

Newsletter

of the History of Science Society

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Fifty Pence Story? (with thanks to Simon Armitage)

by Kersten Hall

Having followed a grim urban odyssey from the pockets of a Leeds pimp into a busker's cap and then the bottom of a wishing well, the numismatic narrator of current British poet laureate (2019-2029) Simon Armitage's **'Ten Pence Story'** reflects that while "All coins have dreams," its own will go sadly unfulfilled. For rather than deciding the toss at a Wembley Cup final, the humble coin in Armitage's tale knows that a far less glorious fate lies ahead:

*Some day I know I'll be bagged up and sent
to that knacker's yard for the over-spent
to be broken, boiled, unmade and replaced,
for my metals to go their separate ways...*

Had Armitage chosen the new **50 pence coin just released by the Royal Mint** in July to be his narrator, it would have told a very different—and happier—story. Released to mark what would have been the hundredth birthday of scientist Rosalind Franklin, the new coin commemorates her X-ray studies that were crucial to solving the structure of DNA. Designed by Royal Mint graphic designer David Knapton, the coin depicts the famous cross-shaped pattern at the center of "Photo 51," the X-ray image of DNA taken by Franklin and her PhD student Raymond Gosling while they were



working at King's College, London in 1952. It is the first time that a woman scientist has featured on a UK coin.

At first sight the image—both on the coin and the actual photograph (see below)—looks as if it would be at home hanging on the wall of a gallery of contemporary art, but when James Watson was first shown it, its effect, he claimed in his famous *The Double Helix*, was epiphanic: "The instant I saw the picture my mouth fell open and my pulse began to race...the black cross of reflections which dominated the picture could only arise from a helical structure."

Watson knew that only a molecule that was coiled into a helical shape would scatter X-rays to give this cross-

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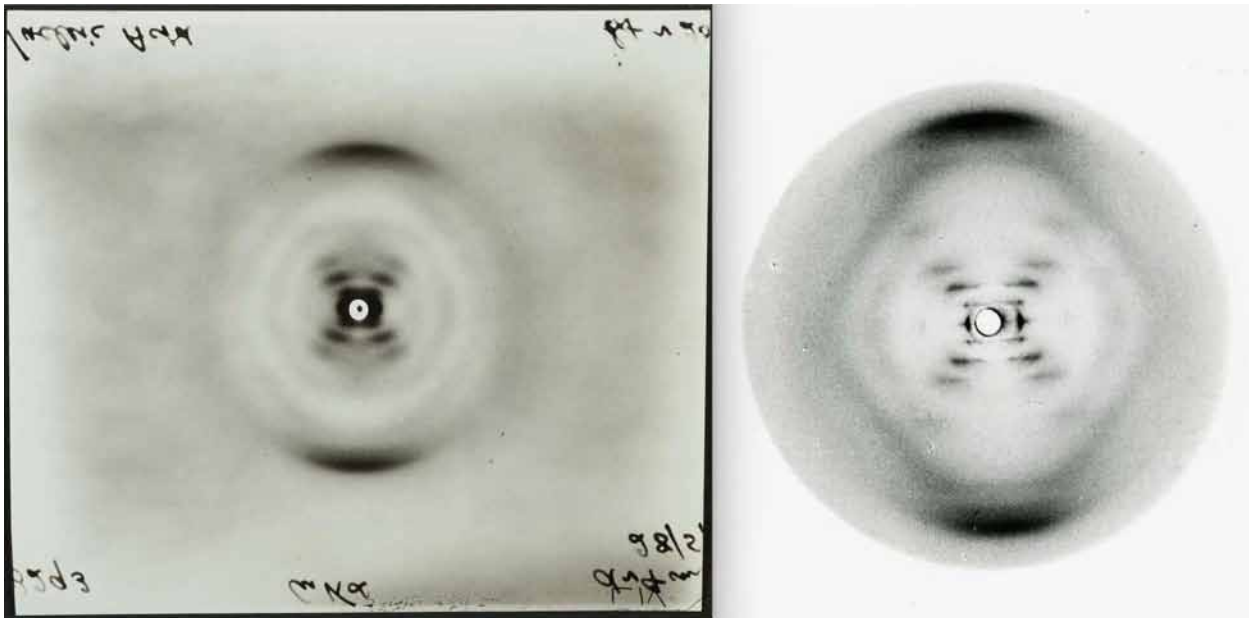
Fifty Pence Story, cont.

shaped pattern. Armed with this and some of Franklin's other key X-ray measurements, he and Francis Crick were able to solve the structure of DNA. Little wonder then that a plaque on the wall outside King's College, London where Franklin and Gosling worked, hails "Photo 51" as "one of the most important photographs in the world."

Yet neither Watson nor indeed Franklin, who produced the image, was actually the first to

see this all important pattern. For already in 1951, one year earlier, Elwyn Beighton, a young doctoral student at the University of Leeds had taken a set of almost X-ray identical images of DNA.

Beighton was working in a new department that had been established by the scientist William Astbury to champion what he popularized as "molecular biology." Though a physicist by



A side-by-side view of the X-ray diffraction image of DNA taken by Elwyn Beighton in May 1951 (left) and the famed "Photo 51" produced in 1952 in the laboratory of Rosalind Franklin (right). Beighton's image reproduced with the permission of Special Collections, Brotherton Library, University of Leeds. *Photo 51* Ref. *KDBP1/1 King's College London Archives*

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Fifty Pence Story, cont.

background, Astbury had become fascinated by biology and was convinced that the best way to solve the complexities of living systems was by using the methods of physics to study their molecular structure. Through his work in this field, Astbury established himself as an international authority in using X-rays to study biological molecules—but his work had had an unusual and far from glamorous origin.

In the late 1920s and early 1930s, Astbury had carried out X-ray studies of the fibrous proteins in wool for the local textile industries of West Yorkshire. During the course of this work, he had also turned his attention to another white, stringy fiber—DNA. In 1938, his research assistant Florence Bell had shown that X-ray methods could successfully be used to reveal the regular ordered structure of DNA and in so doing had very much paved the way for Franklin and Gosling. Thirteen years later, Beighton followed up this work by taking a set of new images of DNA that showed the very same striking cross pattern that would make James Watson’s jaw drop and his pulse race.

But Astbury’s response to Beighton’s images could not have been more different than Watson’s to Franklin’s Photo 51. He never published them in a paper, or even presented them at a meeting. Instead, they were just filed away and forgotten until their rediscovery by historian Robert Olby some 40 years later.

At first sight, this oversight seems to be one of epic proportions. Could it be that Astbury hadn’t realized the importance of DNA? The evidence seems to suggest otherwise; for in fact, Astbury counted among the first small group of scientists to grasp the importance of Oswald Avery’s demonstration in 1944 that nucleic acids could confer the trait of virulence in pneumococcus. Today this breakthrough is recognized as the first evidence that DNA—and not protein—could carry hereditary traits; but few in 1944 had the foresight that Astbury showed when he hailed it as “one of the most remarkable discoveries of our time.”

Although Astbury grasped the importance of DNA, he appears to have missed the clues within Beighton’s photos. And even if he had recognized from Beighton’s photo that DNA was a helix, it is unlikely that this insight would have set his pulse racing as happened for Watson. Far more likely is that the revelation that DNA was a helix would have been a crushing disappointment to him.

For Astbury, the secret of biology lay in the three-dimensional shape of macromolecules such as proteins. Changes in molecular shape offered an explanation for the elasticity of wool, the ability of muscles to contract and of flagella to power bacteria through water. And perhaps this is what Astbury was hoping to find in DNA: a sophisticated three dimensional structure with

rich variation in which hereditary traits might be manifest. Instead, Beighton’s image hinted at a simple, repetitive structure—a boring, monotonous spiral that made little sense. As a result, the photo was filed away and forgotten and, like the narrator of Armitage’s poem, Beighton was consigned to a “knacker’s yard for the over-spent.”

Beighton’s photo is more than just a historical curiosity—because Astbury’s apparent neglect of it may well have played a pivotal role in Watson and Crick’s ultimate success. In 1952, Astbury was visited at his home in Headingley, Leeds by his friend, the American chemist Linus Pauling who was feared by Francis Crick as their main rival in the race to find DNA structure. But Pauling was hamstrung by a lack of good quality X-ray diffraction images of DNA. Had Astbury shown Pauling the photos taken by Beighton, it might well have been these images and not that of Franklin that were today inscribed on a commemorative coin. Either way, it is a safe bet that this coin would not be burdened by an acute sense of its own mortality like Armitage’s mournful narrator.

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Perspectives on Graduate Student Unionization

Introduced and coordinated by Kris Palmieri

Editor's note: Following the HSS Council's endorsement of the AHA's statement on unionization (see the July 2020 issue of the HSS Newsletter), graduate students and early career scholars hope to provoke a wider discussion of the issue of graduate student unionization by offering their takes on why it is so important and why the current pandemic crisis makes the issue more urgent than ever. We welcome responses from readers, which may be sent to newsletter@hssonline.org.

Kristine Palmieri (University of Chicago)

Although HSS is an international society, most of the contributions here are from scholars working at American institutions. This is not merely intentional, it is inevitable. Debates concerning graduate student unionization have a unique valence in the American context. Elsewhere, even in the absence of formal unions, graduate students are generally protected by laws that recognize their labor as work. This recognition ensures that they have access to benefits and legal protections that many graduate students in the USA lack.

I experienced this difference firsthand when, during fellowships in Europe, I was classified as a member of staff or as an employee (and in the latter case even had paid vacation days). But at my home institution I am simply a student who has the privilege of learning and whose labor is not considered work. Case in point: in October 2019 the University of Chicago introduced a new funding model which reclassified teaching by PhD students as being “mentored teaching experiences and separate from funding.” The new model is admittedly generous overall, but this does not belie the fact that identifying graduate

student teaching as a purely pedagogical exercise denies the labor that we do in the classroom.

Moreover, graduate students do not just work as teaching and research assistants, or as independent lecturers and instructors. We are researchers who produce scholarship that contributes to our field. And if we work, then the matter of unionization should be our choice.

Denying that graduate students have the right to unionize also drives a wedge between those with PhDs and those without. If graduate students are the future of our society, and I strongly believe that we are, such a wedge is detrimental. It inhibits us from uniting as a profession in order to advocate for the employment rights of all historians of science, regardless of their career stage.

HSS has already stated its support for unionization efforts by endorsing two AHA statements. This is a good start, but it is only a start. As we hope these contributions make clear, discussions concerning graduate student unionization do not, indeed cannot, take place in isolation. HSS needs to continue thinking about what it can do to support graduate students

as well as those members of our community in precarious employment situations. The COVID-19 pandemic has thrown many issues into sharp relief, but has also presented us as an organization with the opportunity to address them.

Eric Gurevitch (University of Chicago)

The university is changing: on that matter, everyone seems to agree. At the University of Chicago, where I am a PhD candidate, we have seen undergraduate admissions become markedly more competitive and the undergraduate class-size grow dramatically. We have also seen the explosion of expensive Master's programs, the trimming down of PhD program size, and more normalized compensation for PhD students. The number of tenured and tenure-track professors has not expanded with the increase of the undergraduate college size, and the difference has been made up by post-docs and doctoral students, who are hired on a short-term basis, and whose positions at the university are always precarious. Some of these changes have been welcome. Others have not. But in both instances, graduate students did not have a significant say in how changes were effected.

Graduate Student Unionization, cont.

In October 2017, graduate students at the University of Chicago in the Biological Sciences Division, the Divinity School, the Humanities Division, the Physical Sciences Division, the Social Sciences Division and the School of Social Service Administration voted with a 70% majority to form a union in an election administered by the National Labor Relations Board (NLRB). The university administration contested the election, and dragged out court proceedings until the Trump administration appointed a new Chairman to the NLRB. The Graduate Student Union (GSU) and the university administration have been in a stand-off ever since, with the Union seeking voluntary recognition from the university.

In May 2019, GSU carried out a three-day work stoppage on campus. They demanded recognition, better processes for addressing workplace grievances, and dental insurance. The campus shut down for three days. With graduate students and a large number of supportive faculty refusing to work, campus life could not continue.

Graduate school is—it is to be hoped—a short period in the life of scholars. At the University of Chicago, that time is getting shorter and shorter, with strict new time-to-degree requirements recently having been put in place. Universities

across the world are changing at a rapid pace, and the precarious and short-term position of graduate students puts us in a particularly powerless position as changes are enacted. Unionization ensures that graduate students receive representation even as individual graduate students graduate—and this in turn ensures the continuation of research and academic life at universities. We believe that unionization is essential to ensuring that as the university changes, research continues to be privileged. As the economic effects of the COVID-19 pandemic become apparent over the next few years, universities will likely shift to new financial models. To ensure that pedagogy and research remain at the heart of the university mission, graduate student unionization is a necessity.

Patrícia Martins Marcos (University of California, San Diego)

The COVID-19 pandemic did not create a crisis, it merely exacerbated an existing one. For decades, graduate students nationwide have exposed the increasingly entrenched economic and socio-professional inequities that threaten our profession in the long term. Between growing job precarity, below-poverty incomes, dilapidated working conditions, intermittent access to costly healthcare, and the uncertainties of the job market, academics of all ranks are called to normalize the anomalous. Thus, this is a moment

to rethink existing ways of supporting, fostering, and upholding scholarly communities.

For the HSS, this opportunity involves rethinking its mission, purpose, and powers. Professional associations, by virtue of their ability to unite, possess resources unavailable to individual departments and universities, for example to build up a coherent defense for the profession as a whole. That is not to say that professional associations and unions are one and the same, as each institution possesses different aims. However, both share concerns with the lives and livelihoods of their members.

As higher education moves into new terrains—something that COVID-19 precipitated—and as the profession diversifies and grows, professional associations like HSS are called to reflect and reinvent themselves. Can associations dedicated to promoting dialogue and advocacy continue to exist divorced from the material conditions actively undermining the profession? What other aims preoccupy its members besides publishing a reputable journal and convening a yearly conference? How can graduate students and contingent survive a post-COVID 19 job market and keep hope in the face of retracted offers, cancelled searches, and hiring freezes?

While the HSS may not have answers to these questions, it is not only vital for it to pose

Graduate Student Unionization, cont.

them, but also important to formulate concrete, action-based answers. While crafting solutions to the profession as a whole, it is critical to acknowledge the historical role unions played in navigating these intractable problems. As the university's corporate nature becomes increasingly naturalized, profits rather than education became its true purpose. The fiction of continuity crafted under COVID-19—epitomized in the overnight switch to online platforms, and the sudden overburdening of many with homeschooling and caretaking duties—is emblematic of that chain of priorities which places the imperative of profits above the health and welfare of professional educators.

Professional organizations like the HSS must have a role to play in this moment, too. The price of inertia is great: the unmitigated decline of the profession not only as we know it, but in its entirety.

Sarah Naramore (Northwest Missouri State University)

In retrospect, I wish there had been a strong union when I was a graduate student. At Notre Dame, where I received my doctorate, the “union” was something that felt more akin to student government than a labor organization. While it provided some conference funding and a needed community it did not, from my

perspective, empower graduate students to see themselves as workers. Early on I never really questioned the idea that graduate students were students first. I had just come out of my undergraduate degree and honestly didn't know the kind of work I would face.

Several things have changed my mind and led me to think that, going forward, unions need to be part of academia, not only for graduate students but also for postdocs, contingent, and term faculty. Unions are essential for their ability to negotiate for both financial remuneration and for access to essential institutional resources. This has been made especially clear by graduate worker complaints in areas with a high cost of living, such as Santa Cruz.

Another advantage of unions is that they have the ability to collect the concerns of the group in order to advocate on behalf of the community. Such a measure ensures that the most vulnerable (due to illness, disability, family commitments, immigration status, or a host of other issues) are not treated as “special cases” in isolation from one another, but as important and fundamental parts of the graduate student cohort. In my own graduate experience, and as an early career scholar, I have seen that the tendency to take concerns on a case-by-case basis inevitably leads to inequality in treatment.

Finally, I specifically want to address the issues of health benefits and leave, from both a professional and personal standpoint. Graduate students and contingent faculty often have poor, confusing, or missing benefits. I had serious health problems as a graduate student and didn't know what my realistic options were, in terms of paying for treatment and getting time off; nor did I know whom to ask. I was away on research out of my insurance network and had to choose between losing time going back to Indiana or losing money but gaining support by staying with family nearer my research. It worked out in my case, but things could have been much better. With the new challenges of COVID-19 these questions will be all the more pressing. Whether online or in person, we are all still at risk for getting sick and need policies to protect us. Graduate students are workers and deserve the protection of a union.

Sarah A. Qidwai (University of Toronto)

Unlike students in many other North American universities, graduate students at the University of Toronto are unionized. Graduate students are represented by the Canadian Union of Public Employees (CUPE) Local 3902, one of the oldest unions of teaching assistants in North America. Currently, it represents a broad community of some 9,500 members across five bargaining units,

Graduate Student Unionization, cont.

including teaching assistants, sessional faculty, and postdocs. The union has signed nineteen collective agreements with the University of Toronto. As a graduate student there, I have benefitted quite a bit from my involvement with the union.

Before union members organized in 1973, there were around 440 pay categories with very little job protection at the university. Successful unionization led to protections, not only for graduate students, but for the units, e.g. departments or schools, that they were in, as well. A good example of the latter is overwork protection. Each department has a Workload Review Committee and for each TA appointment, there is a DDAH form (distribution of duties and allocation of hours). This form is given to us before accepting the job and there is a mid-semester review of the workload.

Meanwhile thanks to the union, graduate students enjoy a wide range of union-related benefits, including guaranteed graduate funding for up to five years, subsequent job appointments for five terms, protection in the form of a grievance process and workload reviews, and paid leave. Union members receive health and dental benefits and access to various financial assistance funds including a tuition assistance fund for members outside the funded cohort, a trans fund for members who self-identify as trans, and

a sexual and domestic violence survivors fund. With increasing precarity and scarcity of tenure track jobs, I firmly believe labor unions are an essential part of academia.

Simon Torracinta (Yale University)

There is a long history of scientists mobilizing around labor issues. Perhaps the first official trade union of scientists, the National Union of Scientific Workers, was launched in Britain in 1917. Its aim, as its founding committee proclaimed in *Nature*, was to “make it possible for the scientific worker to make research his profession.” A century later this issue is still very much alive for scientists and historians of science alike.

What would make it possible to make research and teaching a profession today? In 1969, 78% of instructional staff at US institutions of higher education were tenured or on the tenure track; today that figure stands at 33%. Meanwhile the University of California, Berkeley Labor Center reports that a quarter of part-time faculty resort to public assistance programs to make ends meet. Part-time faculty in our field are patently not exempt from such a fate, and the austerity that will follow this pandemic is likely to make matters far worse.

The history of science teaches us that knowledge is inseparable from the practices and circumstances

of its making. It therefore behooves our discipline to attend to the damage that rising academic precarity has on our collective scholarship. Job market numbers for the tenure track indicate that, to the extent that graduating PhDs in the History of Science wish to remain in academia, the large majority will do so as adjunct faculty. Unionization is therefore relevant to their material and professional conditions during their period of doctoral study, and for their professional career thereafter. Graduate students with uncertain futures, who often lack access to adequate healthcare and robust contractual protections against harassment or discrimination, are not in a position to flourish and renew the field.

Young scholars in our discipline have much to offer in a context where, for instance, epidemiological knowledge is subject to acrimonious political controversy. But we are facing a steeply impoverished professional future. While unionization is no panacea for the broader structural crisis facing higher education—not least declining state investment in public universities—it does allow graduate students (as well as lecturers, postdocs, and public university faculty) the crucial right to collectively bargain with our employers over the basic standards of our work.

A Historian of Science Off the Beaten Path

by Henry Small

Editor's note: In this article, we hear from a historian of science whose career was decidedly unconventional for a PhD in our discipline. He tells of his choices and career trajectory, and offers some pithy advice for graduate students and young scholars on the job market.

I have an odd feeling writing about my history of science background having more or less left the field some fifty years ago. But, despite my unorthodox career trajectory—mostly in the information industry—I somehow feel I am still doing “history of science,” albeit in my own way.

My story begins as a grad student in chemistry at the University of Wisconsin in 1963 where I was a PhD candidate in computational chemistry and taught chemistry as a TA. My introduction to the history of science came from taking a course from Aaron Ihde whose book, *The Development of Modern Chemistry*, I still have on my shelf. The whole idea of studying the history of science was jolt to the mindset of someone working at the “cutting edge” of a field without knowing anything about its history, but I found it fascinating to study how chemical concepts originated. I recall telling my major professor that I wanted to understand where quantum mechanics came from, and why classical mechanics was insufficient. This led to my work

at Wisconsin's history of science department under Erwin Hiebert. I recall naïvely asking my history of science professors why we couldn't just use the scientific literature to reconstruct the history of a field? Of course, their reply was that we had to consider a much wider range of sources, but perhaps the die was cast. My thesis was on the history of the old quantum theory, and I received a joint PhD in chemistry and the history of science.

My first job at the American Institute of Physics Center for the History of Physics (CHP), then in New York City, could not have been more fortuitous. First and foremost, it was there that I met my wife of 50 years. On the professional side, CHP had an NSF-funded project to collect sources for the history of nuclear physics. I got to meet many historians, philosophers and sociologists of science who visited the Center and the affiliated Niels Bohr Library, among them, Tom Kuhn, Gerald Holton, Paul Forman, Robert Merton, Harriet Zuckerman, Ernan McMullin, Imre Lakatos, Derek Price to name but some.

Part of my job at the CHP, under the historian Chuck Weiner, was to “map out” what nuclear physics consisted of in the 1920s and '30s, an assignment which I took literally, spending weeks coding data from physics articles and literature indexes and then statistically manipulating



The author (left) with friends in Vienna at the 2013 annual meeting of International Society for Scientometrics and Informetrics (ISSI)

the data to create a map of nuclear physics which could evolve over time as a series of cross sectional snapshots. In this work I was influenced by “information scientists” in particular, Art Herschman and Sam Schiminovich, who worked across the street in AIP's information division. I didn't know what information science was, but I could see how my work was similar to but also a new departure from what they were doing.

I excitedly wrote up my findings on “mapping” the physics literature, and submitted a paper to Isis, but was disappointed to receive a rejection notice several months later. By this point I knew that my ideas on mapping science were

Off the Beaten Path, cont.

outside the mainstream of what was considered proper history of science. I could have continued to plug away in the field, but it made more sense for me to switch to a field where I knew my ideas would be better received. Thus, I decided to find a position at an organization that systematically collected the kind of data on science I was interested in where I could continue my experimentation. After contacting almost all the abstracting and indexing services, I found the ideal employer, the Institute for Scientific Information (ISI) in Philadelphia. Not only was its founder/creator Eugene Garfield interested in history of science, but he also knew many of the historians and sociologists I had met at CHP.

I quickly adapted my new techniques to *Science Citation Index* data and submitted my first paper to the journal of the *American Society for Information Science* in 1973. This paper on “co-citation” eventually became a “citation classic” and subsequent research at ISI led to my receiving several major awards in information science and the new field of scientometrics.

I was pleased to receive a note from Erwin Hiebert that one of my papers was, as he put it, “pregnant with possibilities.” He had been one of the referees responsible for rejecting my earlier paper. I had also proposed that clusters of co-cited papers could be interpreted as “paradigms,” but Kuhn did not like this idea. Nevertheless,

some of his later writings point to an information theoretic interpretation of paradigms and revolutions in science.

Knowing of my dissertation, Paul Forman tried to talk me into writing up how the failure of the old quantum theory contributed to the development of the new quantum mechanics, but by that time I had more pressing matters to deal with in information science. The closest I got to history of science in the following years was to create a citation index for the physics literature covering the early twentieth century.

I recall attending HSS meetings in the early years to present some of my ideas. In my very first presentation of work-in-progress at a HSS meeting in 1970, I offered an interpretation of the old quantum theory history in terms of the increasing loss of confidence and growing uncertainty about the assumptions of the theory. Recently I returned to this theme of perceived “certainty” in the context of theories of confirmation in science.

Nowadays, one can more easily study such questions using electronic, full-text databases and the techniques of computational linguistics. I also was a founding member of 4S in the 1970s, for a while editing their *Newsletter*, but the field was irrevocably split between the social constructivists and the “citationologists” like me. So, some of

us went our separate way and founded the ISSI. In 2003 I was pleased to be elected president of that group who are to this day going strong, with biennial meetings and a new journal.

Reflecting on my almost 60-year career in chemistry, history of science, information science and scientometrics, I realize that not everyone may want to pursue such a perilous career path. I had the good fortune of finding the right positions at the right time, but my career could have easily crashed and burned. Working in the corporate world also presented unique challenges. Nevertheless, my message for grad students who may not be interested in finding a traditional academic position, if you strongly believe in the correctness of your course, then you must follow it wherever it leads. Good luck.

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Henry Small is the Chief Scientific Officer at SciTech Strategies, Inc.

Innovations in Education

Teaching with Podcasts

by Jörg Matthias Determann

Studying history is not normally a physically dangerous activity, but it can have adverse health effects. Spending too much time sitting indoors, hunched over books and papers, and staring at the screens of various devices is hardly ideal for our backs, necks and eyes. When I was a graduate student at the University of London's School of Oriental and African Studies (SOAS) between 2008 and 2012, I experienced not just mental pressures, but also a worsening of my eyesight. One activity that helped me, besides acquiring new pairs of glasses, was listening to podcasts. I would regularly get up from my laptop and enjoy different sensory experiences: keeping my body upright, looking out of the window and into the distance, while taking in new sounds. If an inner voice was telling me that I should go back to my books and be productive, I could respond that I was still learning but just through a different medium.

Because podcasts were so beneficial to me as a graduate student, I have consistently included them in my syllabi since becoming an assistant professor at Virginia Commonwealth University in Qatar in 2013. I have assigned them in the same way as I have texts or films and, indeed, alongside them. I request my students to listen to



The author (right) and Taylan Güngör, a doctoral candidate in Near and Middle Eastern Studies at the School of Oriental and African Studies, recording an episode of the Ottoman History Podcast on “The Arab Conquest of Space” at the SOAS Radio studio in London in July 2019.

them outside of the class time and discuss or react to them during our meetings. “You don’t have time to read an entire book until next week?” I would ask. “Why not listen to a one-hour conversation with the author in an episode of the *New Books Network* instead and get her main points this way?” Many podcasts, such as *Time to Eat the Dogs* by Michael Robinson, offer even shorter formats.

In order to demonstrate that they have understood the material, students have to produce something on the basis of their listening. This can be a short response paper or something more creative—like a visual artwork, performance or game. Some students might find one or the other program of BBC Radio 4’s *In Our Time*, for example, as boring as a textbook section. In such a case, I would encourage them to show

Innovations in Education, cont.

their mastery of the subject by turning it into something more engaging. They could assume the role of a past scientist in a skit performed in front of their classmates, for instance. I have also encouraged students to cite podcasts alongside traditional academic media in longer essays due at the end of the semester.

Beyond giving my students' eyes a break from texts and images, the spoken word has other advantages. In recorded conversations, academics tend to use simpler language than in peer-reviewed academic articles and monographs. Professors who regularly appear on public radio programs usually avoid specialized terminology. If they do use rare words, they provide my students—most of whom are not native speakers of English—with authoritative pronunciations. Programs, in which multiple speakers are disagreeing with one another, further give a good sense of academic debates that is often hidden from textbooks. Students under time constraints, such as those who care for family members, can listen to discussions while doing manual chores.

Most of my students have enjoyed listening to podcasts, and some of them have even produced their own as part of their course work. They thus imitated and at times satirized the expert discussions they were introduced to. For that, they required little more than a recording app on

their smartphones and a quiet room. Compared with making videos, they were perhaps attracted to a medium that valued their voices over their looks. No suits or makeup needed! My classes are also predominantly filled by Muslim women who are less reluctant to turn their faces to a microphone than to a camera. In order to be able to guide my students in making their own shows, I have also sought first-hand experience as a contributor to the *New Books Network*, *Time to Eat the Dogs* and the *Ottoman History Podcast*.

However, I have also heard criticism. Occasionally, students have expressed difficulties understanding a podcast either because of the sound quality or a speaker's accent. While empathizing with them, I told them that they could expect similar challenges when attending an international conference. I advised them that instead of trying to transcribe the recording, they should rather focus on getting some valuable idea out of it. If every effort to extract information from an audio file fails, many websites, like that of the *Ottoman History Podcast*, come with bibliographies for further reading. Of course, I could have minimized complaints about sound quality by only assigning radio programs made in professional studios like those of the BBC. However, I would then also have reduced the plurality of voices that my students are exposed to. Especially when teaching the global history

of science, we must not ignore those producers of knowledge without access to expensive infrastructure.

Podcasts may not be to everybody's taste, but they have enriched my syllabi. Students with a variety of learning styles benefit from having multisensory experiences. People with disabilities also have a right to the kinds of material that best serve them. By adding audio files to texts, videos, and tactile objects, we can engage a broader spectrum of students. Because most podcasts are free or very affordable, graduates will continue to have access to them even after losing their university library accounts. As such, they also form a resource of life-long learning.

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Jörg Matthias Determann is Associate Professor of History at Virginia Commonwealth University in Qatar and the author of *Space Science and the Arab World: Astronauts, Observatories and Nationalism in the Middle East*.

Member News

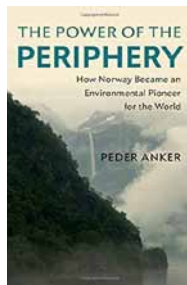
Anthony Adler (Carleton College) published *Deep horizons: Canada's underwater habitat program and vertical dimensions of marine sovereignty* (Centaurus, 2020).

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Warwick Anderson (University of Sydney) and **Gabriela Soto Laveaga** (Harvard University) coedited and published a forum on *Decolonizing Histories in Theory and Practice*, which focuses particularly on decolonizing histories of science.

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Peder Anker (New York University) published *The Power of the Periphery: How Norway Became an Environmental Pioneer for the World* (Cambridge: Cambridge University Press, 2020).



.....

Lydia Barnett (Northwestern University) is the 2019 recipient of the **Morris D. Forkosch Prize** from the *Journal of the History of Ideas* for her book, *After the Flood: Imagining the Global Environment in Early Modern Europe* (John Hopkins University Press, 2019). Additionally, her book was shortlisted for the 2020 **Kenshur Prize** for the best book in eighteenth-century studies by the Center for Eighteenth-Century Studies at the University of Illinois-Bloomington.

On June 1, 2020, **Glen Van Brummelen**, formerly the Coordinator (chair) of Mathematics at Quest University, Squamish, Canada, took up a **new position as Dean of the Faculty of Natural and Applied Sciences** at Trinity Western University, Langley, Canada.

.....

Jesús Catalá-Gorgues (Universidad CEU Cardenal Herrera, CEU Universities, Valencia, Spain) published *Senderos de la descripción. Perspectivas teóricas y prácticas diversas* (Granada: Comares, 2020).



.....

Ian Davis (Universidade de Coimbra, Coimbra, Portugal) published “**SARS-CoV: Lessons learned; opportunities missed for SARS-CoV-2,**” *Reviews in Medical Virology* n/a, no. n/a (n.d.): e2152.

.....

Jörg Matthias Determann (Virginia Commonwealth University in Qatar) published *Islam, Science Fiction and Extraterrestrial Life: The Culture of Astrobiology in the Muslim World* (London: I.B. Tauris, 2021).



James Fleming (Colby College) published *First Woman: Joanne Simpson and the Tropical Atmosphere* (Oxford University Press, 2020).



.....

Donald Forsdyke (Queen's University) recently published the following: “**Metabolic Optimization of Adoptive T Cell Transfer Cancer Immunotherapy: A Historical Overview.**” *Scandinavian Journal of Immunology* 92, no. 3 (2020): e12929, the final installment of a trio of articles on the history of immunology; and “**Revisiting George Romanes' 'Physiological Selection' (1886)**” *Biological Theory* 15, no. 3 (September 1, 2020): 143–47, an invited foreword to the republication republication of George Romanes' 1886 Linnean Society address in the journal's “Classics in Biological Theory” collection.

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Patrick R. Girad (Creatis, Insa, University of Lyon, France) published a revised version of his PhD thesis with a few explanatory remarks and supplementary material online: “**History of Einstein's General Relativity: Conceptual Development of the Theory.**” Theses, University of Wisconsin-Madison (Etats-Unis), 1981.

Member News, cont.

Kristine Harper (University of Copenhagen) was awarded the **National Endowment for the Humanities Open Book Award** for her NEH-funded monograph *Make it Rain: State Control of the Atmosphere in Twentieth-Century America* (Chicago, 2017). She also wishes to announce her move from the Florida State University History Department (retired January 2020) to the **HPS Section of the University of Copenhagen’s Department of Science** as a Professor of History and Philosophy of Earth Science.

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Marieke Hendriksen (NL-Lab, Royal Netherlands Academy of Arts and Sciences) helped launch *Wonderkamer*, a twice-yearly Dutch-language magazine, through the Belgium-Dutch Society for the History of Science, Gewina. The first volume of *Wonderkamer*, devoted to colonial science, was published in June 2020 and includes articles about Dutch colonial observatories and about psychiatry in the former “Dutch Indies.”

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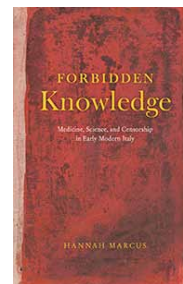
George Makari (Cornell Medical College) recently published an **essay** in the *Los Angeles Review of Books* about his father, a pioneer of modern immuno-oncology.

.....

Alan I. Marcus (Mississippi State University) was selected as the 2019 recipient of the Agricultural History Society’s annual **Gladys L. Baker Award for Lifetime Achievement**. He will formally accept his award during a 2021 in-person ceremony due to this year’s cancellation during the COVID-19 pandemic.

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Hannah Marcus (Harvard University) published *Forbidden Knowledge: Medicine, Science, and Censorship in Early Modern Italy* (Chicago: University of Chicago Press, 2020).



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Bennett McIntosh (PhD student in HSMT at UW Madison) was recently elected publisher of the re-launched *Science for the People* magazine.

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Pedro Raposo (Curator and Director of Collections, Adler Planetarium) is the chair of the recently formed **History of the Planetarium Working Group** of the International Planetarium Society (IPS). The goal of this working group is to promote research and outreach as well as preservation and accessibility of source materials in the history of planetaria.

More information is available on the **society’s website**. Feel free to contact Pedro at **praposo@adlerplanetarium.org** if you would like to become involved or learn more about the activities of this group.

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Seth Rasmussen (North Dakota State University) recently published the following: “**Peer Review—Critical Feedback or Necessary Evil?**” *Substantia* 4, no. 1 (January 13, 2020): 5–6; and “**Conjugated and Conducting Organic Polymers: The First 150 Years.**” *ChemPlusChem* 85, no. 7 (2020): 1412–29, an invited review of the last ten years of his own work on the topic.

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Felix E. Rietmann (University of Fribourg, Switzerland) has received a prestigious Ambizione grant from the Swiss National Science Foundation for his project “Raising a Well-Grown Child: Media and Material Cultures of Child Health in the Early Nineteenth Century,” which investigates how child health emerged as a subject of public interest in German-speaking Europe in the early nineteenth century, through an examination of popular print media and

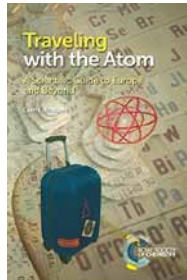


Member News, cont.

medico-pedagogical objects and devices. The grant covers research in a small group for a period of four years.

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Glen Rodgers (Allegheny College) published *Traveling with the Atom: A Scientific Guide to Europe and Beyond* (The Royal Society of Chemistry, 2020).



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Naomi Rogers (Yale University) has recently become Chair of the Women Faculty Forum at Yale University, a cross-school group that advocates for gender equity and diversity.

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Effective September 2020, **Neeraja Sankaran** (editor, *HSS Newsletter*) is a visiting scholar in Bert Theunissen's HPS group in the Freudenthal Institute (Science Faculty) and the Descartes Centre for the History and Philosophy of the Sciences at the University of Utrecht.

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Kathleen Sheppard (Missouri S&T) was named one of the recipients of the **University of Missouri System President's Award for Innovative Teaching** in 2020.

Carlos Eduardo Sierra (Universidad Nacional de Colombia) recently published the following four articles:

- **Protoideas de termodinámica y evolución en la obra biológica de Aristóteles**, *Revista Colombiana de Filosofía de la Ciencia* (RCFC), 3 April 2020
- **La dimensión bioética de la crisis educativa**, *Revista de Bioética Latinoamericana*, 3 August 2020
- **Crisis de los intelectuales en tiempos de pandemia**, *Revista Nueva Gaceta* (Centro de Estudios Nueva Gaceta), 25 June 2020
- **Lectura de la pandemia del coronavirus desde el legado de Cajal**, *Revista Comarca* (APIAC, Spain), June 2020

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Pamela Smith (Columbia University) published **Schooling the Eye and Hand: Performative Methods of Research and Pedagogy in the Making and Knowing Project** (*Berichte zur Wissenschaftsgeschichte*. 43 (2020): 323-40).

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Frank W. Stahnisch and **Erna Kurbegovic** (University of Calgary) published the following edited collection: *Psychiatry and the Legacies of Eugenics: Historical Studies of Alberta and Beyond* (Edmonton, AB: Athabasca University Press, 2020).

Robert Westman (University of California, San Diego) published *The Copernican Question: Prognostication, Skepticism and Celestial Order* (Berkeley, CA: University of California Press, 2020). He also posted a second volume which is a Chinese translation of the same.



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In Memoriam

Richard Olson

4 November 1940 – 27 June 2020

by Andre Wakefield

Richard “Dick” Olson, Professor of History Emeritus at Harvey Mudd College, passed away on June 27, 2020. He leaves behind his wife Kathy Collins Olson, his brother Gary Olson, his sister-in-law Tina, his dog Parker, and the many students and colleagues who benefited from his decades of devoted teaching at the Claremont Colleges.



With half a dozen books to his name, along with more edited volumes and dozens of articles and book reviews, Dick was an extraordinarily productive scholar; he was still writing until the end. The first thing that will strike you, in our era of relative professional narrowness and specialization, is the extraordinary breadth and depth of his contributions. Equally at home in Archimedes’ Syracuse, Enlightenment Edinburgh, or Cold War Cambridge, Dick seemed to write about, read about, teach about, and know everything. But he was no mere

curious intellectual tourist. Underneath this vast vision across space and time, he was driven by a few great themes. Most of all, he sought to interrogate the rise and impact of scientism, which became for him the central theme of his life’s work. He produced three sweeping volumes on the subject, spanning 1982 to 2016, and he was at work on another volume at the time of his death. His work tracked and documented the rise and triumph of scientism in all walks of life. He was especially interested in the emergence of the social sciences, and his work about the pervasive nature of scientism and positivism in economics, psychology, and sociology is among the best we have. His multi-volume, multi-decade opus—really one great project—is the legacy he leaves to the history of science; those with the patience and the ability to read it will appreciate its value.

Dick received his BA in physics from Harvey Mudd College (HMC) in 1962 before going on to earn an MA in physics and a PhD in the History of Science from Harvard University. After a stint at the University of California, Santa Cruz, he returned to his undergraduate alma mater in 1976 and thereafter never left. In the decades following Dick was a force, serving as head of the Department of Humanities and Social Sciences and later as head of faculty. More than that, Dick was an enthusiastic advocate, pioneer and builder of the Claremont Colleges

Program on Science, Technology, and Society (STS), which he directed on more than one occasion. As a young historian of science at Pitzer College, I recall that it was Dick, from neighboring Harvey Mudd, who was one of the first to greet me and to welcome me to the Five-College STS program, which became an intellectual home for many of us across the Claremont Consortium, largely thanks to his efforts. He was generous that way.

Dick’s research passions spilled quite naturally into his pedagogy, where his vast reading and scope of knowledge entertained and fascinated generations of students. I sat in on some of those classes, and it was a thing to behold. Dick was a master of the big picture and the synthetic frame, connecting places and times in sometimes startling and always illuminating ways. You wouldn’t normally expect an STS administrative meeting on cross-registration to be much fun; but with Dick in the room, you’d be wrong. One minute we might be discussing the standardization of student ID numbers, and the next thing you know we would drift to William Petty’s political arithmetic. Thanks Dick.

Through all of the meetings and the administration and the scholarship and the teaching, one thing was always clear: Dick Olson was a Harvey Mudd patriot. He believed that the school had a mission, a special place

In Memoriam

in U.S. higher education. He called it “liberal education,” to distinguish it from the liberal arts education of colleges like Pitzer and Pomona, on the one hand, and from the more narrowly technical education of science and engineering schools, on the other. Taking the long view, as he almost always did, Dick found the model for an HMC education in eighteenth-century Scotland, where technical education had transformed the traditional trivium and quadrivium. In his view, American liberal arts colleges have largely abandoned that Scottish approach to liberal education, with its focus on mathematical and technical sciences. Harvey Mudd remains the one carrying it forward, and serving as a much-needed model for other institutions, such as CalTech and MIT, for how liberal education can avoid the vicissitudes of narrow, merely technical training.

Dick leaves us a multi-faceted legacy of vast-ranging synthetic scholarship, of pedagogical vision and reform, and of local collegiality and warmth. I will always remember him, walking with his dog to grab a doughnut and coffee, ready to discuss anything, but it the local STS budget, the latest fads in the history of science, or to the disputes between cameralists and physiocrats in eighteenth-century Heidelberg. Dick always seemed to be at home everywhere, and that made him especially easy to talk to. Here in Claremont,

and out there in the history of science, we are poorer for his loss.

Several years ago Dick endowed an undergraduate scholarship, the Richard G. Olson '62 Endowed Scholarship Fund at Harvey Mudd College, from the proceeds of the sale of his family's mountain cabin in Plumas County, California, where he had spent many summers preparing courses and writing away from the heat of the Southern California summers. The family requests that any donations in his name be made to this Fund.

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Andre Wakefield is Professor of History at Pitzer College in Claremont, CA.

Elizabeth Anne Wolfe Garber

1939 - 1 July 2020

by Sarah Lowengard and Joel Rosenthal

Elizabeth Garber, Professor Emerita of history at Stony Brook University, died at home from the complications of Alzheimer's Disease on 1 July 2020.

Liz grew up in London and graduated from Bedford College, University of London, with a degree in physics. She came to the US to continue her studies at the Case Institute of Technology (now Case Western Reserve University), moving to the History of Science program where she completed a PhD in 1966. While studying and living in Cleveland she met and married Don Garber, who was working on a PhD in physics. Their wedding took place just before she began to write her dissertation and Don's wedding present to her was a three-month typewriter rental. So, she said, she just had to get it done on time. The idea that you meet—or exceed—such expectations was typical of Liz's approach to work.

In the late 1960s Don joined the Brookhaven National Laboratory and the couple moved to Long Island, New York. Liz began teaching at SUNY-Stony Brook (now Stony Brook University) first as an adjunct and later as a full

In Memoriam

faculty member. Her interest in the history of the physical sciences was considered a surprise benefit for Stony Brook's strong programs in the sciences and engineering. When she came up for tenure one of the referees noted that she knew "a lot about physics for an historian." Another early and unusual-seeming research field was the history of meteorology; tenure referees were impressed by this focus and remarked on her work as a font of information. Liz's later interests in the history of mathematics and mathematical physics led her to expand her research beyond the history of physics and thermodynamics into social and intellectual history of early modern Europe.

As a member of the Stony Brook faculty Liz taught an undergraduate survey of the history of science and technology and more advanced undergraduate courses on the history of the physical sciences and the social history of science. She served as director of graduate studies and was the principal advisor to several PhDs. She was known to be a demanding teacher but one about whom few students complained; her obvious commitment to the material she presented gave a sense that "if she can do it,...I guess I can as well." She would often announce to her graduate classes that she would leave discussion to them... and then talk for the full three hours of class time without notes and few pauses. You learned

quickly that there were no cigarette breaks in Liz's classes.

Despite the role she cultivated as the crabby and frank semi-outsider on many issues Liz was always a helpful and supportive colleague, especially to younger faculty hired during her long watch. Liz was respected by her graduate students and history of science colleagues as a no-nonsense and insightful editor. She had famously stubborn attitudes toward technology—refusing for example to memorize her social security number and writing early drafts longhand (the better to cut and paste) but submitting what was essentially a typeset manuscript to her publisher using an early version of LaTeX. The un-ergonomic characteristics of the stairs to the History Department were another regular complaint.

Liz was as serious about her hobbies as she was about her work. She sewed and knit many of her own clothes, the more complicated the better. As might be expected she was drawn to projects that required mathematics to work out patterning. She and Don were serious gardeners and their house in East Setauket was always undergoing improvements. After Don retired from Brookhaven, he and Liz became more active in such community projects such as greening the Stony Brook campus and finding new uses for ageing strip malls. They were a fixture at

the classical music performances at the Stony Brook's Staller Center for the Arts and much of their social and community life was with non-academic friends. Trips into New York for lectures, concerts, museum visits or meals—especially meals—were fairly regular before Liz's retirement and became more frequent after that. Don's final illness coincided with her decline, but she was able to remain in the house they loved until her own death in early July.

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Sarah Lowengard is a historian of science and technology at The Cooper Union and Joel Rosenthal is Professor Emeritus in the Department of History at Stony Brook University.

HSS News

HSS 2020: The Virtual Forum

For the first time in its 97-year existence, the HSS is hosting a virtual meeting: **8-11 October**. We will recognize on the meeting website the many volunteers who helped create this forum, but we want to call special attention to the tri-chairs: Karen Scholthof, Chair of the Committee on Meetings and Programs; Christine von Oertzen, 2020 Program Co-Chair; and Soraya de Chadarevian, 2020 Program Co-Chair. We are particularly indebted to Christine and Soraya—the creators of the regular program had we been able to meet in New Orleans this year—for fashioning **a second virtual program**, which involved much more labor than the first effort. We are fortunate to have volunteers like Christine, Soraya, and Karen. Thank you!

Thank you Dr. Feigenbaum!

Just over three years ago, Ryan Feigenbaum began work in the HSS Executive Office (**see the [Newsletter article welcoming him here](#)**). His predecessor, Greg Macklem, had served as Society Coordinator for seven years, a remarkable record of endurance, and Ryan not only had to follow that feat of



stability but also had to face the challenges of preparing for the Toronto meeting. Ryan not only proved a quick study by masterfully handling a meeting that involved international borders and the attendant paperwork—he also presented a paper on 18th century German biology. He quickly grew into the role, introducing efficiencies into the office that can only be described as transformative, all while finishing his PhD in the philosophy of science.

While it is difficult to measure the total impact he has had on the Society, one area where his influence has been profound is the Website: **hssonline.org**. This is the main window through which the world sees the Society, and he improved the site in countless ways: appearance, load time, accessibility, interesting content, reliability, and so much more. He revamped the *Isis* Books Received section so that the books appear in a much more appealing format; introduced Formstack into our lives (the Swiss Army Knife of online forms) and thus standardized the mountain of forms that we must process; helped us all learn SLACK (short for Searchable Log of All Communication and Knowledge); created a Twitterdex for historians of science who use Twitter; and generally did the work of three people.

But most importantly, Ryan is a kind person. I would frequently hear him talking to our

undergraduate students and hear their laughter tinkling down the hall. He was such a good boss that they gladly came to the annual meeting to help, a remarkable thing for students whose schedules are typically filled to the minute. I will miss him more than I can say.

—Jay Malone, HSS Executive Director

HSS/NASA Fellow for 2020-2021

The 2020/2021 HSS/NASA fellow is **Megan Eardley**, a PhD Candidate in the School of Architecture at Princeton University. Her dissertation, “Ultra/Deep Space: Planetary Planning from South Africa's Mines to NASA's Skylab,”



examines how architects, engineers, and scientists concerned with the limits of human physiology and environmental design began to test their theories on South Africa's ultra-deep mines. Emphasizing corporate archives and experimental records produced between 1950 and 1980, she asks how the extractive industry, in turn, has shaped models and concepts of life in deep space. Working at the intersection of Science & Technology Studies and African History, Megan analyzes the development of deep shaft mines in

HSS News, cont.

Apartheid South Africa. While exceptionally deep gold and uranium deposits drove the development of mines more than two miles below the Earth's surface, mining companies invested in scientific research and design solutions that would send Black miners into parts of the planet that are dangerously hot, radioactive, and structurally unstable. As Megan tracks NASA's interests in deep mining research, she foregrounds questions about scientific racism, resource management, and the future of 'the human' in environments that are hostile to biological life.

An HSS@Work Career Profile: Jamie Brannon, Independent Scholar

Editor's note: This profile is the first of a series on non-academic HSS members to be presented by the HSS@Work team. It was only fair that they began this task in-house so to speak, and so kicking off the series is a piece by a volunteer member of this group, Jamie Brannon, reflecting on his own career as an independent scholar.

My pathway to the history of science and HSS was not what I would call usual. If someone would have told me in 1975 that forty-five years in the future I would be



an active independent scholar in the history of astronomy, I would have expressed strong skepticism. Yet, here I am in 2020 actively engaged in that field.

How did this happen? During my college years I knew I had an interest in the humanities, but for reasons that are not entirely clear, I studied chemistry and physics. Even in graduate school (PhD in Chemical Physics, UCSD, 1979) an ember of interest in the humanities still glowed within me. During that time, I often read many of the world's classics instead of the latest scientific journals. I took employment first as a research scientist, then later as an engineer, where I used my skills in lasers and optics to investigate surface physics and chemistry. Yet as my scientific career advanced, so did my awareness of my interest in humanities. During the 1990s, I started taking adult education classes in the humanities at universities near my Bay Area home—Stanford, UC Berkeley, UC Santa Cruz, and Santa Clara University. I did not realize then that these classes, which I greatly enjoyed, would later serve as a catalyst for a new career. As some difficult life events tore at me, two eventful things happened in 2008: first I quit my job, and then, I enrolled in Stanford's Masters of Liberal Arts program. While these moves were socially and economically fearful, the latter would open up many new doors and I never looked back!

At Stanford I became a humanist, improved my writing, and the research introduced me to the historical world of medieval astronomy. I felt I had finally found my element in life, and was so enthralled that I decided I wanted more graduate school. So in the fall of 2014—at age 62—I enrolled in the History of Science Department at the University of Wisconsin-Madison. It was a rigorous couple of years, sometimes socially challenging, but I learned a great deal about the history of astronomy and its cultural ramifications. I left Madison in 2016 with another MA, a network of like-minded colleagues upon which to draw, and once again took up residence in the Bay Area. Since that time I have been an independent scholar, in control of my own time and happily spending the hours doing research, reading, writing, publishing papers, and presenting at conferences. Now in my late sixties, I feel my career is just getting started. A pretty good life, but one I hardly imagined in my twenties.

Archival Resources in the Time of COVID-19

Creativity, collaboration, and resource-sharing have become imperatives of our research in this time, when travel restrictions and institutional closures related to the COVID-19 pandemic have prevented many of us from visiting archives

HSS News, cont.

and special collections. Happily, many archives are expanding their digital and online access and offerings.

In an effort to support members, HSS is launching a collaborative initiative among the Committee on Membership (CoM), the Collections, Archives, Libraries, and Museums Caucus (CALM), and the Consortium for History of Science, Technology, and Medicine (CHSTM) to consolidate those resources.


Links to online research resources will be made available in a new “Archives” page on

our website, the link to which we will provide as soon as the page goes live. We would like to draw particular attention to the “**Research Hub**” developed by the Consortium for History of Science, Technology and Medicine (CHSTM), of which HSS is a member, for accessing digital materials from participating collections. Some collections are also adopting new policies about access and circulation to accommodate researchers during this difficult time. Our new site will gather archival resources, information, and initiatives for easy access and exploration.

In order to improve and expand this initiative, we would like to hear from you! To this end we will be sending out a questionnaire in a separate email. We want to know what your research needs are at this time so that we can communicate them to archival institutions and organize accordingly. We also ask that you point our attention to any online resources you think would be of interest to our community so that we can add them to the site. We are grateful for your support of this collective project.



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Notes from our Bibliographer

A Bibliographic Tool to Study and Combat Racism in our Profession

by Stephen Weldon, HSS Bibliographer

A few months ago I initiated a new project on **Race and History of Science** in a long overdue response to the crisis we face in society, both in America and throughout the globe, namely, our modern social structure within which racist practices have been embedded. **In my initial statement on June 9**, I indicated that the *Isis Current Bibliography* can respond in meaningful ways to this call for change. Scholarship must be founded, I claim, on the fundamental value of the equality of all human beings and cannot operate honestly unless its practitioners embrace that basic ideal.

I have set up a small advisory board, which I intend to expand over the upcoming months, to help me think through and implement actions that will ensure that the content and outreach of this tool can deal with structural racism in history of science scholarship. You can see the list of current board members at the main Race and Science page linked above.

As part of this effort, I have created a word cloud of relevant keywords (controlled vocabulary) used in the IsisCB related to

race and racism in science, technology, and medicine. You can see this word cloud in full below.

The term selection is my own. I did not use any algorithm to find related terms, and I made the collection by doing several different searches through the database. I used my familiarity with the data and my own judgement about what terms seemed most relevant. The font sizes you see in the word cloud are not precisely proportional to the number of entries linked to each term because the counts ranged from two to nearly seven hundred, and doing a proportional count would have rendered some very important terms invisible. Instead, I adjusted the font to one of seven different sizes.

I have two reasons for creating this word cloud. First, visualizations such as this one can illuminate patterns in scholarship: how much and how little the topic of race is discussed in its various manifestations. Those looking to understand more about our field can glean some insights by simply looking at the keyword pages themselves.

Second, I am able to use this word cloud to look more closely at how terminology has changed over the decades in my work and in that of my predecessor. John Neu, for instance, was extremely constrained by the controlled vocabulary he was forced to work with. As a result, we find such oddities as the use of the term “African races” to mark biographical



Notes from our Bibliographer , cont.

materials about people of color, such as articles and books about African American scientists. Terminological differences such as this make material in the pre-2000 bibliography harder to find when using more familiar and appropriate search phrases. By discovering usage differences like this, I can develop better ways to direct users with specific interests.

Along these lines, I have begun to develop subclassifications. **You can see this classified list of terms on my blog if you go to the post.** The list gives the full names of each keyword, a precise count of the citations that are tagged by that keyword (as of mid-July), and a hyperlink directly to the Explore record for each one. The list also contains categories of terms related to colonialism and traditional knowledge that are not on the word cloud.

A third use of this word cloud has been to highlight just where the strengths and weaknesses of the IsisCB are. This survey has helped me in thinking about how to increase the number of citations in this area. We are now adding material from publications that I'd not searched previously, such as several journals specifically related to Black studies and the history of African Americans and other people of color.

Finally, I see this project as an experimental one that helps me think about ways to create a

more user friendly interface. To what extent will these word clouds and terminology lists make digging into the resources easier? As I build these visualizations, I am trying to test the waters for directions going forward, assessing both the strengths and limitations of them.

I would much appreciate any feedback you have on this project. Please drop me a line at isisbibliography@gmail.com and let me know if you would be interested in participating in some way.



**Plan Ahead
Future HSS Meetings**

2020

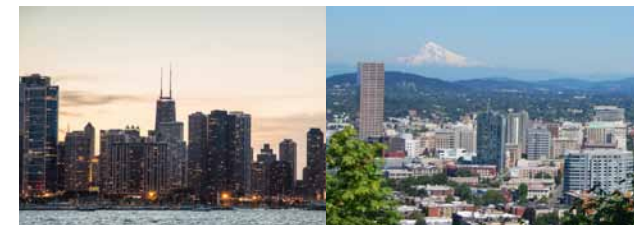
Because of COVID-19, we are unable to meet in New Orleans in 2020.



2021

New Orleans, LA

SHOT and HSS are working toward meeting together in New Orleans in 2021.



2022

**Chicago, IL:
November 17-20**

2023

**Portland, OR:
November 9-12**



News from the Profession

The Sixth Notes and Records Essay Award

Are you a researcher in the history of science, technology and medicine? Have you completed a postgraduate degree within the last five years? If the answer to these questions is yes, then you can enter our Essay Award for a chance to win £500 (or local currency equivalent) and publication of your winning essay in our history of science journal *Notes and Records: the Royal Society Journal of the History of Science*. One runner-up will also receive £250 and there will be £100 prizes for an additional three 'honourable mentions'. All winning categories will benefit from a free online subscription to the journal for one year. Deadline for entries is **28 February 2021**.

Further information available at <https://royalsocietypublishing.org/rsnr/essay-award>

Humanities Without Walls

Humanities Without Walls (HWW) invites applications from doctoral students pursuing degrees in the humanities and humanistic social sciences to participate in a three-week, virtual workshop for doctoral students interested in learning about careers outside of the academy, to be held in the summer of 2021. Selection for the workshop also includes a \$5,000 fellowship.

The 2021 workshop will be the first such for HWW, which is a consortium of humanities centers and institutes at 16 major research universities throughout the United States. This is a limited-submission application. Eligible doctoral students must be nominated for this workshop and fellowship by their home institution and only one nomination may be made to HWW by each university.

Full details of the program, including required application components, are available at: <https://www.humanitieswithoutwalls.illinois.edu/initiatives/pre-doctoral/pre-doctoral-cfa.html>

News from the Consortium of History of Science, Technology, and Medicine

The consortium shares recent podcasts with HSS members:

Propose a New Online Working Group CHSTM **invites proposals** for new online working groups focusing on specialized topics in the history of science, technology or medicine. We encourage proposals with a mix of conveners at different levels of seniority. This call is for groups that will meet between January 1 and December 31, 2021 and applications are due no later than **November 15, 2020**. Details on proposals can be found here: <https://www.chstm.org/news/propose-new-working-group-0>.

[chstm.org/news/propose-new-working-group-0](https://www.chstm.org/news/propose-new-working-group-0). Contact info@chstm.org with any questions regarding working groups.

Introducing CHSTM *Perspectives*

Perspectives, is a new library of podcasts, videos, and essays, along with resources for further learning and opportunities to engage in ongoing conversations. Accessible through the Consortium's website, *Perspectives* provides discussions with leading scholars, interviews with recent authors, and archival highlights from renowned history of science collections.

To find out more, please visit *Perspectives* at www.chstm.org/perspectives

Three New Podcasts: Perspectives on the COVID-19 Pandemic

This series of discussions by scholars in the humanities and social sciences raises questions and explores perspectives on the COVID-19 pandemic.

New Episodes:

- **Kavita Sivaramakrishnan** reflects on public engagement, political history, and the COVID-19 crisis in India.
- **Marcos Cueto** discusses the COVID-19 crisis in Brazil.
- **Mary Augusta Brazelton** talks about the COVID-19 crisis along with the history of public health and modernization in China.

News from the Profession, cont.

CFP: Association of East Asian Environmental History Sixth Biennial Conference

The Association for East Asian Environmental History (AEAEH) is now accepting proposals for organized panels and individual papers for its Sixth Biennial Conference to be held 7–10 September 2021 at Kyoto University, Japan.

The general theme of the conference is “Humans and Nature in East Asia: Exploring New Directions in Environmental History.” The deadline for submitting paper and panel proposals is **November 30, 2020**. Complete information about the conference, instructions for submitting a proposal and special pandemic precautions and caveats may be found on the AEAEH website.

Updates from the American Association for the History of Medicine

The American Historical Association has launched the **Bibliography of Historians' Responses to COVID-19**. Many AAHM members contributed to this bibliography. AHA is still accepting submissions here: **A Bibliography of Historians' Responses to COVID-19**. AAHM members can connect to these resources from the website on the **COVID**

19 Resources page or the **History of Medicine Resources** page.

AHA has also launched *Remote Teaching Resources* to help with the challenges of being a historian, and a history teacher, in a virtual environment. This ongoing project compiles materials and tools to aid historians in developing courses and teaching remotely in online and hybrid environments, providing a central location where instructors can access high-quality materials that meet professional standards. All resources are vetted by a team of historians at the AHA. *Remote Teaching Resources* is part of “Confronting a Pandemic: Historians and COVID-19,” which has been made possible by a major grant from the National Endowment for the Humanities, using funding from the CARES Act. Finally, Antoine Johnson, Chair of the AAHM Committee on Student Affairs and other contributors have compiled an excellent resource on the history of anti-black racism in medicine. **Syllabus: A History of Anti-Racism in Medicine is available here** and is linked from the AAHM website on the **History of Medicine Resources** page.

New Book Series on the History of Chemistry

Annette Lykknes and Brigitte Van Tiggelen invite proposals for contributions to their new book

series, *Analysis. Historical cases in chemistry* by World Scientific publishing. **Complete details about the series' ambit as well as guidelines for proposals may be obtained from the publisher's website here.** For more information contact the series editors Annette Lykknes: annette.lykknes@ntnu.no or Brigitte Van Tiggelen: vantiggelen@memosciences.be.

Call for Book Chapters

The editors of *Genetic Histories and Liberties: Eugenics, Genetic Ancestries and Genetic Technologies*, a new project in Literary and Visual Cultures Gender and the Body Series from Edinburgh University Press, invite original chapters from scholars working in the area. **Detailed information about the topics to be covered in this volume as well submission guidelines and deadlines are available via this link.**

Please send your inquiries or submissions to the editors at: genetics.eds@gmail.com

Inaugural Issue of the Journal for the History of Knowledge

The first issue of the *Journal for the History of Knowledge* is now available.

News from the Profession, cont.

<https://journalhistoryknowledge.org/>.

East Asian Science, Technology and Society: An International Journal

Volume 14, Number 2, June 2020

- *SPECIAL ISSUE*: Thinking and Acting with Diagrams
- *Guest Editors*: Hsiang-Ke Chao and Harro Maas
Collaborating Editor: Pingyi Chu

<https://muse.jhu.edu/journal/543>

A Call for Collaboration: Top 100 Scientists

John Galbraith Simmons plans to revise a book first published in 1996: *The Scientific 100: A Ranking of the Most Influential Scientists, Past and Present*. This book, never out of print and the rights to which he recently recovered, is a popular title of collective biography that's been translated and published in the United States and throughout the world. With the 25th anniversary of publication upcoming, a substantial revision is in order.

He is seeking a collaborating author with a view to sharing the task of revision. He plans to circulate

a proposed revision list of entrants and is seeking input from historians and scientists themselves. Visit his website at www.jgsimmons.com.

Dissertations in the History of Science

Our thanks to Jonathan Erlen for this latest compilation: <https://hssonline.org/members-news/dissertation-abstracts-79-05-a-and-b/>

Call for Photo Essay Proposals

Asian Medicine: Journal of the International Association for the Study of Traditional Asian Medicine is accepting proposals for photo essays.

The photo essays include: 1) 10-20 high-quality images with descriptive captions and complete source information, and 2) a non-peer reviewed essay (1000-5000 words) contextualizing the photographs and highlighting their significance for current trends of inquiry in our field. This essay can be written by the photographer or by an invited scholar or collaborator.

The photographs may be contemporary images taken as part of the photographer's research, or archival materials (permission to reproduce required before submission). Please consult the mission statement below to determine whether

the proposed essay fits within the journal's scope. Proposals should include: 5-10 sample images (as a single PDF); a one-page description of the theme of the essay and the importance of the images to the field; and complete contact information. Please email proposals to asianmedicinejournal@gmail.com.

***HoST—Journal of History of Science and Technology* (14.1, June 2020) online**

HoST—Journal of History of Science and Technology is a peer-reviewed open access journal, available online, published in English by De Gruyter/Sciencodo, as a result of a partnership between four Portuguese research units (CIUHCT, CIDEHUS, Institute for Social Sciences, and Institute of Contemporary History). View the [Table of Contents of Volume 14.1](#).

Announcing Environmental History Week: April 19-26, 2021

The American Society for Environmental History is excited to announce their **Environmental History Week**, an international celebration of environmental history to foster scholarly

News from the Profession, cont.

collaboration, academic research, teaching and public awareness of environmental history.

Environmental History Week events can take many forms. In person, face-to-face events could be all-day mini-conferences; environmental history lectures on a campus or at a public library or museum; student presentations at a student research symposium; film series with audience discussions; field trips or tours, or hands-on projects in collaboration with non-profits in your area; or a teacher training program for local K-12, community college, or graduate students. Digital events could be virtual conferences conducted on an online, video conference platform; streamed films with online discussions; self-guided field trips; or a virtual museum exhibit. Programs for all audiences are welcome. If you have other ideas for events, please share them.

Already planning an event for Earth Day 2021? **Fill out the form** and add it to the **Environmental History Week events calendar**. Please promote your events with the hashtag #EHW2021.

Have questions? Visit Environmental History Week **Frequently Asked Questions**.

Contact Info: David Spatz, Executive Director, admin@aseh.org;

<https://aseh.org/Environmental-History-Week>

BSHS Announces 2020

Prize for Best Monograph in History of Science

The British Society for the History of Science is delighted to announce *Vernacular Medicine in Colonial India: Family, Market and Homoeopathy* (Cambridge: Cambridge University Press, 2019) by Shinjini Das, as the the winner of the 2020 Pickstone Prize, awarded once every two years for the best English-language scholarly book in the history of science, technology and medicine.

The panel agreed that due to the strength of all the other books on the shortlist, and their diversity of character, it would not award a runner-up prize. Instead, it highlights the excellence of all three remaining shortlistees:

- Sarah Dry, *Waters of the World: The Story of the Scientists Who Unravelling the Mysteries of Our Seas, Glaciers, and Atmosphere—and Made the Planet Whole* (London: Scribe, 2019)
- Jacqueline Feke, *Ptolemy's Philosophy: Mathematics as a Way of Life* (Princeton: Princeton University Press, 2018)
- Erika Milam, *Creatures of Cain: The Hunt for Human Nature in Cold War America* (Princeton: Princeton University Press, 2019)

2020 PSA Election Results

The Philosophy of Science Association is

pleased to announce the results of the 2020 PSA Election.

Michela Massimi of the University of Edinburgh has been elected President of the PSA. She will serve a two-year term (from 1/1/21 through 12/31/22) as Vice-President and President-Elect of the PSA, and then a two-year term (from 1/1/23 through 12/31/24) as President of the PSA delivering the PSA Presidential Address at PSA2024, followed by a two-year term as Past President.

Anya Plutynski of Washington University in St. Louis and Jutta Schickore of Indiana University Bloomington were elected to the Governing Board of the PSA. Each will serve a four-year term (1/1/2021-12/31/2024).

As of January 1, 2021, the Governing Board of the PSA will be comprised of: Hanne Andersen (University of Copenhagen, Denmark) 1/1/19-12/31/22; Alisa Bokulich (Boston University) 1/1/18-12/31/21; Hasok Chang (University of Cambridge) 1/1/18-12/31/21; Soazig Le Bihan (University of Montana) 1/1/20-12/31/23; Kareem Khalifa (Middlebury College) 1/1/20-12/31/23; Anya Plutynski (Washington University in St. Louis) 1/1/21-12/31/24; Jutta Schickore (Indiana University Bloomington) 1/1/21-12/31/24; Sean A. Valles (Michigan State University) 1/1/19-12/31/22.

The officers of the PSA welcome and

News from the Profession, cont.

congratulate these officers and offer their gratitude to all the candidates who ran for election. The officers also express their appreciation to Sandra D. Mitchell (University of Pittsburgh), Past President of the PSA, Megan Delehanty (University of Calgary) and Edouard Machery (University of Pittsburgh), who will be stepping down from the Governing Board at the end of the year, for their dedicated service to the PSA.

New Director Takes Helm at National Science Foundation

Following in the footsteps of many great science and engineering leaders before him, Sethuraman Panchanathan has been officially appointed as the National Science Foundation's 15th director, sharing his vision for his six-year term and promising a continued push for inclusiveness in science and engineering. **The full announcement can be found here.**

HPS&ST Newsletter

The latest issue of the **HPS&ST newsletter**, used for the monthly dissemination of HPS&ST-related information such as positions, conferences, publications, books, etc., is now available on its website.

National Air and Space Museum Goes Digital

The National Air and Space Museum has taken its Contemporary History Seminar online. This monthly series of invited talks features scholars whose research engages the historical, social, and cultural dimensions of science, technology, and culture. The 2020-2021 series includes talks by James Fleming, Jessica O'Reilly, Teasel Muir Harmony, Lee Vinsel, and David Winkler. For more information, or to be added to the seminar's mailing list, contact Matt Shindell at shindellm@si.edu.

Science for the People relaunched

Historians of the anti-war movement, the sociobiology controversy, and other such historic movements will likely remember the magazine *Science for the People* as a fierce participant in these events during its original 1969-89 print run. **The reincarnated magazine, including its most recent issue, "A People's Green New Deal," can be read here.**

NEH Awards for 2020-2021

The U.S.'s National Endowment for the

Humanities (NEH) announced **\$30 million in grants for 238 humanities projects across the country**. The following list may be of interest to our members.

Arizona State University Outright: \$192,145 [Institutes for College and University Teachers]

Project Director: Jason Robert, Project: "Our SHARED Future: Science, Humanities, Arts, Research Ethics, and Deliberation." A four-week institute for 25 college and university faculty, to introduce humanists to the scientific, ethical, and social dimensions of bioengineering.

Newberry Library Outright: \$218,363 [Institutes for College and University Teachers]

Project Director: James Akerman, Project: "Mapping the Early Modern World." A four-week institute for 25 higher education faculty to study early modern cartography.

Northwestern University Outright: \$245,328 [Collaborative Research]

Project Director: Helen Tilley, Project: "Constructing African Medical Heritage: Legacies of Empire and the Geopolitics of Culture, 1890–1990." Preparation for print

News from the Profession, cont.

publication of a multi-authored monograph on the history of African medical heritage from 1890 to 1990 and preparation of a special issue of *Méthod(e)s*, an African bilingual peer-reviewed journal (English-French).

University of Mississippi Medical Center Outright: \$249,836 [Collaborative Research]

Project Director: Amy Forbes; Ralph Didlake (co-project director); Patrick Hopkins (co-project director), Project: “An Investigation of the Mississippi Lunatic Asylum as History and Memory.” Preparation of a digital archive and print anthology on the history of the Mississippi Lunatic Asylum (1855–1935) and its role in public memory.

Carroll College Outright: \$159,184 [Seminars for School Teachers]

Project Director: Edward Glowienka, Project: “Re-Enchanting Nature: Humanities Perspectives.” A three-week seminar for 16 teachers on the relationship of humans to the natural world.

Joan & Sanford I. Weill Medical College of Cornell University Outright: \$10,000 [Preservation Assistance Grants]

Project Director: George Makari, Project: “Rehousing Psychiatry Collections at the Oskar Diethelm Library.” The purchase of preservation supplies to rehouse 612 feet of archival materials documenting the history of psychiatry. Materials include the papers of influential figures, such as Thomas Salmon and Clifford and Clara Beers, as well as the records of the National Committee for Mental Hygiene (1909–1966). Other collections include items from mental health advocates, Dorothea Dix, Thomas Kirkbride, and Isaac Ray, as well as from Donald Winnicott, the British physician who was internationally recognized for his work in pediatric psychiatry and invented the term “transitional object,” e.g. blanket or teddy bear.

Maria Loh Outright: \$60,000 [Public Scholars]

CUNY Research Foundation, Hunter College, Project: “Representations of the Early Modern Sky.” Preparation of a book on the renderings and multiple meanings of the sky in European painting from the fourteenth to sixteenth centuries.

New York University Outright: \$49,998 [Collaborative Research]

Project Director: Alexander Jones; Richard Jasnow (co-project director) Project: “The

Ancient Sciences in Cross-Cultural Perspective.” Planning and holding a conference on the ancient sciences in comparative perspective among the Egyptian, Babylonian, Greek, and Roman worlds.

University of Oregon Outright: \$99,985 [Digital Humanities Advancement Grants]

Project Director: Daniel Rosenberg; Anthony Grafton (co-project director) Project: “Time Online II: The Time Charts of Joseph Priestley.” The digital reconstruction of historical infographics, specifically the timelines originally designed by British polymath Joseph Priestley in the eighteenth century.

From Our Readers

Editor's note: Once again, as we did the first time we ran this column, we have a reader's perspective on our discipline offered by one of our scientist members: immunologist and self-declared scientist-historian Donald Forsdyke, Emeritus Professor of Biomedical and Molecular Sciences in the School of Medicine at Queen's University in Kingston ON, Canada.

Finding Team A? Scientist Historians and Historians of Science

by Donald R. Forsdyke

The 2013 **San Francisco Declaration on Research Assessment** is history-free. Yet, research systems are most likely to be successful if based on accurate knowledge of past research—grist for the mill for historians of science and of special importance in coronavirus times. Sadly, the historical accuracy of primary research reports may sometimes cede to other pressures. **In a recent article**, I have argued that certain accolades bestowed upon transplantation immunologist Peter Medawar and physicist Erwin Schrödinger should rightly be assigned to the Victorian polymath, Samuel Butler. In other words, when messengers are not authors of messages they bear, they should not be praised for the novelty of ideas in the messages. Given

that strengths at discipline interfaces are often asymmetric, my recognition of Butler may reflect more my background in science than in history. Scientific practice motivates me as a *scientist historian*, more than as a member of the *historian of science* mainstream, to study research management systems.

Most current bioscience research dates back no further than to Darwin. However, high impact research system reforms date back no further than to the post-WWII era of government reorganization—a period that Dean Acheson in 1950 likened to being “present at the creation.” Debates on US NIH operations then focused on government versus researcher control. There became established a system of peer-review evaluation that I, **in an article years ago**, likened to a giraffe's neck, where a nerve was condemned to a tortuous path by prior evolutionary events.

Simply stated, a system of peer review was established “at the creation” in the 1940s with little thought, either to possible alternatives, or to the idea that “excellence” might not automatically rise to the top whatever the system. Thus, no thought was given either to system replacement should it fail or, indeed, to criteria of failure. The system was easily marketable as likely to maximize government funding. That was enough.

But excellence is not a fungible commodity. It is those selected by their success in that first system, who are now hailed as *the* experts. They advise us, both in good times and bad. And it is they who are consulted concerning peer-review reform: surely, “I am a great researcher. The system recognizes me as a great researcher. Therefore, the system must be great!” Thus, like the giraffe's tortuous nerve, the sciences became constrained by historical contingency.

My hope that historians of science would assist was set out in a tongue-in-cheek reply in November 1993 to scientists who, in the *Newsletter of the American Society for Biochemistry and Molecular Biology*, had bewailed a crisis in research funding:

Decades ago, the first priority of the National Institutes of Health should have been the establishment of an Institute for the History of Science with the mandate of investigating how past discoveries were made and how the discovery process might be optimized. Surrounding that very large institute would be the much smaller, less richly staffed institutes dedicated to cancer, infectious diseases and other biomedical subjects. Over the years, the latter institutes would probably have grown and the former would possibly have shrunk. Perhaps there would then be no

From Our Readers , cont.

“current crisis ... of epidemic proportions” with pious calls for us *only now* to begin “serious study and analysis.”

Wearing a historian’s hat, I have long pursued this study while continuing my scientific work. With other Canadian scientists, in the 1990s I formed a society for system reform—sadly ephemeral—which held meetings, addressed government committees, and published articles and a book (2000). The appearance of the internet both assisted these efforts and revolutionized the speed and depth of literature access. At last scientists could easily seek out historic papers.

However, in those early years, publishers gave twentieth century papers on-line priority. To bridge the gap, in 1998 I began scanning historic papers and archival materials **for my webpages**, paying much attention to William Bateson, Samuel Butler, Gregor Mendel, George Romanes, and—of great present significance—John Burdon Sanderson, uncle of the great J.B.S. Haldane. Like Pasteur and a few others—Newton, Darwin, Mendel, Einstein, Crick—he was one of a precious few.

Then, as today, we needed the best researchers, team A, not team B, and the record shows that Sanderson was up to the task. His 1860s **account of the highly infectious cattle plague**, rinderpest was scrutinized by the politicians no less intently

than they today scrutinize accounts of the highly infectious coronavirus. Given our world population, we would expect many hundreds of such individuals—people who would scent out novel paradigms during the current crisis, to lead the team B multitude to more productive chases. Where are they?

The scientific peer review system currently serves, and is run by, some splendid researchers. But they have no new paradigms to offer. They are team B and the task of sifting through perceived “mavericks” for rare members of team A is likely beyond them. Team B is *served* because its members share a common paradigm, which includes the peer-review system they operate in, and ideas are easily exchanged and comprehended. Team A is *not* served because its members’ task is entirely different. They must tune to the mindset of team B reviewers, which entails discarding their own novel ideas. Pressed to expediency, they must take a B-compliant idea and frame it more positively than their B competitors. This requires a capacity for political flexibility and insight that is likely beyond them. They are system-ensnared “Gullivers”!

For their identification among mavericks we need an interface group larger than team A, but much smaller than team B. Darwinian wisdom trickled down to Victorian England courtesy of his “bulldog” Thomas Huxley. Similarly, Alan Cock

and I, mainly wearing our “scientist historian” hats, added **fresh perspectives on Samuel Butler and others** (2008). As far as I know only other person, Laura Otis, had anticipated us with her 1994 book, *Organic Memory*! Sailing through troubled pandemic era waters (see the **May issue of Centaurus**) will need historians of all stripes on deck!

BONUS: These Are a Few of Our Favorite Reads

Editor's note: In an attempt to deal with the inevitable restlessness that comes with enforced confinement, I thought it might help to while some time by dipping into selections from a curated list of reading material and films that strike a chord during this time of COVID. As I usually do when I want advice of this sort, I went to the advisory panel, who stepped up with gusto, as did our President Jan, Executive Director Jay and Bibliographer Stephen. (I added my two bits too.)

Papers and articles

(both primary and secondary)

Cook, Harold J. "The History of Medicine and the Scientific Revolution." *Isis* 102, no. 1 (March 1, 2011): 102–8.

<https://doi.org/10.1086/658659>

Edna suggested this pithy paper for much the same reason she did the same author's book. Even if it did come later (the book was published in 2011) it is a great way to get your feet wet.

J. Cronon, "A Place for Stories: Nature, History, and Narrative," *Journal of American History*, 78, Issue 4, (1992), pp. 1347–76.

Robert Bud: This wonderful article reminds us that there are competing relationships to nature. At this time, with Spring flourishing in the Northern hemisphere but the coronavirus invading our societies, and with global warming in the background, we need to think about competing models of human relationship to nature and the alternative narratives our cultures have to offer. This article could not be more germane.

Charles Darwin, *On the Origin of Species* (1st edition)

Why read Darwin while in lockdown? Well, Jay made a good point when he reflected that it might

be the only time we have enough hours to set aside to do so. Unlike the publisher John Murray, who thought the most interesting part of the book was about pigeons, I am continually amazed at what Darwin packed in there. I must confess to wishing that there was less about bees when I first read it but now that bees are threatened, I plan to go back and give it more consideration.

John Graunt, *Natural and Political Observations Made Upon the Bills of Mortality, London 1662.*

Minakshi: Graunt tracked and showed the yearly variation of plague mortality by drawing up extensive tables presented in this publication; it is the kind of primary material on which Daniel Defoe drew to write his classic, only semi-fictional *Journal of the Plague Year.*

Girolamo Fracastoro, (1546) *De Contagione, Contagiosis Morbis et eorum Curatione* [*On Contagion, Contagious Diseases and Their Treatment*]

(My selection): Naturally, I have only read it in translation, but for me there was no contest when it came to this category. The common sense measures recommended in this sixteenth century text, to contain the spread of different types of infections really hits home and makes

one wonder how and why, in light of the so much vaster amount of knowledge we have in hand now, our response to the COVID crisis, at least in some places, has been as sluggish as it has been.

Charles E. Rosenberg, "What Is an Epidemic? AIDS in Historical Perspective." *Daedalus*, 1989, 1–17.

Marta Hanson: Later reprinted as a chapter in his book *Explaining Epidemics*, this book was, as Rosenberg wrote, "a product of the academic world's collective response to AIDS." It is well worth revisiting at a time when many of us are also trying to respond to COVID-19 from historical perspectives. He brilliantly uses Camus's narrative plot in *The Plague* to abstract to a more universal narrative structure of how humans experience epidemics, particularly what he calls the "dramaturgic pattern" of AIDS in the late 1980s. Rosenberg was circulating a draft of that essay when I started my PhD. The way in which he used Camus's novel to make visible the historical trajectory and many other dimensions of the terrible loss of life during the AIDS epidemic at that time made a deep impression on me that remains to this day.

BONUS: Favorite Reads, cont.

Thucydides, “The Plague of Athens” in *History of the Peloponnesian War*, (Book II, chapters 47-54)

It was our president, Jan, who recommended this reading, which I must confess, I wasn't sure in which category to place at first, since it's neither fiction nor a book about the history of science or medicine. But it's as primary as a historical text can get and so, with Jan's approval, I put it here. According to him: Everyone should read this account of the plague in ancient Athens. It is brief, but everyone else who has written about epidemics has relied on or at least, alluded to it: Plutarch among the ancients and Defoe and Camus among the moderns. Plenty of people were reading Thucydides during the yellow fever outbreak in Philadelphia in 1793, including Charles Brockden Brown, whose novel *Arthur Mervyn* is centered on that event.

Contemporary books in and about our discipline

Fighting the plague in seventeenth-century Italy by Carlo M. Cipolla

Marta: Movingly written and based on extraordinary primary sources, this book is particularly relevant right now considering the similarity of the responses to COVID-19 not just in Italy—with some people fleeing to their southern villas while others stayed behind to take care of the sick and dying or because they had

nowhere else to go—but also globally, where the divide between those who can avoid exposure by working remotely and those whose work and thus livelihood requires putting themselves at risk is becoming clearer day by day.

Matters of Exchange. Commerce, medicine and science in the Dutch Golden Age by Harold Cook

Edna: Medicine and commerce at the center of the Scientific Revolution is always a refreshing take on this very controversial “episode.” Coming from the history of biology in the twentieth century, Cook's erudite book is somehow an escapist reading for me.

How the Hippies Saved Physics by David Kaiser

Stephen: We all need an escapist read... Kaiser's smart narrative tells us a lot about how scientific ideas in the right time and place can just take off in the popular culture. And it is fun, putting you in a 1970s headspace, where you can do some yoga on the beach contemplating the Tao and quantum entanglement. Hey, isn't entanglement just a way for electrons to social distance?

Epidemics in Modern Asia by Robert Peckham

Marta: In this book, Peckham brings the history of public health in conversation not only with imperial, colonial, and postcolonial histories of South, East, and Southeast Asia over the past

two centuries, but also with the global history of public health. It is particularly instructive in these times because it provides a good foundation for people to understand why East Asian nations, at least, were better prepared to deal with the COVID-19 pandemic.

The Cholera Years by Charles Rosenberg
Stephen: My first thought to add to this list was this classic, which gave me a great shock the other day when I discovered it was not in the Explore database...until I realized just how classic it was: it was first published in 1967! Rosenberg's well-written, sobering account tells the story of Americans' many trials fighting this really scary epidemic.

Vital Accounts: Quantifying Health and Population in Eighteenth-Century England and France by Andrea Rusnock
Minakshi: Wonderful account of the counting of births and deaths by individuals to shed light on political and medical issues.

Pale Rider by Laura Spinney

Marta: This book more than any other, has been at the forefront of my mind as we experience the COVID-19 crisis. It was the first time a historian presented a global history of the 1918 influenza pandemic which included Africa, Latin America, South Asia, East Asia, and Southeast Asia, rather than focusing predominantly on the Anglo-American experience. Beautifully written, this

BONUS: Favorite Reads, cont.

book provides an unprecedented synthesis of the global loss of life, and even more hauntingly, why we had collectively forgotten this; that institutions not only lost ability to take care of the dead and dying but also the infrastructure to track morbidity and mortality. I find myself filtering the widespread news about the comparable inability to track actual COVID-19 cases today from asymptomatic carriers to deaths through Spinney's historical reconstruction of the global loss of life during the 1918 influenza pandemic.

Ralph Taylor's Summer: A Scrivener, His City, and The Plague by Keith Wrightson (*My choice*): I love this book for a host of reasons, not the least of which is that the author had been my teacher in grad school, and reading this book later, was to see his ideas and historical practice manifest in book form. It is about the impact of a 1636 plague outbreak in Newcastle-upon-Tyne, traced through a most unusual form of primary source—the wills and inventories prepared by one man, Ralph Taylor. To me this book really drummed in the fact that regardless of scale, the experience of disease is felt at the level of individuals and communities.

Fiction

The Mandarins [Les Mandarins] by Simone de Beauvoir

Robert: Published in 1954 in the wake of WW2, a character (based on Albert Camus)

is a reflection in 1945, among other things, on the difficulty of writing about events just ten years earlier. Although just a few years in the past, it was a completely different era. The book helps us think about the passage of time and the differences between a pre- and post-COVID era. Wonderful existentialist novel too.

Quarantine by Rajinder Singh Bedi

Minakshi: This Urdu-language short story, is a wonderful account of the humanity of a Dalit sanitation worker shaping the responses of a physician to the plague in northern India.

Note: The title is a transliteration of the English word *quarantine*, itself derived from the Italian for “forty.”

Decameron by Boccaccio

Edna thinks this book, really the one that originated plague or epidemic literature besides inspiring such literary figures as Chaucer and Shakespeare, as perfect for an afternoon's read. Rather, one should say several afternoons, for it is long, but immense fun, as I am experiencing first hand over many walks in Leeds and now in Utrecht (*I am listening to an audio version*).

Year of Wonders by Geraldine Brooks

From yours truly: This novel is based on the real-life event of the English village of Eyam isolating itself in order to contain the Great

Plague that swept England in the seventeenth century. For me, it was interesting reading this while experiencing the COVID-19 lockdown in England, not terribly far from Eyam itself.

The Plague by Albert Camus

Camus's book sadly resonates with today's situation, *says Edna somewhat ruefully of this modern classic which was also recommended by Marta and Robert. I was inspired by their suggestion to have a listen myself, and can endorse both the sadness and the resonance.*

A Journal of the Plague Year by Daniel Defoe

Minakshi: Defoe recreates what the citizens of London went through during the 1665 plague with great acuity. Hard to believe this is a work of fiction.

Love in the Time of Cholera [El Amor en los Tiempos del Cólera] by Gabriel García Márquez

Considering the innumerable times the title has been riffed in the past months in newspapers and magazines, nobody should be surprised to see this one here.

Edna: The hot, humid and dirty streets of the Caribbean cities and ports set the context for a couple of love stories, one of the protagonists of which is Urbino, a physician and a man of science

BONUS: Favorite Reads, cont.

who devotes his life to eradicate cholera and modernize his country.

Stephen: I've just started reading it myself because everyone, including my neighbor, is making references to it. And it puts you in a far-off magical place with delightful characters and thick evocative writing; it is Gabriel Garcia Marquez after all. We need a book like this to help us fight against the addictive draw of the constant 24-hour CNN, Guardian, news updates.

The Hot Zone by Richard Preston

Not fiction per se but stranger than. *Kris says:* I know that it may seem strange to find comfort in a book about a killer virus in the midst of a pandemic, but here we are.

East of Eden by John Steinbeck

Jay chose this old favorite because Steinbeck shows us the best and worst of humanity, *not unlike the current crisis has and does, actually.*

Films

Things to Come (1936)

Robert Bud: This big-budget film scripted by H G Wells and produced by Alexander Korda is all about the relations of human to nature. There is a disease “The Wandering Sickness,” an era of destruction of nature and it ends with a debate about the exploration of space. It was based on

Wells’s *The Shape of Things to Come*, the third of a trilogy of books about history and technology.

Note: Access the film via this link: <https://www.youtube.com/watch?v=fqKGlrPAfSw>.

On the Beach (1959)

Me: Based on the novel of the same title by Nevil Shute, this film with the gorgeous Gregory Peck and Ava Gardner is a poignant consideration of how the last people left on earth in the aftermath of a global nuclear holocaust act while waiting for death to catch up to them. I think this movie may have been the first time that a Coca Cola bottle played a role!

Contagion (2011)

Marta: I think that everyone is watching—or rewatching—this film right now. I teach it in my course on the History of Public Health in East Asia through Film and Documentaries. The film does not facilely vilify East Asia but rather exposes US corporate destruction of the environment as the original cause and healthcare disparities in the US and globally as the true injustice.

Minakshi: Be Very Scared!

About Time (2013)

Jay: My favorite movie changes by the hour but my favorite actor is Bill Nighy. I therefore tend to

favor movies in which he appears and recently re-watched this one as a “pandemic comfort film.” It is a sweet flick that shows what humans, when they are determined to be kind, can accomplish when given extraordinary powers.

The Normal Heart (2014)

My choice: I have a confession: This movie is actually on my 'to see' list. But I'm a huge fan of the play of the same title by Larry Kramer, on which it was based. It packs such an enormous emotional punch and is so relevant to so many issues around the social consequences of epidemics, especially of ignoring them.

The Good Place (2016-present)

For some comic relief in these dark times Kris recommends this ongoing Netflix series: It gives me an inordinate amount of joy to be able to watch a modern (popular) television show in which one of the main characters is a PhD student in moral philosophy and avowed Kantian.

Chernobyl (2019)

Edna: Although it might seem a distant example to today's pandemics, this HBO miniseries recreates the social and political context where human losses take place, and the global consequences of the Chernobyl accident, which like today's crisis, it was a fairly predictable, human-produced “natural” event.