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HISTORY OF SCIENCE AND TECHNOLOGY IN ARCHIVES AND LIBRARIES: CURRENT ISSUES AND CHALLENGES

Symposium at the International Congress of History of Science and Technology, University of Otago, Dunedin, New Zealand, 29 June – 5 July 2025

This summer during the International Congress for the History of Science and Technology (ICHST 2025)[1] at the University of Otago/Ōtākou Whakaihu Waka, the program included a four-part symposium covering a range of topics related to archives, libraries, and reference resources in the field of history of science and technology. Ten papers by historians, archivists, and librarians explored the history, design, and features of both physical and digital resources. The symposium concluded with a session devoted to this year's winners of the Neu-Whitrow Prize, four award-winning digital projects that provide reference resources in our field.

The landscape of discussion was broad. Over the day-long symposium, a global picture emerged of a vibrant field of research and development making archival and bibliographical materials more accessible to multidisciplinary historians. Scholars and curators are producing new and productive ways in which resources can be used, and we are coming to better understand the social and technical complexity of these invaluable tools and materials.

The symposium was organized by the Commission on Bibliography, Archives, and Records (CBAR), which brings together scholars, librarians, and archivists from around the world who are devoted to thinking about and promoting resources for historians of science, technology, and medicine. CBAR is one of twelve historical commissions of the main international organization supporting history of science scholarship, IUHPST/DHST.[2]

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[1] Conference URL: https://www.ichst2025.org.

[2] Organization URL: https://dhstweb.org.

In its nearly 100-year history, this was the first time the International Congress has met in Oceania and only the second time in the southern hemisphere. The masterful sponsorship of the meeting at the lovely University of Otago campus made it especially distinctive. Although institutions worldwide have become more sensitive to their colonial roots and have started recognizing indigenous peoples who lived on the land before colonization, no place has more fully integrated this recognition and acknowledgement than New Zealand, or Aotearoa as it is known in Māori. The conference opened with a special welcome event that included the singing of a traditional Māori song of thanks to the hosts. The hosts' expert planning was evident throughout in the social program, local tours, and even the food and refreshments provided during the lunch and coffee breaks.

Although there were small hiccups in this first hybrid International Congress, it seemed quite successful overall, with more than 400 in-person attendees and 500 virtual ones. The virtual papers were recorded previous to the meeting and played back in the hall for in-person participants and over Zoom for virtual attendees. Question and answer sessions with virtual participants did not always work well because the global time differences frequently worked against this format, however some of these hybrid sessions worked seamlessly, giving the conference a truly global footprint.

The CBAR symposium was entitled »History of Science and Technology in Archives and Libraries: Current Issues and Challenges.« Reflection on the ten papers given in the CBAR symposium reveals three important themes that help us understand archives, encyclopedias, and other research tools and the various roles they play.[3] In the following discussion, I have arranged the papers to better highlight these themes.

Four papers dealt with the creation and development of the research tools themselves. J.P. Ascher (University of Edinburgh, Scotland) spoke about the National Union Catalogue of Pre-1956 Imprints (NUC56), a printed bibliographic catalog funded by the Rockefeller Foundation, the U.S. War Department, and other Federal sources. Detailing the ways in which this enormous publication was produced, Ascher highlighted the material production of this resource through its collating and reprinting information recorded on millions of union catalog cards from libraries in the US and Canada.

[3] You can find the abstracts of all of these papers at the following URLs. The first session can be found here: Program - G18 | 004 History of Science and Technology in Archives and Libraries: Current Issues and Challenges; the second session: Program - H18 | 004 History of Science and Technology in Archives and Libraries: Current Issues and Challenges; and the third session: Program - I18 | 004 History of Science and Technology in Archives and Libraries: Current Issues and Challenges.

The material print culture origins of NUC56 contrasts with most of the other tools discussed in this symposium, which are either partially or entirely digital in nature. The Cold Spring Harbor archive that Ludmilla Pollock (Cold Spring Harbor Laboratory, United States) spoke about, for example, holds an enormous audio archive of scientific meetings, containing the recordings from 60 years of conferences, presentations, and discussions at the Laboratory involving the efforts of 12,000 individuals working across a wide range of topics in the life sciences and medical research. The archivists at Cold Spring Harbor are attempting to design a digital and mostly automated process to catalog these records, and they are using AI in a pilot study to transcribe these recordings and make them available to users.

Rather than using AI, Ojas Kadu (Archives at National Centre for Biological Sciences, India) explained how his team was developing a complex tool to crowdsource annotations for the NCBS archives in Bangalore, India. One of the challenges he discussed was the difficulty of dealing with authorities for annotations when the annotations were not created by the archivists themselves.

Nataša Jermen (The Miroslav Krleža Institute of Lexicography, Croatia) talked about the development of the *Croatian Encyclopedia of Technology* as an online digital tool that takes advantage of new technologies linking the *Encyclopedia* to bibliographic records, archives, and museum artifacts through the Portal of the Croatian Technology Heritage. She also discussed the launch of the recent Atlas of the Croatian Technology Heritage that provides geographic links to the *Encyclopedia*.

A second major theme that ran through the conference papers concerned the preservation of material culture. Three papers dealt with different aspects of this topic. The paper by Ken McInnes (Swinburne University of Technology, Australia) explored historically significant gaps in both the printed and digitized journal archives that have arisen through a long-standing, standardized library binding process. During that process, the front and back matter of most journals are removed, eliminating everything from cover art and advertisements to publication information. By removing this material, a huge amount of context gets lost leaving the historical record impoverished.

In a fascinating paper on the development of a community archive in Northern California, Polina Ilieva (University of California, San Francisco, United States) discussed the development of the Opioid Crisis Community Archives. This archival project was designed to be community centered at its outset, and Ilieva's paper explored the challenges of such community-centered projects as they seek to integrate academic archival standards with the needs and values of the communities themselves.

Finally, by focusing on three examples, Raphael Uchôa (University of Coimbra, Brazil) gave a thoughtful critical analysis of the ways in which digitization of physical objects and printed resources has both enabled and resisted democratization of knowledge. In one instance, the digitization of knowledge about Brazilian plant specimens sent to Kew Gardens (United Kingdom) has been made inaccessible to Brazilians by being placed on restricted servers in the global North. In another instance, Uchôa points to how a digital virtual tool in the Butantan Vaccine Museum ended up flattening the scientific discussion and reducing its ability to provide understanding. His final case study of the Biblioteca CESIMA Digital project provided a positive example of how knowledge collected in the global North was digitized in Brazil and, to great benefit, democratized.

The last theme that arose in the symposium dealt with the ways in which the information used to build reference resources often contains rich historical material. Three of the presentations explored ways in which those tools and records were mined for information that told otherwise hidden stories.

Priyamvada Nambrath (University of Pennsylvania, United States) gave a paper that explored the curious and surprising path of a collection of medieval astrological manuscripts that ended up in the Bodleian Library at the University of Oxford. Giving a vivid picture of the disorganized and fragile materials that arrived at the library, she told the story of how this collection of manuscripts had been passed down over hundreds of years in a multi-generational family of scholars, scribes, and apprentices.

Gavan McCarthy (Swinburne University of Technology, Australia) focused on an example from the Encyclopedia of Australian Science and Innovation, which he directs. During his work on a particular record documenting a woman scientist in Australia, he came across several documents that told a tragic tale of discrimination and loss in guarded language that has long gone unnoticed in the public records. He explained how he was grappling with the text of the biographical article in order to bring out this otherwise invisible story of sexual discrimination in early 20th-century Australian science.

Finally, Stephen Weldon (University of Oklahoma, United States) presented a paper co-written with Alex Ratowt (University of North Georgia) and Paul Vieth (University of Oklahoma) that introduced their academic genealogy project. With nearly ten thousand dissertation citations in the IsisCB database, which Weldon manages, the team is developing tools to extract critical data from those records about the social history of the discipline of history of science. The authors showed some new data about the development of the field of history of science as found in over fifty years of advisor-advisee lineages.

The final session of the afternoon was devoted to four new tools that have been created to help historians and others find their way into archived resources. The Neu-Whitrow Prize is awarded every four years by CBAR to recognize the best tool or tools for historians of science, technology, and medicine. This year the Commission decided to give an award to the winning entry and recognize three more honorable mentions.

The winning entry was *Visualpedia: Atlas Encyclopaedia Cinematographica* developed by Sarine Waltenspül, Moritz Greiner-Petter, and Mario Schulze (Universität Luzern, Switzerland). *Visualpedia* is a fascinating and well-designed tool that provides access and information about archived films made by scientists, universities and research institutes. The collection's roots go back to the period of National Socialism in Germany.

The three honorable mentions were *Commoning Biomedicine: An Open Source Network for Oral Histories Online* created by a team of researchers at the Max-Planck-Institut für Wissenschaftsgeschichte in Berlin, Germany; *Alfonsine Astronomy: A Digital Census* with a multinational team of investigators from France, Spain, the Czech Republic, and the United States; and *Connecting Dots, Charting Ways — A Resource for Under-represented Histories of Science* in India produced by several scholars at NCBS in Bengaluru, India.

These four resources demonstrate that digital development is thriving around the world. A full discussion of these award-winning projects, with descriptive videos and links to the projects, can be found on the CBAR website.[4]

The next day at the Congress, CBAR held a hybrid business meeting where we made plans to elect new officers (which was held in October by virtual ballot)[5] and to schedule another virtual business meeting during a time when more members of the group could attend. The group decided to establish a vice president for encyclopedias (and at the subsequent business meeting in September, we added a web officer and a vice-president for digital collections). We affirmed the importance of continuing our work related to the DHST archives located at CAPHES (Centre d'Archives en Philosophie, Histoire et Édition des Sciences) at CNRS (Centre national de la recherche scientifique) in Paris. Finally, we decided to establish a new category of membership, opening the group to regular members who are not officers.

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[4] The URL is here: https://cbd-histsci.org/prizes/2025-neu-whitrow-prize-winners.

[5] The list of current officers of the Commission can be found here: https://cbd-histsci.org/board.