough. Building impact, reputation, and knowledge connections must be the goal… and producing research outputs that deserve international respect and praise is our duty and mission."[18] Soft power in academic publishing cannot exist without a productive and healthy domestic innovation system and an open and transparent publishing communication industry, which is, however, exactly what China lacks today. It is necessary for Chinese policy makers and stakeholders to revisit and rebalance the tension between the short-term increase in the number of Chinese publications appearing in international journals and the long-term reform and reconstruction of a deeply troubled academic publishing system. Fundamental change, rather than national level platforms or government initiated propaganda projects, will be needed.

The OECD identifies three types of open scholarship innovations: government-initiated OA initiatives, those of commercial companies; and bottom-up, grassroots initiated OA projects (OECD 2009). The development of OA and the internationalisation of Chinese academic publishing depend heavily on the first type. Government-initiated projects have obvious benefits, including their ability to enable the rapid concentration of resources in OA publishing and growth of OA literature on a scale that could not otherwise be matched. However, the dominance of government-backed platforms is also discouraging and marginalising autonomous, bottom-up OA innovations in scholarly communication in China. Miracle Repository (Qiji Wenku) was one of the earliest and best-known Chinese OA platforms: established and operated by handful of passionate scientists. It was unable to compete with the rise of well-funded, national-scale OA repositories and eventually closed down.

Although policy makers in China are beginning to employ the language of OA and Open Science in public discourse, political and strategic realities are taking longer to catch up with this new agenda. Jane Knight[19], a leading expert on internationalisation in higher education points out the limitations of the soft power agenda in relation to higher education, noting that a desire to build and project soft power generally arises out of self-interest. This is poorly suited to a higher education context, where international collaboration plays an important role. Rather than 'soft power', Knight proposes the use of the term "mutual power" to emphasize the collaborative aspects of soft power and international influence as they relate to a country's Higher Education and innovation systems.[20] This term also seems to resonate in relation to the OA and Open Science movements, where scientific collaboration and the growth of a global community sit uncomfortably with Chinese conceptualisations of soft power and the reform of the scholarly communication system in terms of competing for the power to influence and control scholarly discourses: "the power to speak" in an increasingly global context.

Moreover, according to Nye, the ability to create an attractive value system, ideology and culture are at the heart of soft power. American soft power, as it operates and is projected through the nation's Higher Education system centres around academic freedom, diversity, independence and a culture of openness and innovation (Altbach and Peterson 2008). OA, as an essential part of the overall open movements in knowledge/information communication, provides an attractive open ideology (Peters 2010) that could be harnessed by the Chinese government to reduce the damaging influence of its political system and Communist ideology. China has been promoting its opening and reform policies globally for decades and free international trade since its WTO entry; likewise, China is trying to play a leading role in persuading its international partners to be open in scientific research and innovation areas. However, it is more important for the Chinese policy makers to apply the principles of openness, transparency, and freedom into its deeply troubled domestic academic publishing system first. Academic fraud and misconduct of Chinese academics are widely reported in the international press, ensuring that Chinese academic publications often linked with the terms like "junk" and "trash" by international media.[21] A deep-rooted lack of transparency in the government-controlled research and higher education systems in China are an important factor in this process. Thoughtful OA publishing has the potential to help tackle these problems by opening the system to wider scrutiny and more democratic mechanisms of supervision: helping to deter misconduct, plagiarism and corruption in the Chinese academic world. More importantly, public engagement will help China to capitalise on the potential for society-wide creativity and innovation: a shift that resonates with Western notions of "citizen science", as well as China's larger goals of creating a knowledge-based economy.

Conclusion

The growth of an open, transparent, and inclusive national research and innovation system, supported by high quality, digitally appropriate mechanisms for scholarly communication will be the real source of China's soft power in the OA age. Nothing less than the transformation of the ways in which scholarship is governed and supported will be needed in order to achieve this. Developing national level repositories and creating incentives for publishers to internationalise their operations and embrace OA are an important first step, but they are not enough. A shift away from research assessment systems that encourage scholars to produce more and more research outputs, towards

one that rewards curiosity, innovation, collaboration and public engagement is also needed. There are signs that the first steps are already being taken in this direction: China's research funding and career promotion guidelines are beginning to place less emphasis on international publications as a KPI.[22] Furthermore, the role of central government funding in both the organisation of Chinese Universities, and as the primary revenue source of academic publishers may give China an advantage over Western nations when it comes to shifting the scholarly communication system towards OA. However, it remains unclear whether the Chinese government will be able to capitalise on the potential of Open Access and Open Science in order to create, accumulate, and project "Open Power".

Citation

Link of Published Version

Note

[1] See the English transcript at http://europe.chinadaily.com.cn/opinion/2014-05/29/content_17549396.htm

[2] See an article that review the policy stimulus at http://zqb.cyol.com/html/2013-12/20/nw.D110000zgqnb_20131220_1-08.htm ; also see an example of a Chinese university policy regarding 1 million RMB yuan award for a publication in Nature, Science, and Cell at http://news2003.cau.edu.cn/show.php?id=0000019292

[3] The 'Plan to Improve the International Impact of Chinese Journals' was launched in 2013, offering up to 2 million Yuan for the publication of English journals in China. This project is co-developed by the Chinese Association of Science and Technology, the Treasure, the Ministry of Education, and The Bureau of Press, Publishing Broadcasting, and Film especially focuses on supporting journal publishers going abroad by government subsidy. http://www.gov.cn/gzdt/2011-03/31/content_1835579.htm

[4] http://www.scimagojr.com/countryrank.php?area=0&category=0&region=all&year=all&order=it&min=0&min_type=it

[5] http://www.scimagojr.com/countryrank.php?area=0&category=0&region=all&year=all&order=cd&min=0&min_type=it

[6] See an interview with the deputy director of ISTIC at http://www.chinanews.com/edu/2013/11-20/5523139.shtml

[7] http://www.21fd.cn/a/yijianzhongguo/2011/0805/31725.html

[8] China publishes more than 6,000 academic journals, but just 176 titles are indexed by Thompson Reuters. This compares with 4,147 indexed journal titles from the United States and 2,632 from England.

[9] See a media coverage on the speech at http://scitech.people.com.cn/n/2013/0814/c1057-22562971.html

[10] In 2012, Chinese academics have published 187 papers in the three top journals including Nature, Science, and Cell, ranking China No.9 in the world, See the statistics at

http://www.istic.ac.cn/ScienceEvaluateArticalShow.aspx?ArticleID=95277 ; the Chinese Academy of Science also ranked No. 6 in the world in Nature Publishing Index 2013, see http://www.natureasia.com/en/publishing-index/global/

[11] http://www.edu.cn/zong_he_news_465/20130823/t20130823_1005483.shtml http://news.xinhuanet.com/book/2013-08/14/c_125166206.htm

[12] The Chinese Academy of Sciences (CAS) and the Natural Science Foundation of China (NSFC) joined the Berlin Declaration in 2004. The National Ministry of Education, the Ministry of Science and Technology, the National Library, the Chinese Academy of Science, and the Chinese Academy of Social Sciences are just some of the organisations running major open access projects.

[13] http://ir.las.ac.cn/bitstream/12502/5506/1/121024-02-%E5%88%9D%E6%99%AF%E5%88%A9.pdf

[14] According to a report by Wuhan University, 72% of publications screened using anti-plagiarism software in 2007 contained significant portions of plagiarised material. Vanity publishing services and underground trades in 'assisted publishing' were valued by the same study at 1 billion RMB (roughly AU$ 154 million). See details in Chinese at http://news.xinhuanet.com/comments/2010-02/05/content_12935842.htm

[15] http://www.alexa.com/siteinfo/http%3A%2F%2Fwww.oaj.cas.cn

[16] https://www.gov.uk/government/news/new-push-to-grow-uks-175-billion-education-exports-industry

[17] A search in the Chinese academic literature database CNKI suggests that 2,718,353 journal papers were published in 2013. See http://epub.cnki.net/kns/brief/result.aspx?dbPrefix=CJFQ

18 http://www.edu.cn/zong_he_news_465/20130823/t20130823_1005483_1.shtml

[19] Prof/Dr Jane Knight, a leading expert on internationalisation in higher education has been awarded the 2013 Gilbert Medal which recognises outstanding contribution to international higher education. See http://www.universitas21.com/article/projects/details/185/2013-gilbert-medal-jane-knight

[20] http://www.universityworldnews.com/article.php?story=20140129134636725

[21] See two examples: "Publish Rubbish Or Perish — and Pay Through The Nose" at http://www.the-american-interest.com/blog/2012/04/28/publish-rubbish-or-perish-and-pay-through-the-nose/ ; Also, "Chinese Research: Not Quite the Juggernaut?" at http://thehealthcareblog.com/blog/2011/08/01/chinese-research-not-quite-the-juggernaut/

[22] A policy statement of "Reform in Academic Evaluation in Higher Education" issued by the Chinese National Ministry of Education in 2013 argues that, the assessment of research capacity of universities will not over depend on the number of publications, but employ diverse approaches. See it at http://www.moe.gov.cn/publicfiles/business/htmlfiles/moe/moe_784/201312/160920.html

Reference

Alford, W. (1995). To Steal a Book is an Elegant Offence. Stanford, Stanford University Press. (Page 4 para2)

Altbach, P. G. and P. M. Peterson (2008). Higher Education as a Projection of America's Soft Power. Soft Power Superpowers: Cultural and National Assets of Japan and the United States. Y. Watanabe and D. L. McConnell. London, M.E. Sharpe. (page10, para3)

Bartling, S. and S. Friesike (2014). Opening Science: The Evolving Guide on How the Internet is Changing Research, Collaboration and Scholarly Publishing (eds), Springer Open. (page4, para1)

Cargill, M., & O'Connor, P. (2006). "Developing Chinese scientists' skills for publishing in English: Evaluating collaborating-colleague workshops based on genre analysis". Journal of English for Academic Purposes, 5: 207–221. (page 8, para 4)

Carr, E. H. (1954). The twenty years' crisis, 1991–1939: An introduction to the study of international relations. New York, NY: Macmillan. (page2, para2)

Cho, Y. N. and J. H. Jeong (2008). "China's Soft Power: Discussions, Resources, and Prospects." Asian Survey 48(3): 453-472. (page2, last para)

Douglas, D.E.P. (2014). "Culture, politics and university library consortia in china and the U.S.: a comparative introduction to CALIS, GWLA and JULAC". Library Management 35 (8/9). (page 7, last para)

Grinvald, L. C. (2008). "Making Much Ado About Theory: The Chinese Trademark Law." Michigan Telecommunications and Technology Law Review(1): 53. (page 4, para2)

Harnad, S. (2010). 'The Immediate Practical Implication of the Houghton Report: Provide Green Open Access Now', Prometheus 28(1): 55-9. (page 7, para2)

Hvistendahl, M. (2011). "Scientific Publishing: China Looks to Purge Academia of 'Trash Journals' " Science 334(6054): 301. (page6, para1)

Lessig, L. (2004). Free Culture - How Big Media Uses Technology and the Law to Lock Down Culture and Control Creativity. New York, Penguin Books. (page4, para2)

Lukes, S. (1974). Power: A radical view. New York, NY: Macmillan. (page2, para2)

Nye, J. (1990). "Soft Power." Foreign Policy(80): 153-171. (page2, para1,2)

Nye, J. (2002). "The Information Revolution and American Soft Power." Asia-Pacific Review 9(1): 60-76.   (page2, para2)

OECD (2009). Beyond Textbooks Digital Learning Resources as Systemic Innovation in the Nordic Countries.   (page9, para4)

Peters, M. A. (2010). "On the Philosophy of Open Science." Review of Contemporary Philosophy 9(January 1): 105-142.   (page10, para2)

Peters, M. A. (2013). "Open Science, Philosophy and Peer Review." Educational Philosophy and Theory 46(3): 215-219. (page7, para2)

Qin, X & Liu, X (2011). 'Current Situation of Open Access in Chinese Academic Journals (in Chinese)', Chinese Journal of Scientific and Technical Periodicals. 22(4): 485-91. (page6, para3)

Steger, M. B. (2003). Globalization: A very short introduction. New York: Oxford University Press. (page8, para 4)

Veletsianos, G. and R. Kimmons (2012). "Networked Participatory Scholarship: Emergent techno-cultural pressures toward open and digital scholarship in online networks." Computers & Education 58(2): 766-774. (page7, para2)

Wischenbart, R. (2014). The Global Ranking of the Publishing Industry 2014: Consolidation, digital integration, globalization (Summary). (page8, para2)

Yan, G. (2009). "The construction of the Chinese academic system: Its history and present challenges." Frontiers of Education in China 4(3): 323-323-342. (page2, last para)

You, S. (2008). "The current problems and reasons of Chinese scientific journals " Jounal Publishing Bulletin(9). (page3, para3; page6, para2)

Zhang, X. (2014). "Development of open access in China: strategies, practices, challenges." Insights: the UKSG journal 27(1): 45-50. (page5, para3)

Zhou, L. (2013). "Open Access Journal Publishing (谈学术期刊的开放获取出版)." the Journal of
    Chinese Editors (Zhongguo Bianji)(10). (page6, last para)