Mary: Who were your role models when you first turned toward the history of science, and why?

Above all it was Tom Kuhn who inspired my turn to the history of science. In 1970 I was a young experimental physicist studying nuclear reactions with low energy accelerators when the Atomic Energy Commission decided to discontinue funding for such work. This became an opportunity to explore not only other areas of physics but also history and philosophy of physics, in which I had an active interest. Reading Kuhn’s *Structure of Scientific Revolutions*, I had a Eureka moment. His analysis of a paradigm in crisis seemed to capture precisely the conditions I was living through in my own field. An NSF Fellowship enabled me to go to Princeton to study with him. It was a life-changing experience and I ended up getting a second PhD.

Equally important, my physics training had taken place in the midst of opposition to the Vietnam War and the formation of such new groups as the Union of Concerned Scientists and the Forum on Physics and Society, which advocated social responsibility. In turning to the history of science I too was looking for a socially and culturally engaged history, which of course is just what was developing in our field at
Roundtable with Norton Wise, cont.

the time. That turn for physics was expressed most clearly in the new journal edited by Russell McCormmach (and then for many years by John Heilbron), *Historical Studies in the Physical Sciences* (now *Natural Sciences*). In McCormmach’s path breaking introductions, advocating a full-throated cultural history of science, I found stimulating models. And in the first volume in 1971, Paul Forman published his brilliant, if highly controversial, article on Weimar culture and quantum mechanics, arguing that a hostile intellectual environment caused physicists to suddenly forsake their principles and pursue an acausal quantum mechanics. It was in wrestling with Forman’s article that I came to formulate my own preferred cultural historiography, in which scientists are best seen as participants embedded within their wider culture, rather than as somewhat separate beings “influenced” by it, and our task is to understand what the significance of that participation is for the work they do. The culture has to be inside the technical work. This sort of cultural history was missing from Kuhn’s paradigms. It is at the core, however, of recent books such as Deborah Coen’s *Vienna in the Age of Uncertainty: Science, Liberalism, and Private Life* (2007).

John: Going back to your roots in physics, how has your study of physics improved your understanding of historiography? And reciprocally, has your historical work deepened your knowledge of physics? If so, how?

This is for me a chicken and egg issue but a central thread has been complexity. My physics dissertation took up a small piece of the famous three-body problem, seeking to find out whether a compound nucleus ever breaks up directly into three particles. Although I could not resolve the question, I was already thinking about how the physical world exhibits aspects of complexity similar to those we often take for granted in human history. As the philosopher of history Paul Ricoeur put it, the problem of the historian “is not to deduce or to predict but to understand better the complexity of intertwinings that have converged into the occurrence of this or that event” (*Time and Narrative* (Chicago, 1984), I, 154). He supposed he was contrasting history with physics, but I am ever more impressed with how much of recent physics itself is involved with understanding “the complexity of intertwinings” that give rise to a diversity of effects. If so, physics has much to learn from history.

From the other side, a quite general principle of classical physics is locality, meaning that

Continued on Page 3
nothing can act where it is not. Michael Faraday expressed that view for the action of one electrified or magnetized body on another as “contiguous action,” carried from one to the other by lines of force, as opposed to action-at-a-distance. As it happens my dissertation in history of science explored how that idea was mathematized by William Thomson (Lord Kelvin) and James Clerk Maxwell, becoming canonical in physics as electromagnetic field theory. Living so intensively with the physics of contiguous action surely helped to shape my historiographical prejudice in favor of local history. That orientation infuses *Energy and Empire*, in which Croisie Smith and I put great weight on Thomson’s personal experience in Glasgow. Even more explicit historiographically is my recent *Aesthetics, Industry, and Science: Hermann Helmholtz and the Berlin Physical Society*, which I advertise as an “intensely local” study. The idea is not quite that all resources are local—e.g., for energy conservation as developed by Thomson in Glasgow or Helmholtz in Berlin—but that even for distant resources, such as the “industrial mechanics” of French engineers, the issue of local access is essential to the culture/science dynamic.

Mary: Which book in the history of physics and/or indeed in the history of science more generally, do you wish you had written yourself?

I am especially impressed with books that upend a viewpoint that has acquired such apparently obvious validity that it seems to require no justification. In his very title, *The Romantic Machine: Utopian Science and Technology after Napoleon* (2012), John Tresch contests the notion that the machine-age and romanticism were somehow at odds. Granted, that view was already under attack—by Jardine, Richards, Dettelbach, and Jackson for instance—but largely for non-mathematical sciences and for Germany. Focusing on Paris instead, Tresch showed how views thought of as romantic could be pursued through rigorous mathematical and experimental science and technological innovation. Choosing the machine as his vehicle and the small world of the Parisian intellectual elite as his terrain, he plowed fertile ground for understanding the intimate interrelation of science and culture. These methodological choices of machines and local dynamics enabled Tresch to restore, in a wholly convincing way, diverse strains of romanticism to their once vital role in a creative historical epoch.

Another such upending book is Tiago Saraiva’s *Fascist Pigs: Technoscientific Organisms and the History of Fascism* (2017). Sweeping past the myth that true science is incompatible with fascism, he treated the history of science and technology within fascism as also the history of fascism and as constitutive of aspects of it. He showed how geneticists and breeders, developing standardized and centrally controlled strains of wheat in Italy and Portugal and potatoes and pigs in Germany, helped to articulate and to realize the autarkic aims of fascist administrations for economic independence, reshaping the agricultural landscape and the social body simultaneously. The purified organisms themselves embodied the nationalist and corporatist ideals of the state. Thus “fascist pigs” is not so much a provocative title as it is a literal description of a modern technoscientific organism.

Soraya: You were also instrumental in building up the Institute for Society and Genetics at UCLA. How did this particular move come about and what attracted you intellectually to the project?

It began in 2005. In the midst of the explosive transformation occurring in genomics, then UCLA Chancellor Albert Carnesale recognized that far too little attention was being paid to its social consequences, a situation in some ways similar to the lack of foresight regarding proliferation of nuclear weapons following
WWII (his own expertise). He wanted to form a core group of scholars from diverse fields who would open up the issues to academic scrutiny. As a historian of science, I was recruited to conceptualize and organize this effort for the humanities and social sciences, complementing a colleague from the medical school. Having already spent years promoting cross-disciplinarity, this was a natural move for me. We set out to build an institute whose faculty held joint appointments in other disciplines but were committed to the cross-disciplinary goal. The Institute for Society and Genetics would serve as a portal through which people could pass easily between the natural and the human sciences and could engage in problem-oriented research and education that required the expertise of multiple disciplines. You, Soraya, were our first recruit, with obvious qualifications in the history of molecular biology and the visualization of DNA, and you were soon co-directing a project on the interpretive use of DNA in history. Another early recruit was the sociologist and anthropologist of science Hannah Landecker, who as current director has built the Institute into a flourishing center of activity, now counting some twenty faculty and a perennially oversubscribed major in Biology and Society.

John: In your new book you make use of paintings and other art objects; have you undertaken any special study of art history?

Unfortunately not, aside from a single college survey. But my mentor in German history at Princeton, Carl Schorske, provided in his *Fin de Siecle Vienna: Politics and Culture* an inspiring model of how movements in art inform historical processes more generally. And right from the beginning of *Aesthetics, Industry, and Science* it was evident that an answer to the question of what local resources the members of the Berlin Physical Society could draw upon to realize their ambitious aims, both conceptually and technically, would require close attention to the vibrant world of art in Berlin with which so many of them were involved. Members included the major figures Brücke, Helmholtz, and Du Bois-Reymond, who successively taught anatomy at the Academy of Art. So I have spent a great deal of time in art museums and in studying interpretive works of art historians.

Invaluable also has been the advice of friends in art history, both at UCLA and at the Max Planck Institute for History of Science, where I have spent many productive summers with Elaine Wise. For some time we have been studying the immense landscape gardens, originally built in the naturalistic English style, which are famous in the Potsdam area but extend in a variety of forms throughout Berlin. Virtually all of them were originally powered by steam engines, so these gardens present an unusual opportunity to see how aesthetics and technology developed together over the course of the nineteenth century. And since steam technology and industrialization were also front and center for the young scientists I have been studying, the two projects have greatly reinforced each other.

More generally, the relation of aesthetics and technology has been a lifetime avocation. I come from a family where making and building things with our hands was a key constituent of life and where the beauty of things made always elicited admiration. This was true for me whether in designing experimental apparatus for physics research or in rebuilding our house, as well as in more explicitly artistic efforts like joining with an architect friend to build a kinetic sculpture for exhibition at the Brooklyn Museum of Art. So it was a rather natural continuation to explore how aesthetic judgement played a key role in Helmholtz’s design of dynamometers and construction of arguments for his measurements of the velocity of the nerve impulse. That is perhaps the analysis in the book with which I am most pleased.
Soraya: Another direction we see in your recent work is the attention to narrative structures in the sciences. Is there a link to your earlier work or is this a new departure?

It is surely a new departure but with long roots. When I was studying complexity in nuclear reactions I was also quite conscious of a more practical sort of complexity: of how hard it is to make anything work, whether because the apparatus does not function as you expect or because it produces confusing results, requiring rethinking, rebuilding, and reinterpretation. With luck, a positive result gets written up and published. I thought of this whole process as a matter of gradually building a coherent narrative in the midst of the “intertwinings” of the real world. It was a reality more attractive to me than the idealized image of a physicist whose goal is to deduce particular results from general laws.

Then when I first began doing history of science at UCLA, Nancy Cartwright came as a visiting professor and lunch partner. Her new book, How the Laws of Physics Lie, became a topic of regular discussions and insights, which percolated for some years until they reemerged at Princeton in a workshop series with Angela Creager and Liz Lunbeck published as Science without Laws: Model Systems, Cases, Exemplary Narratives. Contributors explored how trustworthy knowledge is created in non-lawlike sciences, with particular attention to techniques employed and narratives produced. We drew out analogies between the use of model systems in biology, computer simulations in physical science, cases in social science, and exemplary narratives in history. Mary Morgan played a prominent part in that volume and has ever since been my favorite analyst of how scientists use narratives in their work. One quite general insight involves the coherence-making power of narratives, their capacity to fit together in a coherent pattern a variety of elements that otherwise would seem disparate. In interesting ways, this power of narratives for colligation recovers one of the central features of Kuhn’s paradigms, their holistic character as pictures or patterns. That is the same power that he and others have ascribed to historical narratives.

My own efforts focused initially on how computer simulations generate narratives that provide understanding of otherwise inscrutable processes, such as the formation of snowflakes, and how simulated movies of unobservably fast chemical reactions provide visual narratives that unveil highly contingent processes. Most recently I have been looking at earlier historical cases, such as the narrativizing role of Carnot diagrams in understanding the Second Law of Thermodynamics and Maxwell’s use of “physical analogies” as fictional narratives to make lines of force in electromagnetic fields comprehensible. All of these model-based narratives do their work by making the processes they investigate seem familiar in the everyday world of concrete and sensible things.

John: Turning to broader topics of craft, you pay considerable attention to method in describing your work, if not in the work itself. Do you find that this attention has inhibited or abetted your writing?

There once was a time when I thought too much attention to method interfered with finding out what happened. Now that I realize we can never know what happened but can only gain a perspective that yields a satisfyingly rich understanding of the large amounts of evidentiary material we are able to assemble, I would say that having a relatively clear methodological direction is crucial to deciding what materials to consider and how to interrelate them in forming a coherent picture. My first explicit encounter with this need occurred when I was trying to come to grips with SSK [Sociology of Scientific Knowledge]: how could I best think of the science/society relationship and the infamous internal/external dichotomy. Writing Energy and Empire, with its orientation to the “external” social and cultural conditions in Glasgow and its simultaneous attention to the “internal” technical content of Thomson’s mathematical physics, required an answer. Along
the way we recognized that we could best meet the need by concentrating attention on the technologies that animated both his experience of the industrializing city and the concepts and methods he introduced to analyze physical processes. In this way steam engines, vortex turbines, and telegraph lines became the very active “Mediating Machines” that vitiated the internal/external squabble. More generally, I find that technologies offer particularly productive lenses through which to explore science/society relations, because they live in both.

The need for methodological perspectives like this that aid the selecting and interpreting process has been apparent to me in all of the subjects I have explored. I would like to think, however, that the subjects have called up the methods, which remain implicit in the writing.

Jan: I am curious about how you have moved from one research focus to another—Kelvin, Helmholtz, et al.—while exploring different methodological or thematic issues along the way—energy, precision, models, narrative, etc. Which came first: the general problematic or the individual focus? What connects these themes to one another over the course of your work?

I would pick out from what I have already said are two long-term interests. They are the questions of just how people are able to do the stuff they do (what are their tools and techniques) and how do they participate in their surrounding culture. The overlap between these two general interests pretty much spans everything I have done. Importantly, it is an overlap that has emphasized concreteness, whether as locality, materiality, or technology. But I would not have been able to pick out these threads with any confidence forty years ago. The themes have developed more or less organically from pieces of work that have grown together over the years, while acquiring more dimensions.

For example, both Energy and Empire and Aesthetics, Industry, and Science deal with the social and cultural conditions of industrialization within which Thomson and Helmholtz, respectively, articulated their versions of energy conservation. And both emphasize locality and technologies of knowledge. But separated by nearly 30 years the two books are worlds apart in terms of their ambitions as cultural history. That is true not only because Glasgow and Berlin were themselves so different historically but especially because I would not have been able to do for Thomson what I learned to do for Helmholtz, to thoroughly integrate the aesthetic dimension as a primary contributor to the energy story. I neither knew enough nor would I have been able at the time to work it out methodologically.

The topic of narrative in science has a similar developmental history for me, as I have already indicated. But along the way there have also been topics that did not require long gestation. They just seemed ripe for the stress I have wanted to place on how technological developments in history are bound up with social, political, and economic change. The volume on the Values of Precision was one of those. It grew out of another workshop featuring people who had already made precision instruments and measurements a lively subject of discussion.

John: Do you think that there is any subject more worthy of the attention of a scholar than the history of science? If so, what?

And if not, Jay asks, what are the most valuable lessons that the discipline has to offer?

To state the obvious, the greatest strength and simultaneously the greatest weakness of academic scholarship is its silo structure. Disciplinary specialization is necessary to acquire the tools and knowledge to work at a high level in any area of the university, whether in the natural or human sciences, to say nothing of medicine. And yet that specialization makes communication and fertilization across different areas difficult. In
personal terms, by the time I became credentialed as an experimental-nuclear-physicist-studying-breakup-reactions-of-light-nuclei-at-low-energy I had little or no time for history, philosophy, literature, biology, or languages. The opportunity to pursue the history of science let the world open up again, making cross-disciplinary study not a luxury but a necessity. As I noted previously, it was the prospect of promoting cooperative work on problems that escaped disciplinary isolation that attracted me also to launching the Institute for Society and Genetics. History of science provides a rich model for such approaches to multifaceted problems in a complex world.

But there is another great virtue in studying the history of science, one that is particularly relevant to today’s politics. Sciences of all sorts aim to enforce the discipline of evidence and reason on their practitioners. I take this goal to be the bedrock of liberal democratic societies. So to study history of science is in part to study the history of evidence and reason as the basis of knowledge and judgement, the changing conditions under which it has functioned well or poorly, and in whose interests. John, your own Dilemmas of an Upright Man: Max Planck and the Fortunes of German Science is a worthy example. As Lorraine Daston, director of the long-running project on “Ideals and Practices of Rationality” at the Max Planck, might put it, we need to study the deeply historical nature of the very terms of rationality: fact, objectivity, reason, data. But history of science teaches us that rationality is fragile. The most emotionally troubling paper I ever wrote looked at how the mathematical physicist Pascual Jordan, who played a key role in the initial articulation of quantum mechanics, also turned it into a Nazi propaganda vehicle for the Führerprinzip. The point cannot be simply, as Saraiva makes clear, that scientists can quite successfully join in the construction of egregious regimes, but that even so, without the discipline of evidence and reason, we are left with no defense against the willful and arbitrary rule of autocracy.
Elaine: Your erudite article brings together the expertise of scholars working on medicine in early modern Europe and late Imperial China. I’m sure that everyone is intrigued about the “origin” story. Could you tell us a little about how this collaboration began and perhaps the motivations behind it?

Gianna: Well, at first it was just about having some fun together. Marta and I had been toying with the idea that she was going to teach me some Chinese and I, in turn, was going to teach her some Latin. We jokingly referred to this plan by a grand name, the “Academia Latino-Sinica.” It was overambitious, of course, given that we were both desperately busy, but it was the seed of our collaboration.

One afternoon in the fall of 2012 I happened to be in the Public Library in Geneva, reading sixteenth century European medical case collections. After the tenth case collection or so, I got rather bored and somnolent, so I decided to shake off my drowsiness by taking a look at something different. This, by the way, is my personal recipe for research ennui, which is a well-known scholarly malady. I knew that the Bibliothèque de Genève owned a copy of a rare book that I’d long wished to see—Specimen Medicinae Sinicae (1682), the first important text on Chinese medicine to be published in Europe. Leafing through Specimen woke me up all right. It is a truly fascinating volume, with intriguing illustrations, correspondence from China, and much more. What especially caught my attention, that afternoon, was a section that contained formulas. These recipes looked just like those I had routinely seen in the European case collections I was studying. Exactly the same format: vertical lists of ingredients, highlighted in cursive font. But the ingredients and the names of the recipes were in Romanized Chinese, which had a remarkable defamiliarizing effect on me. Suddenly, the recipe structure, which had always seemed something ordinary and commonplace, looked baffling, unfamiliar. Defamiliarization, or estrangement, which happens when we are made to see common things in an unfamiliar or strange way, can have important cognitive consequences: it may jolt us into realizing that what we took for granted is more complex and thought-provoking than we ever assumed. That’s what happened to me that afternoon.

When I was back in Baltimore, I showed the book to Marta and she was intrigued. She immediately got into trying to identify the Chinese original of the translation, while I did the same for the translator. Previous scholars had not settled satisfactorily either of these two questions: what was the Chinese original of the texts assembled in Specimen? Who had translated them into Latin? We got very excited at the idea of solving these puzzles. It was “a Sherlock Holmes moment”—one of those special times...
when historical research feels as exciting as detective work.

Marta: At first, I thought this was a simple question to answer. Yes, as Gianna said, it was during the spring when she invited me to her house, that, over a shared pot of tea, she told me about this interesting Latin translation of Chinese medical texts she had seen while researching at the University of Geneva library.

Gianna, I think you chose the “recipes” section because you thought that the Latin was basic enough for me to start with, and the Chinese straightforward enough for you to begin to learn. We started by reading through the first recipe together: Gianna explained the Latin to me from title to final instruction; I considered what the Romanized names of Chinese herbs could be. The translated commentary also contained Romanized names of people that required my reference books. By the end of that afternoon, we each had a list of research questions to pursue.

Gianna: Yes, that’s true, I had forgotten. But at the back of my mind there definitely was also the idea that recipes were such a fascinating—and at that time understudied—epistemic genre. I had been interested in epistemic genres for a while, ever since studying medical case histories. I had noticed the connection between recipes and case histories long before, in an article that I published in 1996 in Quaderni Storici (“Observatio ovvero Historia”). And at the time of my research in Geneva, I was writing an essay that specifically focused on the issue (“The Recipe and the Case,” 2013). So, recipes were very much on my mind, as a topic of study. I’d add to Marta’s point that we decided to start from the formulas in Specimen because recipes are a very interesting epistemic genre, for all the reasons that Elaine and The Recipe Project have brought to our attention.

Marta: I should add that this first meeting of our “Sino-Latin Academy of Two” was preceded by countless exchanges, beginning in 2009, related to two graduate-level courses that we subsequently co-taught. Looking back I can see that was a happy moment in our History of Medicine Department at Hopkins, when we had the luxury to co-teach graduate courses. Not long afterwards, however, things changed, unfortunately. The doubling of our original course load, to meet new teaching demands, now makes highly unlikely comparable opportunities for collaborative graduate-level teaching. I thus write this response all the more grateful for a not-so-distant past when Gianna and I were not only in the same department but were encouraged to teach graduate-level courses together. It was while we were fully immersed in teaching our new Cross-cultural Histories of Medicine course that Gianna figured out how we could collaborate over research, not just teaching. After only a few more pots of tea in her living room, we realized that we had a research project that could possibly contribute to the growing field of cross-cultural medical history.

Gianna: Yes, I confirm. Marta is right that without this favorable teaching context our research collaboration could not have happened.

Gianna: Elaine, I’d like you to give us your own “origin story.” How was your book conceived, and what were your main motivations in researching and writing it?

Elaine: Gosh, mine is a fairly long story too, stretching back to my undergraduate days; but I think that the short answer is that it was one of those archival moments. Very early on in my research career, I spent a few amazing days in the Wellcome Library looking at their handwritten recipe books and was hooked! These manuscript sources are fascinating but challenging historical sources. Most contain only hundreds of recipes with little theoretical framing or introduction, and, in many cases, we have little biographical information about the makers and users. As such, I had a ton of questions during those first few encounters with the sources, many of which became central themes in the book. For example, my initial curiosity about how these books were created and used became the first chapter, and how the know-how contained in the books was tried and tested was developed into chapters 3 and 4.
As for my motivations—as a historian, I’ve always been fascinated by the everyday. As such, for me, recovering the knowledge practices of the household is crucial, especially because it pushes us to recognize that exploration of the natural world can happen in the humblest circumstances and conducted by a wide range of actors.

Marta: Did working on recipes in the early modern world as “everyday knowledge” change how you use or think about recipes in your everyday life?

Elaine: Yes, most definitely! Like many scholars, my research interests spill over into my everyday life. I often pick-up all kinds of cookbooks for leisure reading and the gathering, and discussion of recipes occupy quite some space in my daily life. After spending so much time thinking about early modern recipes, I am definitely more attentive to the social resonances of recipe exchange amongst my own circle of family and friends. A number of the practices I outline in the book, such as the creation of a “family” book of recipes and the exchange of recipes amongst kin as ways to strengthen family ties, are still practiced today. For example, years ago, my mother-in-law gave me a small booklet of xeroxed recipes, bound by hand (Figure 1). Titled “Our Family Cookbook,” it contains recipes from my husband’s immediate and extended family and was circulated as a gift for Christmas in 1980. Prompted by your question, I recently revisited this slim volume and was immediately taken to American life in the late 1970s. Predictably, some of the recipes contain now oft-mocked ingredients such as Lipton Onion Soup Mix in marinades or canned mushroom soup in casseroles, reflecting how cooks in that period were keen to test out the various “kitchen helpers” new to the market. One particular recipe for a “very special dessert”—a “Chocolate Mayonnaise Cake”—involving mixing sugar, flour, baking soda, cocoa, water, vanilla extract and 2 cups of “Kraft Miracle Whip”—is perhaps a recipe which not many of us will be brave enough to test nowadays. But the volume also opens with a lengthy section on bread making and offers of sourdough starters, reminding us that baking experiments actually have a long history amongst home cooks and are not just an activity for the “Instagram-age.” A recipe for a “Summer Squash Chicken Casserole” donated by my husband’s grandmother ends with the note that they used to grow their own summer squash and raise their own chickens praising this process of land-to-table as the “height” of “fresh, homemade cooking.”

I originally received this book of family recipes in the final throes of completing my dissertation and as I gained additional insight about recipe writing from my seventeenth century sources, my appreciation of “Our Family Cookbook” also deepened. I now treasure these recipes and their accompanying stories not so much for use in the kitchen, but for the engaging picture they paint of my husband’s family and the social habits and aspirations of men and women across America in the late 1970s.

Gianna: Adding to Marta’s question, one of the most exciting aspects of current research on recipes is that we have finally tackled, as you do in your book, a vast body of sources, mostly manuscript, that had been understudied, if not ignored, for too long. I’d like to ask you: do you think that there are other
Elaine: Thank you for this really exciting question. For me, two important themes emerge from our collective study of recipes. First is the investigation of what we might call “margins” of the textual world, that is, texts or text fragments which are appended to longer, more well-studied genres. One of my current interests is to look at medical glossaries and dictionaries. In the early modern English context, such compilations accompany a variety of texts in both handwritten medical notes and vernacular printed medical manuals. Compilers of medical notebooks often include lists of “hard words” to guide future readers, along with lists of apothecaries’ weights and symbols. These kinds of lists not only sharpen our view of what historical actors considered important information, but also serve to standardize terms and measurements. Similarly, glossaries and early medical dictionaries emerge in English vernacular print around the 1650s and reveal how knowledge travelled across linguistic, temporal, geographical and cultural boundaries. For example, Peter Cole included a physical dictionary with his translation of the Montpellier professor Lazare Rivière’s Practica and Observationes. The kinds of terms and words included in the dictionary reveal the needs and anxieties of the period, about bringing university-based knowledge from France to a largely urban English readership.

Of course, medical glossaries are in all sorts of texts across the premodern textual world and I’m lucky to be in good company in my study of these texts. For example, I’ve very much enjoyed conversations with Shireen Hamza, (Harvard University) who has been analyzing cognate texts in the medieval Indian Ocean World. Our fruitful exchanges led me to my second theme—the immense possibilities opened up by studying textual genres across time and place, as so wonderfully exemplified by your article. Within recipe studies, it’s clear that we’re in the midst of a particularly rich period and our archive of recipe writing is continually extended with new sources from different contexts. Collectively, I think that we have much to learn by in-depth study and analysis of sources, practices and stories from different cultures across the premodern world and, perhaps, through studies of common epistemic practices we can forge together a “braided” story, to use Projit Bihari Mukharji’s term, while concurrently retaining the integrity and uniqueness of each separate strand.

Elaine: My turn again to ask a question: What were some of the most surprising connections that you both found whilst writing this article?

Gianna: I’d say that finding out a working model for the comparative history of epistemic genres across cultures was perhaps the most exciting discovery that we made together. Thanks to Marta, I had already pursued this research model even before tackling recipes, when I was working on the medical case narrative. Marta told me I should read a book edited by Charlotte Furth and other scholars, Thinking with Cases: Specialist Knowledge in Chinese Cultural History (2007), which turned out to be an incredibly useful suggestion. It set me thinking about how to compare the parallel histories of the medical case narrative in Europe and China. What was especially surprising was to find how many similarities were there between the two histories—a result I did not expect at all, as I had been conditioned by a wide consensus that emphasized difference and even incommensurability of concepts and intellectual tools in different cultures. Well, that did not turn out to be the case, as I argued in my essay “The medical case narrative in pre-modern Europe and China” (2018). And similarly, for the history of the recipe, we found interesting parallels that allowed the attempt of the Jesuit translators to transfer pharmacological knowledge from China to Europe.
Marta: From start to finish, our collaboration was very different from any I’ve had before. The underlying challenge was to find scholarship on East Asia that not only measured up to the best in European and US historiography, but also could offer something analytically new. It was as much a challenging, inquisitive two-way conversation with Gianna as it was a journey of rediscovery within myself of the history of science and medicine in China. Thinking through how recipes functioned as a commensurable epistemic genre in Europe and China alike, has completely reoriented how I approach Chinese medical history through the range of specific narrative forms, many also epistemic genres, that collectively constituted its vast archive over more than two millennia.

In fact, my next publication within Chinese medical history is the direct result of engaging, not only with Gianna’s groundbreaking work on epistemic genres—especially her comparative history of medical case records in China and Europe—but also with questions that arose from our collaborative research. For example, in order to write “From Under the Elbow to Pointing to the Palm: Chinese Metaphors for Learning Medicine by the Book (4th-14th Centuries),” for the special issue of the British Journal of History of Science—which you helped edit Elaine—I had to first understand the earliest genre terms from roughly the fourth century BCE to the fourth century CE for the narrative forms within which Chinese scholars recorded medical knowledge. Only with this foundation could I begin to examine the range of metaphors in medical titles used to convey narrative and material innovations, and how these changed over the longue durée. Basically, the collaborative work with Gianna has inspired me to pursue my own new research questions in Chinese medical history, which are independent of her and yet integral to the broader intellectual synergy we fortunately share.

Marta: Speaking of connections, Elaine, do you have any thoughts on how recipes as ways of reasoning are comparable to but different from medical cases?

Elaine: First-hand observations are certainly key ways of reasoning in both genres and, in many ways, both claim authority and validation from practical experience. However, I think that recipes might be slightly more open and malleable, particularly if they are circulating in manuscript rather than print. By the seventeenth century, lay recipe exchange was deeply embedded in social networks and strategies for construction and consolidation of familial wealth and power. As such, while lived experience was frequently used as a claim to authority, many writers and users of recipes also factored in social concerns. After all, if a recipe was donated by a beloved aunt holding the purse strings, one might think twice before rejecting the knowhow. Within the books themselves, we see householders annotating, writing over and scrawling out recipes. I use these very material practices to tease out the multi-step assessment processes used in recipe trials. The cheesecake recipe in the Godfrey family collection is a particular favorite that shows how the family tried over and over again to test and modify the ingredient proportions and baking instructions, only to declare it “not to be write,” i.e. not to be added to the family’s go-to recipe book (Figure 2). This eagerness to preserve or salvage the recipe is due to the fact that the knowhow was afforded both social and epistemic value. If recipe exchange was a way to strengthen social relationships and build networks, it makes sense that householders thought twice (or three times) before discarding the gifted recipe.

This practice of “recipes salvage,” as I term it, had a significant impact on household recipe trials, leading some actors to repeatedly rework and revise recipes as a way to keep it in the family book. As far as I know, this kind of practice isn’t so prevalent in the writing of medical cases but here I defer to Gianna as the expert, to confirm and comment.

Gianna: I think that Elaine is right in pointing out a significant difference between recipe and case history in this respect. The case history is definitely much less “malleable” than the
Swapping Recipes, cont.

recipe, which is constantly subject to processes of revision and adaptation. This has to do, I think, with the fact, that the recipe straddles the worlds of everyday knowhow and professional knowledge to a higher extent than other genres. Medical cases are a more specialized, more technical and therefore tendentially more rigidly structured kind of writing. And yet, having seen Hippocratic case histories read, used, interpreted and reinterpreted again and again over two millennia of history, I’d say that something like “case salvage”, to use Elaine’s metaphor, happens also in the transmission of medical case narratives. That’s not surprising. After all, constant adaptation and transformation by their users is a key feature of textual forms, epistemic genres included.

Elaine: As you know, the study of recipes has become a vibrant and interdisciplinary subfield over the past two decades and your research extends this conversation in multiple ways. What do you see as your most significant interventions?

Marta: I think our most significant intervention has been to demonstrate how much a close analysis of a simple recipe can reveal about the cultural, intellectual, social, and economic world within which it was recorded, including the meaning and distilled empirical experience it contains. Beyond that, I hope that our collaborative work on the earliest translations of Chinese recipes into Latin offers some useful methods for other scholars working on cross-cultural medical history well beyond the Chinese-European encounter.
Gianna: To elaborate on this point, I’d say that recipes are deceptively simple texts. Their apparent simplicity has confined them for a long time to the periphery of the history of medicine, as they were perceived as something that belonged to applied science (or technology) rather than science proper. I think that our article shows that in fact the knowledge going into recipes has great complexity, so that transferring it across cultures is a real challenge. In fact, as you show beautifully in your book, Elaine, recipe-knowledge circulates most smoothly and effectively within limited spheres—households, networks of relative and friends, tight professional networks—all milieus that share a lot of implicit or tacit knowledge. For Marta and me the question was: if this is the case, how can recipes cross boundaries and travel to wider communities of use? I thought of this issue again lately, reading a fascinating article by anthropologist Barbara Gerke on what she calls the “signature of recipes” (Revue d’Etudes Tibétaines, 2018). She shows that in the context of Tibetan traditional medicine or Sowa Rigpa (= “Science of Healing”), as still practiced today, formulas require constant interpretation, reformulation, and personal “signatures” by the healer. She argues that this poses a challenge for the codification of formulas into a standardized pharmacopeia, as currently required in India for traditional medical traditions, including Sowa Rigpa, which was officially recognized as a medical system in 2010. So Tibetan recipes are posed between issues of individualization (they need to be validated by a healer’s “signature”) and standardization for a wider market. How knowledge is created, activated, translated and sometimes mistranslated, found and lost in this process is an extremely relevant issue for the history of knowledge. Our article’s most significant contribution, I think, was to provide a detailed case study of this much wider and general process.

Gianna: At this point I’d like to acknowledge, Elaine, that all of us working on recipes are very indebted to the Recipe Project that you have coordinated at the Max Planck in Berlin. Could you tell us how the Project has helped your own work and conversely, how your own research has shaped your contribution to the Project? And what is the future of the Project at this point?

Elaine: I’m so glad that you brought up the Recipes Project, as I am hugely indebted to the “recipes” community. Launched in 2012, The Recipes Project is an academic blog and virtual research platform dedicated to the study of historical recipes. Curating and editing the blog pushed me to think more broadly about a long view and geographically broad history of recipe writing, attending to similarities and differences across diverse contexts and knowledge fields. It offered opportunities to informally interrogate particular themes. For example, in 2018 Marta joined a group of us to explore notions of heat in histories of food, medicine, science and art and earlier this year, a group of PhD students at Cambridge edited a series on the theme of thrift. Due to the enthusiasm and support of our editorial team and readers, the blog continues to grow, and we hope that it will serve as a platform for fresh perspectives on recipe studies for years to come.

Gianna: I have one more question for Elaine. Re-reading your book, what I find most fascinating is the issue of the relationship between household knowledge and more formalized, professional knowledge. In conventional history & philosophy of science, this used to be formulated as the problem of the relationship between “pre-scientific” and “scientific” knowledge. How would you re-frame this issue, based on your own research work? It seems to me that one of the most significant contributions of your book is that you show the continuity between the “pre-scientific” and “scientific,” whereas most classic histories of science underscored the discontinuities between the two. I find this issue really intriguing. What are your thoughts about it?

Elaine: Yes, underlining and amplifying continuities between different kinds of knowledge practices is definitely one of the main
Swapping Recipes, cont.

goals of my book. I wanted to dig deep into the
glimpse of these collaborative knowledge
practices and recover the voices of these “invisible
technicians.”

I was lucky to find a very long and detailed
series of letters between Lady Johanna St.
John (1631–1705) and her steward, Thomas
Hardyman. Johanna was quite the micro-
manager and so it made it possible to
understand the various tasks taken on by dairy
maids, gardeners, herb women and cheese
makers, and the complex web of obligations and
expectations held by both parties. Another series
of letters, this time about beer brewing and
water boiling, between Edward Conway second
Viscount Conway and Killultagh (bap. 1594,
d. 1655) and his nephew Sir Edward Harley
(1624–1700) further revealed how Conway
viewed the Petworth brewers in incredibly high
regard, refusing to conduct recipe trials on their
advice. These letters pushed me to consider early
modern households as collectives of knowers
and makers and to tease out dynamic relations
within these communities.

By focusing on recipe collections and letters
created by these little-known actors, I
reconstructed home-based knowledge practices
from the ground up, attending to their work and
agency as knowledge makers. The central chapters
of my book demonstrate how practices of trial
and testing (on paper and in practice) formed the
core of household science. Historical actors such
as Conway first gathered knowledge from experts,
assessed the know-how on paper by consulting
works by ancient and contemporary authors in
their library, conducted hands-on experiments
with the recipes and continued to adjust the
trials based on experiential knowledge. Much like
“work diaries” or laboratory books, household
recipe notebooks are the record of these multi-
stepped trials. In that sense, the emerging picture
of household science has significant resonances
with the more studied “scientific” practices—
the “formalized professional knowledge” you
describe above. The focus on continuities across
different sites of knowledge, I think, enables us to
further understand knowledge production in key
moments in the history of science as it encourages
us to recognize that our historical actors
functioned within entangled webs of knowledge
practices. Openness to the far-reaching extension
of these webs—often across social, cultural,
temporal and geographical boundaries - can
enrich our narratives of knowledge production
and transfer, no matter whose or which story we
choose to tell.

Elaine: One last question: your
collaboration is clearly incredibly rich and
fruitful and I’m sure that many colleagues
are inspired by it and might want to
collaborate. What advice do you have for
those of us who might want to embark on
similarly ambitious collaborations?

Marta: When I accepted the Price/Webster prize
on behalf of Gianna and myself, I said that our
collaboration, which started as something more
playful than serious, has deeply reoriented both
of our research trajectories. And far from being
episodic, it has become ongoing. My main
decision for anyone wanting to collaborate with a
colleague is to trust the intellectual synergy you
share with someone else. Give yourselves the
luxury of time to just talk with each other, and
if possible, teach together. Be open to wherever
that synergy leads you. Once you’ve determined
a path forward, find an appropriate venue to
present your work in progress. There is nothing
like an upcoming workshop or conference to
focus one’s mind and polish one’s prose!

Gianna: I would add the following, which is
a caveat, as well as an encouragement. Have a
clear research plan with an extra clear division of
labour. We discussed everything together, but we
had from the start clearly distinct assignments
for each of us. As already said, Marta’s job
was to identify the original Chinese text of the
translation, mine was to identify the translator.
This was easy enough because of our linguistic
styles: Marta knows Chinese and I know Latin.
But even if that had not been the case, I think
having distinct though complementary tasks
really helps collaboration. I’m quite sure it helped
ours.
History of Science Within the Walls

by Phillip R. Sloan

The re-entry of individuals with felony convictions into the community is difficult. Rates of recidivism—relapse into criminal behavior—in the United States are shocking, estimated at over 60%. One effective way to address this issue has been to offer education and training to prison inmates, as evidenced by the dramatic drop in recidivism rates generally to below 10% in graduates of college in prison programs.

In 2012 the Holy Cross College of Notre Dame and the University of Notre Dame created the Moreau College Initiative (MCI) at the Westville Correctional Facility, a medium security prison in Westville, Indiana, in collaboration with New York’s Bard College Prison Initiative.

Offering two- and four-year degree programs to students serving between three and ten years, the MCI currently boasts 55 students with an approximately 60 percent ethnic minority composition. In the years since its inception, the program has developed its own signature curriculum, and is staffed by faculty and advanced graduate students from the two participating institutions.

I became involved with the MCI in 2013, developing courses in the history and philosophy of science as a way to assist in teaching the biology, physics and chemistry courses offered in our curriculum. Such classes pose a particular problem for our students because many of them have had no scientific or mathematical training. Moreover, traditional laboratory classes are difficult, if not impossible, to conduct. Another, more generalized problem is that unlike colleges, students have no ready access to internet sources.

Students of the 2016 life sciences course taught at the Westville Correctional Facility, with their teachers, Br. Lawrence Unfried (center) and the author (second from right). Photograph by Peter Ringenberg.

Innovations in Education

Editor’s note: Innovations abound in our discipline as evidenced by the two articles in this section. In the first, Phillip Sloan (Professor Emeritus, University of Notre Dame) tells about taking history of science to a most unusual audience, and in the second, Paola Bertucci (Yale University) shares details of a website created as a final project along with the students of a graduate seminar, when the COVID-19 lockdown made it impossible for her to teach her class as she usually would have.
I have now completed three semester-long courses, two in biology and one in mathematics, physics and astronomy. My approach to all of them is based on the pedagogy developed in the science component of my home department, Notre Dame’s great books major, the Program of Liberal Studies.

The biological science course, titled, “The Science of Life” ran concurrently with a parallel first-year level college biology course, and students were encouraged to cross-register for both. In this case, I had excellent results linking the history and philosophy of the life sciences with general biology using the text, Biology: The Network of Life, developed over a twenty-five year period by two biologists and former HSS President Paul Farber for the General Science curriculum at Oregon State University. This text couples its presentations of contemporary life science with Farber’s detailed and accurate commentary on issues in their history and philosophy, and was supplemented with a substantial reader of selections from primary sources along with my commentaries.

Each of this course’s five units was accompanied by some kind of practical or laboratory component. For example we opened with the exploration of basic concepts in the philosophy of science, utilizing a “white can” experiment developed by my Notre Dame colleague Michael Crowe. From here we moved to in-class observations on pulsation and breathing; these observations, along with readings from texts from antiquity in medicine and basic physiology, formed the background for a detailed study of William Harvey’s treatise on the circulation of the blood. Also in this section we read portions of the papers of Antoine Lavoisier and Pierre Simon LaPlace on animal heat and respiration.

Perhaps the most effective linkage between biology and history was achieved in the unit on genetics, where we were able to integrate discussions of Mendel and early chromosomal genetics with some simple laboratory work on yeast, corn, and fruit flies. Another substantial unit concentrated on Darwin’s work including the reading of substantial portions of the Origin of Species and his contemporary critics, and culminating in a “Darwin debate” in which the students role-played the positions of several of the great actors in this historical debate. We ended the course with a discussion of issues involved in understanding scientific change and development, focused by a reading of the Structures of Scientific Revolutions by Thomas Kuhn and criticisms of his analysis.

Unlike the biology course, the newer “Mathematical Cosmos” course is free-standing, although it too is intended to assist students taking the regular courses in physics and mathematics. Because of the weak mathematical preparation of many of the students, the course opened with a unit devoted to working through all of Book I of Euclid’s Elements, with a valuable commentary by Michael Crowe. With this background we have subsequently been able to read and analyze a selection of primary texts by Copernicus, Galileo, Kepler and Newton, utilizing Michael’s excellent Mechanics from Aristotle to Einstein, supplemented by my own materials. I have been impressed with how much the students have gained from this course, even with the interruption caused by the Coronavirus pandemic, which forced me to move to a “recorded lectures” format, and abbreviate the final portion of my syllabus on more recent physics.

In my years of teaching at the MCI I have found my students to be mature, eager to learn, with considerable time to devote to study. Housed in their own dormitory, they are able to help one another with difficult materials. Some upperclassmen have served as my teaching assistants. It has been my distinct privilege to bring my own expertise and learning in the history of science to this underserved and often ignored, sector of our population. I would be pleased to share syllabi and other materials with any interested. Contact me at sloan.1@nd.edu.
When the COVID-19 pandemic struck, I was teaching a graduate seminar on the visual and material cultures of science. The seminar was meant to get the students to work on the little known, yet superb, collection of artifacts in the History of Science and Technology Division of Peabody Museum at Yale. I was blessed with a particularly heterogeneous, creative group of students—coming not only from the History of Science and Medicine Program, but also from Art History, Physics, East Asian Studies, English, Divinity School, and School of Architecture—and was eager to get their input on this collection. During the first part of the semester, the students familiarized themselves with the questions and methods of visual and material studies of science. I had envisioned the second part of the semester as an exploration of the HST collection, whereby the students would work hands-on on the instruments, approach one or more from the perspective of their own discipline, and present a creative project or a traditional paper centered on the instrument of their choice.

The pandemic made all of this impossible, and the transition to online teaching challenged me to think of other ways to complete the seminar. I tried to turn the problem into an opportunity, and the frustration into an inspiration: What could we do thanks to the present situation, rather than in spite of it? I wanted the class to focus on a project that would acknowledge the present and help us understand it better. The history of science prepares us to ask questions about scientific and political authority, trust, expertise and evidence; all topics that are crucial to understanding our present. Epidemics, on their part, magnify social inequalities and conflicting interpretations of what “public” health should be for. So, I thought that the students could direct their browsing towards exploring moments in the past with those questions in mind. Since we were working on the visual and material cultures of science, it made sense to turn our attention to the visual and material history of epidemics. One of my goals was to give some direction to the compulsive browsing we were all doing. It is easy to lose motivation when the present becomes overwhelming and physical distancing makes it even harder to feel engaged. That is why I thought that a collective project could be the right solution.
The idea of a website came from the students. One of them volunteered to design it and helped the other students to create their pages. We gathered online to discuss work in progress and exchange feedback. We shared knowledge, hopes, frustrations, and concerns and were happy with the end result.

**Epidemic Histories** is a website about epidemics past and present. It focuses on material and visual sources organized around themes that emerged from our collective interests. Each contribution is signed by its author and includes references to primary and secondary sources. Visitors can find accessible materials for teaching, or, more generally, for reflecting about how people live and have lived with epidemics, the various forms that racism takes in times of crisis, how containment strategies reflect conceptions of the state, the double standards that are in place in the celebration or stigmatization of health care professionals, the moral messages implicit in artistic representations of death and disease, and more.

It is still very much a work in progress and I will use it again in my teaching. I wish to express my gratitude to the students who contributed to this project. It helped me navigate the lockdown as much as it helped them.

Here is what the graduate students have to say:

**Jessikah Diaz:** Working on the Epidemic Histories website was an excellent way to study the implications of a pandemic—without focusing solely on the one we’re currently living in.

**Kristine Ericson:** The website became a tool for us to continue thinking about visual culture at a time when all of our interactions were moving online. As soon we were unable to visit the museum collections in person and were physically separated from one another, it only made sense to translate our work to a digital format.

**Iris Giannakopoulou:** Epidemics, as all major crises, lay bare the problems, obstacles and injustices of our systems. Not only our health, social, political and economic systems, but also the epistemological, scientific and more broadly cultural structures of our societies. Epidemic Histories is our collective effort to learn from the past, understand the present challenge and hopefully contribute to a better future.

**Michaela Haffner:** The Epidemic Histories website was a fantastic project that spurred us to think about the current pandemic through a historical lens. The spittoon, in particular, enabled me to delve into the experience of tuberculosis at the turn of the twentieth century by studying an innovative development in material culture. The spittoon not only illuminated emergent public health practices for disease containment, but the small sputum receptacle also revealed how objects regimented and choreographed patient behavior—much like masks do today—and how medical objects can be domesticated and assimilated into everyday life.

**Julia Holz:** Initially for my final project I was drawn to the idea of examining a sewing machine in the Peabody collection, exploring the idea of devices that are seen differently because they are primarily associated with the home. Once our course moved online, I tried to reimagine this theme in the context of mask making during times of pandemic and how domestic work could be an important way for people to feel engaged and useful during a situation that made one feel quite powerless. Reading about mask making in the 1918 influenza pandemic and how similar it was in comparison to today also unexpectedly made me feel a sense of hopeful connection to those who have endured times of epidemic in the not so distant past.

**Alicia Petersen:** Following the outbreak of COVID-19, I was feeling uninterested in studying early modern Europe, which is a problem I never thought I’d have! But reaching back into the distant past felt trivial when faced with current, human suffering. Epidemic Histories helped me to reconnect to my work by analyzing past coping mechanisms for death and disease for insights into our present circumstances.
Warwick Anderson (University of Sydney) published two articles on the website Somatosphere: “Epidemic Philosophy,” (April 2020) and “Not on the Beach, or Death in Bondi,” (May 2020) as well as “Unmasked: Face Work in a Pandemic,” in the June 2020 issue of Arena Quarterly.


Janet Browne (Harvard University) was elected as an Honorary member (Polite Literature and Antiquities) of the Royal Irish Academy in May 2020.

Steven M. Carr (Memorial University of Newfoundland) published “Evidence for the Persistence of Ancient Beothuk and Maritime Archaic Mitochondrial DNA Genome Lineages among Modern Native American Peoples,” now available online on the website of the journal Genome.

Karine Chemla (CNRS-Université de Paris) was named the 2020 recipient of Otto Neugebauer Prize by the European Mathematical Society, which awards this prize every four years “for highly original and influential work in the field of history of mathematics.”

H. Floris Cohen (Universiteit Utrecht) has been named the 2020-21 Sarton Chair at Ghent University.

Angela Creager (Princeton University) was recently elected to the American Philosophical Society, the United States’ oldest scholarly organization.


Ian Davis (Universidade de Coimbra) published “Antoni van Leeuwenhoek and Measuring the Invisible: The Context of 16th and 17th century Micrometry,” available online on the website of Studies in History and Philosophy of Science, Part A.

Steven Dick (formerly NASA Chief Historian) has been elected to the first class of fellows of the American Astronomical Society, and also published Space, Time, and Aliens: Collected Works on Cosmos and Culture (New York: Springer, 2020).

Member News, cont.

Bert Hansen (Baruch College of CUNY, emeritus) was interviewed in April 2020 for a 30-minute podcast of Rediscovering New York, “New York’s Hospitals, Past and Present,” available to listen and download. In early May on the website of the Science History Institute, he published a brief account of the long history of convalescent plasma therapy, in the news these days as a possible treatment or preventative for COVID-19, in “The Story of Serum Therapy.”

Hans J. Haubold (United Nations) published “A. M. Mathai Centre for Mathematical and Statistical Sciences: A Brief History of the Centre and Prof. Dr. A. M. Mathai’s Research and Education Programs at the Occasion of His 85th Anniversary,” Creative Education, 11, 356-405 (March 2020), a case study on the history of the Centre for Mathematical and Statistical Sciences, Kerala, India, covering also an overview of the Centre’s research and education programs in a diverse range of topics.

Sandra Herbert (University of Maryland Baltimore County) is the 2020 recipient of the Sue Tyler Friedman Medal from the Geological Society of London, awarded for “distinguished contributions to the recording of the history of geology.”

Danian Hu (City College of New York) published “The Transnational Dimensions of Science, Technology, and Medicine in Modern China,” Chinese Annals of History of Science and Technology, December 2019. For more information on this special issue of the journal see the “News of the Profession” section of this issue.

On July 1, 2020, Edward Jones-Imhotep formerly at the history department at York University, Toronto took up a new position as Director of the Institute for the History and Philosophy of Science and Technology at the University of Toronto.


Harald Kümmerle (German Institute for Japanese Studies) was awarded the 2020 Johannes Zilkens Dissertation Prize by the German Academic Scholarship Foundation for his Ph.D. dissertation, “Die Institutionalisierung der Mathematik als Wissenschaft im Japan der Meiji- und Taishō-Zeit,” [The Institutionalization of mathematics as a science in Meiji- and Taishō-era Japan] which he defended at Martin Luther University Halle-Wittenberg in January 2019. The dissertation will be published as a monograph in the series “Acta Historia Leopoldina” published by the German National Academy of Sciences Leopoldina, and German Academic Scholarship Foundation has produced a video in which Kümmerle gives an introduction into his research.

Pamela Long (Independent Scholar) was awarded the Spiro Kostof Book Award from the Society of Architectural Historians for her book Engineering the Eternal City: Infrastructure, Topography, and the Culture of Knowledge in Late Sixteenth-Century Rome (Chicago: Univ. Chicago Press, 2018).

Gregg Mitman (University of Wisconsin, Madison) has been awarded a €2.5 million European Research Council Advanced Grant for his project, “Bloodborne: Hot Zones, Disease Ecologies, and the Changing Landscape of Environment and Health in West Africa,” to be based at the Rachel Carson Center for Environment and Society in Munich. This five-year project aims to discern the ecological, economic, political and social forces at play that have simultaneously turned certain regions into profitable sites of natural resource extraction, productive enclaves of biomedical research, and hot zones of pandemic threats.


Tara Nummedal (Brown University) and Donna Bilak (Independent scholar) are editors of Furnace and Fugue: A Digital Edition of Michael Maier’s Atalanta fugiens (1618) with Scholarly Commentary (Charlottesville: University of Virginia Press, 2020). Mary Jo Nye (Oregon State University) and Alan Rocke (Case Western Reserve University) have jointly received the Franklin-Lavoisier Prize for 2020, which is awarded every other year, for work in the preservation and highlighting of any aspect of our common scientific or industrial heritage in the fields of chemistry and its related applications, the promotion of the history of the chemical and molecular sciences and industries, or the fostering of closer Franco-American ties and the promotion of significant activities in the chemical sciences or industries. The prize is cosponsored by the Fondation de la Maison de la Chimie and the Science History Institute, and the award ceremony will take place at the Maison de la Chimie in Paris. For further information, click here.

Lynn Nyhart (University of Wisconsin–Madison) was recently one of 11 recipients of a WARF (Wisconsin Alumni Research Foundation) Named Professorship. In Lynn’s words: A lovely feature of this professorship is that the recipient gets to designate the name for the professorship. I am therefore now, with great pleasure, the Robert E. Kohler Professor of History of Science at the University of Wisconsin–Madison.

Joseph Pitt (Virginia Tech) published Heraclitus Redux; Technological Infrastructures and Scientific Change (Roman and Littlefield Publishers, 2019).

Jamil Ragep (McGill University) received the 2019 TÜBA International Academy Prize in the Social and Humanities category for his work that broadened the time and space horizons of the history of Islamic science, and especially for his research on the ways in which Nasiruddin Tusi, Ibn Sattir and Ali Kuscu’s astronomy studies were transferred to Europe in the pre-modern period and showed the effects of the emergence of Copernican astronomy.

Member News, cont.
Sally Ragep and Jamil Ragep will leave McGill University in August 2020 after 14 years, the former as Senior Researcher in Islamic Studies and the latter as Canada Research Chair in the History of Science in Islamic Societies. They hesitate to call this a retirement since they hope to continue their collaborative work on the history of Islamic science with colleagues in a number of countries, in particular Turkey, where Jamil was awarded the 2019 Turkish Academy of Sciences prize in Social Sciences and Humanities. They also hope to stay active in the Islamic Scientific Manuscripts Initiative, whose new home will be at Medeniyet University in Istanbul.

Harriet Ritvo (MIT) was awarded the American Society for Environmental History (ASEH)’s Distinguished Scholar Award given every year to an individual who has contributed significantly to environmental history scholarship.

Margaret Rossiter (Cornell University, emerita) and her work in restoring the historical place of women in science were recently featured in “Women Scientists Were Written out of History. It’s Margaret Rossiter’s Lifelong Mission to Fix That” in Smithsonian Magazine (October 2019).

On May 27, 2020 Neeraja Sankaran (Visiting Fellow, University of Leeds, and editor, HSS Newsletter) delivered the C. Michael Mellor Public Lecture titled “Fantastic Microbes and Where to Find Them.” Due to the COVID-19 crisis, this event was conducted online via Zoom. A recorded version of the talk is available on Youtube.

Carlos Sierra (Associate Professor, Universidad Nacional de Colombia) published the following:

- “El planeta de los virus: El nuevo Decanerón,” Nueva Gaceta, 1 April 2020
- “De zonas de inteligencia en Colombia: ¿En dónde están?,” Nueva Gaceta, 8 March 2020
- “De involuciones con las que inicia el 2020,” Nueva Gaceta, 30 January 2020
- “Cajal y la cuestión ambiental,” Comarca, December 2019

Robert W. Smith (University of Alberta) is the recipient of the 2020 LeRoy E. Doggett Prize for Historical Astronomy, a biennial award from the Historical Astronomy Division to an individual who has significantly influenced the field of the history of astronomy by a career-long effort.

Mark Solovey (University of Toronto, Institute for the History and Philosophy of Science and Technology) published Social Science for What? Battles over Public Funding for the “Other Sciences” at the National Science Foundation (Cambridge, MA: MIT Press, 2020).

Porter Theodore (UCLA) announces the following:


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Tamara Plakins Thornton (State University of New York, Buffalo) published “Mathematical Geography, the ‘Use of the Globes,’ and Race Theory in Early America.” *William and Mary Quarterly*, 3d. ser., 77, no. 2 (April 2020): 273-310. She will spend Spring Semester 2021 as an NEH-AAS Fellow at the American Antiquarian Society, pursuing her book project, “Globes and the Global Imagination in Early America: A Study in People, Ideas, and Objects.”

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Zuoyue Wang (California State Polytechnic University, Pomona) recently published the following:


Wang also appeared in two media reports on the global COVID-19 vaccine efforts: one on the National Public Radio (NPR) on May 19, 2020, and another one in the June 2020 issue of *Exame*, the Brazilian business magazine.

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Dominik Wujastyk (University of Alberta) a member of the editorial board of *History of Science in South Asia* is pleased to announce the completion of volume 7 of the journal. *Volume 8 currently in progress* has already published four articles online.

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Richard Yeo (Griffith University, Brisbane, Australia) published “Thinking with Excerpts: John Locke (1632-1704) and His Notebooks,” *Berichte zur Wissenschaftsgeschichte*, 43 (2020), 180-202.
HSS News

HSS Council Supports Statements Condemning Racism

The Society’s Council voted on two measures this past June that addressed the chronic and painful problems of racism. It first agreed to sign onto the American Historical Association’s statement on racist violence in the United States. The HSS typically avoids any position that does not directly affect the history of science but the AHA statement was seen as relevant in that regard. But to make explicit the impact that racism has wielded on the history of science, the Society’s Committee on Diversity and Inclusion, along with input from the HSS’s many committees, interest groups and caucuses, penned a statement that goes to the core of history of science. It states that “We know from our historical work how thoroughly entangled science is with racism. Our histories have demonstrated this across medicine, science, and technology, including, among many others, the use of the bodies of unwilling enslaved women in the creation of gynecology techniques, the collection of blood from indigenous communities in Cold War preservation programs, the development of racist database surveillance practices in policing, or in the deployment of anthropology to legitimate racist public policies.” The full statement can be found on the HSS website.

HSS Election Results

The Newsletter wishes to congratulate our members who were elected to positions in the Society. We are grateful to them—and to all of those who stood for election—for their willingness to serve. A special thank you for the Nominating Committee: Elena Aronova, Chair; Anna Maerker; Hannah Marcus; Ahmed Ragab (Council Delegate); and Marie Thébaud-Sorger.

Council: 2021-2023
Florence Hsia           Projit Mukharji
Christine von Oertzen  Irina Podgorny
Dora Vargha

Nominating Committee: 2020-2022
Charlotte Bigg           Myrna Sheldon

Council Delegate: 2020-2021
Elaine Leong

Secretary: 2021-2022
Luis Campos

Treasurer: 2021-2022
Gwen Kay

Sarton Lecture at AAAS

Alison Wylie, President of the Philosophy of Science Association, delivered the 2020 George Sarton Memorial Lecture in the History and Philosophy of Science at the American Association for the Advancement of Science annual meeting this past February. Her title, “The Indigenous/Science Project: Collaborative Practice as Witnessing,” described how her work on an archeology dig in British Columbia helped her understand the power of science embedded in humanity.

Dr. Wylie’s lecture will be featured in a future issue of the Newsletter. Meanwhile, here are the links to the slides and an audio recording of her lecture.

Osiris Editor Opening for 2021

The History of Science Society solicits applications and nominations for the Editorship of Osiris. Published annually, Osiris compliments its quarterly twin sister Isis and is one of the five publications of the History of Science Society (the other three being the Isis Current Bibliography, the HSS Newsletter and the online HSS Portal). Each volume of Osiris comprises approximately fifteen essays on a specific theme and is printed on c. 350 pages (see also http://www.press.uchicago.edu/ucp/journals/journal/osiris.html).

The editor’s duties include soliciting, reviewing (with the assistance of the Osiris Editorial Board), and selecting proposals for each volume; working with guest editors to define the scope and content
of the volume; overseeing the outside referee process; and working with the University of Chicago Press, a copy editor, proofreader, and graphic designer to coordinate the production of each volume. The total time required may vary but is expected to be roughly 150-200 hours per year. The appointment is for five years, starting July 1, 2021. As a rule, HSS supplies funding for copyediting, proofreading, referees, and an Osiris Board breakfast at the annual meeting. It is hoped that the HSS can help reimburse editor travel to the HSS annual meeting. The Osiris Editor’s home institution is expected to cover staff and secretarial work, mailing costs, a dedicated e-mail address, phone costs and preferably also the costs of hiring a graduate student to take on the role of Managing Editor. Proposals for co-editorships are welcome, but such applications should include a brief outline of the co-editors’ anticipated workflow.

More detailed information may be obtained from the current Co-Editors of Osiris, Patrick McCray (pmccray@ucsb.edu) and Suman Seth (ss536@cornell.edu). Interested individuals should submit three documents: a curriculum vitae; a letter indicating their reasons and qualifications for applying to the position, and a letter of commitment by the supporting institution; each to be sent to the Co-Editors of the History of Science Society, Alexandra Hui (ahui@history.msstate.edu) and Matthew Lavine (mlavine@history.msstate.edu). Alternatively, nominations may also be submitted with the permission of the nominated individual. The deadline for nominations is August 1, 2020.

**HSS Council Endorses AHA Statements on Unionization**

Thanks to the efforts of the early career and graduate students in our community, the following statements issued by the American Historical Association were brought before the HSS Council at their meeting of June 18, where members voted in favor of endorsing the statements. Although the statement on the US National Labor Board is specific to the United States, the HSS endorses the sentiment of these statements as they apply to historians of science everywhere.


The AHA endorses the right of all historians to organize and join unions or other collective bargaining units and engage in collective bargaining if they choose to do so. We affirm the democratic right of employees to decide whether to organize and how to negotiate their salaries and working conditions. All institutions are required by law to honor the results of employee votes taken by secret ballot on collective bargaining and union representation.

The AHA issued another statement as regards organizing in a response to a proposed National Labor Relations Board (NLRB) rule change. This rule change would diminish the right of graduate students at private universities to organize unions. According to the *Chronicle of Higher Education*: “rather than looking at the facts in any case before it, the National Labor Relations Board is aiming to create an overarching rule that would exclude teaching and research assistants from being covered by the 1935 National Labor Relations Act.”

The AHA opposed the proposed rule change with the following statement: *Our association supports the right of all historians, including graduate students, to organize and join unions or other collective bargaining units and engage in collective bargaining if they choose to do so. We affirm the democratic right of employees to decide whether to organize and how to negotiate their salaries and working conditions. As historians, we are especially aware that the spirit of the 1935 National Labor Relations Act had, at its center, the imperative of guaranteeing to all employees the right to collective bargaining and union representation. We believe that the current ruling, which affirms the right of graduate students at private universities to unionize, should remain in place.*

A fuller discussion of the issues surrounding graduate student unionization by various members of the HSS community, is forthcoming in a future issue of the *HSS Newsletter*. 
Jay Goes to Washington
A report from our Executive Director about his efforts on behalf of HSS to keep the humanities funded.

Every March I travel to Washington DC to attend the annual meeting of the National Humanities Alliance (NHA), a non-profit (aka NGO) formed in the 1980s to battle the defunding of the humanities in the United States. The meeting itself features university administrators, the directors of academic societies, and many more from all walks of the humanities. We spend a day hearing about superb projects in the humanities and thus fortified, travel the next day to Capitol Hill to try and convince legislators to support the National Endowment for the Humanities (NEH), the Library of Congress, and other federally funded humanities programs. It is one of the more important things that I do on behalf of the history of science in the U.S.

I have been attending these meetings for over 20 years, and there was always a bit of Groundhog Day about them, where each year we would bemoan the lack of respect for the humanities, see wonderful examples of the humanities in action, and then find it difficult to transmit their import to those who control the budget in the U.S. Part of the challenge is that everything is data driven; the “monetization of services” is what non-profits are taught to preach, but the humanities are difficult to quantify. To put it in John Keating’s words: “I like Byron, I give him a 42 but I can’t dance to it.” This year was different. This year, we were able to bring data to Congress.

NHA, led by Steve Kidd, and with support from the Mellon Foundation, has been working hard to deliver us data to show how the humanities can change lives. For example, Rob Townsend of the American Academy of Arts and Science (where HSS was founded) gave a preliminary report on a survey of 5,000 Americans, asking them about their views of the humanities. Rob was careful to point out that they did not actually ask people to define the “humanities” because few people could do so, but they can respond to questions such as how many times did you visit a library, museum, or art exhibit this past year; how many books did you read; how much reading and writing do you use in your work; do you watch history episodes on electronic devices etc.; the answer to the last question, incidentally, is “a lot.” We learned that there are more public libraries in the U.S. than there are McDonald’s—which gives me hope for humanity—and that over 79% of veterans who attended the NEH program “Dialogues on the Experience of War” report that they are more likely to ask for help than before the program.

Equally important, the NHA staff gave us a preview of a toolkit for measuring the impact of the humanities. We will now be able to move beyond giving Byron a 42 and show the meaningful influences of the humanities on society. The toolkit includes information about why to survey, about how to construct and administer a survey, and advice for interpreting and using your data. A fuller description of the toolkit can be found in the NHA’s quarterly report for scholarly societies reprinted in the “News of the Profession” section of this issue.

So, with colleagues from the Society for Ethnomusicology and the Organization of American Historians (both based at Indiana
University (IU) in Bloomington), we visited the staff of Indiana’s senators and five of the nine representatives in the House. Our reception was uniformly positive. Not only were many of the staff members with whom we met humanities majors, they understood the importance of the humanities in our lives. I was able to draw on some of the arguments for the importance of the history of science that some members sent in response to my appeal and also cited Hannah Marcus’s op-ed in the New York Times (reprinted in the April 2020 issue of this Newsletter) about how plagues are not unprecedented and that we can learn from past episodes.

The representatives’ staff must field multiple meetings each day and so we had to perfect our elevator speeches before we made our brief visits. We asked for increased support of the National Archives and Records Administration, which includes the National Historical Publications and Records Commission that oversees the papers of the Founding Fathers (a collection I use in my own research); Title VI programs, which focus on different areas of the world, such as African Studies, Latin America, and Inner Asia; and the Institute for Library and Museum Studies. We received special encouragement regarding libraries from Rep. Trey Hollingsworth, who is from Indiana’s 9th district, which is renowned for being home to the fictional town of Pawnee (from the television show “Parks & Recreation”) as well as Indiana University (IU). My colleagues from IU were fond of pointing out that their school has more Title VI programs (10) and teaches more foreign languages (72), than any other university in the country. Not to be outdone, I mentioned that the University of Notre Dame, which hosts the HSS Executive Office, received more fellowships (62) from the NEH than any other university in the U.S. from 1999 to 2018 (Harvard came in second with 31 fellowships).

The NEH is considered a crown jewel for the humanities in the U.S. and since the president’s budget called for zero funding for the NEH, it was important that we argue for its continued support. This is an easy argument to make since much of the support goes to state humanities councils, which then supplement those funds, usually at a 5:1 ratio, to support humanities programs throughout the state. In one example, I served as a reviewer for Indiana Humanities Council’s Quantum Leap Grants, which seek to wed the humanities and the sciences. The Council recently completed its One State/One Book program which featured statewide activities on Mary Shelley’s Frankenstein. Since NEH has received increased funding over the past three years, even though each presidential budget has called for zero funding, we can be proud of our efforts, none of which would be possible without the support of our membership. Thank you!

HSS@Work Update

Two new officers have joined the HSS@Work caucus chair Matthew Shindell (Space History Curator, Smithsonian National Air & Space Museum) in response to Jay’s recent appeal for new volunteers: Mohandas Towne (Research Scholar, Ronin Institute, History of Security Technologies) and Jamie Brannon (Independent Scholar, History of Astronomy). The new team has been meeting to hash out details regarding membership, how HSS@Work will differ/overlap with other HSS Caucuses, and how it can fulfill its primary purpose, which is to assist the HSS with alternative and non-academic career development.

The caucus is considering a roundtable at the next HSS meeting, with the aim of gathering together a panel of speakers and interested participants to help further define the aim and purpose of HSS@Work, and to solicit input from the community about what resources would be most helpful to those pursuing alt- or non-academic work. Details about the event will be available in an upcoming Newsletter. In the meantime, interested members can reach out to the caucus via email: hssatworkofficial@gmail.com.
Putting the Bibliography to Work during the Pandemic

By Stephen P. Weldon

Since I wrote my last column, the world has changed around us. The COVID-19 pandemic has reinforced my belief that historians of science and medicine and our colleagues in allied disciplines have an important perspective to offer. In Germany, for instance, humanities scholars, including Jurgen Renn at the Max Planck Institute for the History of Science in Berlin, were enlisted to help advise the federal government on aspects of the pandemic (see article here). And although the German case may be unique, many of us elsewhere are also finding ourselves called upon to respond with our professional expertise in different ways.

Whether we are advising others, teaching classes, talking to the public, or simply studying topics that bear on epidemics and their many ramifications, we need good tools and resources at our fingertips. Which is where IsisCB can help. I have initiated a project to build up the resources in relevant areas. On the IsisCB.org blog site, you will find it under the title “History in the Time of COVID-19”. The main page shows you how I’ve begun to develop the project. Over the next several months I expect to deepen and broaden these pages and links in several ways.

Let me sketch out the big picture to illustrate just what I expect this project to accomplish.

The overall goal of this project is to organize, strengthen, and present bibliographic materials and other useful resources in pandemic-related topics: virology, epidemics, plagues, infectious diseases, quarantine, surveillance, to name but a few. To this end, I am actively enlisting the help of experts who have a strong background in these areas. Neeraja Sankaran, with her expertise in the history of virology and immunology, is working closely with me to locate and contact people who are willing to help out.

The centerpiece of this project is a special digital issue of the Isis Bibliography that will include shorter, topic-focused bibliographies paired with bibliographical essays written by topic specialists. The essays will be vetted using an innovative open peer review similar to the one used by Wellcome Open Research (check out an example here), where articles are accessible online as soon as they are submitted, with peer review and revision happening subsequent to the initial posting.

Beyond the special issue, which will grow and develop over the rest of this year, I am bringing together different ways to aid discovery in this area. IsisCB Explore is ideally designed for this kind of work because it can accomplish many things with increasing sophistication.

On the main pandemics project page of the blog, I have added three different types of resources that users can immediately take advantage of (Figure 1).

Figure 1: Bibliographic research resources available via IsisCB

Resources

<table>
<thead>
<tr>
<th>IsisCB citation search (get instant bibliographies on special subjects)</th>
<th>IsisCB keywords (a deep dive into the literature using big data)</th>
<th>Outside resources (links to sources that we’ve found around the web, including new opportunities for scholars)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pandemic</td>
<td>Pandemics</td>
<td>COVID-19 podcasts (CHSTM)</td>
</tr>
<tr>
<td>Epidemic</td>
<td>Influenza</td>
<td>Pandemics (H-Sci-Med-Tech)</td>
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<tr>
<td>Quarantine</td>
<td>Quarantine</td>
<td>Pandemics search (ArchiveGrid)</td>
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<td>Virology</td>
<td>Virology</td>
<td>Pandemics history (CDC)</td>
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<tr>
<td>...see more here</td>
<td>...see more here</td>
<td>Reading list on pandemics (JSTOR)</td>
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</table>
First, I have provided quick links to Explore for some of the most useful citation search results. These searches use some of the most relevant terms and combinations of terms as mentioned earlier. The content of these searches is live, so it will be updated as new entries are added to the database. Second, I have provided hotlinks to keywords that are part of our curated authority table. The keywords include concepts as well as names of people, and institutions that are linked to the bibliographical citations. The new authority layout that I rolled out this spring illustrates how useful the bibliographical data can be when organized in a new way. It allows the researcher to do a “deep dive” into the literature (Figure 2).

As you can see from this page, the network of items related to the concept Influenza reveals
Notes from our Bibliographer, cont.

a lot about the historical work on this topic—from the top authors who’ve written about it; to the main journals that have published on it; to the concepts, places, times, and historical actors associated with it. Anyone looking for a quick historiographical perspective or for experts on a topic, should explore one of these pages.

Finally, realizing that no single resource can capture everything that is going on, I have created a section of this project to document outside resources. If you look back at Figure 1, you can see that I’ve identified, for instance, the podcast interviews of historians that have been recently published by the Consortium for the History of Science, Technology, and Medicine. In addition it points you to the ArchiveGrid where you can find archival resources around the world on these topics. And there’s even a hotlink to H-Sci-Med-Tech to see current news and calls for papers. As I find more such material, I will document it on these pages.

Eventually I hope that “History in the Time of COVID-19” will highlight important contributions that our discipline can make and become a useful resource for anyone looking for a historical perspective on our current global climate.

Finally, I will admit that this article itself has a dual purpose. In addition to introducing this project, it is also intended to function as an invitation to the HSS community for active participation in shaping this special issue, be it as an author, advisor, referee/peer reviewer, or simply because you know of resources that you think should be included. Please contact me at your earliest convenience (providing as much detail as possible) at stephenpweldon@gmail.com to express your interest.

History of Science Society Newsletter
Podcasts from the Consortium of History of Science, Technology and Medicine

The consortium shares recent podcasts with HSS members:

In “The Global Phenomenon of Phrenology,” James Poskett (University of Warwick), author of *Materials of the Mind: Phrenology, Race, and the Global History of Science, 1815-1920*, draws on such diverse materials as skulls, plaster casts, books and letters, to tell the story of how phrenology changed the world, and how the world changed phrenology in the nineteenth century.

In “Polio Across the Iron Curtain,” Dóra Vargha (University of Exeter), author of *Polio Across the Iron Curtain: Hungary’s Cold War with an Epidemic*, discusses the history of epidemics, vaccines and public health through the lens of Hungary’s response to a series of polio epidemics during the Cold War period.

In “Frontiers of Science,” Cameron Strang (University of Nevada, Reno), author of *Frontiers of Science: Imperialism and Natural Knowledge in the Gulf South Borderlands, 1500-1850*, reclaims a continent for science by by recovering the history of such overlooked producers of knowledge as “Indian sages, African slaves, Spanish officials, Irishmen on the make, clearer of land and drivers of men.”

Call for Book Chapters: “Modern Theory and Metatheory of Defense Technology and Science”

Vernon Press invites book chapter proposals on the theme of modern European and Atlantic theory and metatheory of defense technology and science. A complete description of the project may be viewed on the HSS website. Please email proposals for chapters to Dr. Basil Evangelidis (vasevang@ieee.org) by August 1, 2020.

COVID-19 Teaching Resources

Teach311 + COVID-19 is a collective (www.TeachCOVID-19.org) that includes educators, researchers, artists, students, and survivors representing a wide range of countries, languages, and disciplines. Together, they focus on understanding disasters, past and unfolding, through communication and empathy. Check out this new site for COVID-19 teaching resources.

The site is an interdisciplinary resource for people who study and teach about disasters. It has diary entries, field analyses, lectures, videos, and teaching modules. The site includes:

- Notes from the Field (for student & general audiences, by scholars)
- Diary Projects (by undergraduates/graduates especially those situated in the Global South)
- Teaching Moments (Q&A, teaching reflections by educators)

To contribute or use teaching resources on COVID-19, visit www.teach311.org and get involved. Contact msb@ntu.edu.sg if you want to contribute, with the subject heading “COVID-19 Teaching.”

Two New Resources from the National Humanities Alliance

The NHA is pleased to announce two new resources designed to support the humanities community in making the case for the value of the humanities: 1) Humanities Recruitment Survey: Challenges & Audiences, which shares quantitative survey results from 397 faculty and administrators at 294 institutions and 2) Documenting the Impact of Your Humanities Program, a new toolkit that supports faculty, administrators, and project directors in capturing and communicating about their impact.
NHA staff would be pleased to discuss these resources with you. We are also available to join classes, department meetings, and virtual workshops to discuss how these resources can support case making for the humanities as the pandemic presents new financial and programmatic challenges to humanities educators and organizations.

**Humanities Recruitment Survey: Challenges & Audiences**

In the summer of 2019, we launched the Humanities Recruitment Survey (HRS) to better understand the challenges faculty and administrators face in attracting students to the humanities, the audiences they are engaging to overcome those challenges, and specific humanities recruitment strategies they have implemented. The first HRS report, Humanities Recruitment Survey: Challenges & Audiences, highlights opportunities for information sharing across institutions to engage additional audiences.

We are conducting additional research into the recruitment strategies surfaced through the survey and will be releasing in-depth reports featuring profiles of a range of strategies beginning this fall.

For additional information or to explore the possibility of a virtual workshop, please contact Study the Humanities project director Scott Muir at smuir@nhalliance.org.

**Documenting the Impact of Your Humanities Program: A New Toolkit**

Our new toolkit, Documenting the Impact of Your Humanities Program, is aimed at helping the humanities community collect data about the impact of programs such as professional development seminars, public humanities projects, and programs for students that prepare them for college and help them imagine humanities careers. These surveys are designed to support the humanities community in articulating the impact of its work and making the case for the resources to support it.

This toolkit builds on work over the past three years to document the impact of NEH-funded projects. In partnership with directors of public humanities projects, we’ve designed and implemented pre- and post-program surveys that take into account the programs’ immediate goals and their broader social impacts, including impacts on trust, empathy, community connection, and appreciation for and pride in local culture and heritage. Our goal has been to help these partners collect information that makes the case for their work to a range of stakeholders, including funders, organizational leadership, and policymakers. The surveys are designed to be broadly useful for humanities faculty and practitioners in highlighting and evaluating their programs.

For additional information or to arrange a virtual workshop, please contact Cecily Hill, director of community initiatives, at chill@nhalliance.org.

**Dissertation Abstracts 79-04 A and B**

Here is the latest batch of recent doctoral dissertations harvested from the issues 79-04 A and B of *Dissertation Abstracts* related to your subject area of the history of science and medicine.

**Announcing the 2020-2021 Lemelson Center Fellows and Travel Grantees**

The Lemelson Center for the Study of Invention and Innovation, National Museum of American History, Smithsonian Institution is pleased to announce the recipients of its 2020-2021 fellowships and travel grants!

**Arthur Molella Distinguished Fellowship**

Kara W. Swanson, JD, PhD

Professor of Law and Affiliate Professor of History, Northeastern University

Project: Inventing Citizens: Race, Gender, and Patents
History of Science Society Newsletter

News from the Profession, cont.

Lemelson Center Fellowships

Harry Burson
PhD candidate, Film & Media, University of California, Berkeley

Ann Daly
PhD candidate, History, Brown University
Project: Minting America: Money, Value, and the Federal State, 1784-1858

Grace Lees-Maffei, PhD
Professor, Design History, University of Hertfordshire
Project: The Hand Book

Pallavi R. Podapati
PhD Candidate, History of Science, Princeton University
Project: Beyond Boundaries: A History of Paralympic Design and Practice

Vivien Hamilton, PhD
Associate Professor, History of Science, Harvey Mudd College
Project: Mechanical Womb and Artificial Mother: Designing the Infant Incubator 1900-1950s

Sarah Pickman
PhD candidate, History of Science and Medicine, Yale University
Project: The Veneer of Outside Things: Objects and the Making of Extreme Environments, 1820-1950

Benjamin Siegel, PhD
Assistant Professor, History, Boston University
Project: Innovation in the American Narcotic Pharmaceutical Industry

Lemelson Center Travel Grants

Sarah Barnes, PhD
Postdoctoral Fellow, Sport, Society & Technology, Georgia Institute of Technology
Project: Investigating the new frontier of human performance: Sleep inventions and innovations in sport

Hayley Brazier
PhD candidate, History, University of Oregon
Project: The Seafloor and Society: Technological Innovation on the Pacific Seabed since 1898

Secrets of Craft and Nature, M&K Edition 640

The Making and Knowing Project celebrates the publication of Secrets of Craft and Nature in Renaissance France. A Digital Critical Edition and English Translation of BnF Ms. Fr. 640, a remarkable sixteenth-century manuscript held by the Bibliothèque nationale de France (BnF). The manuscript contains over 900 recipes for making art objects, medical remedies, and materials for the household and workshop. Its observations on craft workshop practices record extensive first-hand experimentation with natural materials, and provide unique insights into the material, technical, and intellectual world of the late sixteenth century. It sheds light on how and why nature was investigated, collected, and used in art in early modern Europe and on the origins of the natural sciences in the creative labors of Renaissance artists and artisans’ workshops. The digital critical edition is openly accessible.

Secrets of Craft and Nature in Renaissance France presents the text of the manuscript in French transcription and English translation for the first time. Over 100 essays written by students and scholars explore the manuscript’s material and historical context and discuss the hands-on reconstruction of its processes in the Making and Knowing Laboratory. Since its inception in 2014 by Pamela H. Smith (History, Columbia University), an intensive series of workshops, courses, and conferences have brought together students, craft practitioners, artists, scholars of the humanities and social sciences, natural and computer scientists, and practitioner-scholars from the digital humanities to transcribe, translate, research, and reconstruct the contents of the manuscript. The project is an experiment in intensive collaboration, grad- and crowd-sourcing, the integration of pedagogy and original research, the intertwining of matter and texts, and hands-on work in laboratories, kitchens, and classrooms. We are dedicated to
exploring the intersections between historical craft making and scientific knowing. As a research and pedagogical initiative in the Center for Science and Society at Columbia University, it seeks to reimagine the 21st-century university through interdisciplinary collaborations, hands-on techniques in the humanities, and new questions about the past and present.

Read the manuscript and research essays here.

AAAS Fellows through Section L for the History and Philosophy of Science

The newly elected fellows are:

- Don Ihde, Stony Brook University
- Margaret Jacob, University of California, Los Angeles
- Nicolas Rasmussen, University of New South Wales (Australia)
- Zuoyue Wang, California State Polytechnic University, Pomona

NEH Grants in History of Science, Technology, or Medicine 2020

Our warmest congratulations to the following for receiving these grants and keeping the voice of our discipline and profession alive and well:

- Costanza Dopfel: $6,000 Outright [Summer Stipends] Saint Mary’s College of California
  Project Title: Fertile Florence: How a Demographic Disaster Shaped the Italian Renaissance.
  Project Description: Research for a book on the connection between the Black Death and the origins of the Italian Renaissance.

- National Geographic Society: $350,000 Outright [Humanities Collections and Reference Resources]
  Project Director: Sara Manco
  Project Title: The Early Color Photography Conservation and Digitization Project.
  Project Description: The cataloging and digitization of 15,030 early color glass slides created by explorers and researchers between 1914 and 1944, covering the Arctic regions, Greenland, and Alaska. An accompanying finding aid would include not only description of the photographs but also some 3,000 textual objects that document the content and the creation of the collection.

- Dana Tulodziecki: $6,000 Outright [Summer Stipends] Purdue University
  Project Title: Expanding the Notion of Epistemic Success in Science.
  Project Description: Writing one chapter of a book that will argue for a new way of thinking about scientific progress.

- Purdue University: $35,000 Outright [Humanities Connections Planning Grants]
  Project Director: Lori Czerwionka; Eric Nauman (co-project director)
  Project Title: Integrating the Humanities and Global Engineering.
  Project Description: A curricular development project integrating the humanities with global engineering through an expanded program of language and cultural study.

- Newman University: $35,000 Outright [Humanities Connections Planning Grants]
  Project Director: Cheryl Golden
  Project Title: Emphasis in Technology and Human Values.
  Project Description: The development of a new Emphasis in Technology and Human Values program integrating humanities study into pre-professional pathways.

- Peter Der Manuelian: $6,000 Outright [Summer Stipends] Harvard University
  Project Description: Research and writing leading to a biography of the influential American Egyptologist George A. Reisner (1867–1942).
News from the Profession, cont.

John Shank: $6,000 Outright [Summer Stipends] Regents of the University of Minnesota
Project Title: A History of the French Académie Royale des Sciences, 1495–1746.
Project Description: Research and writing leading to publication of the first volume of a planned three-volume history of the French Royal Academy of Sciences from 1495 to 1746.

Nathan Vedal: $6,000 Outright [Summer Stipends] Washington University in St. Louis
Project Title: The Category of Everything: Ordering and Circulating Knowledge in Early Modern China.
Project Description: Research leading to a book on the organization of knowledge in sixteenth- to eighteenth-century China, based on the digital analysis of reference works such as encyclopedias and dictionaries.

Doane University: $100,000 Outright [Humanities Connections Implementation Grants]
Project Director: Kathleen Hanggi
Project Title: Implementing a Certificate in Integrated Humanities Program.
Project Description: A three-year project to implement a new general education certificate program in integrated humanities for psychology and biology majors.

Corning Museum of Glass: $75,000 Outright [Exhibitions: Planning]
Project Director: Carole Ann Fabian
Project Title: Reimagining 35 Centuries of Glass.
Project Description: Planning for the reinterpretation of an encyclopedic glass exhibition.

Grant Bollmer: $6,000 Outright [Summer Stipends] North Carolina State University
Project Title: Measurement and Technological Inscription in the Psychology of Emotions, 1850 to the Present.
Project Description: Completion of a book on the history of technologies used to measure human emotions.

John Eicher: $6,000 Outright [Summer Stipends] Pennsylvania State University, Altoona Campus
Project Title: Influenza, War, and Religion in Rural Europe, 1918–1920.
Project Description: Researching a history of the 1918 influenza epidemic in rural Europe, investigating the social, political, and religious factors shaping responses to the medical crisis.

Misericordia University: $33,964 Outright [Humanities Connections Planning Grants]
Project Director: Melanie Shephard; Cosima Wiese (co-project director)
Project Title: Environmental Humanities Curriculum.

Project Description: Planning for a new interdisciplinary major and minor in environmental studies, with a specific humanities focus.

Vanderbilt University: $33,375 Outright [Humanities Connections Planning Grants]
Project Director: Bonnie Dow; David Wright (co-project director)
Project Title: Integrating the Humanities in the Communication of Science and Technology.
Project Description: Faculty and curriculum development to create new core courses for an undergraduate program in communication of science and technology.

Norwich University: $100,000 Outright [Humanities Connections Implementation Grants]
Project Director: Amy Woodbury Tease; Tara Kulkarni (co-project director)
Project Title: Building a Humanities-Centered Interdisciplinary Curriculum to Foster Citizen Scholars.
Project Description: A three-year project to implement a new team-taught curriculum integrating humanities with the sciences and professional fields.
News from the Profession, cont.

George Mason University: $334,720 Outright
[Humanities Collections and Reference Resources]
Project Director: Lynn Eaton
Project Title: Preserving the Legacy of James M. Buchanan.
Project Description: Arrangement and description of 282 linear feet of archival material, including correspondence, memos, photographs, audiovisual recordings, and ephemera related to the career of James M. Buchanan, who won the Nobel Prize in economics in 1986 for his development of Public Choice Theory.

Museum of Flight Foundation: $236,824 Outright
[Humanities Collections and Reference Resources]
Project Director: Nicole Davis
Project Title: Processing the William P. and Moya Olsen Lear Papers.
Project Description: The arrangement, description, cataloging, and selected digitization of 170 cubic feet of archival materials and 260 objects from the William P. and Moya Olsen Lear Collection, including correspondence, photographs, model planes, invention prototypes, and 33 audio recordings and 18 films related to groundbreaking discoveries in aviation and radio that span the twentieth century.

Anat Schechtman: $6,000 Outright [Summer Stipends]
University of Wisconsin, Madison
Project Title: Non-Quantitative Notions of Infinity in Seventeenth-Century Philosophy.
Project Description: Writing two chapters of a book on the concept of infinity in the writings of philosophers of the seventeenth century.

2020 Fellows of the American Council of Learned Societies

Accolades are also due to the following fellows of the ACLS whose projects represent a very broad range of interests from within our discipline:

Javier Patino Loira, Assistant Professor, Spanish and Portuguese, University of California, Los Angeles—*Sharp Minds: Metaphor and the Cult of Ingenuity in an Age of Science (1639-1654)*

Jon T. Coleman, Professor, History, University of Notre Dame—*The Mighty Kankakee: History Against the Current*

Samira Sheikh, Associate Professor, History, Vanderbilt University—*Landscapes of Conflict: Geographical Mapping in Early Modern Gujarat, India*

Arjun Guneratne, Professor, Anthropology, Macalester College—*Ornithology at the Margins: The Social History of a Field Science in Sri Lanka*

Shelley Streeby, Professor, Literature and Ethnic Studies, University of California, San Diego—*Speculative Archives: Hidden Histories and Ecologies of Science Fiction World-Making*  

Nathan Vedral, Assistant Professor, East Asian Languages and Cultures, Washington University in St. Louis—*The Category of Everything: Ordering and Circulating Knowledge in Early Modern Chin*

Why the Sciences of the Ancient World Matter: A New Book Series by Springer

Springer has the pleasure to inform you of the launch of a new book series titled: “Why the Sciences of the Ancient World Matter.”

Four titles have already been published, a fifth, *Mathematics, Administrative and Economic Activities in Ancient Worlds* (Editors: Cécile Michel and Karine Chemla), is forthcoming shortly: and other titles are in preparation.

Should you wish to submit a project, or even a manuscript, to this collection, you are welcome to get in touch with any of us, or, alternatively, to download and fill out a form from the webpage of the book series.

Series Editors: Karine Chemla (chemla@univ-paris-diderot.fr), Agathe Keller (kellera@univ-paris-diderot.fr) and Christine Proust (christine.proust@wanadoo.fr).
A Special Issue of Chinese Annals of History of Science and Technology

Serving as the first Guest Editor of Chinese Annals of History of Science and Technology (CAHST), Danian Hu (The City College of New York), in collaboration with Zhang Baichun, Professor and Director of the History of Natural Sciences, Chinese Academy of Sciences (IHNS, CAS), organized an IHNS-sponsored workshop in July 2019 at the IHNS in Beijing. Six invited contributors participated in this workshop where they discussed and exchanged comments on the pre-circulated papers. The outcome of this workshop was a special issue of CAHST (Volume 3, Number 2) titled “The Transnational Dimensions of Science, Technology, and Medicine in Modern China” published in December 2019.

In this special issue, Danian Hu, Grace Yen Shen, Chen-Pang Yeang, Zuoyue Wang, Guo Jinhai, Fang Xiaoping, and Sigrid Schmalzer present six fresh and original case studies concerning twentieth-century Chinese developments, covering diverse topics such as the emergence of modern physics research in China, gender in science, innovative mechanical study of phonetics, mathematicians and mathematics at the juncture of the country’s great historical transition, politics and medical knowledge transmission, and knowledge exchanges under the Chinese political system respectively. Guest Editor Hu hopes that this special issue will attract more historians to devote their attention to the field, leading to more profound historical studies of relevant Chinese developments over the twentieth century.

The CAHST is a peer reviewed bi-annual journal published in English, which was co-founded by the IHNS, CAS, and the Science Press in Beijing in 2017. It is China’s first English academic journal on the history of science and technology with a mission to offer a broad platform for the exchange of research results between Chinese and non-Chinese speaking historians. Its co-editors-in-chief are Prof. Zhang Baichun (IHNS, CAS) and Prof. Jürgen Renn (Max Planck Institute for the History of Science). When the CAHST’s website is launched later this year, all the articles published in the back issues will be made available online. The journal’s editorial office can be reached at cahst@ihns.ac.cn.

2020 Partington Prize Winner of the Society for the History of Alchemy and Chemistry

The Society for the History of Alchemy and Chemistry recently named Dr. Mike A. Zuber, a postdoctoral research fellow at the Institute for Advanced Studies in the Humanities of the University of Queensland in Brisbane Australia, as the 2020 winner of their Partington Prize. Established in the 1970s in honor of the society’s first chairman, Prof. James Riddick Partington, the prize is awarded every three years for an original, unpublished essay on any aspect of the history of alchemy or chemistry. Zuber’s article, “Alchemical Promise, the Fraud Narrative, and the History of Science from Below: A German Adept’s Encounter with Robert Boyle and Ambrose Godfrey” will be published in a future issue of the society’s journal Ambix.
New CHSTM Working Group
Penelope Hardy, Daniella McCahey, and Katharina Steiner are pleased to announce the formation of a new working group in the history of ocean science, technology, and medicine under the aegis of the Consortium for the History of Science, Technology, and Medicine in Philadelphia. The group will meet monthly beginning in Fall 2020 to discuss recent publications and workshop papers in progress. The conveners invite anyone interested in participating to sign up at https://www.chstm.org/oceanshstm.

EUI Announces Winners of Best Theses
The European University Institute named 2 recipients of their 2020 James Kaye Memorial Prize for the Best Thesis in History and Visuality, which is awarded every two years for the best theses from their students: Déborah S. Dubald wrote “Capital nature: a history of French municipal museums of natural history, 1795-1870,” and Catherine Gibson wrote “Nations on the drawing board: ethnographic map-making in the Russian Empire’s Baltic provinces, 1840-1920.”

ACLS Digital Extension Grant
Jessica Otis, Kelly Schrum, and Nate Sleeter of George Mason University recently received an ACLS Digital Extension Grant for their project: Expanding the Commons: Supporting Emerging World History Scholars and Community Colleges through the World History Commons OER. This grant extends the reach and impact of “World History Commons” which provides such valuable resources as scholarly essays, teaching materials, historical thinking strategies, and curated primary sources to teachers, students, and researchers. “Expanding the Commons” extends this scholarly digital project in two key ways: First, by recruiting early career scholars to write new scholarly essays and incorporating their cutting-edge historical research into the Commons; and second, by partnering with experienced community college faculty to connect the Commons to the community college curriculum and to promote its use among community college world history teachers and students, increasing both access and visibility.

Project Ayuryog Complete
The ERC Horizon 2020 project Ayuryog has come to the end of its five-year funding period. Because of the pandemic, the project had to forego its planned closing conference at the U. of Vienna and is instead releasing a series of interviews and commissioned videos about the history of alchemy in South Asia, complete with reconstructions of medieval alchemical apparatuses and processes. See the project website and the YouTube recording for more details. (Information provided by Dominik Wujastyk, University of Alberta)
Memories of Utrecht
by David DeVorkin

Just a belated report on my experiences in Utrecht, for the record. The first thing on the agenda was the day trip to Leiden and the Boerhaave. I took the very last seat on the bus for more room and thought I had buckled up correctly. The bus ride was fine until we got to Leiden and we hit a deep pothole. I was propelled to the ceiling and hit my head pretty hard. Luckily it was just my head—harder than the ceiling. So the real damage was on the way down (rebound), when I hit both shins on the metal stair railing for the rear exit door. The driver stopped the bus, some really lovely people attended to me, especially a very kind young woman who identified herself as a trained nurse midwife. She got wet towels for my head and especially for my left shin, which was badly dented.

The Boerhaave took my mind off my throbbing head and shin. Their renovation is brilliant and gave me ammunition to contest my museum’s plans for renovating our galleries. Got back to Utrecht just fine and slept through the night. The next morning, when I was scheduled to host a session and speak (I think), I was pretty woozy, and during the session became dizzy and nauseated. Thought it was the heat. Changing rooms didn’t help.

I got downright sick in the middle of the session I was chairing, ordered Matt Shindell to take over, and went to the bathroom and collapsed. Came out, found a meeting staffer, who took me to a nursing room at the conference center. The same young woman was there, raised concerns, and a very kind gentleman whisked me to a local hospital where I was attended to and then released. Maybe the heat, maybe gastrointestinal, he ruled—I had eaten two dozen mussels the evening before and I think I paid for the table. The rest of the meeting was lovely save for the heat.

After Utrecht I flew to London for meetings at the Science Museum (I’ll not more than mention that the airport was chaos). That meeting too was great—more museum snooping, more ammunition, and then the flight home via Reykjavik. The airport there was chaos too and I lost a small carry-on with my papers from Utrecht, which contained the names of those who helped me.

So this letter is my way of thanking them indirectly, and very tardily. Despite what happened, the way in which it was remedied by HSS people in charge was very reassuring and most appreciated. Don’t know if New Orleans will be real or virtual, but one way or another I trust the Society will take care of me if I overdose at Café du Monde.

Thanks again,

David DeVorkin, National Air and Space Museum, Smithsonian Institution