JOHNS HOPKINS
APPLIED PHYSICS LABORATORY

Reappraising *Appraising the Records of Modern Science and Technology*

2023 Progress Report

Jordon Steele
Bethany Anderson
Polina Ilieva

SAA 2023 Research Forum

To refresh your memory…

- Examining Haas et al.'s *Appraising the Records of Modern Science and Technology*: How has "doing science" changed since 1986?
- Research project conducted by archivists working at three distinct but overlapping perspectives:
  - Science history-focused institutional archives at university (Bethany)
  - Archives in health sciences university (Polina)
  - Organizational archives in government-funded research laboratory (Jordon)
- Major Fall 2021-Summer 2022 activity: Gap analysis of Haas et al's book

Work since Summer 2022

- Completion of gap analysis
- Interviewing scientists and engineers at our institutions
  - Created standard set of questions designed to better understand how they carry out their work, what tools they use to complete their work, and what records are being created in service of their work
  - Semi-structured interviews lasting roughly one hour each
  - Anonymized to ensure candor
  - IRB approval required at some (but not all) of our institutions

Interviews: University of Illinois

- 3 interviews conducted and 1 scheduled for later in the summer
- Interviewees included:
  - One late career engineering professor and manager of a lab
  - Two early-mid career archaeologists
  - One mid-career waterfowl biologist
- Findings:
  - Primary deliverables for stakeholders: Publications, reports, data
  - Paper notebooks still used (in the field and in the lab, but some digitize/transcribe them for broader sharing with colleague in lab, etc.)
  - Use of multiple platforms and systems for collaboration and communication (e.g., Slack, Dropbox, Google Drive, Mural)
  - Recordkeeping practices informed in some case by federal and state funding requirements
  - Social media is not frequently used
  - Organization is important for those working in lab setting with other colleagues to facilitate sharing, use, and longitudinal projects

Interviews: University of California, San Francisco

5 interviews conducted

- **Interviewees included:**
  - One late-career professor of pathology and director of a clinical lab
  - One mid-career clinical professor of cytogenetics and assistant director of a clinical lab
  - One early-career assistant professor of biomedical engineering and PI of a research lab
  - One mid-career professor of microbiology and immunology and PI of a research lab
  - One postdoctoral fellow in biochemical and molecular nutrition and researcher in a lab

- **Findings:**
  - Primary deliverables for stakeholders: conference presentations, book chapters, data, peer-reviewed journal publications, software, cell lines, images, bacteria.
  - Physical notebooks are still a preferred method. For wet lab research only physical lab notebooks are used because researchers wear gloves and deal with chemical agents. Summaries and data are then recorded in digital formats. Only one lab requires use of E-lab notebooks.
  - Researchers use multiple platforms and systems for collaboration and communication (e.g., Slack, Box, shared institutional servers, zoom, email, Microsoft OneDrive, Google drive, GitHub, LinkedIn, listservs)
  - Recordkeeping practices are informed by institutional, field, federal and state funding requirements and data management and sharing policies.
  - Social media is not used for sharing own results, occasionally used for learning about others' work and methods (however, since these are not peer-reviewed need to check peer-reviewed publications before reusing these methods).
  - All labs have websites that provide details about research projects, lab members, publications, awards.
  - Majority considers their laptop computers their primary archives.

Interviews: Johns Hopkins Applied Physics Laboratory

- 4 interviews conducted
- Interviewees included:
  - Two late-career scientists in leadership roles
  - One late-career scientist considered a technical expert
  - One early career data scientist
- Findings:
  - Primary deliverables for stakeholders: reports and Powerpoints
  - Paper notebooks still used (at the bench and in classified environments)
  - Not heavy consumers of social media
  - Universal concern about decentralized/absence of recordkeeping in digital age

Next steps for 2023

- Completion of interviews:
  - APL: Interview a program manager (primary interface with government sponsors)
  - UIUC: Interview last scientist (interview was rescheduled from May 2023)
  - UCSF: Interview an executive from the Office of Research
- Coding interviews to surface trends
- Comparison of coded results with Haas et al
- Stretch goal (maybe 2024): writing peer-reviewed journal article summarizing results and recommending new record types

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Thank you!

Bethany: bgandrsn@illinois.edu

Polina: Polina.Ilieva@ucsf.edu

Jordon: j.steele@jhuapl.edu

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