



Archives & Records
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UK & Ireland

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Science and Archives

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in a new light

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Trust: founded
and led by
volunteers



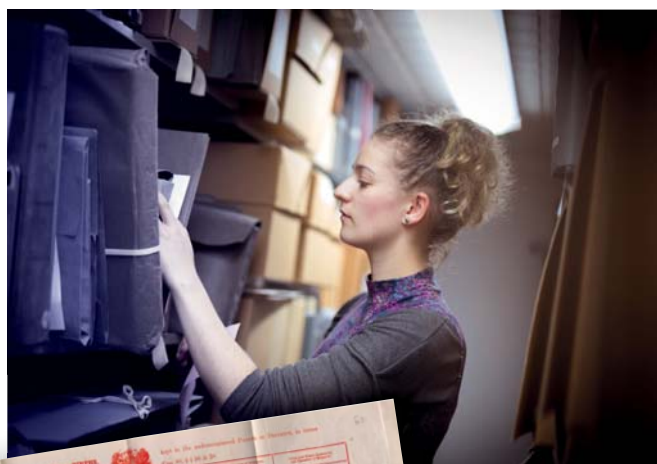
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Welcome...



Welcome to the 2019 science and archives issue of ARC

There is no doubting the prominence of all kinds of branches of science in modern life and in our history. For example, I am writing these notes as the evening's main news reports a pioneering medical procedure, climate change protests, and the placing of Alan Turing on the new (UK) £50 note (and World Cup cricket, but that's for another time).

So it also goes that the value of the archives and records of science is also unquestionable; and I hope you will enjoy the articles in this issue, which cover a broad range of science collections, and numerous exciting projects and resources relating to them. I should like to record my grateful thanks to Anne Barrett of Imperial College, London for co-ordinating such a varied array of content, and to all the individual contributors. Anne told me "the articles in this issue have been divided into three groups:

- new uses for archives of science, discovery and access to archive collections;
- a range of snippets, drawing together individual strands of information, and
- notes on celebratory aspects of archives and science..., providing a range of useful sources for archive professionals and users".



ChemFest 2019: the elements of South Kensington's chemical heritage

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As so often, in 2019 there are also science anniversaries to celebrate - 150 Years of the Periodic Table and 100 years of women's admittance to the Fellowship of the Geological Society feature in this edition – along with (equally importantly) images of their celebratory cakes!

Enjoy the issue.

Matti Watton
ARC Editor

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Front cover: The landscape on fire; work gets underway on the massive and ambitious Silent Valley Reservoir project (D4560/1). Image used with permission of the Deputy Keeper of Records, Public Record Office of Northern Ireland.

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Professional development news

Karl Magee, ARA Chair, takes a look at two sector-wide diversity initiatives that the ARA is engaged in, and how they fit with the ARA's own Professional Development Programme



Driving progress on diversity across the sector

Your association has been involved in driving or participating in two sector-wide initiatives that launched last year and have a shared goal of driving progress on diversity in the record-keeping sector, namely the Workforce Development Strategy and the ARA's Glasgow Manifesto. The ARA's Professional Development Programme (PDP) is also helping to achieve some of the objectives set out in these initiatives.

The Workforce Development Strategy, one year on

August 2019 marked the first anniversary of the Workforce Development Strategy. Published by The National Archives (UK), its aim is to deliver sustainable, resilient and forward-thinking archive services, as well as to promote inclusiveness and greater diversity across the archives sector. The ARA was one of a number of groups consulted as part of the strategy's development and we continue to engage in helping foster a skilled, diverse, flexible and confident archives and records management workforce.

One of the most significant outcomes of the Workforce Development Strategy is the formation of a 'Trailblazer Group' to develop an apprenticeship scheme for the sector. The group comprises The National Archives (UK), the ARA, the Forum for Archives and Records Management Education and Research (FARMER) and a number of key employers. What we anticipate will eventually become a new apprenticeship in archives and records management is currently in its development stage, and we will report to members on progress in the near future.

The professional development connection

The ARA's Professional Development Programme (PDP) is playing an important role in helping achieve three of the strategy's five core objectives, namely:

- making it easier for the sector to recruit and retain high quality talent;
- opening up career and progression opportunities in the sector through clearer information, better promotion and targeted support, and developing awareness of the ecology of the workforce, allowing the full range of jobs within the sector to be seen and appreciated;
- broadening and deepening workforce skills through effective training and professional development opportunities.

On the subject of standards, the ARA's PDP competency framework sets out national standards for the UK and Ireland in archives, conservation and records management. Anyone at any stage of their career can use the framework and its five levels of attainment to plan their own development and career progression, as well as those of their teams and volunteers. We have developed the ARA's own suite of professional qualifications – Foundation and Registered membership and Fellowship – to create additional routes into the sector and to complement formal university qualifications and future apprenticeships.

Our goal is to give employers a more effective suite of options to develop their teams and a more diverse pool of qualified archives and records management professionals, while maintaining the highest possible professional standards. Employers can, in turn, have confidence that these individuals meet national standards, regardless

of their role, experience and/or university qualification.

Long live Glasgow!

The spontaneous August 2018 launch of the ARA's Glasgow Manifesto - #ARAGlasgowManifesto - at the annual ARA Conference coincided with the launch of the Workforce Development Strategy, and had very similar objectives at its heart. The manifesto responded to a clear demand from Conference delegates for a more determined, structured approach to diversity in the records sector - and to inspire change. It now feeds directly into our annual business plan.

The overarching objectives of the Glasgow Manifesto remain:

- to reach out to marginalised groups to improve their awareness of, and access to, records that may concern them;
- to ensure our policies and procedures are inclusive and reflect more fully the diversity of our communities;
- to recognise and reflect in our code of ethics and wider professional development that the decisions we make in our professional lives have an impact beyond our workplaces.

The manifesto includes the aim of encouraging an inclusive approach to recruitment and promotion across the record-keeping sector, and we will measure our success as an organisation in part by our progress in achieving this in the coming months and years.

Keep up to date

Keep up to date with the latest news, guidance and developments in the ARA Professional Development Programme via the programme's blog - <https://arapdp.blog/> and/or contact chris.sheridan@archives.org.uk

Collecting matters

Dr Tim Powell at The National Archives (UK) explains how archives and records can be used to uncover unsung contributors to scientific achievement, such as the members of the Women's Engineering Society.

In my role at The National Archives (UK) I see archivists in different archive services increasingly acting as story-tellers, moving beyond the promotion of the material in their care to a more creative relationship with it. There are various reasons for this:

- a desire to highlight collections newly-catalogued or under-used;
- a need to show that the service is reaching out to new audiences and providing access in new ways; and
- a desire to show how archives and records contribute to the wider good.

As society and expectations change, we need to respond to them. These changes in the promotion of records are therefore an essential development, and also one from which custodians of science, technology and engineering archives and records in particular can benefit.

Two recurring themes at meetings of the Science and Technology Archives Group (STAG) are discoverability and hidden histories. We recognise that archives of science, technology and engineering can be challenging to discover (and to use), yet there are many important stories to be uncovered within them.

Some ARC readers will have noticed that 2019 marks a number of significant anniversaries for UK and Irish women's history, including the creation of the Women's Engineering Society (WES). This was founded in 1919, when women who had worked in engineering and technical roles during the First World War campaigned to retain those roles in the face of pressure to relinquish them for men discharged from the UK forces. The WES was established not only to resist this pressure, but also to promote engineering as a rewarding occupation for women as well as men.

The hidden histories of science and engineering include the contribution of women engineers in wartime and in peacetime. The history of the WES is documented in the archives of the Institution of Engineering and Technology. A number of events this year and next at the institution will draw upon these archives (and those from elsewhere) to highlight the contribution of women to fields where, even today, there is still a struggle to achieve full parity and recognition.

These stories and their story-tellers do not engage in isolation; they encourage others to undertake further exploration and also advance the central, ongoing goal of the WES since 1919 - encouraging women to see engineering as a career that is both open to them and welcoming of them.

(For more on the WES, and its regional network, click here: <https://www.wes.org.uk/>)





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Membership renewals

Karl Magee, Chair of the ARA Board of Trustees writes: it's the time of year when we send out membership renewals. Please renew as quickly as you can – and tick the gift-aid box, too: it helps us keep membership fees down. Also, why not encourage colleagues to join? They can do it online at <https://www.archives.org.uk/membership/membership-categories.html>

Membership of your association remains strong – numbers are up on 2018. We're doing more than ever for members and have big plans for the next 18 months, all without increasing membership fees. So we'd be really grateful if you could renew as quickly as possible when you receive your reminder email from the ever-dependable Lorraine Logan.

For UK members, if you are able to tick the gift-aid box on your renewal form, it makes a big difference: in real terms, about 5% of our income at the moment, which helps keep everyone's fees down.

As a reminder of why your membership is such good value, here are some of the new things we have on the stocks for 2020 and beyond. We're launching the new Archives Card for services in England and Wales – looking to expand to Scotland and Ireland from 2021. Over 100,000 people were registered under its predecessor – the CARN and Wales reader tickets – a huge potential pool of visitors, users, tourists and researchers. We're also revamping our core training offer to members, the ARA website and the ARA app, along with our Code of Ethics. We have a new ARA Ireland website in development and will undertake dedicated research into pay levels and skills in Ireland in 2020.

Our ARA annual Conference next year will be in Chester, covering north Wales, where we will again aim to increase bursaries on offer and build on our (just-finished) and hugely successful 2019 Conference in Leeds and Glasgow in 2018. Our Pay Review Group will explore training in pay negotiation and job descriptions. We will maintain momentum in our work on apprenticeships and our professional development qualifications. We will continue to advocate for the records management, archives and conservation community in public and in private, on issues such



Karl Magee, Chair of the ARA Board of Trustees

as data protection, public interest recordkeeping and protecting standards and services.

To recap, the benefits of your membership include:

- **Professional Development (PDP):** based around three levels of in-work, professional qualifications (Foundation, Registered and Fellowship) and centred on a range of managerial, technical and engagement competencies, this is the ideal means of getting established in the records sector and maintaining your professional development

throughout your career (including if you don't have an academic degree, come 'late' to the sector, take a break at some point or move across for a time into other professional areas).

- **ARC**, your full-colour digital monthly magazine, which is full of interesting articles written by your colleagues and peers, including special features and association news updates.
- **ARC Recruitment**, the regular circular advertising job vacancies within the profession at all levels. Who knows? You might even find your first job via ARC Recruitment.
- **ARA Today**, your monthly e-newsletter, keeping you up to date with the latest ARA topics and the UK, Irish and International record keeping community, such as details of grant funding, events and awards.
- **Archives and Records (the Journal of the Archives and Records Association)**, which will issue three times a year from 2020 (up from twice), and which covers recent research and professional issues in greater depth. Archives and Records has been classified as a Grade 1 Research Journal by the European Union and is a journal of global record in the recordkeeping sector. (See the Taylor and Francis website for the cost of a subscription outside your ARA membership.)
- **The ARA Conference**, our biggest (three-day) annual event. Next year we will be in Chester on the England-Wales border. We have a range of bursaries on offer, including some dedicated to members in the local government sector in the UK and Ireland (sponsored by Ancestry), diversity bursaries (sponsored by Kevin J Bolton Ltd), open ARA bursaries and a crowd-funded bursary for a new professional. You can apply for a conference bursary to help with the cost of attending either one day or all three.
- **ARA international bursaries** are available to members for attending conferences, training events and other overseas activities. We also have research grants, annual awards, prizes (including for the best student dissertation), and an annual lecture in the UK Parliament.
- **Training events** organised by the association's (volunteer) training officers. These give you the opportunity to train alongside other ARA members and qualified professionals from a wide range of organisations.
- **Networking opportunities** to exchange ideas and gain knowledge through interaction with fellow members, volunteering to help run sections

or regional/national groups and by attending regular ARA section meetings.

- **The ARA website**: gain access to the member-only section, where you can seek advice and guidance on career development, current professional issues, such as data protection, emotional support, resilience indicators and copyright, take part in forums and have the opportunity to download association guidance, codes and publications for free, or obtain hard copies at a reduced rate.
- **Nations/Regional Groups** - All members are entitled to free membership of their nearest national/regional group, where regular regional activities are organised by elected officers. We have national groups for Ireland (north and south together), Wales and Scotland, and eight English regions. We are looking at creating a designated international section in 2020 to better serve our 100 or so members across the globe. We also support the Community Archives and Heritage Group (CAHG), which works to help the 1,500 or so community archives across the UK and Ireland.
- **Sections for Special Interest**. We now have nine special interest groups, which are all free to join. These groups cover a wide range of recordkeeping areas, such as:
 - archives and museums
 - archives and technology
 - business records
 - film, sound and photography
 - preservation and conservation
 - records management and information governance
 - specialist repositories
 - archives for learning and education
 - new professionals

In addition to groups working on volunteering, pay, security/access, skills audits, workforce surveys and accrediting university courses, the ARA also provides the chair of the Archive Service Accreditation committee. All these groups hold regular meetings and training events, enabling you to participate and to increase your knowledge, networks and skills.

We hope you'll decide to renew – participate in the multiple ARA debates on social media, starting with @ARAUK_IE - and encourage colleagues to join!

Backchat...



Dr Alison Newby – historian and coach – talks to ARC Editor **Matti Watton** about how she came to be involved professionally in ‘personal resilience’ and some tips on how to recognise and begin to manage stress in the workplace.

(© Dr Alison Newby)

Hi Alison. Could you tell us a little about yourself and where you work?

I'm a historian by training and am currently honorary research associate at the University of Manchester's Ahmed Iqbal Ullah Race Relations Resource Centre. I've designed and undertaken focused research projects to showcase the centre's collections, and produce public and academic engagement-orientated material for its blog. I'm also a qualified coach in the university's internal coach pool, working with staff and researchers.

What interests and motivates you?

Firstly, delving into archival collections to uncover hidden histories, particularly with regard to race relations. Secondly, coaching. I develop my thinking round coaching through writing my blog, but am most enthused by working with individuals and facilitating their ability to dig deep within themselves to find solutions to challenges they may be facing.

How did you get interested in resilience issues?

Originally through dealing with difficult circumstances in my own life. I became curious about how I could support myself to avoid the downward psychological spiral that often comes with having to navigate the challenges life inevitably brings. This led to discovering the power of mindfulness and compassion-based approaches in gently enabling the growth of self-insight, through tools that allow us to become observers of our thoughts and inner state. I was able to grow my own resilience in practical ways.

As someone who has spent time working in archives and records, have you noticed specific resilience issues that affect our profession?

Records professionals work in a variety of contexts. Some can be found in larger organisations that offer permanent employment to numerous people. But it's my impression that in general the majority work in relative isolation. Short-term contracts and freelancing are increasingly the norm, meaning that there is little continuity of employment from project to project and contract to

contract. This means living with constant uncertainty about the future, without necessarily having immediate support to call upon from peers. Similar issues affect postgraduate students and early career academics within higher education. But the nature of the sector that records professionals inhabit tends to compound the impact on individuals, having negative knock-on effects on their well-being and resilience.

Any practical tips to get started with addressing resilience from the point of view of individual workers?

Usually, it's not in an individual's power radically to change their world or avert certain kinds of problems. We can be far more resilient, however, if we learn to distinguish between what we can and can't control, concentrating our endeavours on the former, and recognising areas of 'wriggle room' to move forward constructively step-by-step, rather than languishing in frustration and stress, hitting against barriers we can't remove.

Gaining greater insight into the hidden attitudes and assumptions which drive our approach to life is also key. I've found taking a look at Prof Steve Peters' simply-expressed concept of the 'Psychological Mind' (in *The Chimp Paradox*) has helped individuals, introducing as it does our emotionally-charged reactive 'inner chimp' that tends to take over when times get tough. Compassionately understanding our (individual) 'chimp' enables us to engage situations more skilfully.



Alison Newby
gravatar image

In addition, invest in compiling a particular kind of personal 'database'. Spend five to ten minutes each day recalling, reliving and describing briefly in a dedicated notebook (kept with you for reference) one example each of something that day that:

- made you happy
- you were grateful for
- you did well, and
- you dealt with successfully.

In times of stress we're prone to losing perspective. Our 'database' provides evidence, when we need it, that life is not all negative, that we are skilful, and that we have achieved a great deal.

And what would you say to organisations and line managers?

Individuals don't live in a vacuum. There's a limit to what they can do themselves. It's for managers within organisations dealing with employees and freelancers alike, as well as bodies such as the ARA, to bear firmly in mind that records professionals are only human, with human frailties and human needs. Resilience is a big issue, and creating opportunities for growing 'community' among what is essentially an isolated, geographically dispersed workforce is key, whether those opportunities be face-to-face or mediated by technology.

Do you have any messages for anyone feeling stressed or vulnerable in the workplace who may not know where to turn?

Do your best to reach out. Don't suffer in silence. Maybe you have someone you can confide in within your circle of family and friends, or maybe a colleague. If things get really difficult for you, go to your GP to ask for support. Also, in my own case I found my ability to bounce back definitely increased when I took care to distinguish between what was genuinely important to me and what wasn't, as well as what I could and couldn't control. Make a habit of this in the 'good times', and you'll be much better prepared for dealing skilfully with difficulties in more challenging situations.

You can read Alison's coaching blog at <https://newbycoachlive.wordpress.com>, follow her on Twitter @NewbyCoachLive, or get in touch via her blog or email (an.newbycoachlive@hotmail.com)

The ARA has produced a package of 'emotional support guides', including advice on how to handle records containing disturbing content. Click on <https://www.archives.org.uk/what-we-do/emotional-support-guides.html> for more details.

Sir Humphry Davy in a new light

Professor **Sharon Ruston**, Department of English and Creative Writing at Lancaster University, describes a recent event at the Royal Institution celebrating one of Cornwall's scientific greats (and also seeks ARC readers' help with transcription crowdsourcing...)

'A new light' in this instance does not refer to his famous miner's lamp, but a poetic light. This Davy attribute is perhaps little known. But a group of international professors of literature gathered at the Royal Institution of Great Britain (RI), holder of his papers, on 7 June 2019 to celebrate it.

The event was entitled 'Romanticism at the Royal Institution' and was organised by Professor David Duff of Queen Mary University of London and Professor Sarah Zimmerman from Fordham University in New York, and was sponsored by the London-Paris Romanticism Seminar consortium (londonparisromantic.com), the Fordham Romanticism Group, Fordham University, Queen Mary University of London and the Royal Institution of Great Britain.

Science and poetry in harmony

Another reason for the event was to launch Professor Zimmerman's latest book *The Romantic Literary Lecture in Britain*, which has just been published by Oxford University Press, and in which the RI features strongly. The speakers discussed the lectures given at the RI by literary and scientific types, including the poets Samuel Taylor Coleridge and Thomas Campbell. I spoke about Sir Humphry Davy – of Davy lamp fame – but focused on the (hitherto) little-known poetry that he wrote while he was a lecturer at the RI and beyond.

I have been working on Davy for some years now. Next year, Oxford University Press will publish a four-volume edition of Davy's letters, which I co-edited with Tim Fulford. Most have never been published before. For the past two years, I have run a freely-available online course called Humphry Davy: Laughing Gas, Literature, and the Lamp (www.futurelearn.com/courses/humphry-davy).



Humphry Davy by
H.W.Pickersgill after
Thomas Lawrence,
c.1830s; courtesy of the
Royal Institution of Great
Britain

“Next year, Oxford University Press will publish a four-volume edition of Davy’s letters”

The course lasts for four weeks, but only takes a few hours per day if you are very assiduous. In practice, participants can do as much or as little as they like, and dip into the tasks, videos, quizzes and discussions as they wish. We have a whole section on Davy’s poetry (and other sections on his science) and you can read and listen to poetry that is very difficult to get hold of otherwise. Like many of Davy’s letters, most of his poetry has never been published until now. It has survived in the letters and notebooks held in the RI’s archives.

If anyone would like to look further into the 7 June event and the speakers and papers, here’s a summary:
Romanticism at the Royal Institution:

- David Duff (Queen Mary University of London): ‘Announcing Knowledge: Prospectuses at the Royal Institution.’
- Hattie Lloyd Edmondson (Science Museum): ‘Rulers of Opinion: Women at the Royal Institution, 1799-1812.’
- Sharon Ruston (Lancaster University): ‘Humphry Davy: Poet and Reader of Poetry.’
- Seamus Perry (University of Oxford): ‘Coleridge in the Lecture Theatre.’
- Frank James (Royal Institution): ‘The Very Young Humphry Davy.’
- Sarah Zimmerman (Fordham University, New York): ‘Thomas Campbell at the Royal Institution.’

For more on the RI, visit: www.rigb.org

Seeking volunteers

I am also currently looking for citizen researchers to help with a new project that I am running with Zooniverse (www.zooniverse.org/). We are going to transcribe five of Davy’s early notebooks, which contain both poetry and chemical experiments, and publish the transcriptions online. If any ARC reader is interested in taking part, please contact me and I’ll send you the details. Specifically, if you have experience of transcribing early nineteenth-century handwriting, we are particularly keen to have you on board! But anyone is welcome to take part. I can be reached at: s.ruston@lancaster.ac.uk

Soundscapes of the 1750s - an archive user’s perspective

Andy Popperwell, volunteer archivist, sound engineer and researcher, describes a potential new way of using archives

I am Andy Popperwell and I am an archives user. There, I’ve said it! I’ve always liked old things, and nostalgia is a big part of me.

After I retired from my two careers as a BBC World Service studio manager (sound engineer) and further education lecturer, I signed up for a master’s by research at London South Bank University. My research is into the soundscape of the 1750s, at Copped Hall, a mansion on the edge of Epping Forest. Ruined by a calamitous fire in 1917, a team of volunteers is gradually restoring the mansion, of whom I am one. But how to discover the sounds of the 1750s in all this?

Start at the beginning

First port of call: the excellent Essex Record Office, where the staff really know their collections and no question is too ridiculous. I am a volunteer there, too, working in the sound and video archive, helping to catalogue a huge collection of old tapes, and trying to work out what future researchers’ key search terms will be. After a morning of this work, I usually find myself in the main search room, looking at bundles of old papers relevant to Copped Hall.

Accessibility through reconstruction

There are some real gems there. It seems that the Conyers family, who had the house built, were in the habit of writing little poems to entertain each other – this is well before the Netflix era! – and I plan to bring these old documents to life by using actors to speak the words. Eventually, I hope to be able to reconstruct these historical soundscapes for use in educational displays.

“How to discover the sounds of the 1750s?”

The poem 'Upon Miss Conyers' (Essex Record Office document reference D/DW Z3) gives a sense of how the family communicated. By way of background, Sophia Conyers (1718-1774) married Sir Roger Newdigate in 1743. She evidently made an impression:

*With elegant delight does Conyers charm
Glad ev'ry eye, and ev'ry Bosom warm
Conyers is ever Courteous, ever Free,
Ador'd with all the Charms of Modesty
Pleas'd I behold with ev'ry Lovely Grace
Good Nature sweetly Sparkling in her Face
Her Soft Behaviour and her Easie Air
Proclaim Good Sense and speak her Wise as Fair
The Theme so far Superior to my Song
The Crowding Accents faulter on my Tongue
Yet I will try
I'll tame the local Lyon I'll sweetly sing
Those Healing Charms which from her virtues spring
Merit Alone the Subject of my Lays
And All my Harmony Sophia's Praise
Eston July 19 1735*

Thinking differently about sound

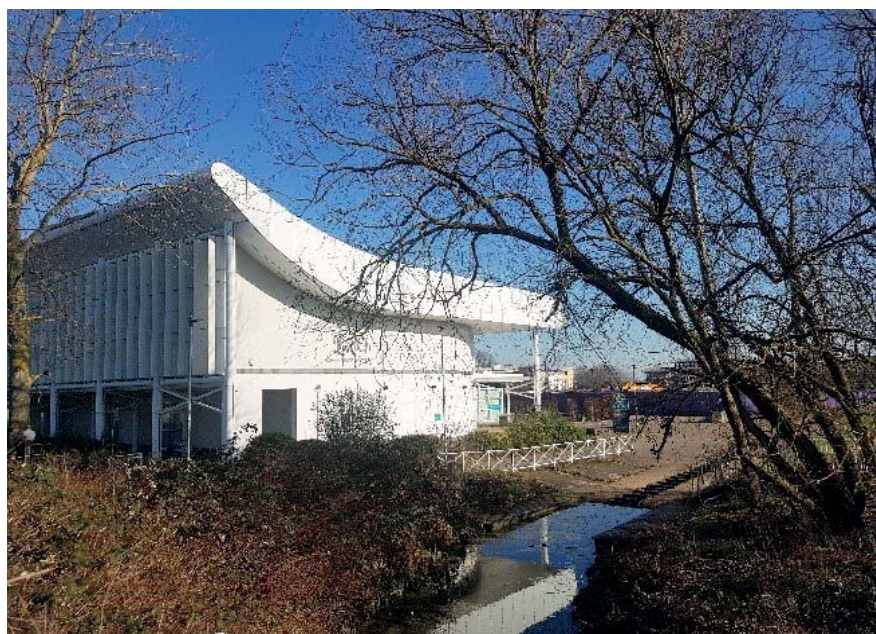
There is a treasure trove of material in other archives, too – London Metropolitan Archives, the Vaughan Williams Library for folk music, the British Library and more. Other sounds are implied by artworks – just try listening to a Hogarth picture with your ears!

We can restore the bricks, the floorboards, the gardens – can we also restore the soundscape? The answers are in the archives, if we look hard enough and think differently and creatively.

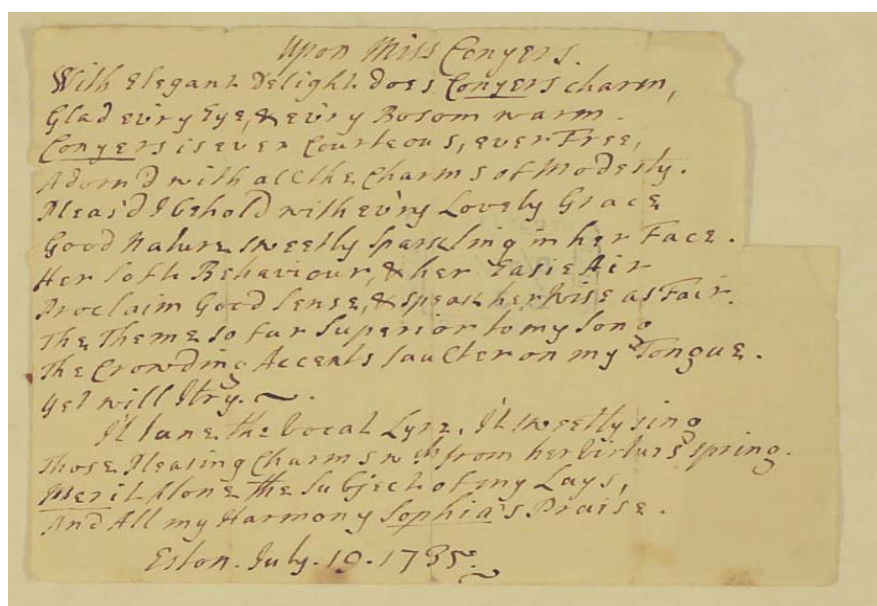
“Eventually I hope to be able to reconstruct these historical soundscapes for use in educational displays”



Copped Hall, image copyright Andy Popperwell.



Essex Record Office, image copyright Andy Popperwell.



Essex Record Office document reference D/DW Z3, reproduced courtesy of Essex Record Office.

GDPR and access to sensitive information: an exemplar

Madelin Evans at the Churchill Archives Centre (Cambridge) describes the challenge of protecting personal data while also ensuring access to the papers of IVF pioneer Sir Robert Edwards

The archive of Professor Sir Robert Edwards, pioneer of in-vitro fertilisation (IVF), has recently been opened at Churchill Archives Centre, following an 18-month project funded by the Wellcome Trust to catalogue and conserve the papers. The trust requires that recipients of its Research Resources Awards should “make relevant material...more accessible through cataloguing, digitisation and/or conservation.”

Making use of Acceptance in Lieu

Churchill Archives Centre acquired the Edwards papers through the Acceptance in Lieu scheme, which enables UK taxpayers to transfer important heritage objects to institutions in lieu of UK Inheritance Tax. The key element is that material accepted under the scheme should be made available to all. We knew there was demand for access to the archive: researchers had been expressing interest in the collection since 2012. So, we had a responsibility to the Wellcome Trust, UK taxpayers and to researchers to make the Edwards papers accessible as quickly as possible.

“We used an innovative, thoughtful approach to cataloguing that allowed us to open up some information from the closed material”



Robert Edwards sitting at a microscope [in Bourn Hall], c.1980-1985, copyright unknown.



Jean Purdy, c.1968-1985. This photograph was used in the preface to 'Implantation of the Human Embryo: Proceedings of the second Bourn Hall meeting' which was dedicated to Purdy after her untimely death in 1985, copyright unknown.

GDPR vs openness: an active case-study

As well as releasing the papers quickly, we also had to consider how to balance opening as much material as possible whilst still respecting the sensitive nature of personal health information relating to IVF patients and early clinical trial volunteers. From 1968 to 1978, Edwards and his collaborators carried out clinical trials between Cambridge and Oldham. Edwards (research scientist) and Jean Purdy (embryologist, lab technician and nurse) were based in Cambridge, and Patrick Steptoe (obstetrician and gynaecologist) and the volunteers were based in Oldham. During this phase women and men struggling with infertility wrote to Edwards, volunteering to take part in experiments that might one day help them, or others like them.

The Edwards papers contain letters from 55 correspondents volunteering or asking for help in 1969 alone, remarkably just one year after the first-ever successful fertilisation of an egg outside the human body. Women who took part in the clinical trials travelled to Oldham using their own resources and underwent invasive treatment for what must have seemed at the time like a distant hope. The contributions of these early patients and volunteers were vital to the development of IVF.

Information about patients, would-be patients and clinical trial volunteers that is spread throughout the collection presented us with a challenge. How could we open up this information whilst still respecting data protection considerations? We tried to meet the challenge in three ways:

- splitting files into open and closed sections
- writing detailed catalogue descriptions, which give as much information as possible about closed files, and
- temporarily exhibiting part of a closed volume.

Re-organise to reduce risk

The Edwards papers contain 20 boxes of large general correspondence files, some of which contain just one or two sensitive letters. Rather than closing the entire file, we split it and re-packaged it into two parts (open and closed sections). We found that writing very detailed catalogue descriptions worked well for files of letters from clinical trial volunteers and from patients or potential patients. For example, detailed descriptions allowed us to share information about the number of women who were writing to Edwards to volunteer and which countries they were writing from. Hopefully, this information/data will be of value to researchers, even if they cannot see the original letters.

Making the collection visible

We held our exhibition to promote the opening of the archive (IVF: 6 Million Babies Later) at the



A volume from the Edwards papers on display in 'IVF: 6 Million Babies Later' at the Science Museum in 2018, copyright Churchill Archives Centre.

“We considered how to open as much material as possible, while still respecting the sensitive nature of personal health information”

Science Museum in London in 2018 to coincide with 40 years of IVF. Fortunately, we had the opportunity to lend a notebook from key clinical trials. The pages on display listed the hormones that were given to volunteers, whether eggs were collected, and any abnormalities observed, but did not include the names of the volunteers. The rest of the notebook (not displayed) includes personal data about the volunteers, so the volume will not be opened to researchers until 2051.

The Edwards papers are a valuable resource for students of the history of science and medicine, the history of ethics, social implications of medical developments, political history, the history of the media, and the history of scientific publishing. They will also be a key resource for understanding the personal stories surrounding infertility one day in the future, even if we have to close this material to readers for the time being.

Overall, I like to think that we used an innovative, thoughtful approach to cataloguing that allowed us to open up some information from the closed material, straight away. We will continue to look for other ways to open more in the future.

Old lab books, new research methods: analysing 1940s scientific data with 21st century tools

Moira Rankin and **Claire Daniel** of the University of Glasgow Special Collections discuss a significant scientific archive, on the Zika virus, and the work it has inspired

The Zika virus outbreak in 2016 attracted a large amount of media attention, which in turn triggered a boom in archival, as well as scientific, research. The virus was named after the Zika Forest in Uganda, where it was found in a monkey in 1947. Alexander John Haddow (1912-1978), one of the scientists credited with the discovery, made provision for his archive to be donated to the University of Glasgow at the time of his death (see www.gla.ac.uk/myglasgow/library/collections/medicalhumanities/zika/ for more details).

Haddow had a long association with Glasgow, first as a student in the 1930s and ultimately as professor of administrative medicine in the 1970s. In the intervening period, he was an entomologist at the Uganda Virus Research Institute, then known as the Yellow Fever Research Institute, becoming institute director from 1953-1965. The catalogue of his archive was enhanced in 2017 with a grant from the Wellcome Trust Research Resources Awards scheme.

From archive to front-line emergency research

Immunology PhD student Eleanor Tiplady was the first to work with the archive when the recent Zika outbreak was at its peak. An internship under the Biotechnology and Biological Sciences Research Council (BBSRC) Professional Internships for PhD Students (PIPS) scheme allowed her time out from her laboratory-based PhD to explore the archive and uncover its significance. The scientific materials in the archive show results from Haddow's experiments, which mainly involved catching mosquitoes in the forest in order to determine where and when different species were active. These mosquitoes were often used to attempt to isolate viruses, particularly yellow fever, but also any unknown viruses. Haddow's research materials and annual reports cover the first isolation of the Zika virus from *Aedes africanus* mosquitoes, caught

“Scientific work may reveal things that are not of obvious importance at the time it is carried out”

in the Zika forest. They also include the isolation of several other previously-unknown viruses by Haddow's research team, the most widely-known of which include Bunyamwera, O'nyong-nyong and Chikungunya.

It becomes clear from the archival material that the institute did not consider the Zika virus a research priority at the time. One of the few references to the virus in Haddow's handwriting is a note in the margin of one of his results tables, indicating the first batch of mosquitoes that the virus was isolated from. This indifference should not be surprising: the virus was not known or believed at the time to cause serious disease or to spread rapidly.

One message that this story of the Haddow archive illustrates is that scientific work may reveal things that are not of obvious importance at the time it is carried out – it may be decades until it finds a research or policy significance. The collection also provides a rich resource on the progressive development of experimental design techniques that influenced colonial-era bio-medicine, helping to shape the 'disease ecology' framework that continues to shape One Health policies and research today.

Further research applications

The research benefits of the Haddow archive do not end at Zika. Deborah Dixon, professor of geography at the University of Glasgow (biography: www.gla.ac.uk/schools/ges/staff/deborahdixon/) is the latest researcher to bring a new perspective on the data in Haddow's archive. Showing the possibilities for integrated data sets, she has geo-referenced Haddow's 1944 map of Bwamba, Western Uganda (ref: DC068/2/22/1) so that it can be matched with

TWENTY-FOUR-HOUR CATCH RECORD

YELLOW FEVER RESEARCH INSTITUTE

Catch No. *8/28/ All levels.*Date *11-12-I-1948.*Time Started *15 hours.*Locality *Zika III.*No. of Catchers *3 per unit.*Bait-Hours *216.*

Hours L.M.T.

06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	00	01	02	03	04	05	Totals
07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	01	02	03	04	05	06	

<i>A. (A.) obscurus</i>																											1	1	
<i>A. (A.) impletus</i>						1																						1	
<i>H. sanguinea</i>						2	5			1			1															9	
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<i>L. (C.) maculipennis</i>														1			2						1					4	
<i>L. (C.) fuscipennis</i>	11	4	1	1	3	2	1		3	3	5	7	8	1	5	4	2	4	19	22	16	16	14	11	13	14	33	358	
<i>L. (C.) auratus</i>																		33	10	9	8	8	10	1	4	1	4	4	22
<i>L. (M.) africanus</i>	11	3		5		2	1		1	1		1	19	11	25	19	42	13	16	10	15	22	15	13			245		
<i>L. (M.) uniformis</i>	2				1		1	2						7	6	6	1	6	1	2	5	1	5	7	6		59		
<i>A. (F.) insignis</i>	3	1		1	1								5	1						2			1				16		
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<i>A. (A.) domesticus</i>													1															1	
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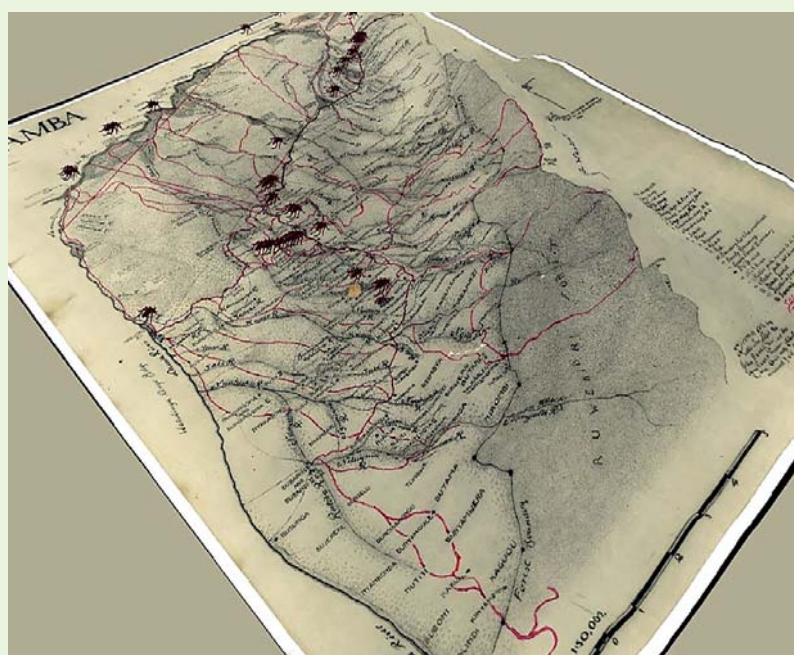
Weather *Mainly fair, but wind & light rain from 21-22 hours.*

Haddow's lab notebook from 1947 detailing the discovery of Zika Virus in a mosquito (DC068/2/20), image courtesy of the University of Glasgow.

elevation data (ref: DC068/2/7) and analysed with 21st century methods. Data-visualisation techniques, like those that Deborah is using, are bringing so many new possibilities to researching scientific archive collections. We look forward to seeing the results of her work in the coming months.

“Data visualisation techniques are bringing so many new possibilities to researching scientific archive collections”

Data visualisation of Haddow's 1944 map of Bwamba, designed and created by Deborah Dixon and Sebastian Hudson, image courtesy of the University of Glasgow.



Cataloguing Monmouthshire's health and hospital records

Lucy Smith and **Clare Jeremy** of Gwent Archives in south Wales explain how they went about a first go at cataloguing and making available a special category of material.

July 2018 saw the 70th anniversary of the UK National Health Service (NHS) and, at Gwent Archives, we decided to mark this occasion by taking a step towards making Monmouthshire's health and hospital records more accessible to our service users. This rich collection details both the administration and operational practices of our hospitals during a period of great change in healthcare. It encompasses the Great War, the increasing use of drugs in medical practice, and the birth of the NHS.

The Tredegar model

As a member of the management committee of the Tredegar Medical Aid Society, Aneurin Bevan (the Health Minister responsible for driving through the formation of the NHS in the 1940s) was evidently inspired by the model of healthcare which developed in the Tredegar area during the first part of the 20th century. The records of places like Tredegar therefore give a significant insight into how the NHS itself evolved.

Having been awarded a Research Resources Grant from the Wellcome Trust, Gwent Archives appointed a project archivist for a year to catalogue what had become a significant backlog of hospital and health records and to develop ways of making these collections more accessible to researchers. This role was split between archivists Clare Jeremy and Dr Lucy Smith. During their time, the partnership produced new catalogues, retro-converted paper or card catalogues into electronic versions (that are now online), and created a handlist of references to all of our hospital and health collections. The grant also allowed for a part-time preservation assistant, Sally Hopkins, who worked tirelessly for six months on the essential task of cleaning and re-packaging the documents.

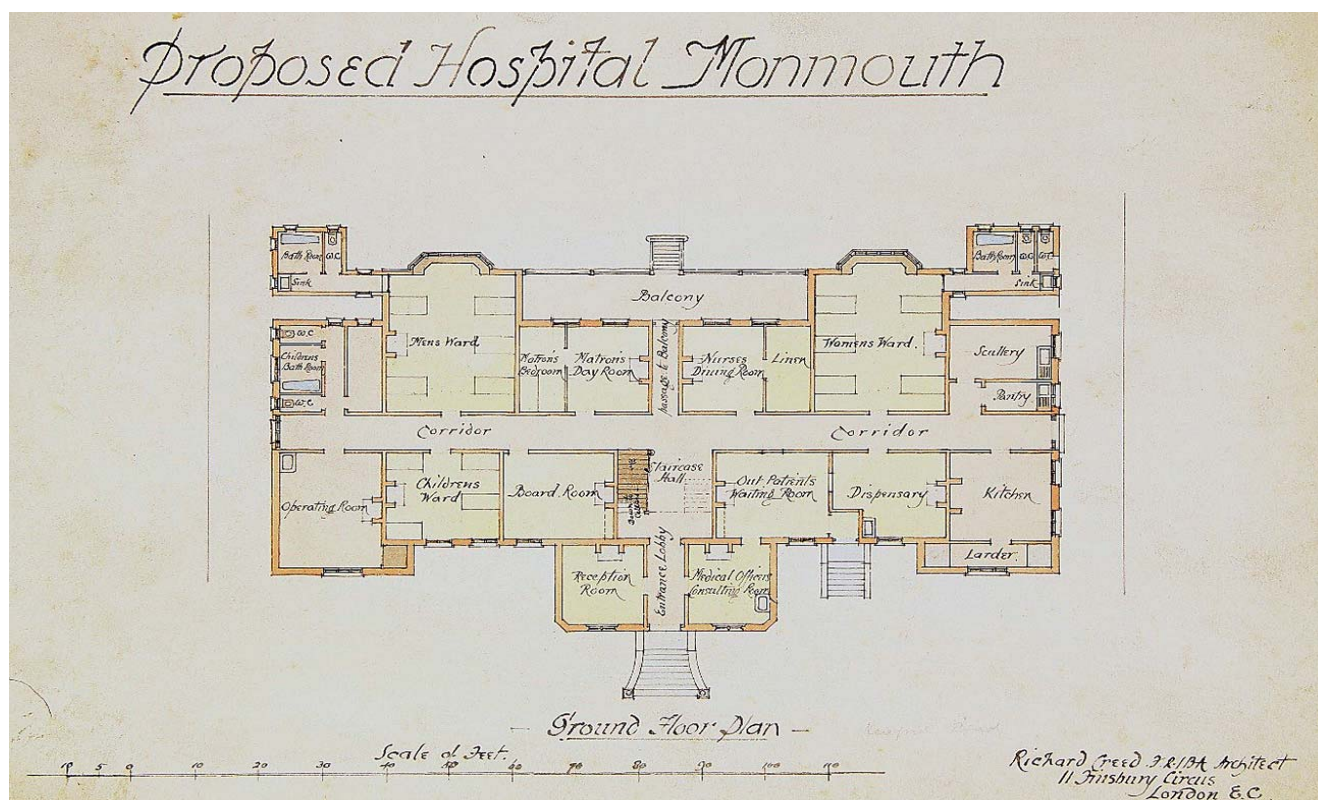
First impressions

When starting work on this project, we were not initially sure what to expect from medical records. But we soon realised that the collections offered a fascinating insight

“The collections offered a fascinating insight into the relationship between healthcare and the social history of industrial and rural communities”

Some of the new hospital and health catalogues produced by this Wellcome Trust funded project, with permission of Gwent Archives.





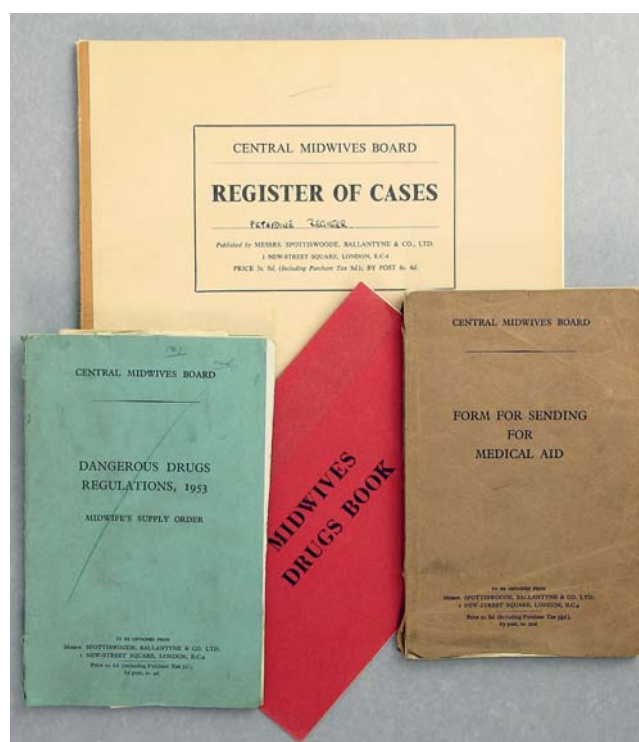
(Top) Plan of the new Monmouth General Hospital c.1901 (D6132/5/1), original document held at Gwent Archives.

(Right) Selection of documents from the Monmouthshire Midwifery Service Collection (C/HCM), with permission of Gwent Archives.

into the relationship between healthcare and the social history of our industrial and rural communities. The collection includes hospital registers, architectural plans and maternity records from throughout the twentieth century. But the real gems are the records from pre-NHS years, which reveal the hardships suffered in industrial communities and also the crucial importance of accessible and localised medical care to address them. For example, the records of the Tredegar Maternity Home showed how women in the Monmouthshire valleys in pre-NHS years faced the prospect of giving birth to very large families, which put their health at risk, yet they had access to a dedicated midwifery service provided by the pioneering Tredegar Medical Aid Society.

Promotion and awareness

One of our main challenges was to find ways to promote the collection to as wide an audience as possible, whilst still respecting the legislative restrictions associated with working with such sensitive patient data. With this in mind, we organised a public event and exhibition to launch the new catalogues - held in April this year. In the exhibition part, Lucy told the story of the social changes documented in the collections and used them to reflect the overall project aim of celebrating the origins of the NHS. The exhibition therefore featured patient registers from cottage hospitals in the 1910s to architectural plans for new general hospitals in the 1960s, alongside eye-catching photographs of hospital fundraising events.



The exhibition complemented three talks delivered by Professor Keir Waddington, Dr Steve Thompson and Dr Peter Dickson that spanned the history of the project material, from Victorian rural health issues to the experiences of immigrant doctors in the 1950s and 1960s. The talks encouraged the audience to reflect on the huge changes in medical provision in the past century and to offer their own families' memories of healthcare in Gwent. The project catalogues are now online, and will hopefully lead to new researchers exploring the important role played by Gwent in the history of British medicine and beyond.

Introducing Project Arbour, from development to focus groups

Anne Barrett (CSA), **Geoff Blissitt** (Max Communications) and **Fraser Stevens** (Cognizant) explain the progress made with a unique digitisation and cultural blockchain catalogue-access project in 2019

Project Arbour is a collaboration between the Swindon-based Centre for Scientific Archives (CSA), Max Communications and Cognizant to digitise approximately 200 catalogues of the manuscript papers of scientists, apply linked-data technology to them for cross-searchability, and blockchain technology for verification purposes.

The impetus for the project was a widely-perceived need to open up the catalogues of the CSA and its predecessor body, the National Cataloguing Unit for the Archives of Contemporary Scientists (NCUACS), to new audiences. Each of the partners has a discrete role and brings essential skills to the table.

The Centre for Scientific Archives (CSA)

The centre identifies, protects and preserves contemporary scientific archival legacy documents by locating, describing and depositing them in archives for access in perpetuity. It is also developing blockchain technology systems which will transform cultural and heritage documentation. For more details, see: <http://www.centreforscientificarchives.co.uk/>

Max Communications

Max creates digital copies of the catalogues and extracts the text using optical character recognition (OCR) technology. It then preserves the high-resolution image files and OCR'd pdfs digitally, using Archivematica. This process produces archival information packages (AIPs) and dissemination information packages (DIPs). Max then copies the AIPs onto two sets of Linear Tape-Open (LTO) tapes, held at two different and secure locations and, if appropriate, uploads them to the Cloud for retrieval requests. Max ingests the DIPs into the Arbour blockchain application for secure, managed access by the Arbour user community.

The CSA identifies, protects and preserves our contemporary scientific archival legacy documents

Cognizant

After discussions with Max Communications and the CSA, the role of consultants from Cognizant UK was to enable Arbour to make appropriate use of blockchain technologies. We required several key functions of the technology to help Arbour succeed:

- a platform for multiple parties with shared data access
- the need to track provenance and origin of the archives to ensure authenticity, and
- distribution of cryptographically secured, immutable records accessible to permissioned users only.

Content addressability, a.k.a associative storage

Cognizant addressed these requirements through a variety of blockchain and distributed ledger technology (DLT) related technologies. Most importantly, we achieved the secure distribution of the archives via a method of storage known as content addressability (often also referenced as associative storage). Content *addressability* is a mechanism for storing information that can be retrieved based on its content, not its storage location (as is the case with traditional storage methods). This technology provides a write-once storage with no duplicates, is anonymous and cannot be retrieved unless the reader has the content hash already.

As a result, the Arbour system is now able to provide a public catalogue of immutable content, with the cryptographic hash (stored on the blockchain) ensuring that the data is consistent with the proof of the data published on the Arbour web portal.

Next steps

We will be setting up focus groups to demonstrate the service for feedback, over the summer and autumn 2019. Please keep an eye out for announcements!



Archivi della Scienza

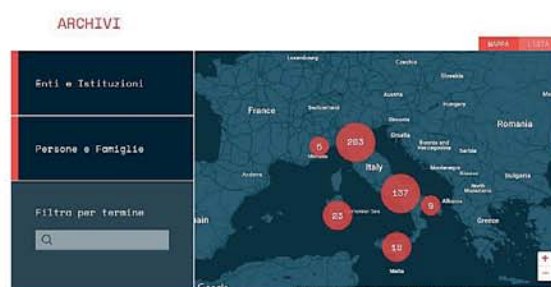
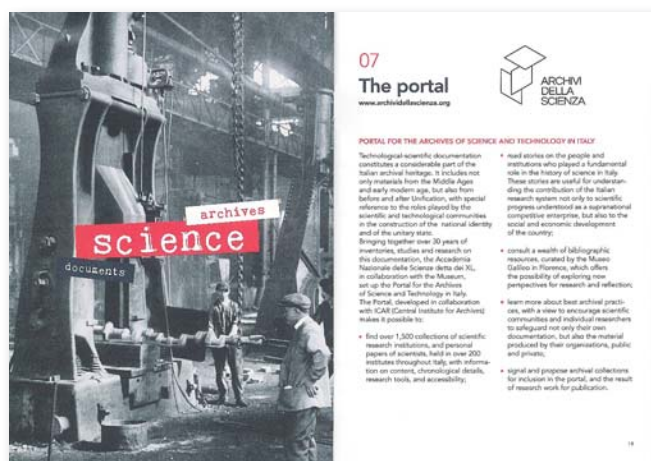
Giovanni Paoloni, professor at *Sapienza-Università di Roma*, introduces an exciting new portal for the archives of science in Italy: www.archividellascienza.org/it/

In addition to being a website, the portal is a collaboration tool, with users invited to contribute via the tools on the portal or through sending proposals to its administrators. The English language version is currently limited, but our intention is to develop it further, as swiftly as possible.

A team of colleagues across Italy has developed the new portal. Laura Ronzon, Director of Collections and Coordinator of Curators at *Museo Nazionale Scienza e Tecnologia Leonardo da Vinci* in Milan, and I have directed the project, ably and strongly supported by the *Accademia Nazionale delle Scienze detta dei XL*, and particularly by the late President, Professor Emilia Chiancone (1938-2018).

Do have a look; we like to think it is well laid out and clear, and it has some marvellous illustrations. Enjoy and contribute where you can!

“Our intention is to develop the portal further”



ChemFest 2019: the elements of South Kensington's chemical heritage

Rupert Cole of the Science Museum (UK) describes a major festival to mark the 150th anniversary of the periodic table that took place in London earlier this year.

Earlier this year, cultural organisations in South Kensington came together to celebrate the United Nations International Year of the Periodic Table. Led by Dame Mary Archer, chair of the Science Museum Group, the celebrations took the form of a season of events, dubbed ChemFest 2019. As well as looking forward, ChemFest explored the history and heritage of chemistry in Albertopolis, South Kensington's cultural quarter, bringing together archivists, historians and curators. (Note for non-Londoners: Albertopolis is the nickname given to the area centred on Exhibition Road in London, named after Prince Albert, consort of Queen Victoria. It contains a large number of educational and cultural sites.)

Ignition

ChemFest began on 6 March 2019, with a launch event at the Science Museum, featuring a panel discussion chaired by Dame Mary Archer, and including chemists Professor Emma Raven, Professor Elise Cartmell, Professor Andrea Sella and Professor Sir Martyn Poliakoff.

The evening showcased a new display at the Science Museum - 'The Periodic Table: 150 Years of a Scientific Icon'. Its star object was the Russian journal containing Dmitri Mendeleev's first published periodic table, dated March 1869, on display at the museum for the first time since it was purchased at Sotheby's in the 1980s. No celebration is (of course) complete without cake, and this launch event was no exception. Andrew Smyth, aerospace engineer and Great British Bake-off finalist, made periodic table cupcakes, one for each of the 118 chemical elements. ChemFest featured a great range of events, from hands-on chemistry days for families at the Science Museum to behind-the-scenes tours of the Royal College of Art's Colour Reference Library. The academic core of the festival was two conferences, the first on the history of chemistry in South Kensington and the second on its future.

Combustion

The 11 April historical conference, 'Chemistry in Albertopolis', featured talks on subjects such as Prince Albert's role in establishing a cultural quarter (Robert Anderson), women chemists at Imperial College London (Anne Barrett), and displaying chemistry at the Science Museum (Peter Morris). The talks were beautifully illustrated with rich archival material of the social history of South Kensington scientific institutions, such as early 20th century photographs of laboratories and lecture halls.

ChemFest featured a great range of events, from hands-on chemistry days to behind-the-scenes tours



'The Periodic Table' display at the Science Museum with detail of Mendeleev's first published periodic table, image courtesy of the Science Museum Group.



The periodic table in 118 cupcakes, made by Bake-Off's Andrew Smyth, image courtesy of the Science Museum Group.



A tea of the Imperial College Women's Association, 1925, celebrating Martha Annie Whiteley's legacy, image courtesy of Imperial College London.

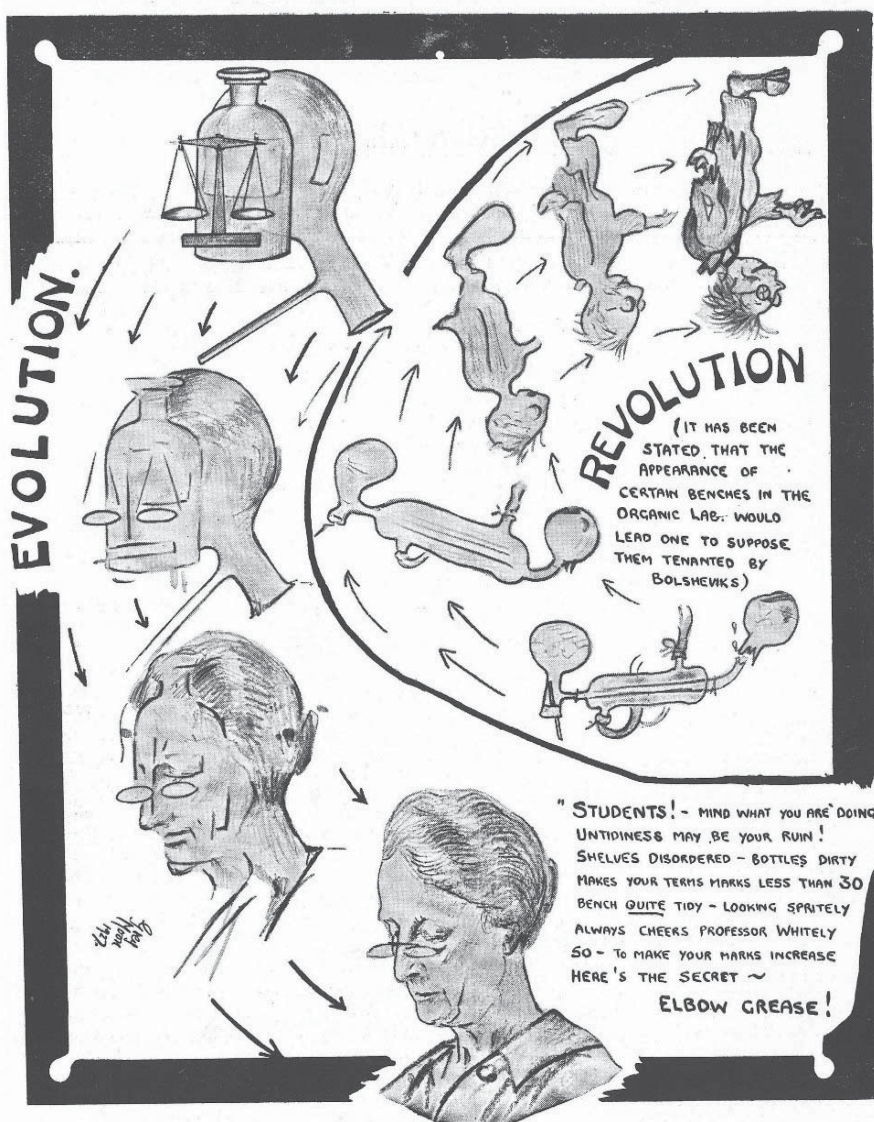
Chemists and campaigners

Among the most striking of the photographs shown in the academic sessions were those of women chemists at Imperial College, from Barrett's paper, with several depicting members of the Imperial College Women's Association. Artworks from the student magazine of some of these women, including Martha Annie Whiteley, told a wider story. Whiteley, for example, led the earliest studies of chemical weapons during the First World War and was also a leading campaigner for equal rights for women in chemistry.

The conference also featured tours of buildings housing former chemical laboratories and lecture halls at Imperial College and the Victoria & Albert Museum. The Science Museum's library had on display a selection of archival and artistic material from Imperial College, the Science Museum, the 1851 Commission and the Royal College of Art. Some of the speakers and delegates in attendance even featured in the historical photographs on display – reminding us that history soon catches up!

Overall, this balance of public engagement and academic research worked well in creating breadth and depth in understanding the importance of chemistry and the periodic table to wider history and society.

Depiction of Imperial College chemist Martha Annie Whiteley, artistically transformed from laboratory scales and glassware. From the student journal Phoenix, image courtesy of Imperial College London.



"ORGANIC CHEMISTRY."

Earth, water and stone: the construction of the Silent Valley Reservoir in County Down

Brett Irwin tells the story of one of the main projects contained in the Sir Anthony Campbell papers at the Public Record Office of Northern Ireland (PRONI)

The Sir Anthony Campbell papers at PRONI consist mainly of photographs relating to various construction contracts undertaken by the Belfast construction and civil engineering firm McLaughlin and Harvey, which was established in 1853 by Henry McLaughlin and William Harvey. The company continues to this day, and its projects have included Slipway 14 at the Harland and Wolff shipbuilders in Belfast, the Shannon hydroelectric scheme in Ardnacrusha, County Clare, and the Silent Valley Reservoir project. The collection also includes some technical reports relating to the latter, whose history is less known than the others but has been central to the development of modern Belfast.

Water for people, water for industry

With the rapid expansion of the industrial city of Belfast at the turn of the 20th century, the existing water supply was becoming inadequate. Something had to be done if the city could continue to grow and supply clean water for its increasing population and booming rope works, linen and shipbuilding industries.

Civil engineer Luke McCassey was tasked with finding a source of water large enough to supply the city with its multiple needs. His work resulted in a site deep in the Mourne Mountains in County Down being chosen due to the amount of rainfall and the purity of the water. He and his colleagues devised an engineering plan with three stages to turn aspiration into reality:

- Stage one: divert water from the Annalong and Kilkeel rivers to a reservoir outside Belfast.
- Stage two: lay new pipes and construct a storage reservoir across the Kilkeel river, ie enough to supply the city with ten million gallons of water per day.
- The final stage: build a huge storage reservoir to retain



'Difficult working conditions in the trench' (D4560/1). Image used with permission of the Deputy Keeper of Records, Public Record Office of Northern Ireland.

“Today, the reservoir still pumps water to the city of Belfast through a 44-mile pipeline”

water from the Annalong river. This would become known as the Silent Valley Reservoir.

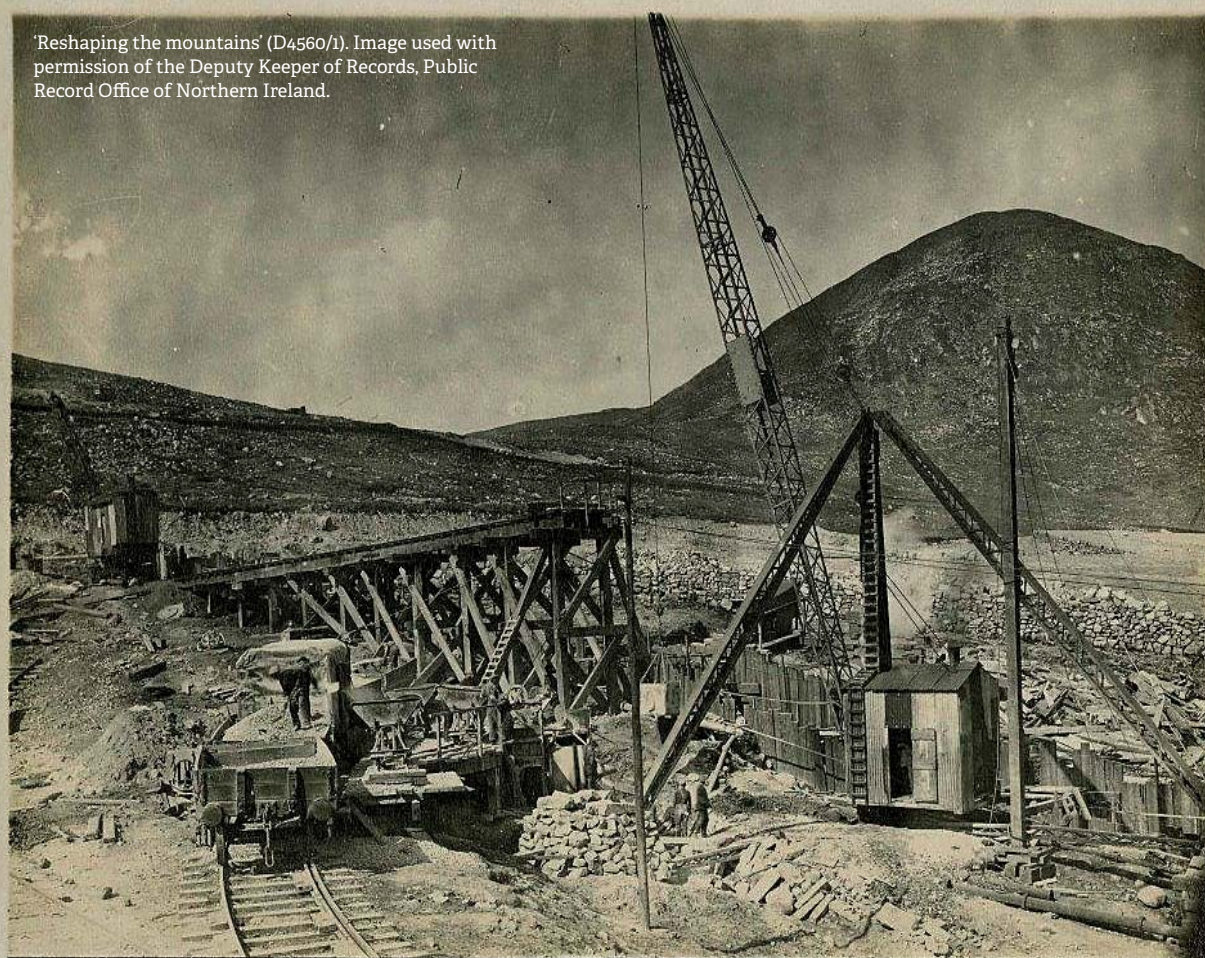
Once completed, the plan envisioned a total supply capacity of 30 million gallons of water every day for Belfast.

Breaking ground

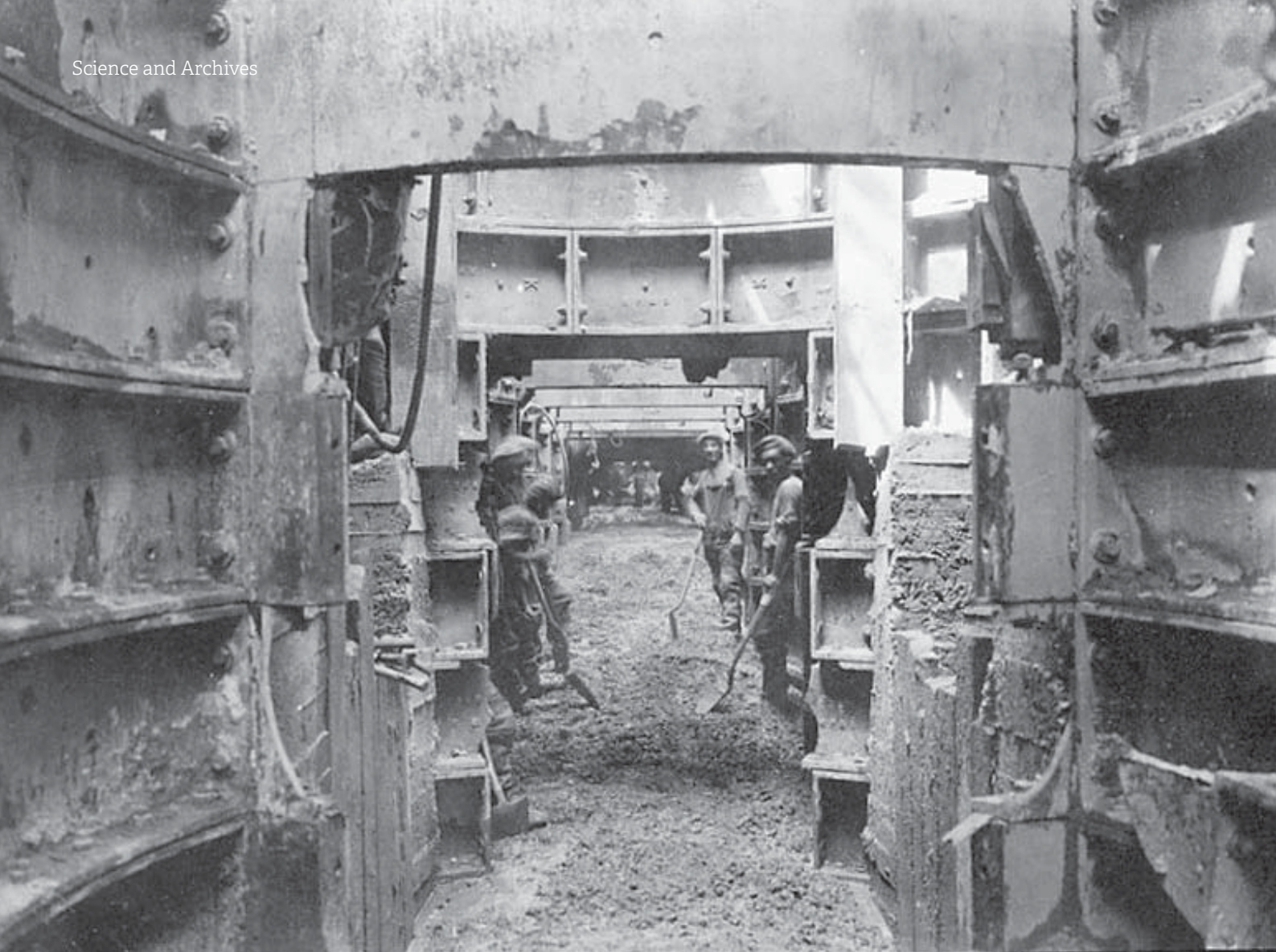
On 1 October 1923, Lord Carson (de facto head of the new Northern Ireland administration) formally initiated the



'The landscape on fire; work gets underway on the massive and ambitious project' (D4560/1). Image used with permission of the Deputy Keeper of Records, Public Record Office of Northern Ireland.



'Reshaping the mountains' (D4560/1). Image used with permission of the Deputy Keeper of Records, Public Record Office of Northern Ireland.



'Layering the walls of the trenches' (D4560/1). Image used with permission of the Deputy Keeper of Records, Public Record Office of Northern Ireland.

ambitious project, by digging up the first sod of earth himself. A railway had to be constructed between Annalong Harbour and the Silent Valley site. This was a distance of 4.5 miles and was essential to move all the heavy machinery needed. Researchers estimate that the train carried over one million tonnes of material and the hundreds of workmen involved throughout the life of the project. A settlement also emerged, accommodating the workmen and engineers. This was known as 'Watertown' and had its own power station, shops, canteens, hospital, police station and a cinema. Interestingly, the power station provided the first electric street lighting anywhere in Ireland.

Challenges and scientific innovations

One of the major engineering challenges was to dig a 212-foot trench to stop the risk of the water pressure increasing and seeping out of the reservoir. This was very demanding work, due to the subsoil being wet silt and the solid bedrock being at a depth of over 200 feet. An engineering innovation of that time was to dig the trenches using compressed air. Deep shafts of cast iron were sunk into the ground. The water was then pumped out through the shafts from the silt. This highly-dangerous work even required workers to decompress in an air lock chamber known as 'The Gazon'. The men had to go through gradual compression before entering

the air shafts and de-compression when leaving. Above the trenches, the workers layered a watertight barrier of clay to prevent leakage. When the trench reached 100ft deep, the walls had to be supported by special cast iron segmental plates and then filled with concrete to stabilise the trench. All this work was done by hand, and it is estimated that on some days one hundred tonnes of concrete was mixed and poured.

Lasting outcomes, human costs

The construction of the reservoir was completed in the autumn of 1932. Today, the reservoir still pumps water to the city of Belfast through its 44-mile pipeline. These days, it is surrounded by the Mourne Wall and mountains and has the appearance of a beautiful and peaceful mountain lake.

What about the name Silent Valley? There are several theories behind the name. The continuous blasting noise associated with the massive construction project is said to have driven all the birdlife away, leaving only an eerie silence lingering over the valley. It also must be remembered that many workmen lost their lives on the project, such was the dangerous nature of the work. The name 'silent' therefore also speaks volumes for their sacrifice.



The Lovell Telescope, Jodrell Bank, University of Manchester, courtesy of Teresa Anderson (2015).

Jodrell Bank awarded UNESCO World Heritage Site status

The pioneering observatory is celebrating a significant award

Jodrell Bank's First Light project featured in the 2016 archives and science issue of ARC magazine. The observatory has recently been added to the UNESCO World Heritage List in recognition of its outstanding scientific heritage, including its pioneering role in the development of radio astronomy, its work in tracking spacecraft in the early space race, and its research into quasars, pulsars and gravitational lenses (see: whc.unesco.org/en/list/1594, with description available under licence CC-BY-SA IGO 3.0).

Located in a rural area of northwest England, free from radio interference, Jodrell Bank is one of the world's leading radio astronomy observatories. It has evidence of every stage of the history of radio astronomy, from its emergence as a new science in the 1940s through to the present day.

“The Jodrell Bank site has evidence of every stage of the history of radio astronomy”

At the beginning of its use in 1945, the Jodrell Bank site undertook research on cosmic rays detected by radar echoes, and the observatory where this took place, which is still in operation, includes several radio telescopes and working buildings, including engineering sheds and the control building. This exceptional scientific ensemble also illustrates the transition from traditional optical astronomy to radio astronomy, which took place from the 1940s to the 1960s, and which led to radical changes in the understanding of the universe.

For more on Jodrell Bank itself, click here: www.jodrellbank.manchester.ac.uk/news-and-events/jodrell-bank-observatory-becomes-unesco-world-heritage-site.htm



Guy Boocock, Elizabeth Trout, Liz Bartram and Dennis Coombs, Mills Archive Trust volunteers with their Queen's Award, photographer Stewart Turkington

Mills Archive Trust: founded and led by volunteers

Nathanael Hodge, Mills Archive Trust archivist, reports on its recent volunteering award.

The Mills Archive Trust, a heritage charity based in Reading, was established by volunteers in 2002 to preserve and protect unique records of milling heritage, fostering the cultural and educational value of mills (such as historical windmills and watermills) and the wider milling community.

The trust was recently honoured with the Queen's Award for Voluntary Service, the highest award a voluntary group can receive in the UK. Representatives from the Mills Archive attended a garden party at Buckingham Palace in May, along with 280 other recipients of this year's award.

Diversity

The Queen's Award for Voluntary Service was created in 2002 to

celebrate the Queen's Golden Jubilee. Winners are announced each year on 2 June: the anniversary of the Queen's coronation. The number of nominations and awards has increased each year since the awards were introduced, showing that the voluntary sector is thriving and full of innovative ideas to make life better for those around them.

The trust's volunteers have been crucial to the success of the charity over the past seventeen years. They have come from all walks of life and have been aged from 18 to over 80. Their skills and knowledge have helped the trust to expand and develop worldwide access to its resources and collections, and they continue to help shape the trust's success.

From volunteer to full-time employee

Representatives of the Mills Archive Trust will receive the award formally from James Puxley, Lord Lieutenant of Berkshire, later this year. The Mills Archive Trust's Chairman, Dr Ron Cookson MBE said:

"I am delighted by the recognition the Mills Archive has received for its long-term commitment to supporting and training volunteers. Without their expertise, enthusiasm and commitment we would not have become the (UK's) go-to place for the history of mills and milling. It is significant that four of our professional staff all started with us as volunteers themselves!"

More than just a website of pictorial interest: the Database of Scientific Illustrators (DSI), 1450-1950

Klaus Hentschel of the University of Stuttgart and director of the DSI describes the advancement of the first-ever database – set up in 2011 – to be dedicated to these skilled professionals, now covering more than 100 countries

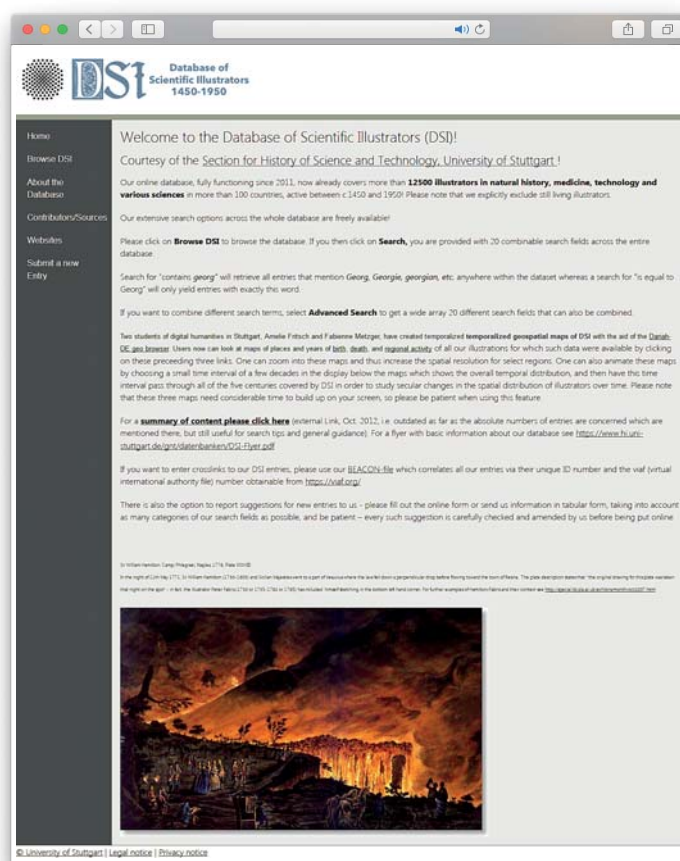
The Database of Scientific Illustrators (dsi.hi.uni-stuttgart.de/) is a project by the section for the history of science and technology at the University of Stuttgart. Some time ago, whilst working on the history of visual representations in science and technology, I noticed the absence of a 'finding aid' for scientific illustrators, such as draughtsmen/women, photographers, and other specialists in the visual representation of scientific objects and processes.

In contrast to the wealth of dictionaries of scientists, technologists or artists, there is effectively no specialised 'dictionary' for scientific illustrators. Historians of art have produced a couple of dictionaries of artist/illustrators, but (typically?) illustrators specialising in scientific objects and subjects have been excluded.

Quick and reliable

The aim of the DSI is simple: to provide quick and reliable reference data about scientific illustrators. Designed as an interactive website, it lets users make pertinent additions for convenient public access. The database permits searches for names, aliases and abbreviations of artisan names, thus enabling easy retrieval of entries in the database. It allows targeted searches through all the other categories, as well. It is not only possible to search for specific individuals, but also for all illustrators born in a certain town, for instance, or those working for a specific employer or institution.

The database explicitly includes illustrators specialising in natural history as well as those who worked in various



The database home page, courtesy of the University of Stuttgart

fields of natural science. The selection includes illustrators from the invention of the printing press around 1450 up to around 1950. It excludes mediaeval illustrators and currently active illustrators. Our hope is that the database will not only be very useful to historians of science and technology searching for specific illustrators whom they have come across in a primary source, but also to social historians and various other user groups. It is open to everyone and is free of charge.

Granularity

To give a sense of scope and depth, the DSI encompasses more than 12,480 illustrators of natural history, medicine, technology and various sciences. The illustrators themselves originate from more than a hundred countries, and around 9% are women. The DSI's coverage is particularly good in the fields of anatomy and dermatology, natural history and general biology (especially botany and zoology), geology, palaeontology and mineralogy, cartography, geography and topography. The database also strives to cover astronomy, physics, chemistry and mathematics, architecture and various subfields of technology.

Visit the DSI website for details and summaries of the features of the DSI and how to get best value out of it: www.hi.uni-stuttgart.de/gnt/datenbanken/DSI-Flyer.pdf Visitors to the DSI site can also access a BEACON-file of all entries, which links the roughly 12,480-plus entry numbers with viaf-numbers, wherever the latter are available. This can be found at: www.hi.uni-stuttgart.de/gnt/dokumente/BeaconDatei-final.pdf

Saving the Charles Lyell papers for the UK – how you can help!

Jim Secord of the University of Cambridge appeals for donations to help keep this important scientific collection that could influence climate change policy and much more in its home environment

Charles Lyell (1797-1875) is well known for his part in the Darwinian evolutionary debates and in convincing readers of the significance of 'deep time'.

Climate change

During the past decade, Lyell's geographical theory of climate and his subdivision of recent geological strata have gained renewed attention in connection with discussions of climate change and the Anthropocene (the current geological age, viewed as the period during which human activity has been the dominant influence on climate and the environment).

The Lyell archive is, in the view of many, the most important manuscript collection relating to nineteenth century science still in private hands. At its core lie 294 notebooks that provide a daily record of Lyell's private thoughts, travels, field observations and conversations.

Tax and fundraising

In order for the Lyell descendants to meet their UK inheritance tax obligations, they sold the Lyell notebooks to an unknown foreign buyer towards the end of last year. Fortunately, the UK government has imposed a temporary export ban to enable fundraising to purchase these remarkable documents, conserve them, and make them available online to the public free of charge.

The University of Edinburgh Library, which already has the largest collection of Lyell material, is organising the fundraising campaign. The website for this is below. The campaign has confirmed with HM Revenue and Customs (HMRC, the UK tax authority) and other parties that what is called a Private Treaty Sale has been agreed, thus removing the tax element and reducing the sum required to buy the notebooks from over £1 million to £966,000. Donors have already pledged over £610,000.

Deadline extension

As significant progress in fundraising pledges has been made, HMRC has extended the deadline to 15 October 2019.



Sir Charles Lyell (courtesy of the University of Edinburgh)



The Lyell notebooks (courtesy of the University of Edinburgh)

“The Lyell archive is, in the view of many, the most important manuscript collection relating to nineteenth century science still in private hands.”

Therefore, if you have any amount, large or small, to spare, please help us in this worthy cause. The campaign will only actually 'collect' on pledges as and when the targeted amount is achieved.

For more information about the Lyell notebooks and to make a pledge, please click on: www.ed.ac.uk/giving/save-lyell-notebooks and please indicate your support by using the Twitter hashtag #SaveLyellNotebooks to spread awareness.

If you can give anything to this campaign—even five pounds/euros or one - it will make a big difference, not least in showing larger donors that there is substantial public interest and concern. It would be great if we could get the donor count over 1000.

Remembering the first female geologists to become Fellows of the Geological Society

Anne Barrett of Imperial College, London reports on a conference held recently to mark an important centenary for women in science to take place this year.

On 21 May 2019, a one-day conference took place at Burlington House, the home of the Geological Society in London, to mark the centenary of the first female Fellows of the society. The event was organised through the History of Geology Group, by Professor Cynthia Burek (University of Chester), Dr Bettie Higgs (University College, Cork) and Dr John Cubitt. The presentations continued the work begun at an earlier (2005) conference entitled “The Role of Women in the History of Geology”.

International attendance

Robbie Gries, president of the Geological Society of America, gave the keynote - entitled ‘World War I through affirmative action: women in petroleum geology make a difference’. This discussed the pioneering role of women in the petroleum industry since 1917.

All of the presentations shed new light and broke new ground – including the fascinating ‘feminist guide to dinosaurs’ - and showed the important place that women have taken in geology from the distant past to the 21st century. Other topics included individual contributions to geological research, the first female president of the Geological Society, and women at the dawn of diamond discovery in Siberia.

For more details of the event and speakers, click here:

Current physical exhibition in the Library - The First Women

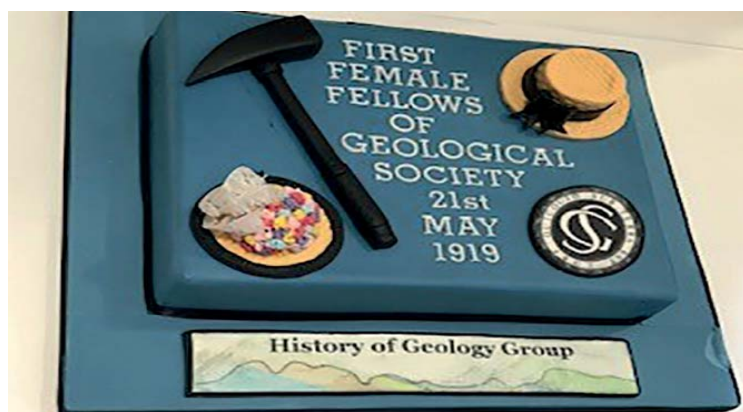


This year marks the 100th year since the election of the first female Fellows of the Geological Society on 21 May 1919. To celebrate this landmark, a new exhibition highlights just a few of the firsts achieved by women in both the science and the Geological Society.

The exhibition can be viewed in the Lower Library and Lyell Room at the Geological Society, Burlington House, Piccadilly, London, W1J 0BG until the autumn.

Please call +44(0)20 7432 0999 to check that the Lower Library is accessible before making a special trip.

The lower library hosted the poster presentations, including a display of women's portraits that is open to viewing until the autumn: www.geolsoc.org.uk/Library-and-Information-Services/Exhibitions/Women-and-Geology. Image courtesy of Anne Barrett.



A celebration cake commissioned and presented for attendees to enjoy! Image courtesy of Anne Barrett.

Calling all colleagues!

ARC is always seeking articles reflecting the issues that matter to you most. We would love to publish pieces that reveal the sector's opinion and showcase successful best practice.

If you would like to send something for inclusion in the magazine, please send articles to arceditors@archives.org.uk, or write and let us know what you'd like to read about. Guidelines for articles for *ARC* can be found on the Association's website: www.archives.org.uk.





Crowne Plaza, Chester
2nd – 4th September

Conference
2020

We ♥ Records

