## Covid-19 resources round-up

## Open Book: an Italian librarian’s view

## Putting science in front of new audiences

### Putting the context into metrics

Why single-point evaluation is missing critical details
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Measuring in context
As scholarly publishing communities search for the meaning behind metrics, the need for context is becoming crystal-clear, reports Rebecca Pool

Taking on a pandemic
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Will Covid-19 overturn 200,000 years of social evolution?
Mark Carden ponders: does the pandemic mean that the world has changed forever?

The evolution of discovery
The discovery service has been a known genre in libraries for more than a decade, writes Tamir Borensztajn

Uncertainty, meet modularity
Publishing organisations should look to adopt modular infrastructure and modular business models, says Brian Cody

Enabling ‘artisan work’
Mark Gross, president at Data Conversion Laboratory, tells the story of the firm’s birth and its work in scholarly communications

Gender, geography and seniority
Kim Eggleton wonders: how do we solve the problem of diversity in peer review?

 Helping new audiences to follow the science
Richard Gallagher explains why reliable scientific insight is needed more now than ever

Meeting high expectations
In February 160 attendees gathered in London at BMA House for the fifth Researcher to Reader conference. Heather Staines reports

News
A yoke of yarns from around the industry

Looking back at the leader column for the previous issue of Research Information, much of the world – and the scholarly communications industry – was getting used to the concept of Covid 19, but nobody seemed sure just how (and how seriously) it would affect us all.

Two months on and we’ve learned new ways of working and communicating but we’ve still managed to put together a decent magazine for you! Of course, there’s plenty of Covid-19-related material; not least four pages of news about industry players stepping up to the plate to launch new resources, revamping old ones – and bringing down barriers in order to enable access to, and to disseminate, crucial information regarding the pandemic.

There are several analysis pieces related directly to the outbreak: on page 18 there’s a report from Rossana Morriello on initiatives in Italian universities; on page 20 Mark Carden ponders over the long-term implications for the industry; and on page 28 Richard Gallagher tells us of Annual Reviews’ efforts to introduce new readers to science, not least on the plate to launch new resources, revamping old ones – and bringing down barriers in order to enable access to, and to disseminate, crucial information regarding the pandemic.

Our main feature by Rebecca Pool is all around the subject of metrics and the need to put into context any measurement relating to citation data or other impacts of scholarly research. There’s also a fascinating interview with Mark Gross, president of Data Conversion Laboratory.

Until next time, stay safe and well.
As scholarly publishing communities search for the meaning behind metrics, the need for context is becoming crystal clear, reports Rebecca Pool.

At a time when much of the world was waking up to Coronavirus, and China was through its worst, Chinese science and education ministries released guidelines regulating the use of the Science Citation Index (SCI) in research institutions. In short, Chinese institutions were told to stop evaluating, promoting or recruiting researchers based on their numbers of published papers and citations. And at the same time, payments for publishing in journals were to end.

In China, a key indicator to evaluate a researcher, allocate funding and also rank an institution, has been the metrics collected by Clarivate Analytics’ SCI on around 9,000 journals. This practise led to China becoming second in the world – only to the US – for publishing research papers in international journals but also raised concerns that some researchers were prioritising research quantity over quality. Indeed, the metrics-focused approach is considered to have led to some researchers submitting plagiarised papers, excessively citing their own articles and even hijacking peer review processes and reviewing their research. As the Chinese ministries’ statement lay out: ‘It is inappropriate for higher education institutions to set paper publication requirements... a sound assessment system should be developed, in which different weight of paper publication is put on the evaluation of different types of scientific research work.’
“Clearly, the latest move from China will have a profound effect on the nation’s academics”

That is more in line with Europe and North American research evaluation.

Early last year, Szomszor and colleagues from ISI released the report ‘Profiles, not metrics’ that highlighted the critical detail that is lost when data on researchers and institutions are distilled into a simplified single-point metric or league table. The report set out alternatives to academia’s well-used Journal Impact Factor, h-index and average citation. For example, it illustrated how an impact profile, which shows the real spread of citations, could be used to demonstrate an institution’s performance instead of an isolated Average Citation Impact.

‘[The report] has become a really useful tool, particularly around the customer-facing part of the business,’ says Szomszor. ‘In the last few years, the search for other types of metrics and indicators has been growing steadily... and what is happening in China now is very positive.’

Daniel Hook, chief executive of Digital Science, has also been eyeing China’s move away from a single-point metrics-focused evaluation system with interest.

‘We are seeing unsettled times for metrics in China,’ he says. ‘The government has effectively [asked] each institution to locally define the metrics that are important to it, and that it would like to work on, and so create a new norm for China from the ground up.’

Like many, Hook is not a fan of single-point metrics and ranking. His company invested in non-traditional bibliometric company, Altmetric, as early as 2012, and introduced its Dimensions database in 2017. The research database links many types of data including Altmetric data, awarded grants, patents, and more recently datasets, with a view to moving research evaluation practices beyond basic indicators. Digital Science also joined DORA in 2018.

‘I have given public talks where I’ve said...’
that the h-index should be abominable to an academic – it’s the reduction of your life’s work into a single number,’ says Hook. ‘And if you agree that the h-index is bad, then you should view ranking as cataclysmic as it’s not just reducing your work to a single number, it’s reducing everybody’s work in your institution to a single number in one go.’

Instead, Hook believes that the time has come to move to ‘more subtle metrics’ as well as metrics that draw on a greater diversity of data. And this, of course, is echoed in China’s move away from citations-based incentives that have inevitably led to questionable research practices.

‘For me, all of this is about context,’ says Hook. ‘And I think we are now entering the ‘Age of Context’ in that we’re moving out of a time when any metric is good enough and into an age where context is critical.’

Stacy Konkiel, director of research relations at Altmetric, firmly believes that more and more players across the scholarly publishing community are exploring the context behind metrics: ‘I see this trend of users, evaluators and publishers looking at normalised metrics, and not just the numbers, or even better, they’re looking at the data that underlines the numbers. Users are also getting really good at using and interpreting the data with a mind towards application. For example, a humanities researcher might say: “what can I be doing to help shape the public discourse around my research areas?”.

As Konkiel points out, 2020 marks a decade since the Altmetrics manifesto was published, and much has changed. Her recent observations on what could be called a more thoughtful use of metrics go hand-in-hand with the community-wide move towards more responsible metrics, as clearly evidenced by the recent China developments.

‘I think researchers and other players within scholarly communication are all a bit burnt out on this idea that everything needs to be quantified,’ says Konkiel. ‘We’ve seen some of the corrosive effects of quantification and many of us recognise that we can’t say we’ll never use metrics, so instead we’re taking a step back and thinking “How can I use metrics more mindfully and how can I use other kinds of data to help me understand”?’

And without a doubt, altmetrics are no longer a controversial topic, having become more and more normalised over time. Perhaps surprisingly, Konkiel also highlights how funders have embraced altmetrics as a means to help them understand the research that is funded. As she puts it: Some funders are even venturing into developing new metrics, dashboards and other tools that are really creative and informative. We’re definitely seeing more people championing the use of altmetrics, and even more so with coronavirus. More researchers are having to communicate research online so there’s been a lot more interest in altmetrics to help them understand how their research is being received.’

Taking a step back, Konkiel also sees institutions, worldwide, using metrics and altmetrics in new ways, including to manage reputations. ‘I think institutions are recognising the importance of tracking ongoing conversations around research, in terms of the profile of their overall research, or “university brand”,’ she says. ‘Also, instead of just using metrics to talk about performance, I see these institutions feeding that [information] into strategies around communications and other activities.’

**New avenues**

The United Nations Sustainability Development Goals (SDGs) are, increasingly, a hive of activity for metrics and altmetrics. Launched in 2015, the 17 goals aim to promote a fairer and more sustainable world by 2030, by tackling issues including poverty, health, hunger, education and gender equality.

Research into these areas is considered to be crucial to help transform the world. And, as Konkiel says: ‘[Many researchers and organisations] are looking for an alternative to your typical league tables and rankings and want to show impact and influence... these sustainable development goals are really valuable in terms of that.’

Indeed, many researchers, funders, publishers and institutions have been looking at how their research can accelerate progress towards the goals. Case in point is Springer Nature and the Association of Universities in The Netherlands, who joined forces late last year to provide data and tools to, for example, help researchers deal with societal relevance. As part of this Digital Science worked with the partners to categorise all Dutch scholarly output
From idea to impact - the next evolution in linked scholarly information

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Springer Nature explores the impact of book citations – download a free copy of this whitepaper

The scholarly community has been using citations to study how journal articles are used and their influence on research for over half a century. For books it has always been a challenge to obtain and analyze citations, with data sources only becoming available in the last decade. However, assessing how books are cited offers insights into research impact and quality, as well as into the performance of various publishing programs. Moreover, authors also report that citations are an important metric in measuring the success of their books.

Given the potential importance of book citations analysis Springer Nature undertook a study of Scopus book citation data and published a whitepaper.

“This white paper can be seen as a step toward a more comprehensive and more systematic understanding of the role of books in scholarly knowledge dissemination”, Ludo Waltman, Professor of Quantitative Science Studies, Centre for Science and Technology, Studies (CWTS), Leiden University.

Findings and outcomes:

- Scholarly books are valuable tools in research communications and progress, where citation rates are used by researchers, publishers, and libraries alike as key indicators of books’ success, quality, and impact within and across the disciplines.
- Books published in thematic series often earn a greater ratio of citations over their lifetime, compared to stand-alone titles.
- The overall high share of cited books highlights the importance of the book format for scientific communications – across disciplines.
- Time to peak citations varies across disciplines, highlighting how fast-moving domains, such as life and physical sciences, reach their citation half-life sooner than humanities and social science fields. This emphasizes the relevance of the book in disciplines beyond HSS.
- Book citation analysis is a relatively new area of study and, aided by a variety of book citation indices, new opportunities exist to understand how books are used to further the research lifecycle.


For more information

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→ in the last decade into five of the sustainable development goals. What’s more, the company recently added new category filters for the seventeen goals in Dimensions, so users can filter for research relevant to these goals. Analyses revealed that of the 109 million articles in Dimensions, more than five million articles fell into one or more of the 17 UN goals.

The company now intends to apply its categorisation technology across grants, patents and other data in Dimensions.

‘We’re really trying to understand the level at which the university sector is engaging with the sustainable development goals,’ says Hook. ‘I believe that profiling institutions, understanding what contribution they are giving to an area, understanding the strengths... is going to be super-important [in the future].’

Szomszor concurs: ‘The 17 goals are framing the wider impact of research according to a shared agenda.’

‘We’ve been seeing lots of progress in reporting, for example, university contribution according to these goals and there will be a continuing focus on developing metrics here,’ he adds. ‘There is an ambition to report on the sustainable development goals at a country level, an institutional level and also with the researchers themselves.’

Looking beyond UN’s all-important markers for development, Szomszor also points out to a rising interest in the socio-economic impact of research, particularly in the social sciences. And at the same time, he also sees growing interest in knowledge exchange and commercialisation, that is, better understanding the collaborations between universities, businesses and the public sector. For example, we want to understand how you can measure the success of commercial engagement for, say, a university, or the outcomes of research that a funder has awarded,’ he says. ‘We’re going through this period of trying to understand the data and figure out how we might be able to come up with the metrics.’

But what about the ever-thorny issue of reproducibility? The ability to replicate the findings of a research publication is fundamental to any scientific method but in recent years issues have surfaced in many journals again and again. As such, many have been experimenting with metrics to measure this all-important tenet of scientific research.

One key player, Ripeta – a US start-up that joined Digital Science last year – has developed tools that use natural language processing to search research manuscripts for key reproducibility criteria. These include the presence of a data availability statement, data location, code availability and the presence of a study purpose or objective. As Ripeta chief executive officer, Leslie McIntosh, explains: ’What we’re really looking at is the “hygiene” of a paper as that forms the foundation of reproducibility. Has the researcher shared their code and their data? With this we can then drill down into more granular areas such as is there enough information to reproduce the bench science or reproduce [the research] computationally.’

According to McIntosh, towards the beginning of the coronavirus pandemic, her company used its tools to analyse 535 pre-prints on COVID-19 from medRxiv and bioRxiv servers: ‘To review these manually would have taken about 43 hours but we managed it in less than 30 minutes.’

McIntosh is also seeing her company’s tools being widely used at manuscript’s pre-print stage, which as she says, gives the authors an opportunity to improve manuscripts. And funders are also using the tools post-publication to assess how funds have been used and how a publication is progressing.

Still as the use of her reproducibility tools and metrics in general rises, McIntosh is, like her peers, keen to see all-important context and emphasises how users need to understand the processes behind the science. ‘I want metrics to enhance science rather than derrail it,’ she says. ‘We need balance and we also need to be careful because we want metrics to help to inform the science rather than drive the science.’

“Of the 109 million articles in Dimensions, more than five million fell into one or more of the 17 UN goals”
As of December 2019, the Keepers Registry (https://keepers.issn.org) is now fully integrated with the ISSN Portal the global, authoritative database for serial title identification and tracking. This service aggregates preservation metadata of digital journals with ISSN descriptive metadata, thus providing an accurate overview of a serial title’s journey from initial publication to transfer of responsibility to long-term preservation by archiving agencies. In the shift from print to digital format, libraries and publishers need to archive not just digital serials but also ongoing ‘integrating resources’. Thirteen archiving agencies from around the world are addressing this challenge and supporting the Keepers Registry as a tool to monitor the archival status of digital content. These national libraries, non-profit organisations, and academic consortia cooperate with the ISSN International Centre to disseminate up-to-date information about archived serial titles and titles at risk.

Grant Hurley, Digital Preservation Librarian at Scholars Portal, Canada, states that “The Keepers Registry is a crucial component of our collective preservation ecosystem. Keepers Registry gives its stakeholders the ability to evaluate what materials are being preserved and by whom, and therefore, what materials may still be at risk. As a preservation service provider, Scholars Portal benefits from exposing its holdings data in a consistent and reliable way, which ensures its preservation practices are transparent and supports the trust of its user communities.”

Jeffrey van der Hoeven, Head of the Digital Preservation department at the Nationale Bibliotheek van Nederland (KB), Netherlands, explains that “From the perspective of long-term preservation, the Keepers Registry fulfills an important role for KB in determining the integrity of its collection.”

Craig Van Dyck, Executive Director of CLOCKSS, USA, posits that “The Keepers Registry performs several critical functions: exposing information about which scholarly journals are preserved, and which volumes, and by which preservation archives; providing a normalized platform for users to find the information, and for archives to integrate with; and a social structure for archives to come together to collaborate. Digital preservation is an evolving field, and collaboration is key to moving forward. The ISSN International Centre makes a lot of sense as a home for the Keepers Registry.”

Our partner archiving agencies are:

Keepers Registry is available for free through the ISSN Portal and here: https://keepers.issn.org/

For information about specific professional services or to join the Keepers Registry as an archiving agency, please contact the ISSN International Centre (Email: newkeepers@issn.org)
Covid-19 News

Taking on a pandemic

A round-up of initiatives within scholarly communication related to Covid-19

Publishers team up to make peer review more efficient

Scholarly publishers are working together to maximise the efficiency of peer review, ensuring that key work related to Covid-19 is reviewed and published as quickly and openly as possible.

The group of publishers and scholarly communications organisations – initially comprising eLife, Hindawi, PeerJ, PLOS, Royal Society, F1000 Research, FAIRsharing, Outbreak Science, and PREReview – is working on initiatives and standards to speed up the review process while ensuring rigour and reproducibility remain paramount. The group has issued an open letter of intent, and is launching an initiative to ensure a rapid, efficient, yet responsible review of Covid-19 content.

The initiative is asking for volunteer reviewers with suitable expertise relevant to Covid-19, from all career stages and disciplines, to add their names to a ‘rapid reviewer list’. By doing so, these reviewers will be committing to rapid reviewing times, and up-front agreement that their reviews and identity can be shared among participating publishers and journals if submissions get rerouted for any reason.

Additionally, the group is asking all potential reviewers, whether they sign up to the rapid reviewer list or not, to help identify and highlight important and crucial Covid-19 preprints as early as possible, to optimise the limited time of expert reviewers who are subsequently invited to review the most important and promising research by a journal/platform. The more rigorous and helpful review of preprints that can occur during this time, the better for all reviewers, authors, and editors.

Alongside all of this is a persistent call for openness by default – for the preprint, research, underlying data, models, code, materials – to maximise reproducibility and credibility.

Sarah Greaves, chief publishing officer at Hindawi, said: ‘Many publishers have already agreed to support the Wellcome Trust and World Health Organization (WHO) initiatives for Covid-19 papers. Alongside our colleagues we wanted to share that commitment with the research community. We’ve been listening to what they’ve been saying and know many researchers are struggling to find time for peer review and are worried that this could lead to delays in publication of research. By creating a joint call for available, relevant reviewers covering all research areas related to Covid-19 we hope to ease that burden.’

‘By creating portable peer review between some of our journals we can save reviewers’ time by allowing editors to use reports from another journal when making their decisions. This reduces the pressure on those reviewing and ultimately increases the speed by which peer-reviewed work can be shared more widely. We are delighted to be working with colleagues from across the industry and look forward to more journals joining this initiative.’

Claire Redhead, executive director of OASPA, which is endorsing the initiative and hosting the latter of intent, continued: ‘The importance of open access to research and data, the need for global cooperation and, importantly, the critical dependence of humanity on the scholarly community has never been more clear. The innovative steps being taken by this group of OASPA members will help to speed up the flow of verified research and help to ease the burden on the researchers working at the forefront of fields related to the pandemic. ‘OASPA fully supports this collaborative approach between publishers, where the needs of researchers are placed front and centre, and community spirit – rather than competition – shines through.’

Cactus Communications has announced the launch of covid19.researcher.life, a platform aimed at offering researchers the world’s largest platform for Covid-19-related research, insights, commentary, and expert recommendations. The site offers researchers access to the latest research and information on Covid-19 and allows them to collaborate and share potential hypotheses and challenges with researchers from other disciplines.

Abhishek Goel, co-founder and CEO of Cactus, said: ‘We need all hands on deck. Researchers in many disciplines are working hard to find solutions that will shepherd the world out of this crisis: epidemiologists, virologists, immunologists, biostatisticians, emergency and internal medicine specialists, pulmonologists, public health researchers, pharmacologists, pathology researchers, geneticists, cell biologists, social scientists. Yet, for the first time, we are faced with a crisis that necessitates researchers who normally work in siloed disciplines to tap into each other’s expertise and adopt a multidisciplinary approach. And we want to help them do this.’

Apart from serving
Elsevier and ExactCure have announced a collaboration aimed at developing personalised model simulations to improve the dosing of Covid-19 related therapies. ExactCure is a personalised medicine start-up that uses AI technology to reduce medication errors. Combining this platform with data from PharmaPendium, which includes searchable FDA/EMA drug approval documents as well as pharmacokinetic and efficacy data, will help to shed light on potential therapeutic targets.

Fabien Astic, co-founder of ExactCure, said: ‘We have been working with a university hospital in the south of France to provide the clinical pharmacologist and pharmacist the simulation-based suggestions. This allows them to quickly adapt their treatment decisions for a safer and more efficient use of these promising drugs, that while currently still under investigation, could potentially be critical and life-saving for many Covid-19 patients. Through this collaboration with Elsevier to use PharmaPendium’s data we can accelerate this really important work.’

PharmaPendium will provide ExactCure with pharmacokinetic information for approximately 20 approved drugs that have been widely cited in the literature and the news, such as Hydroxychloroquine, Chloroquine, Lopinavir/Ritonavir and Azithromycin, including their regulatory-approval datasets. ExactCure will use this data to build drug-specific exposure models that allow the prediction of pharmacokinetic properties (e.g. Cmax, AUC, Tmax etc).

The first step is to build a simulation based on the patient’s age, weight, drug dosage, dosing time and end-time, resulting in a personalised therapeutic window.

“The simulation will be enriched by adding more patient parameters”

ProQuest users gain free access to Covid-19 resources

ProQuest launched a Coronavirus Research Database, giving all ProQuest users no-cost access to full-text content covering all facets of Covid-19. The Coronavirus Research Database saves time and improves outcomes for researchers by aggregating authoritative content from ProQuest with content made available at no cost by members of the International Association of STM Publishers – including Springer Nature, Taylor & Francis and The BMJ. Journals, preprints, conference proceedings and dissertations provide comprehensive coverage of COVID-19 and other past coronavirus outbreaks, such as MERS and SARS, for context around the current global pandemic. Full-text content in the database is available either directly from ProQuest or via links to publisher sites.

‘Opening up access to materials related to COVID-19 will not only help clinicians, students and academics, but is also crucial for nurses – one of the many groups who are under siege right now,’ said Daphne Stannard, a lecturer at the San Francisco State University School of Nursing. ‘I’m pleased to see ProQuest make this content available to the people who need it.’

‘Whether it’s the latest medical research on how the virus is transmitted, preprints exploring new therapies to combat the virus, or editorials exploring lessons learned from prior outbreaks, faculty and students need quick and easy access to information to help them navigate this new world,’ said Chris Burghardt, vice president of product management at ProQuest. ‘The Coronavirus Research Database was created as a tool to help our users to find the information they need to quickly explore the many facets of this disease.’

The database is automatically enabled at no cost for all ProQuest platform customers, and can be accessed at search.proquest.com/coronavirus. Content will continue to evolve as new research and information emerges.

The launch of the Coronavirus Research Database is the latest in a series of programs ProQuest is building to help libraries support the crucial research needed now to fight this disease as well as support distance learning for their patrons.

researchers working on Covid-19, the new site is aimed at providing policymakers, governments, and lay people access to evidence-based answers to questions around Covid-19. There will also be an opportunity for interested members of the public to help by suggesting answers to problems that researchers and practitioners are struggling with.

Goel continued: ‘With the overwhelming volume of research and information being produced on Covid-19, there needs to be a platform that allows researchers from various disciplines to easily access and digest this information, supported by expert opinion. And that’s exactly what we are offering – a platform that collates research and datasets from different countries, irrespective of the language in which they were published; allows researchers to ask questions and pose hypotheses to other researchers; and curates expert-driven editorial content that simplifies and explains the latest research.’

‘We see this quickly expanding to include on-demand webinars and podcasts, and evolving into a crowdfunding platform for research. Imagine the power of a platform where researchers across disciplines are coming together to learn from each other and find solutions to the pandemic collaboratively.’
Several leading publishers, along with Digital Science’s ReadCube, are part of an initiative to facilitate access to literature relevant to Covid-19 research. The Covid-19 Research Pass (CRP) programme provides direct access to more than 26 million articles and is available to anyone studying or writing about Covid-19.

The CRP programme expands on earlier efforts to provide Covid-19 researchers with access to a broader set of content needed in the course of their research. Rather than pre-filtering access to specific articles related to Covid-19, the CRP allows researchers to access any article from participating publishers they may need while studying Covid-19, including both open access and content behind paywalls.

A statement from Digital Science read: ‘The ability to access related and prior work can be particularly helpful to researchers studying ways of improving therapies, clinical, and public health outcomes. For example, topics such as ventilators or respiratory syndromes often remain behind paywalls. Additionally, the program can support COVID-19 researchers who are now working remotely and require remote access to literature.’

Initial participating publishers include the Journal of the American Medical Association (JAMA), Springer Nature, and Wiley. Organisers are inviting additional publishers to the programme and aim to expand further the range of articles accessible to participants.

Key aspects of the programme include:

• **Instant full-text access.** Pass holders can access free of charge any full-text article (or book chapter) required for use in the context of their Covid-19 research;

• **Flexibility.** Users can search within the portal or install a web browser extension which will alert them whenever they come across content covered by the program;

• **Collaboration.** Participants can generate temporary sharing URLs that are available to anyone studying or writing about Covid-19 research. The Covid-19 Research Pass (CRP) programme provides direct access (TDM) to full-text content. The programme is available to researchers across corporate, government and academic labs, clinicians, and other healthcare providers, journalists, and policy-makers who are actively working on Covid-19 efforts.

Digital Science has teamed up with the Beijing-based technology company Zhipu.AI to conduct data challenges and collaborate in building a Covid-19 information portal. Zhipu.AI, a spin-out from Tsinghua University, aims to build an advanced artificial intelligence engine that can support and empower the research and innovation sectors globally. The company focuses on solving the current challenges of research organisations and government agencies, by using its extensive experience in analysing large-scale complex networks, deep semantic mining and leveraging innovative techniques with cognitive graphs.

This strategic collaboration will see the two companies work together on a broad range of projects over the next several years. Some of the existing opportunities planned for the collaboration include joint hosting of a new set of data challenges centred around scholarly communications problems such as name disambiguation; and bringing together advanced analysis tools from both companies to create deeper insights for the sector. Collaboration will be a central theme of the new relationship and will see Digital Science’s Overleaf made more seamlessly available to more Chinese users, enabling them to create, edit and publish their research all from one browser using the LaTeX editor.

Jie Tang, chief scientist at Zhipu.AI, said: ‘Our collaboration with Digital Science is a common goal to improve information flows and encourage collaboration to facilitate research and innovation. ’With our combined strengths in advanced digital technologies and insights into the scientific ecosystem from both a global and regional perspective, we are able to build more intelligent and reliable tools to encourage the exchange of ideas and improve research practices to better serve the needs of the research community. We look forward to a fruitful partnership and are excited about our first joint initiatives on data challenges and the Covid-19 information portal.’

Both teams will work together to ensure that both English and Chinese-language information is as widely shared as possible by providing a Covid-19 information portal with all related publications, datasets and clinical trials exported into a google sheet and hosted on Digital Science’s Figshare, as well as a dedicated website. The Google sheet and website will be updated daily pulling all relevant content on Covid-19 from Digital Science’s Dimensions platform, to make sharing and distributing this research information easier.

Daniel Hook, CEO Digital Science, said: ‘It is a pleasure to be working with colleagues from Zhipu.AI. Just as in academia itself, international collaborations between companies that support the emerging global research infrastructure are critical to establishing the tools and cultures that allow us to act globally to tackle the world’s hardest problems.

‘We are proud to launch this initiative with our partners in China.’
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- **Accessible**: high accessibility standards and compatibility with assistive technology
- **myPrint**: give your library users the option to purchase heavily discounted print copies of the books in your collection

Frontiers is dedicating part of its open science platform to collect and disseminate information relevant to the research communities battling the Covid-19 pandemic using its Coronavirus Knowledge Hub.

The company has launched the Coronavirus Funding Monitor, a centralised portal of current funding opportunities for the research community. It offers a curated list of open funding calls and other support for researchers, non-profit organisations and commercial organisations, specifically for COVID-19 and coronavirus-related research.

Stephan Kuster, Frontiers’ head of institutional relationships, led the project. He said: ‘Many research funders around the world are issuing calls for research projects to be funded in fast track procedures to support the search for SARS-CoV-2 and Covid-19 treatment and eradication. A central information portal is a valuable resource for research teams looking for funding, as well as for funders trying to disseminate information as fast and wide as possible.

‘We invite research funders who are providing emergency funding for research on Covid-19 and Sars-CoV-2 to share the information with us and the research community to bookmark this resource and most importantly, keep checking it – daily. As a publisher that is run by researchers for researchers, we are part of that community and want to help funders and researchers by coordinating fast, simple and accurate information.’

The monitor will be updated daily. It offers up-to-date and accurate information to the research community about funding opportunities. The monitor provides an overview of the funding conditions, such as eligibility, field types, funding types, and deadlines. Links take researchers directly to the original call documents where they can immediately begin the process of applying for the funding.

More than 120 UK universities have been set up to enable access to critical textbook content for upwards of 1.4 million students over tens of thousands of modules of study, from right across the UK and Ireland under the Free Student eTextbook Programme – FSTP. The announcement was made by Jisc, the UK’s not-for-profit education and research services provider.

The textbook programme includes thousands of titles brought together by academic publishers, including Pearson, McGraw Hill, Cengage, Taylor and Francis, Wiley, Cambridge and Oxford University presses to deliver a sector wide, student-centric solution to minimise the initial impact of Covid-19.

Paul Feldman, CEO of Jisc, said: ‘It’s vital that as many students across the UK can continue to learn from wherever they are during the lockdown period. The rapid response from universities signing up to the programme combined with the overwhelmingly positive reaction from publishers providing core eTextbooks, is a landmark of unprecedented cooperation across the sector. We hope that this initiative will lead to future collaborations to provide critical textbook access online to all students.’

Among the first universities to go live with across campus access to eTextbooks are the Universities of Liverpool and Manchester. ‘Kortext has provided an invaluable service to the HE sector in stepping up with the Free Student Content Programme at this time of uncertainty and rapidly changing circumstances. It has provided us and our university community with extremely useful teaching tools in a very timely fashion,’ commented Jane Cooke, University of Liverpool Library.

Olivia Walsby, University of Manchester Library, added: ‘At the University of Manchester, as with colleagues across the sector, we are keen to reassure our students and staff that we are here to support their studies and research online by providing access to key digital content during this difficult time. The Free Student eTextbook Programme will have a significant impact in making this transition as quick and comprehensive as possible at no extra cost.’

James Gray, CEO and founder of Kortext said: ‘The scale of this programme is truly ground-breaking. Only by pulling together as a sector has this programme been made possible and ensured we are able to support all UK students with an unprecedented amount of content on a single, customisable bookshelf for free, thus ensuring they can continue to study at this crucial time of year.’

Jisc is continuing to encourage all publishers to collaborate with Kortext and other providers such as Vital Source and BibilU to maximise the availability of content to students as well as clinicians who are supporting the NHS during the pandemic.

In support of university libraries seeking clarity on what content is now available, Jisc has set up an online survey to capture the measures that content and service providers have put in place or plan to implement. The survey includes questions on provision for off-campus access and whether publishers intend to roll out extended trials, or grace periods. Responses will be made available on the Jisc website and will be updated daily.

“The survey includes questions on the provision of off-campus access”

14 Research Information June/July 2020
Remote Access resource hub

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Tech focus

Tech focus: Emerald sparkles in UX challenge

Single sign-on provider OpenAthens has announced the winner of its inaugural best publisher user experience (UX) award for 2020.

The identity and access management specialist revealed winner Emerald Publishing and its Emerald Insight platform at its 2020 Access Lab conference which took place online in late March.

The publisher won the award after demonstrating how it has put the needs and experience of users at the heart of changes to digital services.

Emerald Publishing says it recognised a user-centred design was important to meet the needs of their users. The UK-based publisher founded in 1967 clearly demonstrated how it had worked to get closer to users to understand their needs and user journey. The organisation moved away from an existing vendor to directly manage its platform, employing a dedicated UX team to do this.

Speaking at the conference on the award, head of user experience at Emerald Publishing, Damian Stewart, said: ‘It is a great honour to win this award and really validates that we are doing UX in the right way. It’s also recognition of the hard work that the team has put in to build a platform that makes the lives of researchers and readers easier.’ Emerald Insight’s design was praised for making research that benefits society easy to discover for the widest possible audience. Co-developed with 18 universities from around the world, the platform was described as invaluable for academics, librarians and students alike. Emerald’s communities tested and validated every design decision to make researchers’ and readers’ lives easier.

Judges highlighted Emerald’s simple search and enhanced filter together with crisp, clean UI and simple in-page navigation allowing users to move seamlessly between sections of articles and the various content types as standout features. It was also noted that the organisation is working towards latest Web Content Accessibility Guidelines (WCAG) 2.1.

Also taken into account as part of the tough selection process were plans for future development and a commitment to ongoing improvements, specifically the discoverability of content, development of the browse function and user behaviour analytics to give further insights.

Stewart continued: ‘We would like to give a special thanks to our network of librarians and end users who have continued to provide us with their time, allowing us to follow a user-centred approach, something that is really important to Emerald and what we do here. ’I'd finally like to give thanks to our partners, particularly 67 Bricks, which has supported us in building this platform and will continue to support us moving forward.’

Marketing director of Emerald

UX tips from the top

Vee Rogacheva, UX designer at OpenAthens, recently spoke to Research Information about user experience. She explained that, in scholarly publishing, UX is the interaction of learners, researchers, faculty staff and librarians with the ecosystem of tools and services they use to navigate to required digital resources.

She said: ‘Committed to empowering library users spanning a wide range of industries, OpenAthens plays a significant role in supporting institutions. Whether they are a PhD student, a hospital clinician or a research scientist, we provide quick, easy and secure access to online content for end-users from anywhere, at any time. The OpenAthens team works hard to ensure our products and services constitute a powerful tool which empowers both librarians and end-users.

‘Users’ expectations of their experiences have evolved rapidly and have been framed by the likes of Google, Facebook, Netflix and Amazon. They expect online tools and services to be simple and intuitive. These expectations have placed increasing pressure on publishers, libraries and academic institutions to bolster investment in digital services and improve the UX of their products. The focus is very much on users’ needs, rather than the technology itself.

‘The ecosystem and the overall student and researcher experience have to be the priorities, not the individual platforms or tools. RA21 and NISO are working towards that goal with the introduction of seamless access recommendations for both publishers and libraries. Their aim is to transform the industry and deliver safer and easier
access to content. The most recent GDPR and accessibility regulations focus on protecting user rights, promoting inclusion and diversity, and advocating good UX design.

The sector will benefit from improved user experience. However, publishers and institutions will seemingly be the parties shouldering the cost, in terms of redesigning content platforms which embrace new technology and different ways of working. Larger publishers and well-funded institutions may not view this as a major disruption, but smaller institutions and independent publishers might struggle to prioritise the changes needed to deliver a seamless journey to content to end-users, and remain competitive.

In 2018, we conducted research into the challenges faced by the modern librarian in which 99 per cent of respondents reported an increase in demand for remote access to library resources among students and researchers. This has evidently driven educational institutions to place increasing emphasis on improving the student and researcher experience, leading to the better use of tools and technology. ‘This provides seamless access to valuable digital resources, as well as to analyse resource usage and student/researcher engagement. Increased focus on user experience within scholarly publishing might also inadvertently accelerate the process of redefining the value of education, in line with the changing ways of working in both academic and professional settings.’

Research Information recently published a feature on UX.

[The] design was praised for making research that benefits society easy to discover.

Publishing, Harriet Bell, added: ‘We’re really honoured to win this Best Publisher User Experience Award, among other platforms of such high calibre.

‘Our mission is to make research accessible, digestible and enjoyable to discover and read. The experience we can offer users on the Emerald Insight platform is critical to achieving that. We’ve worked hard to try to get this right and it’s a continual process as we learn and adapt to what users want.

‘The newly established award demonstrates OpenAthens’ ongoing commitment to the evolution of the information industry by providing simple access to knowledge for the benefit of all.’

Emerald Publishing’s ‘Emerald Insight’ was a shortlisted finalist alongside Bloomsbury Publishing’s ‘Bloomsbury Digital Resources’ and Cambridge University Press ‘Cambridge Core’.

Commenting on the awards, OpenAthens chief commercial officer Mike Brooksbank said: From everyone at OpenAthens we’d like to say a big congratulations to Emerald Publishing for winning this award, it is well deserved.

‘We’re thrilled to see how well received the Best Publisher User Experience Award has been in its first year and we look forward to continuing the award in the future.’

‘OpenAthens is committed to driving innovation in the information industry and to make access to knowledge as easy as possible for end users. With this award we hope to continue raising the awareness and importance of simplifying access to valuable digital resources.’
Italy was the first of the Western countries to be widely affected by coronavirus disease.

Shortly after Italy, most other countries were affected by the health emergency that, on 11 March, the World Health Organization (WHO) defined as ‘pandemic’.

Governments reacted in different ways. The Italian government decided to impose gradual measures to contain the coronavirus outbreak.

They first closed all schools and universities, cultural services and institutions, and then with a law issued on 11 March, they shut down shops, so that at present only some necessary shops can open, such as pharmacies and food shops.

At the same time people were firstly encouraged and then obliged by law to stay at home, now in a complete lockdown. Universities were therefore the first institutions to close, together with schools, at the beginning of March, but in a first stage only for students, while employees were still inside campuses and libraries still open.

Then, with a law issued on 8 March, universities had to close all services and libraries too. Apart from those strictly necessary to face the situation, like IT departments, people had to work from home using smart working modes where possible or taking summer holidays or other kind of leaves.

From the very beginning of the emergency, universities had to shift all teaching activities to online learning mode. According to recent figures, at the date of 20 March, after about a month since the closing of universities, 94 per cent of courses were organised online, 1.2 million students (about 80 per cent of enrolled students in Italian universities) have followed lessons online, 70,500 course examinations and 26,000 final degree examinations were made in distance learning mode.

However, with libraries closed, researchers and students cannot obtain all materials they need, so the Association of Italian PhD students asked the Ministry of Education to postpone deadlines for PhD as they already did for other deadlines linked to research assessment and other evaluation procedures. On the other hand, the association of researchers and professors of Italian universities, ANDU, wrote an open letter to the Ministry of University and Research to ask a policy to better support academia and research with adequate funding and broad-minded approach, so to be able to face such emergencies now and in the future.

Nevertheless, many libraries immediately tried to support students and researchers in their activities by improving access and promoting digital resources.

Some academic library services also collected open access resources about Covid-19 to help researchers involved in the hard tasks connected to Covid-19 outbreak. The network of biomedical libraries, as an example, created a web page of resources launched by libraries in Lombardy and Veneto, the two regions with the highest number of cases of coronavirus.

A few publishers opened access to textbooks for students (but not so many indeed). Some Italian publishers and vendors followed the invitation that has come from many libraries and institutions to open up their collections, like that promoted by the Wellcome Trust. Many publishers responded positively and created free open access hubs to help researchers all over the world to find a cure for this terrible disease, and libraries highlighted them on their web pages. However, most publishers, either in Italy or internationally, just opened a selection of resources – and in some cases upon request – that they believe are useful to Covid-19 research, but they did not open all their publications to allow researchers to see and choose what can be really useful from the different scientific perspectives necessarily implied in this urgent aim.

Definitely, what has emerged quite clearly from this pandemic emergency are the many obstacles and walls that prevent access to knowledge and science, as well as all the restrains current acquisitions methods for digital resources in libraries impose through clauses included in subscription licenses.

The acquisitions models imposed to libraries and library consortia have restrains in document delivery, walk-in users, number of downloads, and sometimes in simultaneous access to resources if this is the subscription model. In the current situation, in which all researchers are working from home for their regular academic activity and many
are working at finding a cure for Covid-19, this is a big limitation.

Therefore, a group of academic and research libraries in Italy wrote a petition to ask publishers to help libraries in supporting researchers during this emergency.

In the petition, libraries ask publishers to allow digital lending and direct document delivery with no restraints, and to allow opening of library collections temporarily to all users, including doctors and researchers not affiliated to academia who, according to license clauses, normally cannot access academic library resources. Moreover, The Library Commission of the Conference of Italian University Rectors (CRUI) signed the International Coalition of Library Consortia (ICOLC) Covid-19 petition for access to electronic resources from publishers.

Italian national consortium for the acquisition of digital resources, CARE, asked to publishers with which they have a deal to co-operate in this goal and created a web page with information from publishers which showcased their relevant information. This pandemic outbreak has clearly shown how crucial open access and open science have become. Researchers all over the world need to access data and knowledge quickly, as soon as it is produced, freely and without any limitation, in order to be able to defeat coronavirus.

For this reason, AISA, an Italian Association for the promotion of Open Science, wrote a public letter to the President of the Italian Republic to ask for a serious and urgent national policy for open science, starting from rethinking research assessment and copyright laws.

The coronavirus outbreak shows us how science could progress in giant steps if it was always open. Now the time has come to follow this road.

Rossana Morriello is a research support librarian at Polytechnic University of Turin, Italy.

Do Rossana Morriello's experiences chime with you? Would you like to share your thoughts as a librarian with the readers of Research Information?

Email tim.gillett@europascience.com

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Global Health – Unparalleled access to all the world’s relevant public health research and practice

Produced by CABI, Global Health was created to ensure that key literature from all sources can be brought to the attention of those studying and working in public health. The database covers all aspects of public health at both international and community levels, providing users with a truly global perspective.

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- Publications from over 100 countries in 52 languages
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- Global Health also includes a wealth of material from other biomedical and life science fields.

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- Health promotion
- Health systems
- Infectious diseases and parasitology
- Nutrition
- Public health
- Public health emergencies
- Tropical and international health

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Using Dimensions to discover and analyse research in context of the United Nations Sustainable Development Goals

The United Nations Sustainable Development Goals (SDGs) are at the centre of the UN’s 2030 Agenda for Sustainable Development. The SDG’s recognise that ending poverty and other deprivations must go hand-in-hand with strategies that improve health and education, reduce inequality, and spur economic growth – all while tackling climate change and working to preserve our oceans and forests.

Research towards these goals is critical for global transformation to happen.

Dimensions, a research solution from Digital Science, is a next-generation linked research information system that brings together over 150 million publications, grants, policy documents, datasets and patents, enabling users to explore over 5 billion connections between them.

Within Dimensions, we have recently released a SDG classification system. Within the new system, more than 5M of the over 109M publications currently in Dimensions received one of the 17 SDG-classifications.

A filter in the Dimensions web app has been added for discovery and analyses of publications that address the goals.

The addition of a SDG classification system in Dimensions allows universities to get an overview of their own SDG research and look at its impact. It also enables publishers to see how much SDG related research has been published in their journals, and allows for analysis on a national level.

The recent Digital Science report “Contextualizing Sustainable Development Research” looks at the state of the world’s research on the SDG’s. Read the full report here: www.digital-science.com/SDG.

For more information
More information about Dimensions can be found via www.dimensions.ai.
Will one epidemic overturn 200,000 years of social evolution?
Mark Carden ponders: does the Covid-19 pandemic mean that the world has changed forever?

We say we’ll cherish our slightly greener planet, be nicer to nurses and shopkeepers, engage with relatives and colleagues online to avoid unnecessary travel, and massively accelerate scholarly communication.

But I’m not buying it. I accept that technological and social development will continue to gradually change our lives, but I don’t think the pandemic is a tipping-point; it’s just a momentary dislocation, and we will soon slip back into old patterns of enduring familiarity and gradual change.

This might seem like a cynical message of disillusion, but it is also a positive message of reassurance. Humanity won’t be magically transformed by the pandemic, but nor will it be catastrophically damaged. And these are not the words of some grizzled reactionary; as someone who opened a Zoom account in 2017, I can claim to embrace technical progress, even if I doubt social revolution.

We have been tribal primates for about 20 million years, manufacturers for about two million years, collaborative tribes-people for about 200,000 years, farmers for about 20,000 years and big city dwellers for about 2,000 years. Our behaviours and preferences have developed over that time, but they are still firmly rooted in social interaction, collaborative innovation, and hierarchical structures.

Yes, we talk on telephones and screens now, but we still like to tell stories around campfires. Yes, a Korean inventor can email a mask design to a 3D printer and, yes, we have democracy and progressive taxation across much of the world, but power and wealth remain very unevenly distributed.

And, yes, in our own scholarly communications world, we currently appreciate the rapid global scientific response to this pandemic, with new coronavirus article preprints appearing every few hours. But we still value credibility, expertise and reputation, which has been slowly developed through a complex trust network.

“Our natural traits are not going to be overturned with one wave of a viral epidemic, even if it kills one per cent of us, or stalls economic growth for a year.

We are learning seemingly contradictory things from this experience. Many people are discovering that they (and their subordinates) really can work from home, and that business meetings can be conducted via video-conferencing. But we are also learning how clumsy video-conferencing is, and how much we crave the serendipitous chats, and stolen snacks, in the communal office kitchen.

We are learning the relaxations of staying at home, and for those lucky enough to live in the countryside, how quiet things can be. But many of us are also going a bit crazy, and craving noisy pubs and high-speed motorway driving.

We are learning that scientists can communicate rapidly and globally in times of crisis, without the friction of traditional processes and organisations. But we will also look back at those un-reviewed articles by unknown authors, breathlessly reporting on tiny samples and theoretical predictions, that are spun up into a media frenzy, and realise that the painful slowness of peer-review, the obstructive cautiousness of editors, and the commercially-motivated reputation management of publishers, are all actually crucial parts of the scholarly landscape, however imperfect and frustrating.

So my prediction is that, as soon as we are able, we will mostly return to our former lifestyles and practices. This may take a while, as we still have much work to do to contain the pandemic, develop vaccines, and recover from economic hardships and personal tragedies, but it will gradually return to normal.

We will rush out to shops, restaurants, hotels and offices, to feel the joy of real human community. Certainly we will work from home sometimes, when our bosses allow it, and we might socialise via video-conference a little more, but we want to be with others, sitting round the campfire, too.

In our research world, we will continue to wrestle with the conflicts between speed and quality, perhaps accelerating communications a little, at the expense of some trust. Preprint platforms will start to gain some of the useful features of journals, and journals will start to gain some of the speed of preprint platforms.

But researchers will write and readers will read. Post-docs will try to figure out the path to becoming professors. Academics will still gather at their conferences to discuss their research; and intermediaries will still gather at their meta-conferences to discuss why academics dislike change so much.

I reassured you that Brexit-16 would not be a complete catastrophe for UK research (Analysis & Opinion, 18 July 2016); now I’m predicting that the world will be largely business as usual after Covid-19 – we shall see. Ri

Mark Carden is a managing consultant at the executive recruitment firm Mosaic Search & Selection. He is also chairman of the Researcher to Reader Conference, which takes place in London each February, come what may.
Uncertainty, meet modularity

Publishing organisations should look to adopt modular infrastructure and modular business models so they can experiment, writes Brian Cody

Uncertainty is something we’re all living with now. Before this pandemic, we already had substantial uncertainty in our industry, specifically about what business models would be viable for academic journal publishers given the ongoing push towards open access (OA). It’s been unclear for years what the transition to OA will ultimately look like, with many experiments and new initiatives emerging all the time. Recently, it has felt like new journal publishing business models are being introduced by the week: read-and-publish, publish-and-read, pure publish, subscribe to open, consortium agreements, membership models – and the list goes on. Which of these OA business models will be keeping publishers afloat in 5 or 10 years, and which will have proved to be unsustainable or short-sighted? What OA business models that we haven’t even thought of yet will be important in 10 years?

Spoiler alert: this article does NOT include a functioning crystal ball to answer these questions. My apologies.

Instead, this article looks at how publishing organisations can position themselves to efficiently experiment with, abandon, and adopt emerging business models over the next 5 to 10 years through a modular approach to infrastructure and building an agile organisation culture.

Modular business models

Modular design ‘subdivides a system into smaller parts called modules, which can be independently created, modified, replaced or exchanged between different systems’. This is a common approach in the manufacturing of products like cars, computers, and even entire office buildings. Being able to upgrade a part (e.g., a more powerful car motor) or add additional components (e.g., more computing processors) without all the other components also needing to change is an efficient and flexible design pattern, and has proven to be a competitive advantage for companies such as Volkswagen.

Outside of physical manufacturing, the idea of modularity as a competitive advantage has been explored academically since at least Herbert Simon, who introduced the idea of ‘near decomposability’ to demonstrate that complex systems that have stable sub-systems (or modules) allow the system to evolve and operate more efficiently than systems that do not have these sorts of sub-units (aside: I’d recommend reading Simon’s 1962 article just for the charming thought experiment featuring two watchmakers named Hora and Tampus). The idea that new business units could be added or altered without incurring coordination costs across the rest of the organisation has been highlighted as part of the competitive advantage of companies such as Amazon.

In the publishing industry, many are already familiar with the experience of modularity, or the lack thereof. For example, if a publishing organisation wanted to launch a new journal with a different workflow (e.g., open peer review, or publishing individual articles as they’re available rather than issue-based publishing), would doing so require coordination across the organisation? Would the new project need to utilise the same software, people, and processes, or could it be implemented with different software or a different workflow without sowing confusion and adding complexity to the existing processes?

Modular infrastructure

For many academic journal publishers, the extent to which they can accommodate modularity is often seen as enabled (or hindered) by their software infrastructure. Does your publishing solution support open peer review? If just one journal wants to send/receive data from a new machine learning service, does that impact all the journals that will NOT use that service?

There is a classic (and relevant) tension in software design and software purchasing decisions about whether the software should do everything the organisation needs in one place (‘software suite’) even if each piece is not ideal, or whether to utilise multiple separate software applications that each excel in their domain, with the downside that you have to learn multiple systems and keep them talking to each other.

There are pros-and-cons to both approaches – but when faced with lots of uncertainty and a rapidly changing business environment, taking the ‘best-in-class’ approach offers many competitive advantages that outweigh the coordination and management costs of using multiple pieces of software:

1. Upgrade frequently;
2. Adopt a culture of integration; and
3. Low-cost experiments: As new publishing models, software, and services emerge, organisations with more modular infrastructure can ramp up journal or pilot projects without high up-front costs.

Conclusion

I started writing this article just before the Covid-19 pandemic response really took off in the United States, and I had to shift my attention (as many of us have) to adjust to the new normal of working from home within a pandemic with no clear end in sight. When I came back to the unfinished article, I felt it was more timely than ever: that how well-equipped a publisher is to respond to uncertainty will be a major factor in their growth and survival seems all the more believable given the massive uncertainty we’re all living in right now.

Modularity is one approach publishing organisations can take to increase their agility and their ability to pivot. As uncertainty continues to be a major feature of our industry’s landscape, publishing organisations should look to adopt modular infrastructure and modular business models so they can experiment – and quickly abandon business models that prove unsustainable.

A fully-referenced version of this article is available at www.researchinformation.info

Brian Cody is CEO and Co-founder of Scholastica
The evolution of discovery
The discovery service has been a known genre in libraries for more than a decade, writes Tamir Borensztajn

It emerged as the solution to connect users to the vast amount of library resources leveraging a large, centralised index. Fundamentally, of course, the library is about serving its users and the importance of the discovery service cannot be overstated. The discovery service, after all, is the ‘front door’ to the library’s collections; the one environment where the success of research, and the overall user experience with the library, may stand or fall. Today, we live in a highly connected and personalised world. What then, does the evolution of discovery look like as we seek to meet and exceed our users’ expectations? What are the core principles on which we must build the next generation discovery service? And what aspects – from its search technology to cross-device research to accessibility – must we consider as we look at the future of discovery?

The building blocks
At the heart of the discovery service lies its search technology and its ability to return the most relevant results for every query across billions of records. Here one must understand the precision of the search engine and the underlying approach to relevance ranking and indexing. Subject indexes are of the utmost importance in this regard. Libraries, after all, invest in these subject-specific tools, which have a notably high indexing quality and depth in nearly any area of study. By properly leveraging subject indexes in the discovery service, users are assured of a precision search and access to relevant information in virtually any discipline.

Beyond leveraging subject indexes within the discovery service relevance ranking algorithm, one must go further. Each user after all conducts research differently using words and methods informed by his or her language and background. And users at any level – be it undergraduate, graduate or post-graduate – may each use different terms for the same concepts in their queries. By mapping controlled subjects to concepts and natural language equivalents in many languages and dialects, one can leverage a user’s natural language in search. The resulting knowledge graph also delivers a decidedly improved search experience by enabling users to understand context and broaden their views beyond a single result. The discovery service thus helps users go further; it allows for making new connections and drawing correlations across related topics as well as finding hidden relationships between and among concepts within the library’s collection of resources.

The evolving user experience
Naturally, the user experience (UX) and resulting user interface (UI) must accommodate a myriad of use cases and expectations. Here too there is much to consider. Users start their search at different points in their research. They may seek out information utilising different devices. They will have a multitude of needs that centre on integrations with external environments, such as the learning management system, where they do much of their work. And, for visually impaired users, accessibility is paramount.

“They will have a multitude of needs that centre on integrations with external environments”

The user experience is delivered through the user interface, which must be modern and lean – delivering features, search options and results that are tailored to the user’s specific needs. Accessibility, of course, must be supported. And personalisation – understanding a user’s specific needs and tailoring the experience accordingly – must be supported as well. At the same time, privacy considerations, including GDPR compliance and user-controlled opt-ins, override any considerations. The discovery service may deliver a personalised experience if and only if it supports user-driven preferences and privacy needs.

Beyond the article
The search experience must naturally also extend beyond the article. The search technology must surface, and the user interface must display related research outputs such as code, data and research methods within the search results list. The discovery service should be able to display video as part of the academic research experience; it should support the ability to cite directly from the results list; it should be able to display math formulas; and it must support patron functionality such as readily placing holds on or renewing catalog items.

Cross-device research
Cross-device support is essential. Here we must deliver not just a mobile responsive interface but a native mobile application as well, which may support personalisation options that enable the seamless transfer of saved work across devices. Then, upon returning to the device in use, users can be pre-authenticated and any previous activity, such as viewed items and recent searchers, remains visible. Other much-needed functionality may include voice-to-text search, the ability to text or email results to others, to save on iCloud Drive, Google Drive or one’s iPhone, and to deliver on-the-go searching with access to recent searches, popular searches and recently viewed items.

Understanding our users
Our users demand seamless interaction with the library’s collections: the ability to always find the most relevant content, to explore topics of interest and to gain access to the collections in as few clicks or taps as possible. While user expectations may vary, certain experiences are expected. We must always base our understanding of those expectations, and our subsequent product development, on market evidence. By taking direction from customers, studying our end-users and learning from user behaviour data, we are optimally positioned to deliver the discovery service that users expect. The result is ever-increasing usage of the library’s collections and a revitalised, modern research experience for users.

Tamir Borensztajn is EBSCO Information Services Vice President of SaaS Strategy
What Wins in Research?

Anyone doing research at any level of study must find the most relevant results for their query. *EBSCO Discovery Service™* (EDS) provides the most effective and user-friendly search experience delivering precision across billions of records, primarily by leveraging high quality subject indexes for nearly any area of study along with a user’s natural language.

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Tell us a little about your background and qualifications …
Other than the fact I was always an avid reader, not much in my early background would suggest that I would be building a company to process millions of pages of scholarly documents. I graduated with a BS in Civil Engineering from Columbia University; my first job was building nuclear power plants. However, I soon realised that with the changing political winds, building nuclear plants was not going to be a growth industry for long. In fact, the nuclear plant I was working on was one of the last plants constructed in the United States. NYU Graduate School of Business was down the street and offered me a job as a computer consultant in the computer centre, and accepted me into the MBA program, where I got my MBA in Computer Applications and Marketing. I later taught at the New York University Graduate School of Business, the New School, and Pace University before leaving to join the consulting practice of Arthur Young, where I managed large-scale data implementations in the pre-desktop world.

Can you give us some background to Data Conversion Laboratory? How did it come about?
In the early 1980s the first ‘personal’ computers were coming onto the market but weren’t yet considered business machines. One day my dentist showed me a billing system he had built for himself on an Apple, and I was hooked. I was convinced that these machines soon would replace ‘big iron’ for many applications, and some large systems I was building could be built on this much smaller footprint.

When I found little enthusiasm on using these new-fangled devices at the consulting firm, I left to start, with my wife, what became Data Conversion Laboratory. While slow going at first, six months later IBM announced their first PC, validating the concept, and businesses started coming on board.

An early customer was a large accounting firm with 160 offices, each with a group of VYDECs, an early stand-alone word processor, the standard of the time, wanting to convert to the PC using MEC, an early, way ahead-of-its-time, code-based word processing software. Neither word processing system exists today. Since the Vydec didn’t use coding, we needed to somehow infer a coding
structure based on the ‘look of the page’. We developed software that we called MindReader because it needed to infer what the coding should have been if the editor would have known about codes.

Upon reflection, this was a very early implementation of artificial intelligence for structuring content. MindReader worked well and converted more than two million pages in 1983!

While early coding systems were somewhat ad hoc, SGML, and later, XML, provided more structure and standardisation, allowing the handling and distribution of larger and larger volumes of content. DCL’s role grew as these new capabilities allowed the data industries to grow and handle the ever-increasing data streams we process on a daily basis today.

How does the organisation fit in with the world of scholarly communications?

Starting in the mid-1990s DCL got more heavily involved in supporting scholarly communications. The industry started looking for new and innovative approaches to deal with the ever-growing mountains of content, and the need to reduce costs and become more efficient. Since then DCL developed services to support scholarly publishing from beginning to the end of the publishing workflow. We specialise in complex content transformations. Some examples:

- Ingesting author manuscripts, composing them, and standardising them into JATS and other standard formats;
- Normalising legacy collections into standards formats and loading the content onto the various platforms the industry supports;
- Identifying and extracting metadata to support taxonomies and ontologies;
- Coding and verifying bibliographies and references against 3rd-party data sources;
- Ongoing distribution of content and metadata to discovery vendors with its Discovery Bridge service;
- Analysis of large document collections to identify content reuse across multiple document sets and source format with our Harmonizer software; and
- QA validation and independent review of previously converted content.

What is the biggest challenge for data companies at present?

Keeping up with rapidly growing volume of the world’s research output, while assuring quality and truthfulness is big challenge, and goes beyond the research paper itself, and data companies should take the lead.

How content consumers interact with information is still basically the same as when we were in a print-driven world — someone wants information, looks for the information, discovers a topic of interest, and then consumes that information. The tools we use to search and read are certainly different and constantly updated. But the volumes of material are so much larger today — and finding the right information, and not missing that critical piece of information is much harder.

I think the pandemic illustrates how important it is to keep metadata content relevant and current. Many publishers and other content-centric organisations deeply understand the importance of taxonomies and metadata. But how do you ensure language you implemented 10 (or 20) years ago maintains pace today? And when a search identifies hundreds, or thousands, of articles — how do you scan them while assuring you are not missing critical information? Much of what’s done in scholarly communications is artisan work, and without more automation it’s difficult to keep up.

It’s time to revisit complex data and content structure challenges. Advances in automation and artificial intelligence, in all its facets (machine learning, natural language processing, computer vision, and so on) hold answers that were not feasible even five years ago. Projects that were previously impractical due to budget constraints are now within reach.

I always like to listen to our customers detail big-picture projects that they want to explore and find ways to make it affordable to undertake. For example, the New York Public Library knew that they wanted to make ‘a resource for the world’. The thought was they want to provide access to all books that are out of copyright. The first step to undertake was to ensure the copyright records are structurally and intelligently tagged. At DCL we took the Internet Archive’s digitised (but unstructured) bibliographic references and put it into XML. This serves as the basis for the NYPL’s large resource.

I always ask people: are there unstructured data stream and data collections that can be structured – and improve your process?

Jump forward 20 years … what will be the role of data in research and academia?

I think many of the issues with increasing volume, and standardising information will likely be solved over the next few decades, and may not be that different – though there will be much more of it, and there will be a need for more efficient ways to find what you need.

The looming problem today is trusting the research results. How do we verify research data and make sure that what gets out is accurate and honest? Attempts to reproduce and verify research results are often not successful. Should base data be required? Should independent verification be required? How to avoid plagiarism and faulty research? With the need to get research out faster in the form of preprint, how does one ensure the scientific process and validation?

The concept of big data is not new and bigger data is already here. Intelligence and structure will allow us to better sort what is meaningful, and what is not. Content structure and metadata helps separate the wheat from the chaff and might help us identify faulty research to some extent – but the biggest challenge may not be a data problem. It may be a trust problem.

Any interesting facts, pastimes or hobbies that you want to tell us about?

I’m an avid skier and have a strong interest in history, as well as artificial intelligence. A few years ago, I learned to play the saxophone! Ri
Gender, geography and seniority
Kim Eggleton wonders: how do we solve the problem of diversity in peer review?

Opportunities to publish scientific discoveries should be open to all, subject to fair peer review. But there is growing evidence the peer review system is not as fair as it could be, and that publishers need to improve equity of opportunity.

Theoretically anyone can submit to any journal, but are all submissions assessed in the same way? How can publishers ensure consistent and fair peer review? After all, every manuscript is different and peer review is essentially opinion. So how do we tell if manuscripts are being judged on merit alone? And if there is a problem, what can we do about it?

Equality goes hand in hand with diversity. Countless studies show diversity of thought leads to better science, so surely all publishers should be aiming for contributor diversity? We should ask ourselves: is everyone who submits treated the same, and getting the same opportunities? Is everyone represented, and in the right proportions? These are the questions many publishers, including IOP Publishing, are trying to answer.

What does diversity in peer review look like?
The demographics of journal submissions have shifted over time.

For example, between 2014 and 2019, IOPP’s submissions from India doubled. But submissions from the USA grew by just 6 per cent. Accepted articles saw similar changes – phenomenal growth in published work from India and China, yet very little growth in accepted work from regions that used to dominate publication output. This no doubt reflects the increased investment some countries are putting into R&D and education, as well as the increasingly global pressure to publish in high ranking journals.

One could expect that as the demographic of both submissions and published work has shifted, so has the demographic of those conducting the peer review. On analysing our own data, we (and likely many other publishers) realised our reviewer pools and editorial boards lagged in terms of geographic and gender representation. Long story short: we have not kept up with the times. And we need to do something about it.

If the demographics of invited reviewers broadly reflected those of published authors, we should have expected around 27 per cent of invited reviewers to be from China and 11 per cent to be from the USA in 2019. But in reality, only 12.5 per cent of reviewers invited were from China in 2019, compared to 23 per cent from the USA. That is a huge and worrying difference. Why? Because evidence suggests there’s geographical bias in peer review.

‘Reviewers were also more likely to accept invitations to review articles when the corresponding author was from their region and were more likely to be positive about such articles’ (Gaston & Smart, 2018)

‘US reviewers recommended acceptance of papers submitted by US authors more often than did non-US reviewers’ (Link, 1998). If these studies are correct, the disparity between reviewer and author demographics suggests authors from reviewer-under-represented countries may be disadvantaged, especially under the single-blind review model all our journals operate (some offer a double-blind option in addition).

This problem is not unique to IOPP. The Global State of Peer Review report – a study across hundreds of journals and publishers – says: ‘Established regions review more than emerging regions relative to their respective article outputs’. This is supported by looking at the chances of a reviewer from these regions accepting an invitation to review. Our data shows a reviewer from China is more likely to accept a request than one from the USA. A reviewer from India is even more likely to accept.

Looking at career stage shows similar results. The more senior the researcher, the more likely they are to be asked and the more likely they are to decline. This has long been the presumption, but it’s striking to see in black and white and it’s concerning. It explains the increasing difficulty in finding reviewers – demand is growing at an incredible rate and the same people (senior academics from mostly Western regions) are being asked time and time again to review. As a group, their numbers aren’t increasing enough to keep up, so they’re fatigued.

Sadly, it’s a similar story with gender balance. Proportions of submissions from women consistently outweigh those of women invited to review manuscripts. Representation on editorial boards is even worse, with some as low as three per cent.

Admittedly, we publish in disciplines with poor gender balance, but even so the figures are depressing. Some causes are quite easy to guess; for example, editorial boards mostly consist of senior academics, and fewer women reach these levels due to the ‘leaky pipeline’. But could there be other factors at play? This under-representation of women seems to be the case for other publishers too; The Lancet, Nature and the Royal Society of Chemistry have all made public statements about the lack of gender diversity in their journals, and committed to improve.

The causes for the disparity in reviewer selection are, we believe, multiple and complex. At IOP Publishing we manage the peer review administration on behalf of journal editorial boards, including reviewer selection. Evidence from our editorial teams suggests lack of reviewing credentials puts our in-house editors off using potential reviewers. Although our database has grown with new authors from China, many are early career researchers with little or no reviewing history.

This, alongside our editors’ desire to approach senior academics as reviewers, helps explain some of lack of diversity in reviewer selection. Identifying reasons for the gender disparity is harder. We suspect though, that the lack of diversity on our journal editorial boards is also playing a part. Editorial board members often suggest reviewers, and if they mostly recommend reviewers ‘in their own image’, (as research suggests) it compounds the problem.
What are we doing to try and improve the diversity of our reviewer pool?

While the current reviewer data in isolation is worrying, we are seeing reviewing activity growing quite rapidly year on year in countries like China and India. But rather than simply relying on that underlying organic growth, we wanted to take a proactive approach to:

Diversifying editorial boards: we know our editorial boards are not geographically reflective of our author bases on many of our journals, and they don't reflect the gender balance either. We’re addressing this by broadening our networks and paying attention to recruiting from under-represented countries. To do that, we’re spending more time and money on improved data, and getting to know the research communities in those countries better. We’re also trying to recruit more women onto our editorial boards, although we recognise the real work needs to be done in encouraging more girls and women into STEM education and employment.

IOP Publishing’s learned society status means that any surplus we make from our publishing activities goes into promoting physics for the benefit of all.

Educating our editorial staff: all our editorial staff receive training on unconscious bias in peer review when they join the company, and refreshers are offered frequently. We also encourage editorial staff to be much bolder in their reviewer selection. Giving them data helps. For example, they now understand that reviewers from China and India are more likely to accept an invitation to review, and will also do it faster. Some journals are considering a quota approach to address the disparity in reviewer invitations and reviewer fatigue. We also offer diversity webinars for our editorial board members. We held the first in March 2020 and more than 100 board members joined, with great levels of engagement. In the future, we will run more of these, and offer them to our reviewers too.

Building our reviewer pool through co-review: we are introducing a formal method of co-review, initially on three journals, to help early career researchers build their reviewing history and reputation. We know reviews are often delegated to junior researchers (McDowell et al., 2019). But because this is done informally, the established reviewer’s records grow, and the junior researcher goes unrecognised. By formally acknowledging when co-review occurs we give credit where it’s due, which should increase the numbers of review invitations early career researchers receive.

What are we doing to improve equity of opportunity?

All these steps, if successful, will help improve consistency and fairness in assessment. But we can, and will, do more.

We’ve started offering transparent peer review on three of our journals, so readers can see the standards of peer review applied and decide for themselves if we’ve made the right decisions. We’ve been offering a double-blind option on a handful of our journals for a few years, and despite the modest take-up of ~20 per cent of authors, we know (through our research and the wider literature) double-blind is perceived as an effective way to reduce potential bias.

We’re going to change how we ask reviewers to rate and score manuscripts (with better instructions), making it easier for them and our editorial teams to be objective. We’ve already improved our reviewer guidance, so reviewers are informed about implicit bias and what they can do to counter it. We’ve produced a code of conduct for board members and have clear guidance on our website about our stance against discrimination. We expect authors, reviewers, board members and staff to treat everyone with respect, and to judge work on its merits alone.

Finally, we’re being open and honest about the challenges. We know we’re not alone in these issues, and we hope by acknowledging the problem and openly discussing possible solutions, the whole scientific community can benefit.

Kim Eggleton is research integrity manager at IOP Publishing
Helping new audiences to follow the science
Richard Gallagher explains why reliable scientific insight is needed more now than ever

For all of us in science publishing, it is tempting to view the posting of final articles online for the research community as the successful completion of our task. At Annual Reviews, we are trying to instead think of it as the end of the beginning of our role, because the insights contained within the articles are of great potential value to audiences outside the research community.

A functional democracy requires that policy makers, practitioners, educators, students, and citizens follow the science that underlies many issues that society is grappling with today. Covid-19 and climate change immediately spring to mind, but you could compile hundreds of topics where reliable expert insight is needed.

Publishers of the research literature could and should be playing a bigger role in meeting this need. Annual Reviews has a long-term goal of making the knowledge and wisdom of the leading researchers that publish with us available to, and usable by, diverse audiences through four interdependent initiatives:

1. The conversion of our journals from gated to open and global access through a program called Subscribe to Open;
2. Publication of Knowable Magazine, an authoritative source of high-quality science journalism for a general audience;
3. Development of actionable summaries of research tailored to the needs of professionals, policy makers, and educators; and
4. The establishment of interdisciplinary events (now more likely to be virtual than in-person) on key current issues, facilitating the flow of information among researchers and other stakeholders.

Meeting the mission
Annual Reviews is an independent non-profit publisher dedicated to synthesising and integrating knowledge for the progress of science and the benefit of society. We publish reviews only, and our 51 journals cover physical, biomedical, life, and social sciences. Each journal is directed by an editorial committee that commissions review articles and conducts peer review, supported by a core organisation staff. Reviews are written by recognised experts who capture current understanding of a topic – including what is well supported and what is controversial – and highlight major questions that remain to be addressed.

The combined efforts of authors, journal editors, reviewers, production editors, and illustrators creates content of great value to our principle target audience: researchers, faculty, and students. Annual Reviews is run by, and for, scientists.

“You could compile a list of hundreds of topics where reliable expert insight is needed”

Over the past five years, we have been exploring ways to interpret Annual Reviews content for new audiences and applications outside of research. There is no getting away from the fact that our articles, in common with the entire research literature, can be intimidating and impenetrable torrents of information, and are often conveyed in terse language. We asked ourselves if we could develop complementary products that don’t require the same level of prior knowledge and that emphasise the significance of research to civic society. At the same time, we felt that it was essential to make the full review articles available to anyone who wanted a deep dive into a particular subject that they became interested in.

Subscribe to Open
While wholly supportive of the goal of making scholarly literature freely available to all, the exclusion of review content by some proponents of open access was troubling to us as review publishers. Surely, we thought, if the goal is to democratise scientific knowledge, reviews are among the most valuable types of content?

Our approach to open access began with an effort to answer this question. Using a grant from the Robert Wood Johnson Foundation, we removed paywall restrictions to the Annual Review of Public Health in 2017. Usage increased immediately, and continuously, eventually stabilising at around six times the level observed under access control. IP address analysis indicated substantial usage gains in academia (even at subscribing institutions), in City and State Public Health Departments, in hospital and healthcare organisations, and in government departments. There was measurable usage in every country in the world, other than North Korea and the Central African Republic. This confirmed our hypothesis and created the imperative to act.

A pilot program to convert five Annual Review journals to open access using Subscribe to Open is under way. The method behind the program is covered in detail elsewhere. Two journals have converted to open access in 2020, and the status of the others will be announced as they publish.

Annual Reviews removed access control to all journals on March 13, 2020 (to be reinstated June 15) in response to the Covid-19 pandemic. In March, the only month for which data is available at the time of writing, all but one journal saw substantial increases in usage versus March 2019 (mostly in the range 15 to 100 per cent, but up to 1,275 per cent for the Annual Review of Virology). The exception was the Annual Review of Public Health, which was flat – a useful internal control as it has been freely available since 2017. Full analysis of this period of removal of access control will be available at a later date, but it is clear this further illustrates the value of open access reviews.

Knowable Magazine
Established in October 2017, Knowable Magazine (www.knowablemagazine.org) produces high-quality, readable articles, videos, graphics, and comics that are free to read and free to republish. Review articles published in the 51 Annual Reviews journals serve as springboards for stories in Knowable Magazine, as was
“We have begun to analyse information on the needs of... groups in these categories”

Actionable summaries
This initiative is in the early stages. We are currently exploring how to translate Annual Reviews content to a format that will directly benefit policy makers, industry leaders, educators, and professionals. We have begun to collect and analyse information on the needs of representative groups in these categories, at local, national, and international levels; to review the relevant literature and events; and to reach out to organisations that service the policy and business communities with a view to exploring partnership opportunities.

Events
Plans, including partnerships, for small, in-person events have been brought to a standstill by Covid-19. The goal of our events will be to enable exchanges among researchers, policy makers, funders, investors, and advocates around key societal challenges, with emphasis on scientific input and gaps in the science base. Potential partners include think tanks, economic laboratories, corporations, and government agencies. Working on creative approaches to develop this project, which is heavily dependent on personal and group interactions, for virtual environments is our current focus of enquiry.

In the time of Covid-19
In addition to removing access control to support researchers, faculty and staff working from home during the pandemic, Annual Reviews has published a Coronavirus Article Collection that provides free (and perpetual) access to 17 review articles. In March 2020 alone, these articles were downloaded 50,068 times.

We have also launched a project called Pandemic Life as a way to link people’s everyday experiences of the Covid-19 pandemic to relevant research.

Three times a week, a different article is highlighted, shedding light on such matters as the benefits of social norms, how to guide children’s development, dealing with isolation, and the nature of happiness. Pandemic Life is piloting live online discussions. So far, two events have been held, exploring the effects of social isolation and the genetics of susceptibility to Covid-19. Put together quickly and with promotion through in-house newsletters and social media outreach, these attracted 362 registrants from 19 countries and 686 registrants from 32 countries, respectively. We are learning quickly and expect these audiences to grow.

While remaining true to our primary function of serving the scientific community, we envisage Annual Reviews contributing at the interface between research and other facets of society. This is a natural role for a science publisher and one that I believe serves authors, editors, the organisation, and, most of all, the new audiences with whom we will interact.

I welcome suggestions, concerns, and expressions of interest in these ventures that will create a public good that allows everyone to follow the science. I can be reached at rgallagher@annualreviews.org or on Twitter @RichardG_AR.

Richard Gallagher is president and editor-in-chief at Annual Reviews
Meeting high expectations

In February 160 attendees gathered in London at BMA House for the fifth Researcher to Reader conference.
Heather Staines reports

It’s hard to believe how differently we viewed our lives and society just two months ago. While Covid-19 had been ravaging cities and regions in China for weeks, the virus was only named severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) on 11 February with the first known confirmed case in the US reported on 20 January. Other than a few speaker references and some extra time for handwashing, I do not recall a particular emphasis at the event, which would be my last in person conference before the world rapidly shifted to social distancing and sheltering.

Recounting my experience at Researcher to Reader (R2R) here in late April 2020, when so much has changed forever, is looking back at a long past idyllic time. As an historian, I’ve often wondered what people thought during times that would result in great transition. Did they understand what was happening? Sadly, I conclude, that we thought we did, we tried to, but we most certainly did not. So please view this summary for what it is, a look back to, but we most certainly did not. So please view this summary for what it is, a look back to, but we most certainly did not. So please view this summary for what it is, a look back.

As an example of this offering, let me say a little about the Improving Peer Review Support for Researchers Workshop that Christine Tully, University of Findlay, and I facilitated.

This topic appealed to me given my increasing focus on open and community review through annotation, as well as prospects for streamlining traditional peer review through new open tools. Attendees included researchers, publishers, start-up entrepreneurs, librarians, and vendors from the US, UK, and Europe. Sessions focused on interactive exercises such as ‘speedboats’, in which participants brainstorm factors for accelerating or slowing down a speedboat – in this case peer review. After identifying as many as they could, ranging from training to incentives, from workflow systems to AI and other tools, attendees chose one to focus on for the second session.

We next participated in an exercise aimed at surmounting obstacles through creating thinking called ‘We can if…’ For example, an inadequate number of peer reviewers might be surmounted ‘If… peer reviewers were paid or through an increased outreach toward early career or non-Western reviewers, and so on.’ Finally, in our third gathering, every table took one challenge and plotted their ideas along both impact and effort axes, to identify what low effort activities might result in high-impact results. A voting exercise around the most promising ideas rounded out the day. Christine and I reported the overall findings in a results session on the afternoon of the second day. We do hope that some exciting ideas might eventually be pursued more broadly.

I was pleased to see researchers on the stage and in the audience. I was also pleasantly surprised by the cross-section of attendees: advocates for open access, open data, and open science, including publishers, librarians, and funders, as well as folks from more traditional commercial publishers. Events often draw from one group predominantly, leaving speakers from different perspectives either preaching to the choir or fighting the tide (to mix metaphors).

Suffice as to say that Jonathan Adams, chief scientist at the Institute for Scientific Information, who delivered the opening keynote ‘Research Ecosystem Dynamics: Publication Adaptation, Evolution, or Extinction,’ and Richard Charkin, president of Bloomsbury China and president of The Book Society, were more representative of the latter group, which led to some pointed questions and animated side conversations on Twitter.

Adams presented interesting data on the shifting global output and co-authorship and offered theories on why and when notions around ‘evidence of excellence’ have changed. He detailed changes in research assessment that have made research into a strategically managed enterprise. Charkin, who stepped in at the last minute, gave ‘I’ve often wondered what people thought during times that would result in great transition’ an entertaining retrospective of his wide-ranging career, but struck some as glossing over large challenges we face as an industry, such as diversity and pay inequity.

A definite highlight of the event was a structured debate, moderated by Rick Anderson, Dean at Marriott Library, University of Utah, around the proposition: The venue of its publication tells us nothing useful about the quality of a paper. Arguing in favour were Toby Green, managing director at Coherent Digital, and Mike Taylor from IndexData. Pushing back were Pippa Smart, EIC of Learned Publishing and a publishing consultant, and Niall Boyce, editor of Learned Publishing, Smart, EIC of Learned Publishing, and a publishing consultant, and Niall Boyce, editor.
of The Lancet Psychiatry. An audience poll was taken, and the winner would be whichever side moved more votes into its column subsequent to another final poll. The ‘pro’ team mentioned highly-cited but later retracted papers, such as the flawed study linking the MMR vaccine to autism; a weak correlation between citations and Impact Factor; and an increasing emphasis on preprint servers to disseminate early research. The ‘con’ team touched on definitions of quality and quality assurance. Smart emphasised the role of peer review, editorial judgement, and the mission and vision of a journal in filtering content. Ultimately, the ‘pro’ team moved the needle the farthest, shifting more votes, unhindered by Rick’s strict time-keeping and their failure to ‘edit for length’, as Boyce joked.

With regard to the many other informative sessions, I’ll steal some organisational structure from Mark Allin’s brief summary, focusing on ‘reasons to be concerned’ and ‘reasons to be optimistic’, bearing in mind, of course, that each speaker touched upon challenges and solutions. In the concern column, new open access funder mandates like Plan S challenge societies. Tasha Mellins-Cohen provided background and rationale around the Microbiology Society’s selection of open and alternative models based upon data across their journals portfolio. Researchers from the Global South continue to struggle for access to content and opportunities to publish. Solomon Derese, presenting remotely from his office 4,237 miles away at the University of Nairobi, detailed the impact of Research4Life on access to e-resources in Africa. Derese explained the incredible impact that access to 85,000 journals through Research4Life has had on African researchers, including an overall increase in research output–doubling Africa’s share of world publication between 2005 and 2016.

Women continue to be underrepresented in peer review and in publishing overall. Laura Fogg-Rogers of the University of West England presented suggestions for improvement, including the success of the Athena SWAN Charter program, and tackling structural barriers in peer review. Finally, our impact measurements are inadequate and oversimplified, leading to perverse incentives, as recounted by Sabine Hossenfelder of the Frankfurt Institute for Advanced Studies. She argued instead for customisable measures via a tool called Scimeter.

On the side for optimism, there is new promise around fair data and reproducibility. Rebecca Grant from Springer Nature noted the steady growth in researchers sharing their data. Currently, 119 organisations endorse FAIR data principles (findable, accessible, interoperable, reusable). Elsevier’s Catriona Fennell presented a Manifesto for Reproducible Science, advocating investment in diverse and innovative journals, new article types that provide a reward for sharing data and software, inviting replication studies in mainstream journals, and using the CRediT (Contributor Roles Taxonomy).

Artificial intelligence may finally be showing promise in scholarly communications, according to Olly Rickard of HighWire, including advancements in machine learning, natural language processing, and speech recognition. Diving in deeper, Michael Upshall from UNISO addressed the thus far limited uptake of AI in publishing, advising publishers to start with a business case, choose the most appropriate tool, identify metrics, and seek advice on how to use and evaluate, including checking for bias.

Harnessing the creativity of the attendees and the wide-ranging perspectives of the speakers – from so many researchers in particular, made the event both energising and informative. By providing a forum to explore ideas as researchers and readers – and many roles in between – Researcher to Reader met my high expectations and then some. Now, with so much riding on efficient and accurate research results, from the health and safety of our essential workers and those they care for to our own individual health, we must continue to support the research lifecycle through future gatherings either online or in person.
Cambridge launches open research platform

Cambridge University Press (CUP) has officially launched Cambridge Open Engage, an early and open content and collaboration platform, which is now open to direct submissions from researchers.

Developed in-house and in consultation with researchers, the platform builds on the technology behind Cambridge Core, the online home for CUP’s academic books and journals, to publish early and open research outputs.

These include preprints, presentations, working papers, conference posters and grey literature. All content is open and free to the reader, and free for the author to upload.

Research across all disciplines is welcome, excluding content with implications for clinical practice. Authors can easily share their research in advance of peer review and publication, share and develop it with peers and build an audience ahead of formal publication.

Content is moderated before it is posted, to ensure that it is valid scholarly work.

The platform benefits researchers by offering discovery of early and non-traditional open research across disciplines, and by extending the cooperative benefits of conferences by offering a home in the scholarly record for conference content.

CUP is also offering open research services via Cambridge Open Engage to organisations such as learned societies, research centres, institutions and funders. These partners will be able to access a range of services, including branded content, hosting for their communities, insights into trends and growth areas, and analytics across early and open research outputs within their organisation.

The first organisation to partner with the platform was the American Political Science Association, which launched its APSA Preprints service on Cambridge Open Engage in August. Mandy Hill, managing director of academic publishing, said: ‘Cambridge Open Engage is a collaborative platform and it was hugely important to us that we developed it in collaboration with the researchers who would be using it.

‘Doing it that way allowed us to really understand which features and functionality are most important to researchers when reading and submitting early research.

‘We will continue to develop the platform over time in collaboration with our panel of more than 200 academic volunteers. The service will go beyond content dissemination to provide features that support researcher collaboration and better connect different parts of the research lifecycle.

‘Now more than ever, with academia experiencing significant disruption due to the Covid-19 pandemic and many traditional networking forums postponed or cancelled, it is increasingly important to provide new ways to responsibly share and discuss early stage research.’

She added: ‘The launch of direct submission to the platform is another important step in helping to shape a sustainable transition to a more open future for scholarly publishing. Supporting rapid dissemination and connections among researchers is key to that and to unlocking the potential of high-quality research.’

Springer Nature commits to transition majority of journals

Springer Nature has committed to transition the vast majority of its Springer Nature-owned English language journals that are not already open access, including Nature and the Nature Research journals, to become Transformative Journals. The approach means that Plan S-funded authors will be able to continue to submit research to these journals, subject to acceptability of transparency requirements to be published by cOAlition S.

As reported, Springer Nature has been advocating for Transformative Journals as a necessary complement to Transformative Agreements in the transition to OA to help:

• Smaller publishers for whom national deals are challenging,
• Countries and funders for whom transformative deals are challenging,
• Selective journals for which routes for inclusion in national agreements are still being explored, and
• Journals that contain other types of content as well as primary research, enabling primary research to be transitioned to OA with other content funded by alternative means.

Steven Inchcoombe, chief publishing and solutions officer at Springer Nature, said:

‘We have long championed Transformative Journals as a way to speed up the transition to OA while ensuring our authors, no matter what their funding situation, can continue to publish in the journal of their choice.

‘Plan S’s support is, therefore, welcome and the changes they have made to their criteria means we are able to commit the majority of our non-OA journals, including Nature, to this path.

‘The revised growth targets and other criteria, such as the requirement for a journal to flip to OA for all research articles when this content surpasses 75 per cent, are very challenging but we will do all we can to hit them. Importantly, we also still need clarity on the transparency requirements which are yet to be published.

‘Ultimately for these targets to be achieved and sustained we need to ensure the resulting OA journals are still viewed as a viable option by all relevant authors regardless of discipline, country or funder. This will depend on other players on the ‘demand’ side – researchers, institutions, other funders – making similar commitments to support this route to OA and ultimately for those commitments to be for the long-term not just until 2024.’
Best practice for effective searching for literature reviews  
**EBSCO, IFIS Publishing**

In a webinar with Research Information, given in November 2019, Rhianna Gamble and Carol Hollier of IFIS presented on the topic of literature reviews in food science.

Indexed by Experts, MLA International Bibliography is a Global Collaboration  
**EBSCO, Modern Language Association**

The MLA International Bibliography is known around the world for the quality of its indexing. Mary Onorato, Director of Bibliographic Information Services and Publisher, MLA International Bibliography, shares the secrets of its success.

The role of health care professionals in a changing sector  
**Springer Nature**

The health care sector is undergoing a significant change, moving away from a system of caring for the sick to early intervention, prevention and supporting of wellbeing.

Using the MLA International Bibliography to Guide the Research Process  
**EBSCO**

In a recent webinar presented by Research Information, Angela Ecklund and Farrah Lehman Den of the Modern Language Association (MLA) shared an overview of the free online teaching tools developed for use with the MLA International Bibliography. Claire Buck, Professor of English at Wheaton College, also described how she integrates the Bibliography into the curriculum to engage students in the research process.

The Importance of MathSciNet to Mathematicians  
**EBSCO, Mathematical Reviews, MathSciNet**

Leading subject indexes provide critical information to academic researchers, enabling them to conduct a thorough review of literature with speed and efficiency.

Latest trends in AI and robotics  
**Springer Nature**

Artificial Intelligence has long entered our workplace and home. It is used in robotics, where collaborative robots deliver parts and perform repetitive or even dangerous tasks.

Six ways to improve your journal’s impact  
**Highwire**

Last month, following the publication of Clarivate’s 2019 Journal Impact Factor report, HighWire founding director John Sack took a look at some of the uses and misuses of the impact factor.

ISSN-L is the cluster identifier for periodical titles that simplifies management and discovery  
**ISSN**

Communities interested in the publication, distribution and management of serials and other continuing resources know a standard code for the unique identification of these contents is essential.

The Engineering Literature Review – Five Quick Steps to Starting Research  
**IET**

Engineering researchers who take these steps can save time and improve outcomes.

www.researchinformation.info/viewpoint
CISPC 2020 – call for speakers

November conference will provide librarians and information professionals with deeper knowledge and understanding of communication strategies for open research

In an increasingly open world – encompassing open research, open science and open data – some of the biggest challenges are around educating researchers about the changes they have to make to their working practices.

At CISPC 2020 we’ll also be reflecting on the research landscape in a post-Covid world: the changes we’ve had to make this year, the medium-term outlook, and long-lasting – if not permanent – ways in which the scholarly publishing cycle will have to adjust in future years.

We will be bringing together speakers from around the world that have developed effective scholarly communication strategies within their own institutions, and who will share their experiences and expertise with fellow scholarly communication professionals.

We’re also increasing the time available for table discussions, enabling delegates to share and learn from each other in an informal environment.

Covid contingency plans
It is our intention to deliver a full, live ‘in person’ event at London Art House at the end of November, as past events have shown that’s the best way to encourage interaction and shared best practice among the scholarly communications community.

However, recognising that circumstances may prevent us from doing so, we – like any other event organiser – have back-up plans in place either for a hybrid live/virtual event (in case social distancing limits capacity at the venue) or a fully virtual event.

Whatever happens, CISPC will take place in one form or another, once again providing an environment for librarians and information professionals to learn from and engage with their peers about how to overcome challenges in the scholarly publishing cycle.

Conference themes
- Best practice changes post-Covid;
- Streamlining the process of open submissions;
- Best practice in submitting, storing and accessing open and FAIR data;
- Implementing software/browser tools to aid open research processes; and
- Effective communication of approaches to open research.

“We’re also increasing the time available for table discussions, enabling delegates to share and learn from each other”

Call for speakers
We are currently accepting applications from the following:

- Librarians/information professionals able to provide a working example of a successful communication strategy for open research policies within their institution;
- Representatives from funding bodies fuelling the move to open research;
- Researchers/academics able to demonstrate changes in departmental/faculty approaches that have raised the profile of open research within an institution;
- Publishers/vendors who have developed tools aimed specifically at the open research/open data movement, and that can present a working case study with a librarian/information professional; and
- Representatives from any institution that has innovated changes in working practices within scholarly communications in light of Covid restrictions.

To apply, please send a 150-word summary of your proposed presentation to Tim Gillett (tim.gillett@europascience.com), conference chair, by 30 June.

Who should attend?
- Librarians/information professionals wanting to improve researcher support and communication in the open research era;
- Researchers/academics wanting to understand the benefits and challenges of delivering open research;
- Publishers who want to develop platforms and submission channels that support the open research agenda;
- Vendors/service providers of tools that serve open research; and
- Any of the above that wants to know what the research landscape will look like in a post-Covid world.

CISPC is being organised in partnership with Info International. Visit https://cispc-event.com/ for more details.
3 - 4 DECEMBER 2020
www.contechlive.com

ConTech 2020

Transforming content through
data science, AI and emerging technologies

The world of content creation, dissemination and consumption is facing enormous change. ConTech 2020 talks about the disruption and transformation of organisations as well as the threats and opportunities they face. ConTech 2020 is for the product, content and technology decision makers within scholarly, research and professional publishing organisations.

Core Themes:

- Re-evaluating the business that we are in - delivering on mission, values and business objectives in the digital age
- The user: reinventing content businesses around the end user
- How technology innovation is changing the competitive environment
- Content businesses: Delivering value in a digital world

ConTech 2020 is focused on how this new generation of technology is impacting the world of content. Our programme will be a mixture of inspiring keynotes, thought leadership and evidence backed success stories. If you are a publisher, content strategist or manage content for your organisation ConTech 2020 is the must attend event for you.

Is your company data ready?
Join us at ConTech 2020 from 3rd – 4th December and find out!

www.contechlive.com to register now

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ConTech.Live Free Webinars – Every Wednesday 4.30PM BST
Being able to reach out to colleagues, extended networks and friends is more important now than ever before. ConTech.Live has launched free weekly webinars to do just that.
We cover topics central to the way we’re working and doing business today.
More info and register now at www.contechlive.com
Develop your skills for success
Discounts for ALPSP members, plus additional special early bird savings

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<th>Upcoming courses from ALPSP this Autumn*</th>
<th>Date</th>
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<tr>
<td>Growing Successful Open Access Journals</td>
<td>9 September</td>
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<tr>
<td>Introduction to Sales Management in Scholarly Publishing: Selling to libraries, academics and institutions</td>
<td>21 &amp; 22 September</td>
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<tr>
<td>Commissioning Content: Working effectively with authors and editors</td>
<td>30 September</td>
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<tr>
<td>Licensing your Content</td>
<td>October/November</td>
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<tr>
<td>How Journals Work: A complete introduction (sessions one and two)</td>
<td>20 &amp; 21 October</td>
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<tr>
<td>An Introduction to Agile Project Management for Publishing</td>
<td>21 October</td>
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<tr>
<td>Advanced Journal Development: Strategic development for journal managers</td>
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<td>Understanding Copyright</td>
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<td>Project Management for Publishing</td>
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<td>Fundamentals of Finance for Publishers</td>
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<td>Acquiring and Selling Publishing Assets</td>
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*See our website for full details of online, virtual and face-to-face courses, and to reserve your place. Course times for virtual training have been set to suit delegates joining across different time zones.

www.alpsp.org/events-training

ALPSP Annual Conference and Awards – online for 2020

Book your place
www.alpsp.org/conference