Conference Report

APE 2020: Short Conference Report & Reactions from the Press. Driving the change – together less satellite navigation – more collaboration

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DAY ONE: Tuesday, 14 January 2020 Berlin Brandenburg Academy of Sciences and Humanities

Arnoud de Kemp *(Founder & Chairman APE Conferences)* opened APE 2020 by stressing not only the highest number of participants, but specifically the increased diversity among participants and the many CEOs. He was also very pleased with the Chinese participation in the conference program.

In his **Welcome and Opening Words**, **Prof. Dr. Gunter Ziegler** *(President, Free University of Berlin)* stressed that Open Access (OA) publishing was still the way to go because it is fair. He mentioned the letter sent by the American publishing industry to the Trump administration opposing the government's plans for OA with zero embargo for government funded research. The industry fears this would effectively nationalize American Intellectual Property (IP). According to Prof. Ziegler, there is no such thing as American science or an American publishing industry. OA should be a global movement and Europe can set an example by making sure that OA happens in Europe. He also stressed that publishers should keep the quality of academic publishing alive by ensuring that progress in OA publishing is driven not only by journal publishing but by book publishing as well. He said: 'We should talk more about the beauty of the book as it will introduce more quality.'

The **Keynote speakers** were introduced by chair **Eric Merkel-Sobotta** *(Vice President External Affairs and Communications, De Gruyter, Berlin).*

Prof. Dr. Jean-Claude Burgelman *(Advisor - Open Access Envoy, European Commission, Brussels)* spoke about **Open Science and Open Scholarship. Will Europe lead the Change?** He started by saying that 8 years ago APE was the first place where the community started talking about Open Science (OS). Today, OA and Open Data (OD) are facts of research life and Europe still has a leading role in driving OS. However, Europe's main competitors (the USA and China) are waking up. Will Europe be able to

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keep its lead in OS and capitalize on its position as an early adapter/innovator? Prof. Burgelman said that there is good news: Europe has top players, strong support from funders, successful early innovations (e.g. Mendeley, Figshare), innovators of new practices and business models, huge data communities etc. He added that there are still challenges: not all funders are in agreement, some big publishers are on board but some still use old models, and the research community is still focused on citations.

Prof. Burgelman continued that the debate has been too emotional and lacks ratio. The community has to look at what is actually spent on scientific publishing. This is only a fraction of the total science budget. He added that the problem was not payment but *fair* payment. A global service does not have to be priced equally cross the world. In addition, disruptive policies are needed if OA is to be the way forward.

Prof. Burgelman mentioned the key problem in policy making: to force an old business model into a new digital reality. Strong leadership is needed to go beyond the level of early adoption. He added, "Because of hesitation you might miss out." We need to move to a more liquid scholarship system. Rather than going for a final product, the complete research cycle has to become open immediately, throughout the process; data sharing, peer review, networking etc. We should think about a system that is machine made and readable and also consider other ways to reward scientific productivity, for example, not only the article should be rewarded but data sharing as well. This would mean that in future, an article will be the smallest entity and often the least important aspect of scientific output. Publishing will be a platform and in future revenue will be made via value-added services.

Prof. Burgelman concluded that the way to move forward and stay ahead of the curve is to join forces in a pan-European deal for OS including the key forces of the science ecosystem and agreed upon by key players (funders, universities and publishers). This will restore trust throughout the entire community. "This is not a perfect solution, as a perfect solution would be global, but at least Europe can set a standard."

At the start of her keynote, ***The World of Research: its evolving Needs, Challenges, and Diversity of Views, Kumsal Bayazit (CEO, Elsevier, London)*** stressed that she is committed to making progress and – in line with the conference theme – breaking down walls and building bridges with all stakeholders together. She stressed that Elsevier fully supports OA and she is committed to working with the entire research community. Publishers are often blamed, and the debate can become too ideological and emotional. All publishers should set this aside and work together pragmatically.

Several other obstacles must be overcome: adoption of OS by researchers takes time, funding flows, predatory publishers etc. The approaches to addressing these obstacles vary widely: gold, green OA, OS, tailored agreements, collaboration, and pragmatism. Publishers should expand their services, for example, by implementing Artificial Intelligence (AI) technologies to connect the dots for researchers and support the transition to OA for customers. Bayazit added that trust is an important topic. Publishers (together and individually) should maintain standards of quality and integrity by upholding trust in science.

Looking forward to the future, Bayazit emphasized that quality, research integrity and trust are important issues. Publishers can launch collaborative projects to advance research, combat research espionage, deal with the threat of Sci-hub, support interdisciplinary research, facilitate data intensive research, help researchers demonstrate their impact, develop analytical tools to support research stakeholders, and use analytics to promote inclusion and diversity. Elsevier's commitments for the future include working with all stakeholders to improve value, sustaining progress in OA, innovating in partnerships, supporting Sustainable Development Goals (SDGs) and working on inclusion and diversity.

Bayazit ended by stressing the importance of collaboration to advance OS. Partnerships with funders, universities, and hospitals to promote OS to the broadest possible audience across all stages of research will increase discoverability, enable the sharing of research data and evolve the measurable impact of research.

In his **keynote, The QUEST Center in Berlin – a Laboratory for Behavior Change in Academic Biomedicine**, **Prof. Dr. Ulrich Dirnagl** *(Director, Department of Experimental Neurology, Charité Universitätsmedizin, Berlin)* explained how the QUEST (Quality-Ethics-Open-Science-Translation) Center at the Berlin Institute of Health has implemented a framework to enable biomedical researchers to do more robust and relevant research. The framework is underpinned by processes and services that include quality assurance, education, OS, changing reward and incentives, stakeholder engagement and meta-research. Prof. Dirnagl said that researchers are eager to follow but that they are overwhelmed by their daily work. Education and training are very important factors to initiate and sustain cultural change. QUEST runs various training activities that focus on open data and result dissemination. He added that more needs to be done to change the culture, for example, changing the application process. At QUEST they have already done that, and jobseekers now have to answer specific questions on their goals for OS.

At QUEST, meta-research is performed to evaluate the behavioral change and to focus the activities. This is also done in collaboration with other stakeholders. He mentioned the Reward Equator Conference. Sharing Strategies for Research Improvement, being held in Berlin on 20–22 February 2020.

Prof. Dirnagl concluded that publishers can do a lot to help drive this behavioral change. If publishers mandate open data as a condition of publishing in their journals, researchers will have to follow.

In his speech **Opportunity and Cooperation Science Publishing in China, Dr. Lin** *(CEO of Science Press)* shared facts and figures with the audience concerning China's rapidly growing and developing research sector, and the opportunities these developments offer for academic publishing. For example, the growth rate of R&D expenditure has increased by over 10% and the budget of China's most important research foundation (the National Natural Science Foundation) has also increased significantly. Dr. Lin pointed out that China has the most scientific research talents in the world.

Dr. Lin added that there are nearly 200 STM publishers in China, publishing 5,052 STM journals, of which only 330 are in English. Science Press (SP) already cooperates with many international publishers such as Springer Nature, Elsevier, Wiley etc. but he added that the STM publishing sector in China urgently needs to be upgraded to a larger scale and increased impact; more journals in English should be launched for emerging research areas. Dr. Lin stressed that cooperation is the path to the launching of new high-level journals, so SP would like to extend the scope of their cooperation with international publishers to provide premium content. SP is already on the road to internationalization, and publishes the largest number of journals in China, covering a wide range of disciplines.

A question from the audience focused on the role publishing in China will play in the OS movement. Dr. Lin felt that Science Press is open, as they seek more cooperation. Lin stated that currently in China there are many discussions about the OS business model, and he personally felt that this will be a suitable model for the Chinese research ecosystem.

Keynotes:

The session, Value in the Research Cycle - a stronger Role for Funders? explored different ways to enhance value in the funding and publishing of research. It was chaired by **Dr. Dagmar Meyer**, *(Policy Adviser, European Research Council Executive Agency (ERCEA), Brussels)*

Talking about **Evaluator – Paymaster – Regulator – Driver of Change? The Role of Research Funders in the 21st Century, Marc Schiltz** *(President, Science Europe, Brussels)* began by stating that, more recently, funders have started to care about integrity, public engagement and openness as they have started to realize that science and research should contribute to solving societal challenges. Schiltz added that science and government should decide on the priorities together. He mentioned cases where research priorities had been set by government and society, for instance, the Dutch research agenda. According to Dr. Schiltz, societal stakeholder groups such as patient groups are missing from the discussion.

The changing role of funders is illustrated by Plan S, because funders felt it necessary to make a bold step in order to end the anomaly of paywalled research outputs. Schiltz said that Plan S allows for a transition phase of 5 years. He stressed that it is very broad and that funders do not determine the model because there is no one-size-fits-all model. He added that funders do realize that publishers add value, but that the price of the added value must be fair and realistic. When looking to the future of Plan S and beyond, the research culture will have to change. The motivation of researchers should be to report to society, rather than ranking or impact factors. Schiltz concluded by saying that collaboration is the biggest challenge for the future, OA will be a peripheral problem.

A question from the audience queried why there is a different attitude towards gold OA in a full OA or hybrid journal; why not focus on the article? Dr. Schiltz was of the opinion that if we focused on the article we could also have platform publishing instead of journals. He stated that the hybrid model has failed for many reasons; it has not been a smooth transition. OA should be useful for the reader. A hybrid collection looks random to readers; some articles are OA and some are not.

Gabriela Mejias, *(Engagement Lead. Europe, ORCID, Berlin)* started her speech ***Tackling the Pain Points in Funding and Publishing Workflows***, by explaining ORCIDs vision of the entire research ecosystem interlinked through persistent identifiers (PIDs). The researcher is at the center and is connected with funders, organizations and publishers. Using PIDs in publishing workflows has many benefits, such as transparency, better data-quality and improved interoperability, and it saves time for researchers. Mejias said that many more PIDs are being developed: ROR IDs for organizations, DOIs for grants and IDs for funder organizations.

The ORCID Reducing Burden and Improving Transparency (ORBIT) project engages funders to use persistent identifiers to automate and streamline the flow of research information between systems. The ORBIT funder working group is looking at how pain points such as a high reporting burden, low data quality and low information sharing can be tackled. Mejias emphasized that connecting funding IDs to publication DOIs is a work in progress. A new feature has recently been addedso funders can also add review data. The list of funders that have integrated ORCID into their systems is ramping up, with Welcome Trust joining as the newest member. Mejias advised the audience to improve their workflows with one PID at a time. She concluded by stressing that ORCID is researcher controlled; organizations using the ORCID API always have to obtain researchers' permission to add data to the ORCID records.

In her speech ***Communicating Value: Price Transparency in Scholarly Communication, Alicia Wise** (Director, Information Power, Winchester)* launched the outputs from a cOAlition S sponsored project to help make the nature and prices of OA publishing services more transparent. During the project, funders, libraries, publishers, and universities collaborated to develop a framework on pricing transparency. The draft framework consists of 24 pieces of metadata about platforms or titles providing OA publishing services. Wise explained more about how the pricing information was collected, for example, by including information on the investments made for a journal, customer support costs after publication, and added services during editorial stages etc.

The recommendations of the project are that there is an imperative need for a customer-centric approach and a collaborative, pragmatic approach to further develop the framework. Wise added that cOAlition S has not yet taken a decision on the framework. The next step will be a pilot that will see the light of day in the first quarter of 2020. Eight publishers have committed to testing the framework during the pilot phase and further refining it. Wise concluded by stressing that the development of the framework is an evolving area and that she is looking forward to progressing further with all stakeholders.

At the start of ***Session 1: Catalysts of Change - Why SDGs are important for Innovation and Scholarly Communication? Chair Dr. Michiel Kolman*** *(Elsevier Senior Vice President, Information*

Industry Relations; Presidential Envoy Diversity & Inclusion, International Publishers Association (IPA)) explained the relevance of Sustainable Development Goals (SDGs). He said that scientific research is critical in achieving SDGs, and that relevant research is often interdisciplinary. He showed that there is an enormous growth in European research around SDGs (especially related to public health) compared to rest of the world, and that all publishers are actively publishing in line with SDGs. However, good keywords need to be identified in order to better identify relevant resources, so collections can be created for analytical purposes to reach SDGs.

In her speech *Scientist and Connection to UN Perspective and Agenda, Prof. Eeva Furman (Director, Environmental Policy Centre, SYKE, Finnish Environment Institute, Helsinki)* shared the insights of the Global Sustainable Development Report 2019: The Future is Now – Science for Achieving Sustainable Development. The report shows that we are moving far too slowly to reach the targets by 2030. Lnks between the different goals are essential to achieve the SDGs, and scientific evidence is needed for these links. Prof. Furman said: "Everybody needs to be on board and we need to start from education to better explain the role of science towards sustainable development." Universal sustainability science calls for a major transformation in science and a synthetization of the existing knowledge in the publishing community. She added that we cannot just transform the systems in the Global North, but also need to boost scientific knowledge in low and middle income countries.

From the *European Academic and Research Perspective, Dr. Richard Horton (Editor-in-Chief and Publisher, The Lancet, London)* stressed that science can provide a strong platform for advocacy policy. Scientific journals can change the direction of society and scholarly publishers should pay far more attention to unlocking societal potential. Dr. Horton said this has not yet happened because of a collective failure to develop deep, meaningful partnerships. He gave some examples of how The Lancet has focused on the different SDGs and linked them together by publishing reports and manifestos, as well as launching campaigns to put children at the center of SDGs. Horton's conclusion: scientific journals in 21st century must be more than journals; the idea of scientific journals should be reinvented. This requires extraordinary partnerships for extraordinary social transformations. The SDGs form the most important international political (and moral) framework for redefining the social purpose of journals.

From the *Publisher's Perspective, Dr. Elisa De Ranieri (Editor in Chief, Nature Communications, Nature Research, London)* explained more about the Springer Nature SDG program. The program aims to help researchers tackle challenges and implement scientific insights in real life for policy makers. SN recently launched a series of titles supporting the SDGs. Dr. de Ranieri said that in order to influence policy and decision makers, research and data should not only be accessible but reusable as well. She also mentioned the need to develop non-standard article types to promote the visibility of relevant content, advocate journalistic content, and support evidence-based approaches. Publishers can bring different stakeholders together and develop new services to ensure implementation of research results in an interdisciplinary approach.

The subsequent discussion focused on what publishers can do to reach the SDGs. Prof. Furman stressed that more attention should be paid to equal opportunities for the research community in the Global South; not all researchers have access, for example, due to the local infrastructure. Publishers should pay attention to South-North co-authorships, the right order in authors, rewarding people, or reducing prices for publishing together. In addition, the need for engagement with the broader community, funders and society is crucial. Publishers could do more to organize outreach and increase the visibility of the role of science, starting with children. Dr. Kolman added that this could be established by looking at initiatives such as the SDG book club.

Session 2: DEAL with it! Transformative Agreements shaping the way we do business

The session was chaired by **Dr. Ralf Schimmer** *(Director, Scientific Information Provision, Max Planck Digital Library, Munich)* who said that in the current research landscape, transformative agreements are seen as the most viable instrument to promote OA, to organize money streams and to focus on workflows.

Prof. Dr. Horst Hippler *(Speaker of Projekt DEAL)* & **Dr. Frank Sander** *(Managing Director MPDL Services GmbH)* explained more about **The Approach and Structure behind the DEALs**. Prof. Hippler said that Project DEAL's objectives are to increase visibility and impact, and to make OA accessible to German research through secure permanent access. He stated that national alignment in negotiations, close collaboration with the funding community, and an unrestricted OA component are essential. During the transition there will be a pPublish and Read fee (PAR). This will become APC (Article Processing Costs). With the transformative agreement, authors will retain copyright (CC-BY). It will be transparent, cost neutral, and there will be no double dipping and no APCs 'paid in the wild'. This will lead to a new level of openness in German research, with expanded access for readers. With both the Wiley and Springer Nature agreements already in effect and moving forward, Prof. Hippler said that he is looking forward to restarting negotiations with Elsevier.

Dr. Sander explained more about the implementation of the DEAL agreements with the Max Planck Digital Library (MPDL) Services GmbH. MPDL Services GmbH acts as signing contractual partner for Projekt DEAL, and creats a cost allocation model between institutions and MPDL Services to ease the transition. Not all institutions have the budget to increase their spend in the current financial climate, so institutions have the option to pay what they can now and work with funders to determine what they will pay in the future. He explained that it will increase benefits for everyone when institutions pay a fair share for the services they actually receive. He stressed that diligently tuned workflows will be essential to reach full implementation. Data quality and completeness matter, and keeping the data together is especially important. He concluded by saying that success will be defined by how attractive the journal offering is considered to be by researchers.

Dr. Guido F. Herrmann, *(Managing Director, Research, Wiley, Weinheim)* told the audience more about **The Wiley DEAL** and what has been done so far. Currently, 705 German institutions have the right to publish OA in Wiley journals. Implementation started the day after the APE announcement last year, but first a complex technical infrastructure had to be built. The ecosystem is complex within the different institutes and it is challenging to get everybody on board. The sign-up process lasted until the third quarter of 2019. Wiley engaged actively with external stakeholders and partners, for example, by organizing campus days and webinars, and developing training materials. Wiley also engaged with external journal editors and helped them to make their journals more successful in the OA and OS environment. Throughout 2019 there was an increase in usage of roughly 25%, indicating reader appreciation. Wiley has also seen a significant interest from the media. Wiley will continue to improve the workflows, maintain speed and aim for more collaboration for successful implementation.

Dagmar Laging, *(Vice President Institutional Sales Europe, Springer Nature, Heidelberg)* explained more about the process leading to **The Springer Nature DEAL.** She started by explaining why 'read and publish' deals work: they control unexpected costs and workflows, and promote and encourage national research output, provide transparent pricing and centralize administration. Unfortunately, the one-size-fits-all deal does not work. There are many issues that need to be taken into account: customers' local needs, tax requirements, stakeholder mix, budgets, governmental requirements etc. Laging continued to tell us more about the current status of the Springer Nature DEAL. The Read and Publish element became effective on 1 January 2020, and she expects the full OA element to become effective as of 1 August 2020;

the institutes have to be signed up first. Laging added that a lot still needs to be done to make this work: major investments in infrastructure, workflows and transformation of the industry. She expects that DEAL will influence the worldwide migration to OA, as the German share is 5% of global research output. Next steps include expanding transformative agreements, incorporating Nature journals, the switching of hybrid journals into transformative journals, adding transparency and promoting OA.

The Panel discussion, The Road to Open Access, are we on the same Journey? Competing Visions, Competing Priorities was moderated by ***Kent Anderson***, *(Editor of 'The Geyser', Founder of Caldera Publishing Solutions, Westborough, MA)*. Participants were: ***Annie Callanan*** *(CEO, Academic Publishing Division, Taylor & Francis Group, Abingdon)*, ***Alicia Wise*** *(Director, Information Power, Winchester)* ***Peter Berkery*** *(Executive Director, Association of University Presses [AUPresses] New York)*, ***Dr. G.-Jürgen Hogrefe***, *(CEO, Hogrefe Publishing Group, Göttingen)*.

Anderson asked the panelists which roles in publishing organizations would be most affected by the move to OA. Hogrefe thought that commissioning editors would be most affected, as they have to spend time explaining OA to authors. Callanan thought that there was no distinction between the different roles; every publishing professional has similar challenges. Wise stressed that it is a cultural change throughout the organization. Callanan agreed that it is a mindset change; today the output is article-driven rather than journal-driven. The publishing industry should enable a diversity of economic models and work out how to evolve in an article-based economy.

The panel agreed that the statement 'hybrid journals are a failure' is not true. Gold OA in a hybrid journal is no less OA than in a full OA journal, and for many researchers this makes no difference. One type of publishing model does not fit all. Wise added that the hybrid model is a way of supporting author choices. Publishers should become more active partners in developing transition models or new models through active engagement. Hogrefe stated that publishers have already been doing this by developing models for OA publishing and pushing for OA. There has been a change in authors' minds. Up to now they have only been interested in publishing research, and now they think about *how* their work is being published.

Anderson asked the panel how revenue could be increased in an OA environment. Callahan said publishers should stay focused on providing value. Sustainable businesses can be created through a fair exchange of value for the services provided to communities. We should enhance the impact of science by amplifying knowledge. Publishers should support all disciplines, knowledge outputs and reading communities to create relevance and value. Berkery added that the publishing industry should look for better ways of demonstrating value. He said the discussion about money – and the fear of double dipping – betrayed the beauty of OA. He found it sad that the hybrid model has not been supported by funders. Hogrefe said that working with research communities should not change and that publishers should not become mere article processors.

Anderson asked if publishers needed to address the study that shows that researchers are spending more time locating trusted articles? According to the panel, this demonstrates the uselessness of the green road, which creates a wild west situation with different versions and causes confusion. Wise said that we need clarity and transparency about the different services so that researchers understand added value and can assess the quality of the outputs. This should be a collaborative approach. Librarians can play a role in this too, by explaining to students the variety of publishing research; it is not just the responsibility of the publishers.

Callahan commented on the recent addition of open research publisher F1000 to the Taylor and Francis Group. She stressed that they are innovators who think differently and experiment, which is exactly what the publishing industry needs – diversity of thought.

The APE lecture

Introduced by ***Prof. Dr. Ulrich Dirnagl***, *(Director, Department of Experimental Neurology, Charité Universitätsmedizin, Berlin),* ***Magdalena Skipper*** *(Editor-in-Chief, Nature, London)* reflected on ***150 years of Nature. Celebrating a century and a half of research and its influence.*** Skipper highlighted some of the greatest breakthroughs and discoveries that have been published over time in Nature, such as the discovery of the human genome, the first computer programmes, stem cells and therapy, the destruction of the ozone layer etc. These publications have had implications for medicine and have led to significant measures and actions in society. When looking into the future of Nature, similar impactful stories will continue to be published, like the effects of overfishing, improvements in nutrition, the future of science and politics etc.

Skipper said that Nature was originally launched as a magazine intended for the general public, and that although the focus today is primarily on the research community, the journal has not lost sight of its public role. Other things have changed over time as well. Peer review was not standard in the past, and authorship was much less diverse than it is currently. Citizen and interdisciplinary science have become increasingly important, and of course there is the OS movement. She concluded her speech by saying that we should look back more often and learn from the past by taking into account how our approach and needs have changed over time. "We should use the tools we have today to do better in enabling communication of importance for the entire community."

DAY TWO: Wednesday, 15 January 2020

During the ***Wake-up session: Wake up – watch out, who is being watched. Science, Ethics and the Publisher's Role, Eefke Smit*** *(Director, Standards and Technology, The International Association of Scientific, Technical and Medical Publishers (STM), Amsterdam)* talked with ***Ed Gerstner*** *(Editorial Strategy, Nature, London)* about Surveillance Research. Smit started with the question of whether Chinese publishers can be truly international. Gerstner said that having offices overseas will help Chinese publishers to become more embedded in the international community, but that there are several issues hampering full integration, such as the differences between the international research community and the Chinese research community with regard to research norms. Certain research data, such as cell lines, are not shared and are only made available to Chinese researchers. Gerstner concluded that it will be challenging for the Chinese research community to become a true player in the OS movement.

The session then moved on to surveillance research using facial recognition, and the ethical consequences of this for the publishing industry. Gerstner mentioned that publishers worldwide struggle to keep up with the pace of technological developments. Publishers and ethics boards have a role and responsibility in protecting people's rights but do not always have the expertise and tools. Another problem is that researchers are often not aware of the existence of ethics review boards, and institutes and publishers could do more to raise awareness. Publishers should also raise awareness with their own editors, and ensure that content (including photos) is only published with informed consent. Publishers need to take extra care in protecting the rights of research study participants from vulnerable populations and should check carefully whether they had given their consent freely. Awareness around these ethical issues should be raised within all disciplines, and this can only be done by developing and implementing more robust policies. These should be adapted over time with feedback from day to day operations, and matched to

the pace of technological developments. Smit and Gerstner concluded that the entire research community should collaborate and take responsibility for these ethical issues together.

Session 4: Driving Research Data: announcing 2020 as STM's research data year

Chair: **Eefke Smit**, *(Director, Standards and Technology, The International Association of Scientific, Technical and Medical Publishers (STM), Amsterdam).* Participants: **Grace Baynes** *(VP, Research Data and New Product Development, Springer Nature, London),* **Chris Graf**, *(Director, Research Integrity, Wiley, Oxford),* **Dr. Joris van Rossum** *(Research Data Director, STM Association, The Hague),* **Niamh O'Connor** *(Chief Publishing Officer, PLoS, London).*

Smit announced that STM is launching 2020 as Research Data Year, dedicated to the publisher's take-over of SHARE-LINK-CITE Research Data. In his opening remarks, Prof. Dr. Jean-Claude Burgelman said that all science, in all disciplines, will become data driven science. Data science will be the science of the future and important for OS. It will be a huge challenge to streamline this movement, and this cannot be done by humans alone. He added, "We need machines and technology to exploit the future of open data."

The panel members stated that publishers should take responsibility for better communicating the benefits of data sharing and creating clear data sharing policies, with Data Availability Statements (DAS) in place. They claimed that there is a 25% increase in citations when links to DAS are included with a publication. A preprint supporting this claim can be found here. Graf explained how DAS are currently becoming the new normal for Wiley. He added that STM is all about sharing and skipping chaos for other publishers. Joris van Rossum announced that STM has launched a dedicated action plan: STM-researchdata.org. With this plan, STM will bring together best practice in data sharing, making it easier to show authors the benefits and impact. The panel stressed that this is a continuing process, and that DAS do have correction mechanisms in place, for example, when it comes to addressing the rapidly evolving privacy laws. Another challenge for the community is to have sustainable business models for open databases. Dr. van Rossum said that there are currently 6 different models in place, and that these will probably be adapted over time.

During the plenary discussion it was emphasized that the data citation culture needs to be changed. It is difficult to make data sharing and citation mandatory; it should be part of the incentives. This behavior change is proving difficult, and publishers should stress the scientific value that comes from data sharing. When DOI links to the datasets underlying the graphs and charts are included in publications, datasets will be reused and transparency will be increased. It should also be made clear to the research community that not just spreadsheets containing data are meant by data; it includes software, videos and much more. Another question from the audience focused on the motives of publishers to enable data sharing. All panel members said that enabling research-sharing and discovery is fundamental to what publishers do. There is also the added advantage of increased citations, leading to increased use of the publishers' content. The panel agreed that it is not even a question anymore whether or not to do it. BPublishers don't have to reinvent the wheel to join the STM program; all publishers can learn collectively from each other.

Session 5: How does open science impact libraries?

Introduction and Moderation: Prof. Dr. Andreas Degkwitz, *(Director, Humboldt University Library, Berlin) and* **Dr. Rafael Ball** *(Director, ETH Libraries, Zurich).* **Participants: Dominic Tate** *(Head, Library Research Support, Library & University Collections, University of Edinburgh),* **Prof. Dr. Wolfram Horstmann** *(Director, Göttingen State and University Library),* **Jeanette Frey** *(President of LIBER and Director of the Bibliothèque Cantonale et Universitaire, Lausanne),* **Reinhard Altenhöner** *(Permanent Representative of the Director General, The State Library, Berlin),* **Rachael Kotarski** *(Head of Research Infrastructure Services, British Library, London).*

In his introductory remarks, Prof. Degkwitz stressed that OS is much more than OA and Data Management. It refers not only to infrastructure, but also to skills and methodologies. He emphasized that libraries play an important role in the development of OS and that many OS activities are already taking place at all sort of libraries.

The first part of the discussion focused on defining a common understanding of OS. According to the panel, OS includes OA, Open Data, Open Methods, Open Infrastructure, Science Cloud, Open APIs, workflows etc. Tate said that at his institute they prefer to talk about Open Scholarship rather than Open Research, to avoid alienating people who do not see themselves as scientists. The panel agreed that there is a need to better explain to the research community that OS means the complete opening up of the process of publishing a paper. Prof. Horstmann added that OS is actually research in 'run time'. The implications for publishing are very powerful – it is a revolution. The research process no longer leads to just one publication; interim steps of the research results and code on GitHub are being shared. The paradigm of knowledge representation is changing.

Altenhöner said that the State Library's responsibility now lies more in how the data is presented – to show the added value, for example, when it comes to citizen science, climate discussions, cultural topics and sustainability issues. Kotarski added that accessibility is a big factor for the British Library. The BL looks at different groups and how best to support them, for example, patient groups and people with disabilities. She stated that it seems that many national libraries do not understand their role in OS and do not, for example, take part in EOSC. Collaboration between national libraries should be enhanced.

Tate said that libraries do have a role in convincing researchers of the importance of OS, but that it is the shared responsibility of all stakeholders within the research ecosystem. Frey added that LIBER is continuing the work for OS advocacy. All panel members agreed that OS should be relevant for researchers' careers. It should be part of the recruitment process and promotion system and should become part of the research culture. Altenhöner emphasized that trust is an issue within the OS paradigm change. Libraries, funders, publishers and institutes should together make sure that researchers feel safe in this new paradigm and are willing to share. The panel felt that the right stakeholders are on board for this new paradigm, but that more effort should be made to include organizations from the Global South. Frey added that, with the amount of work that needs to be done, including AI is also crucial. Altenhöner suggested looking further, and extending partnerships with SMEs, for example.

The panel members discussed the infrastructure around research data management. To build a sustainable infrastructure, the community needs to agree on standards. It is not so much about which partners (commercial, non-commercial, national, international) to involve, but the focus should be on the core needs of the researchers. The infrastructure should be research-driven not data-driven. The panel concluded that OS is evidently already present and in a continuously moving process towards full development. During that process the research community should regularly assess what is meant by OS.

Session 6: Openness in arts, humanities and social sciences

In his introduction, **ChairMatthew Cannon** *(Head of Open Research, Routledge (Taylor & Francis Group), Oxford)* stated that open research policies are different for different disciplines. The humanities are different from STM for various reasons: they are funded differently, research is done differently so the outputs are different, and data sharing practices are different.

In her speech **Supporting Open Humanities Researchers, Dr. Erzsébet Tóth-Czifra** *(DARIAH-EU, Berlin)* presented the challenges AHSS researchers face with regard to OA. For example, challenges are related to 'biblio-diversity' (diversity of output languages, output types, locally situated knowledge), fragmentation, resource scarcity, costly production of monographs, low uptake of self-archiving, and many more. DARIAH contributes to the transition towards OA for Humanities through a lot of advocacy, by strengthening the voice of Humanities in policy debates, in experiments with novel publication forms, and in collaboration with Operas and Digital Humanities. Publishing enhanced monographs whereby data is linked to multimedia sources might be a way to open up more of the Humanities research process. Hosting and maintenance responsibilities remain challenging. Another continuing challenge is how to reflect the collaborative nature of research, for example, by crediting the developer who develops the code. Highlighting the value of collaborative research is important. Investment is required to tackle these challenges, but Tóth-Czifra stressed that this does not necessarily mean that massive investment is required. "Working towards Open Humanities in small steps is good too." She concluded, "We need to recognize and understand the diversity to move forward and we still have a lot to do, but let's experiment and work on this together."

In her speech **Open Access Humanities Books. How far can we go on the options and limitations of innovative publishing for AHSS, Margo Bargheer** *(State and University Library, Göttingen)* pointed out that the OA complexities for AHSS are the same as for STM, but the scale is different. She was speaking on behalf of the Association of European University Presses and stated that it is a fact that the cost of these presses is higher. Compared to book publishing, the journal article has made its way into the digital world more easily because of standardized infrastructures. Bargheer showed examples of the possibilities for enhanced book publishing for the Humanities. Platforms should enable flexibility; enable live annotations on pdf-files, for example. Maintaining a digital monograph could be difficult for an embedded publisher because of limited resources, but collaboration with larger, more commercial publishers could enable support for OA in the Humanities. Humanities researchers are starting to realize the potential of open environments and the possibility of combining their own data with other data. Bargheer concluded that the full dimension of OS is yet to be discovered.

In his talk **Creating a Preprint Server for the Social Sciences**, **Mark Zadrozny**, *(Executive Publisher, Cambridge University Press, New York)* introduced Cambridge Open Engage, a collaborative research platform that hosts a wide range of content with a focus on preprints. The platform is primarily intended for the research community, but is accessible for everybody. The development of the platform is currently ongoing. One of the challenges is to increase use of the platform; scholars are still using informal tools. Zadrozny stressed the uniqueness of the way in which the platform is being developed, with co-creation of the platform by customers of the platform – by the community for the community. The platform is being developed further by engaging directly with user feedback, and problems are not just being solved from a publisher perspective. This will increase transparency, and as a result the platform itself will be made as useful as possible for the academic community.

The subsequent discussion focused on how cross-disciplinarity could be stimulated more. The panel agreed that even though this is already being done, for example, by carefully considering the target groups

of a publication, it would need more work on, for example, standardizing the tools to work together and linking publications. Maintaining trust is an important issue too, "We don't want bucket journals." According to the panel, trust is also an issue when it comes to publishing preprints in the Humanities. This has not been taken up in the same way as in STM, and this is related to the fact that knowledge production is done in a different way; data production is much more interlinked and not distinct. Also, Humanities scholars are used to working towards printed products; it is unusual for them to think in digital units. Humanities researchers want to completely finish their work before it is published.

The big SPLASH was moderated by *Dr. Liz Marchant*, *(APE 2020 Program Coordinator and Global Journals Portfolio Director - Life, Earth & Environmental Sciences at Taylor & Francis Group, Oxford).* She emphasized the uniqueness of APE – providing a forum to debate with many diverse stakeholders in the room.

Michael Mabe (*Ladysmith Associates, Waltham Abbey, Essex*) started his speech *Vision 2030: Made in China?* by looking at the current publishing system. He said that even though there are challenges, the model in itself is not wrong. It is constructed this way due to the different nature of research disciplines that imply different ways of working, for example, on peer review. Mabe added that the journal paradigm serves the researcher's needs. Sociology dominates technology. This will also drive the trends for future culture and utility issues.

Mabe continued with the publishing trends for 2030. He said that the research *culture* will be more influential than technological developments, and that subscription models and content control through copyright are ultimately untenable. There will be a mixed model environment (OA, national licensing, e-subscriptions, publish and read) with a greater role for funders, but transition barriers may inhibit full OA conversion.

Mabe shared his concerns about the Chinese government's initiatives to improve the Chinese Scientific Publishing sector. He said that just throwing money into the sector will not work; they need to work on their publishing skills. He is also concerned that non-Chinese authors will not be attracted by these initiatives, as they focus too much on Chinese Science. He added that the problem is that science is international not national, and that quality and international collaboration are intertwined. The biggest fundamental question for the future is whether we will still have the current system with more Chinese researchers or a completely different Chinese-run publishing system. The audience felt that a more mixed, multi-world system was also possible.

To conclude, Mabe also shared some personal takeaways: engage with China, one size does not fit all, relationship management is vital. Publishers should do more to understand their customers better and rebuild trust. He advised publishers to publish a paper with their own systems to experience the publishing process. Digitization will ultimately kill traditional models and copyright. He concluded by stating that barriers to 100% OA are political rather than economic. There is enough money but in the wrong places.

In his talk *Publishing is evolving but are we? Developing talent for the future, Andrew Miller (Organizational Coach, Taylor & Francis Group, Oxford)* shared his insights from the APE Preconference held on Monday, 13 January 2020. At the preconference, a variety of stakeholders discussed what the publishing industry can do to develop a workforce that is fit for the future. Miller stressed that the rapidly changing world leads to shifting social values. Diversity and inclusion, sustainability and ethical business practices have become important topics. Miller has identified obstacles: resistance to change, failure and peer rivalry. These need to be addressed to further prepare the publishing industry for the future. We should take a good look at our organizations to verify how much attention and resources have been put into strategies that facilitate cultural change. Miller added that a different kind of thinking is required and that the academic publishing industry can do more to increase diversity, develop inter-organizational

leadership and put more effort into research and publishing-career development. One of the conclusions of the preconference was that good leadership will never cease to be important. This is interlinked with career track development.

Eefke Smit presented the **first APE Award** to *Bob Campbell* for his contribution to Academic Publishing. Finally, *Arnoud de Kemp* announced the launch of an academic publishing academy to connect early career researchers with young publishers. He closed APE 2020 by saying that APE will continue with support from the Walter de Gruyter Foundation, so that the community can continue to collaborate to drive change together at future APE conferences.

The APE 2020 Award Ceremony: Bob Campbell & Eefke Smit
Photo: Eva Wille

For your Calendar: APE 2021 will be held 11–13 January 2021
www.ape2021.eu

Reactions from the Press (closing date: 24 February 2020):

https://scholarlykitchen.sspnet.org/2020/01/21/global-science-chinas-rise-european-anxiety/
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