



Are we all digital historians now?

Technology and Historical Practice

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**Wish I could
be there in
person!**

I'm a 2006 history grad!



My Last Project

- *History in the Age of Abundance?* looked at the impact that **web archives** (i.e. the Internet Archive) are going to have on histories written about the post-1996 period.
- At Q + As, often asked: “But how different is this from all historical work? Aren’t we all undergoing a transformation?”

HISTORY

IN THE

AGE OF

ABUNDANCE?

How

the web

is

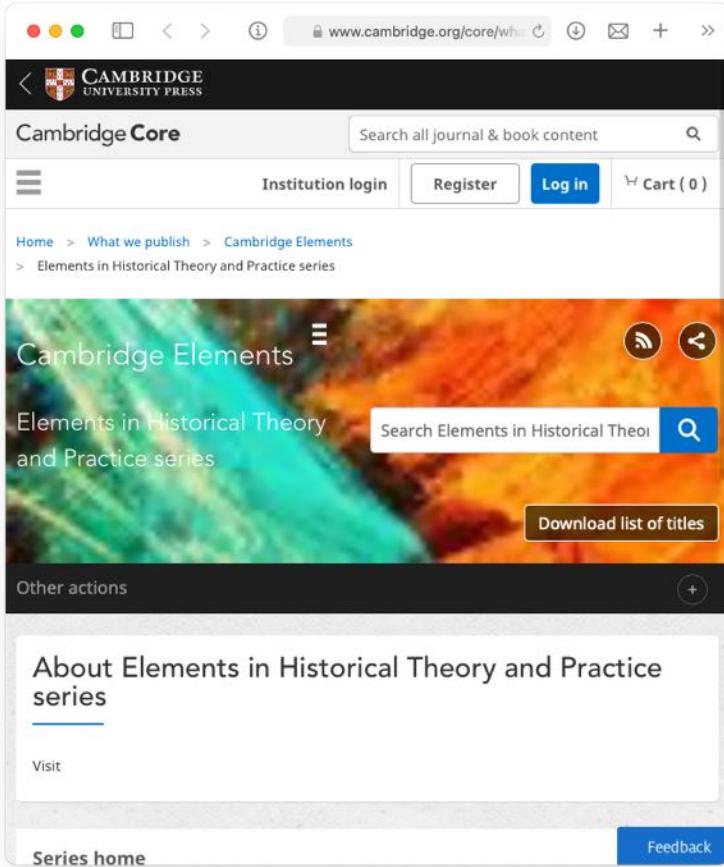
transforming

historical

research

IAN

MILLIGAN



One of my Next Projects

- Under contract with Cambridge Elements in Historical Theory and Practice series (ed. Daniel Woolf) for a short monograph “The Transformation of History in the Digital Age”
- Let’s look at these broader questions: what does it mean to do history in the 21st century, whether you’re studying the 14th, 19th, or late 20th centuries.

A photograph of a library interior. In the foreground, several rows of bookshelves filled with books are visible. In the background, several glowing lightbulbs hang from the ceiling by wires. The lighting is warm and focused on the shelves.

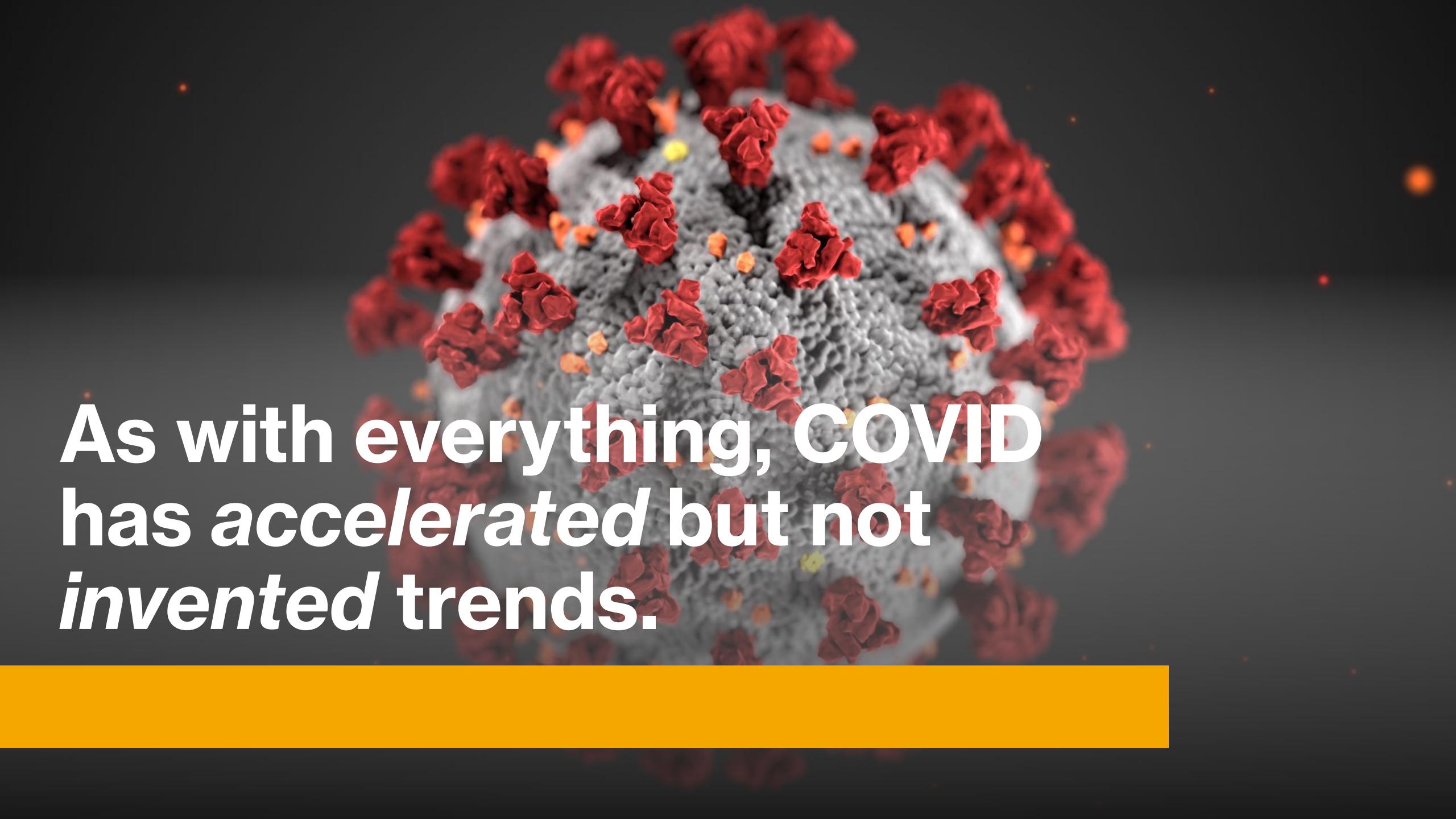
**What about it? What *has*
fundamentally transformed for
all historians in the digital age?**



WORLD

THE WORLD IS
TEMPORARILY CLOSED

Let's Imagine a
Historian Working
in 2021...

A detailed 3D rendering of a COVID-19 virus particle, showing its characteristic crown-like spikes (gp140) protruding from the surface. The spikes are primarily red and orange, while the underlying spherical body is grey. The background is a dark, textured grey.

As with everything, COVID
has *accelerated* but not
invented trends.

**But, really, this could describe
any historical work done in the
last decade + a half.**



The Research Workflow of Historical Projects

- Literature review, finding historiographical problem
- Identifying primary sources
- Analyzing primary sources
- Writing
- Revision
- Preliminary presentations (conference, article)
- Finished publication (dissertation, book)

How we imagine research



How it really is



The Research Workflow (highlighting the role of digital technology)

- Literature review, finding historiographical problem (**shaped by digitized/non-digitized secondary resources; the fun of the OMNI search engine**)
- Identifying primary sources (**online finding aids**)
- Analyzing primary sources (**taking thousands of photos and reading them at home; doing keyword searches in databases that you barely understand of documents that you don't know provenance of**)
- Writing (**word processor, with reproductions on a screen**)
- Revision (**the tyranny of Track Changes**)
- Preliminary presentations (conference, article) (**twitter, blog posts**)
- Finished publication (dissertation, book) (**beginning to change – business models, digital marketing, open access**)



**Historians have a long
history of engagement with
technology**

Historians and Technology

- 1966: *Computers and the Humanities* journal founded
- 1970: Robert Swierenga writes “Clio and Computers: A Survey of Computerized Research in History,” a *retrospective historiography* about how technology was transforming research
 - Indeed, he saw 1970 as the **third** wave of computational research, after:
 - 1930s: Statistical researchers using quantitative tabulated data;
 - 1950s/1960s: Historical demographers
 - 1970s: Electronic records

Clio and Computers: A Survey of Computerized Research in History

Robert P. Swierenga

As scientific technology has become the hallmark of the modern era, and the computer, the electronic wizard of our time, now services scholars on every major college and university campus in the United States, the effect of the computer on the study of history, whether desired or not, is inescapable. Indeed, its impact—along with that of social statistics—has been so pervasive that within the past few years a fascinating field has sprung up called quantitative history. Acolytes of the quantitative approach maintain a committee within the American Historical Association to collect basic quantitative data and transcribe it into machine-readable forms. They support several fledgling journals that carry methodological and bibliographical articles and serve as clearing houses to report research in progress.¹ “Quantifiers” assemble in conferences, workshops, and symposia to thrash out common problems and share research methods and findings.² Votaries of quantification have also produced an *apologia*, a textbook on statistical and computer methods in history that includes an extensive bibliographic guide, several anthologies, and a growing literature of comment.³ A literature of criticism is just beginning to emerge,⁴ but it

“the effect of the computer on the study of history, whether desired or not, is inescapable.”

- Swierenga, 1970



**So why don't you all learn about
“computationally-enabled history,” or what we
might today call “digital history”?**



Historians and Technology

- Hubristic Overreach
 - “The historian of tomorrow will be a programmer, or he will not exist” (Le Roy Ladurie, 1968)
 - ***Time on the Cross: The Economics of American Negro Slavery*** by Robert Fogel and Stanley L. Engerman (the 0.7 whippings/year figure)
- An astoundingly quick decline
- History + technology became seen as niche and quantitative



The irony is that as “networked scholarship” began to transform academic research, historians had turned their back on explicitly thinking about technology.



Networked Scholarship

- “Back to the Future: Historians and the Electronically Created Record” (1992, presumably by R. J. Morris as editor of *History and Computing*)
 - “When did you first hand somebody a text on a disk or send it by e-mail? Almost certainly this did not represent a sharp break in continuity in your practice as a historian. The implications of the changes taking place in the nature of the historical record needs to be assessed by historians even before that process of change is complete.”



How little did he know.

Indeed, in 2021, getting a copy of that journal article required an ILL article scan.

Few have cited or referenced to it, as *History and Computing* is invisible to databases.

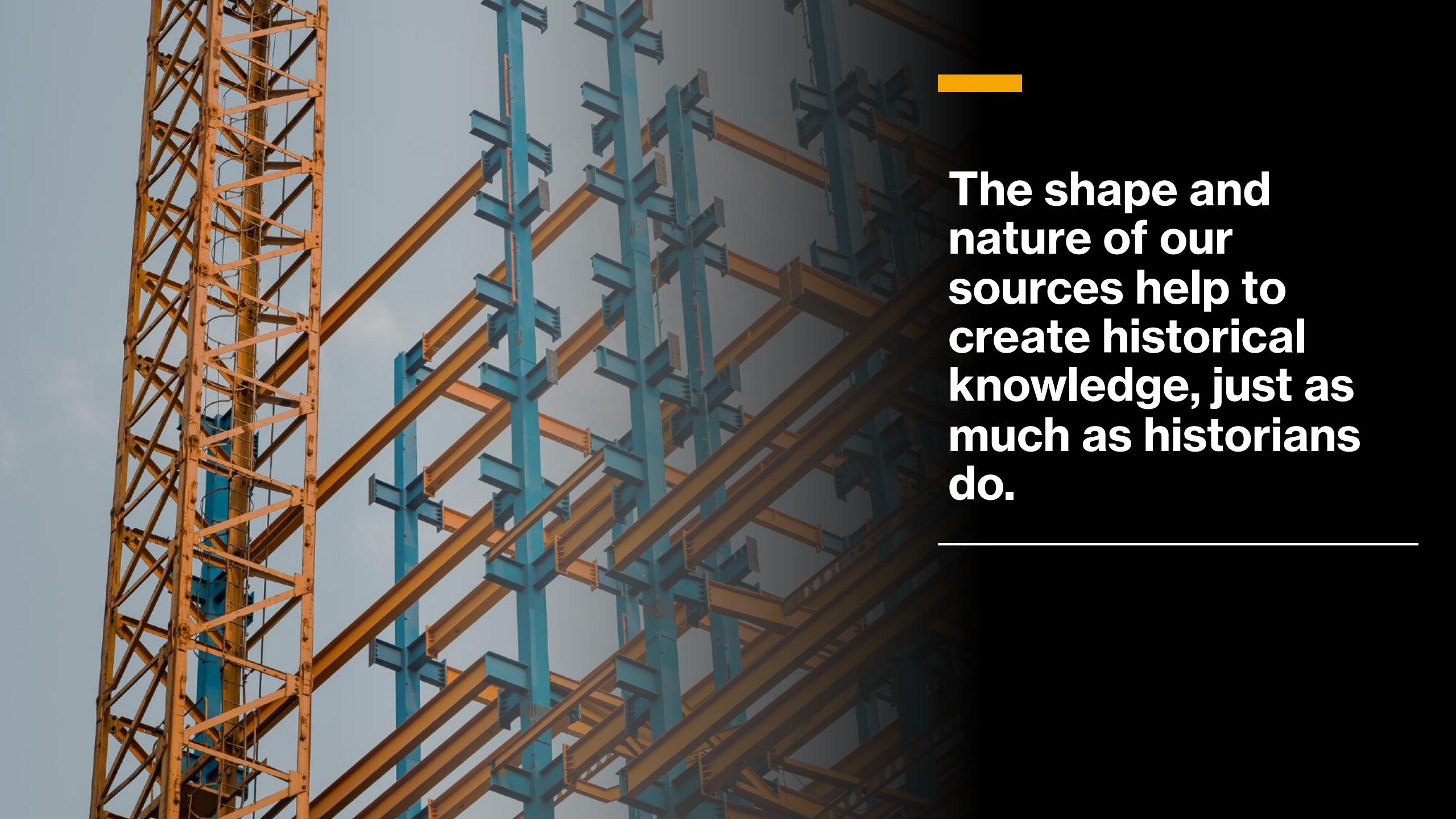
Our historical context

- **1960s/1970s:** Historians were at the forefront of grappling with technology
- **1970s/1980s/1990s:** Historians in retreat, along with quantitative methods more generally

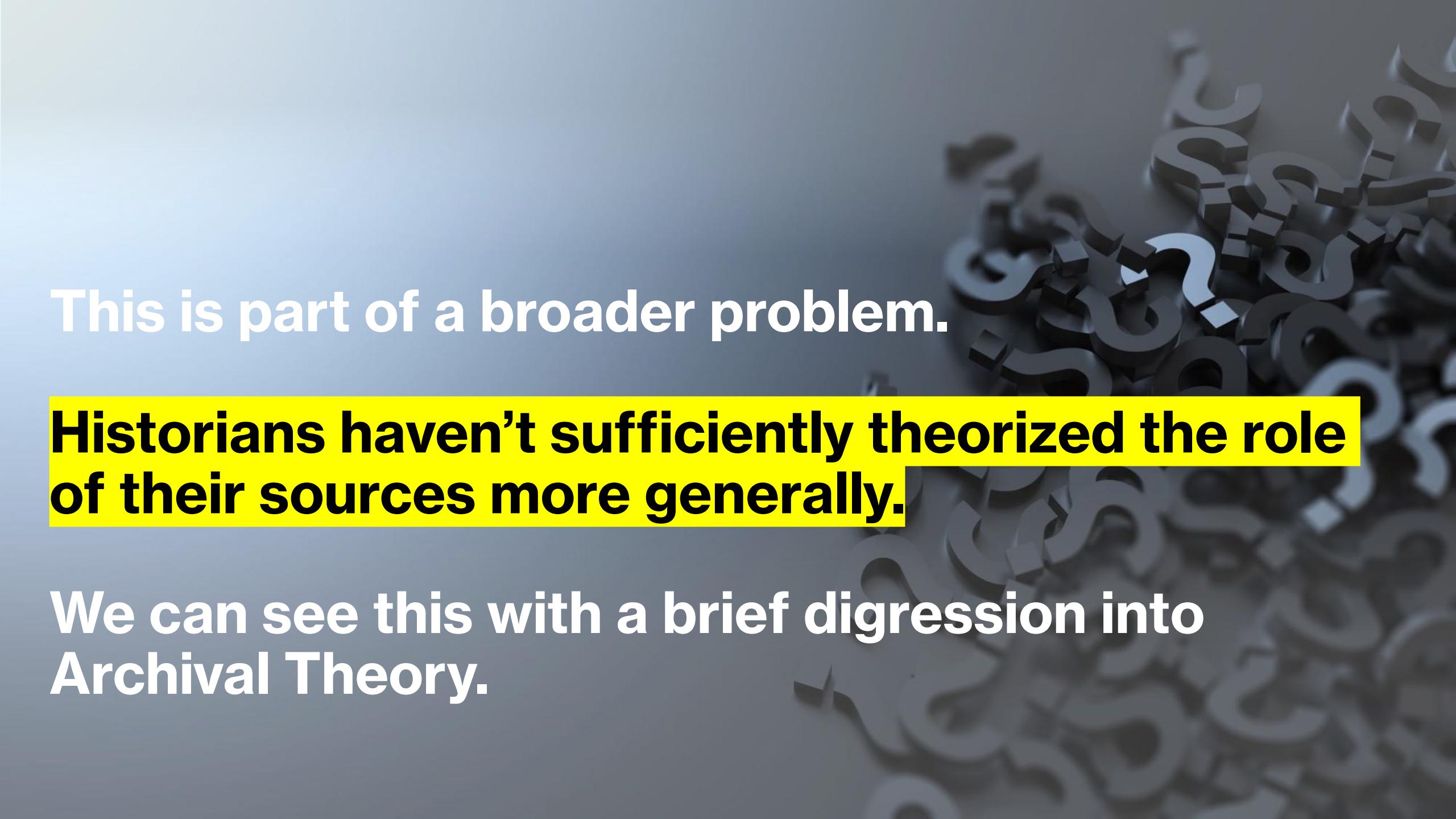


This is a lost opportunity.

**Historical scholarship was transformed
without explicit theorization, because
we weren't looking.**



The shape and nature of our sources help to create historical knowledge, just as much as historians do.



This is part of a broader problem.

Historians haven't sufficiently theorized the role of their sources more generally.

We can see this with a brief digression into Archival Theory.



Archives Co-Create Knowledge

- Events happen
- Documents are recorded about a fraction of them; or memories are later interviewed or written
- A fraction of these documents are actively selected for inclusion in an archive
- These documents are then described, arranged, and ordered by an archivist
- Historian consults the finding aid and “discovers” something that was curated for them



Archives Transform the Histories that Historians Write

- We are often vaguely cognizant of the role that archives play in shaping our histories, but we still tend to treat them as “neutral and unproblematic reservoirs of historical fact.” (Walsham)
- Archivists and historians share common origins, but we have diverged
- “Any visit by a historian to an archival institution is now an exercise in interdisciplinarity.” (Blouin and Rosenberg, *Processing the Past*)



Archives Transform the Histories that Historians Write

- **Terry Cook:** archivists “co-create the archive” through appraisal – the one to five percent of the documentary record that they preserve
- There have already been far too many documents for historians to deal with – **Pope Innocent III** (1198-1216) produced ~300 documents/year; **Pope Boniface VIII** (1294-1303) produced 50,000 documents a year.
- The digital did not invent information abundance.



Shifting Archival Theory

- Sir Hillary Jenkinson, *Manual of Archival Administration* (1922) echoed this, seeing archivists as archival custodians
- But by the 1970s, entering "**post-custodialism**" (F. Gerald Ham)
 - "Activist archivists" - not in a political sense, but in terms of how they **transformed** and **shaped** the record
- Technology is challenging archival theory yet again
 - What if now we can keep "everything" that's produced? But what if it's an IT algorithm deciding what's produced and what's ephemeral?
 - What's transient? What's to be kept?

A MANUAL OF
ARCHIVE ADMINISTRATION
INCLUDING THE PROBLEMS OF
WAR ARCHIVES AND ARCHIVE MAKING

BY

HILARY JENKINSON, M.A., F.S.A.

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LECTURES ON PALAEOGRAPHY AND ARCHIVES IN THE
UNIVERSITY OF LONDON

OXFORD: AT THE CLARENDON PRESS
London, Edinburgh, New York, Toronto, Melbourne and Bombay
HUMPHREY MILFORD
1922



**Just as archivists
and archives
mediate the past,
surely so do the new
workflows that we
use in the digital
age.**

A close-up, slightly blurred photograph of a stack of vintage black and white photographs resting on a dark wooden surface. The photos are held in place by a dark, textured cloth. The images show various people, mostly men in suits and ties, from the early 20th century. The lighting is dramatic, with strong highlights and shadows.

There is never an
unmediated past in the
present.



Let's look at these transformations in three places

- Important to move beyond anecdote and towards evidence in...
 - The Archive
 - The Database
 - The Professional Landscape

The Archive



A close-up photograph of a camera lens, showing its metallic ring and glass elements. The background is a soft-focus blur of vibrant colors, including shades of purple, red, and blue, resembling flowers or foliage.

**Who here has used a digital
camera in the archive?**

Because we're remote...

- Figured I would put the question to colleagues!
- I surveyed 1,466 historians employed in Canada and got 253 responses (17.25% completion rate)
 - **95% said that they used digital cameras in archives**
 - 3% said they did not; 2% said they were not allowed to in their archives
- **This bears out anecdote:** any reading room of an archive that allows digital photography is full of historians developing lower back pain through archival photography.



A Relatively Recent Phenomenon

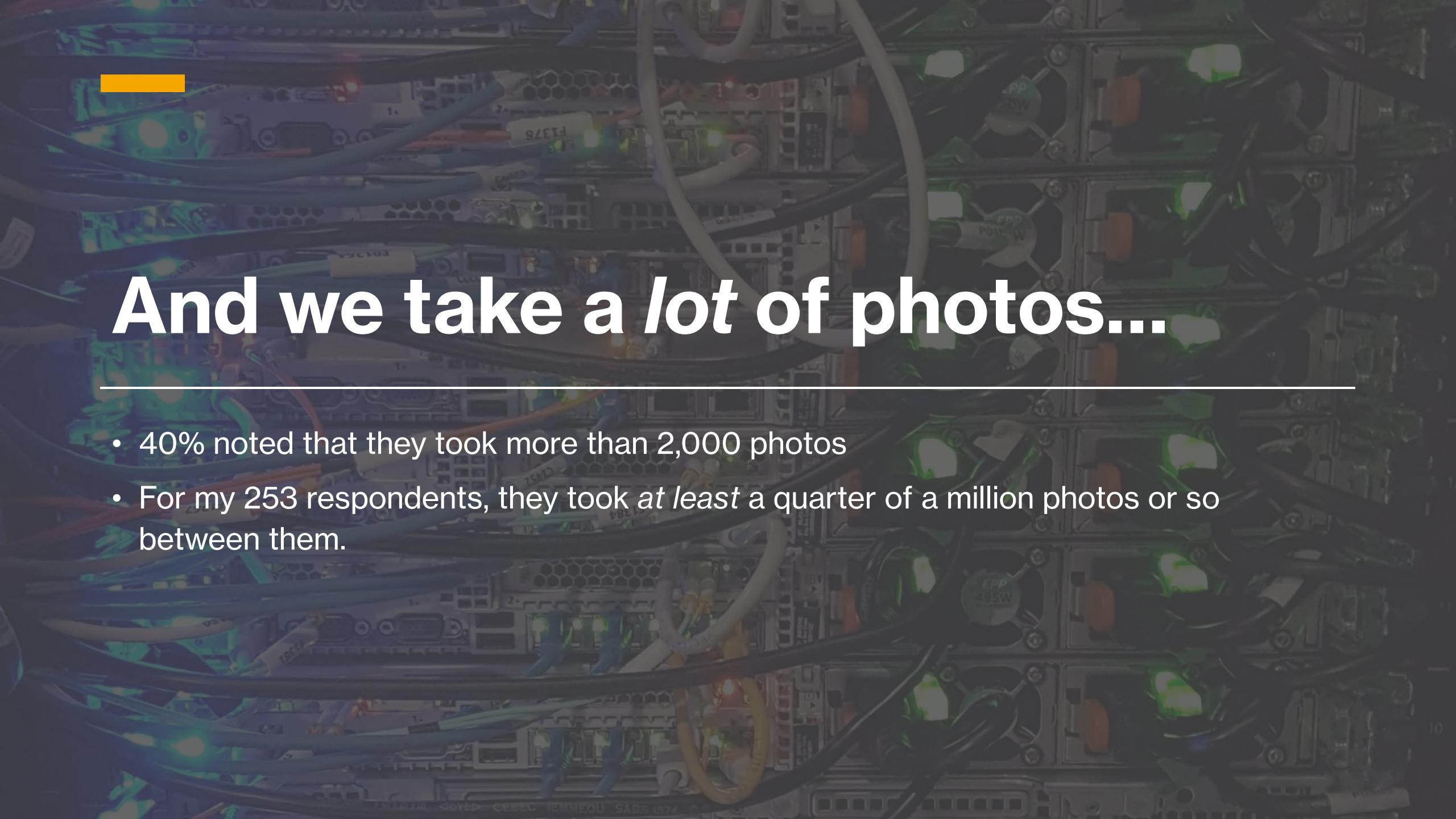
The Case of Library and Archives Canada

- **1995:** Cameras explicitly prohibited; photocopies at \$0.20/page.
- **November 2005:** Self-Serve Digital Copying Pilot
 - Agreement; placard; roster; during business hours only under supervision
- **April 2006:** Pilot Extended
- **2007:** Made Permanent Policy

Cameras and Historical Work

- Almost all of us collect archival documents through digital cameras and analyze them when we get “home”
- What does this mean?
 - Grants written with assumption that archival stays are short and strategic
 - Aggressive times to completion in PhD programs are abetted by the “ease of data collection”





And we take a *lot* of photos...

- 40% noted that they took more than 2,000 photos
- For my 253 respondents, they took *at least* a quarter of a million photos or so between them.



A dramatic transformation has taken place...

- ... but this hasn't been matched by training, support, or even much deep thought.
 - 70% use their own device;
 - 90% have received no training – and over half are open to at least the possibility of training



For what to take photos of?

- We select our sample of photographs to take at the very beginning of the project, i.e. the period when we know the *least* about the project than ever before.
- What is probably the most **consequential** decision of the research process takes place at the period when we know the **least** about our project.

Random? Haphazard?

- One quote:
 - A PhD students use of digital photography was “haphazard”
 - A fellow PhD student had done the “same thing in the archives a few years before”
 - Meaning that the process was “fairly random! We’ll see if I took the right ones when it comes time to write things up.”





The shortcomings

- **We see with this technology the separation of discrete collection and thinking phases:** Those who had done “traditional” research reminisced about shaping their analysis through research *in* the archive and tracking down new leads.
- Whither the archival rabbit hole?

This isn't
bad: we *love*
taking
photos

Shorter research trips: more time with family, teaching/service, and cheaper

Documentary record at fingertips: incidental collection of information that's later important; fact checking

Genie out of the bottle: As a discipline (cough peer reviewers cough), we now **implicitly** expect scholars to do this rather than go live *in situ* for months/years.



Are we becoming a
“desk” profession?

Kashmir Issue Not Discussed

Question To Be Decided Later

PATEL'S STATEMENT IN PARLIAMENT

Assets And Liabilities Reached Between India & Pakistan

PRICE SIX PICE

PROTEST AGAINST
W. BENGAL GOVT.
Special Powers Bill

Pakistan Govt. To Take
Loan From U.S.

Interpretations in Parliament
Criticisms

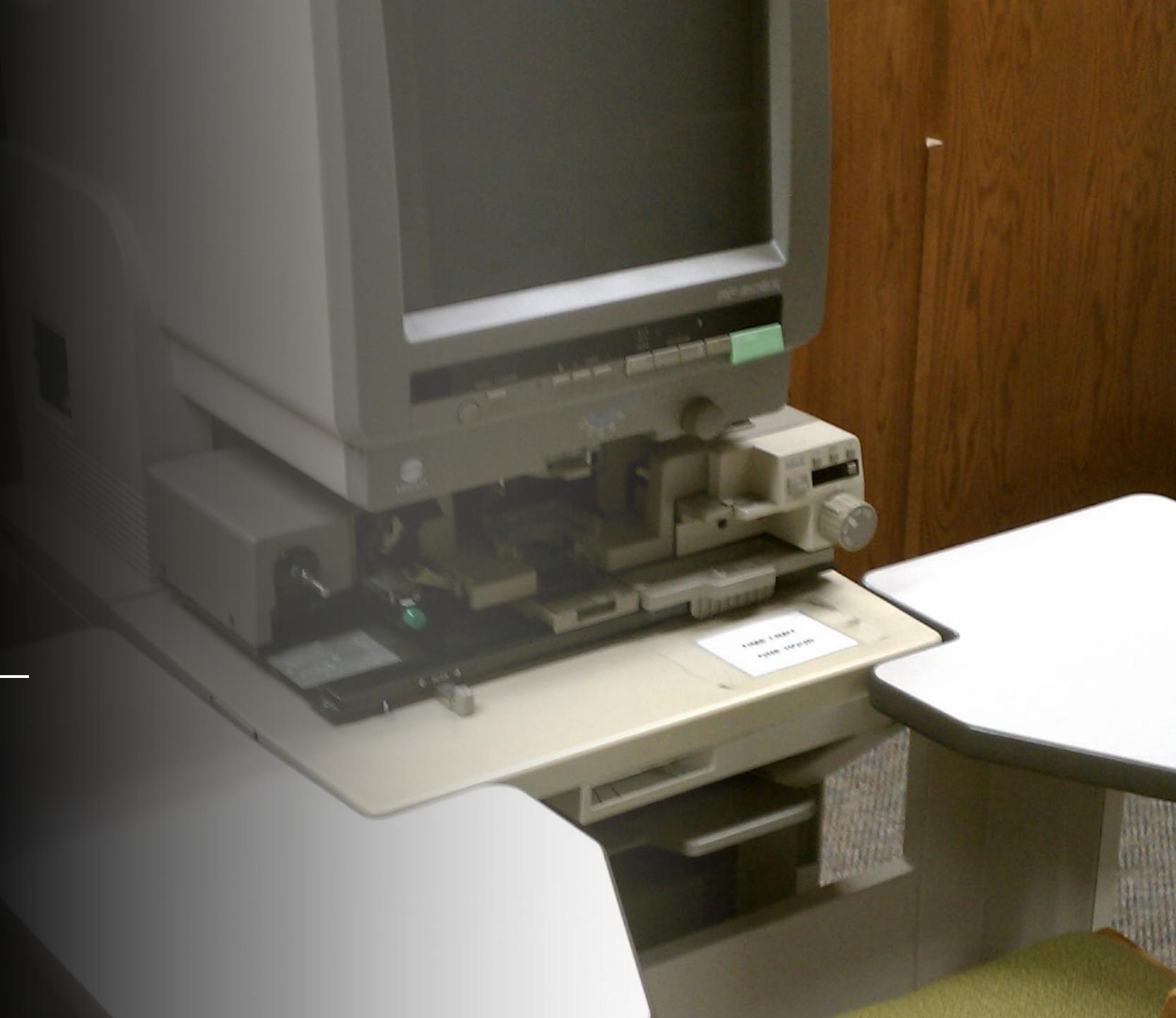
Demands
Assent

Dr. D.

DR.



Newspapers





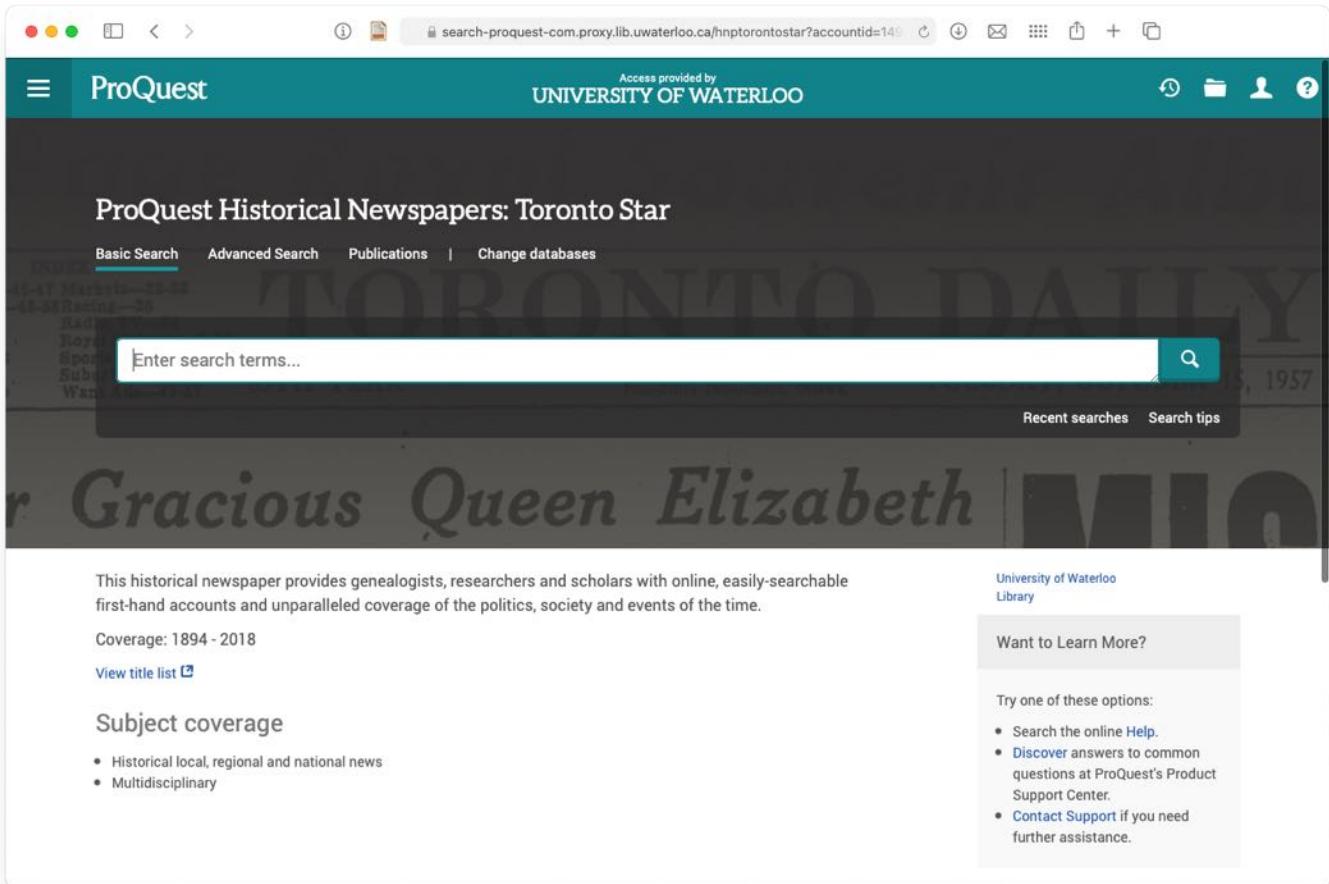
The Older Research Process

- Microfilm reels
- Sit in a dark basement, crank forward through pages looking for relevant documents
- Time consuming, boring (good chance to listen to music)
- But you learn a *lot* about context
 - i.e. a global event that happens, a shooting, the tenor of advertisements, the relative placement of columnists or articles.

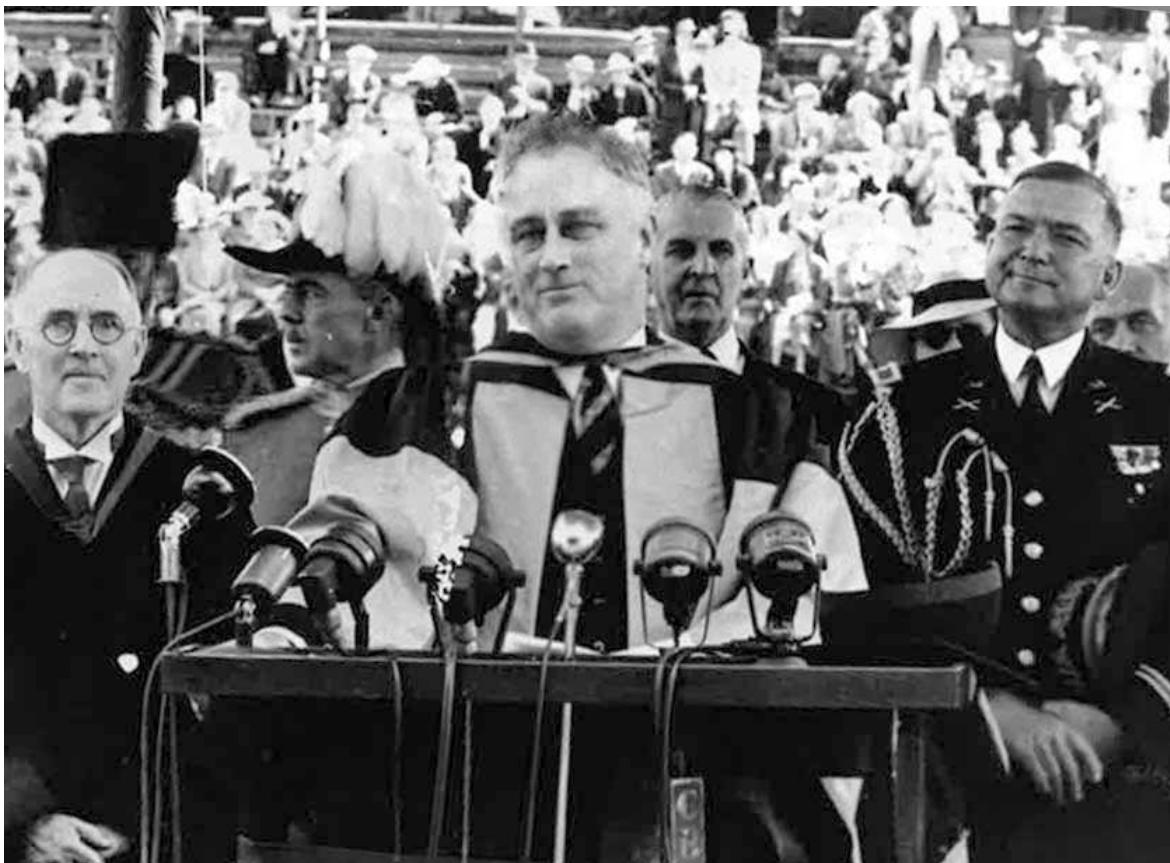


**How many people here have used a microfilm
machine?**

Instead, we keyword search...



Sometimes not so much.



PQ Advanced Search: Your search returned no results - ProQuest Historical Newspapers: Toronto Star - ProQuest

Access provided by
UNIVERSITY OF WATERLOO

ProQuest Historical Newspapers: Toronto Star

Basic Search Advanced Search Publications | Change databases

Your search for Kingston AND Roosevelt found 0 results.
Please modify your search and try again. [Search tips](#)

Advanced Search Command Line Recent searches Field codes Search tips

University of Waterloo Library

Kingston in Anywhere

AND Roosevelt in Anywhere

Add a row

Publication date: Specific date range... Start End

August 18 1938

August 24 1938

[Search](#) [Clear form](#)

Choose an ISSUE to view

1938

✓ December

Dec 31, 1938

View issue

November

October

September

July

June

May

April

March

February

January

Issue content

Select 1-3:

Page 1

1 **Toronto**

Details

Search within this issue

0-1971); Toronto, Ontario [Toronto, Ontario]30 Jl



Missing

- For some reason, August 1938 is missing (the 1 September 1938 issue has reference in the “letters to the editors” about articles written in the past week, so there were apparently issues)
- Crucially, you wouldn’t know that if you just did keyword searches.
- This was the first month I went looking for, because of FDR, what other gaps are there?

Other limitations of keyword searching

- The text that you search is created using **optical character recognition**, or OCR
 - ProQuest's implementation stems from *Pages of the Past*, an innovative project that saw the *Toronto Star* the first fully digitized newspaper in the world
 - But it's a commercial platform, so correcting OCR is difficult
 - Doesn't catch line-break hyphenation
 - **Cutting-edge OCR would have best-case scenario of 98%; even that leads to 50 incorrect characters on an average page of 500 words; word accuracy would be around 90%**

Skimming is nearly impossible

ProQuest

Access provided by
UNIVERSITY OF WATERLOO

ProQuest Historical Newspapers: Toronto Star

Basic Search Advanced Search Publications | Change databases

Publication Search

In title

Search

Publication date

1894 - 2010 (decades)

Enter a date range

Update

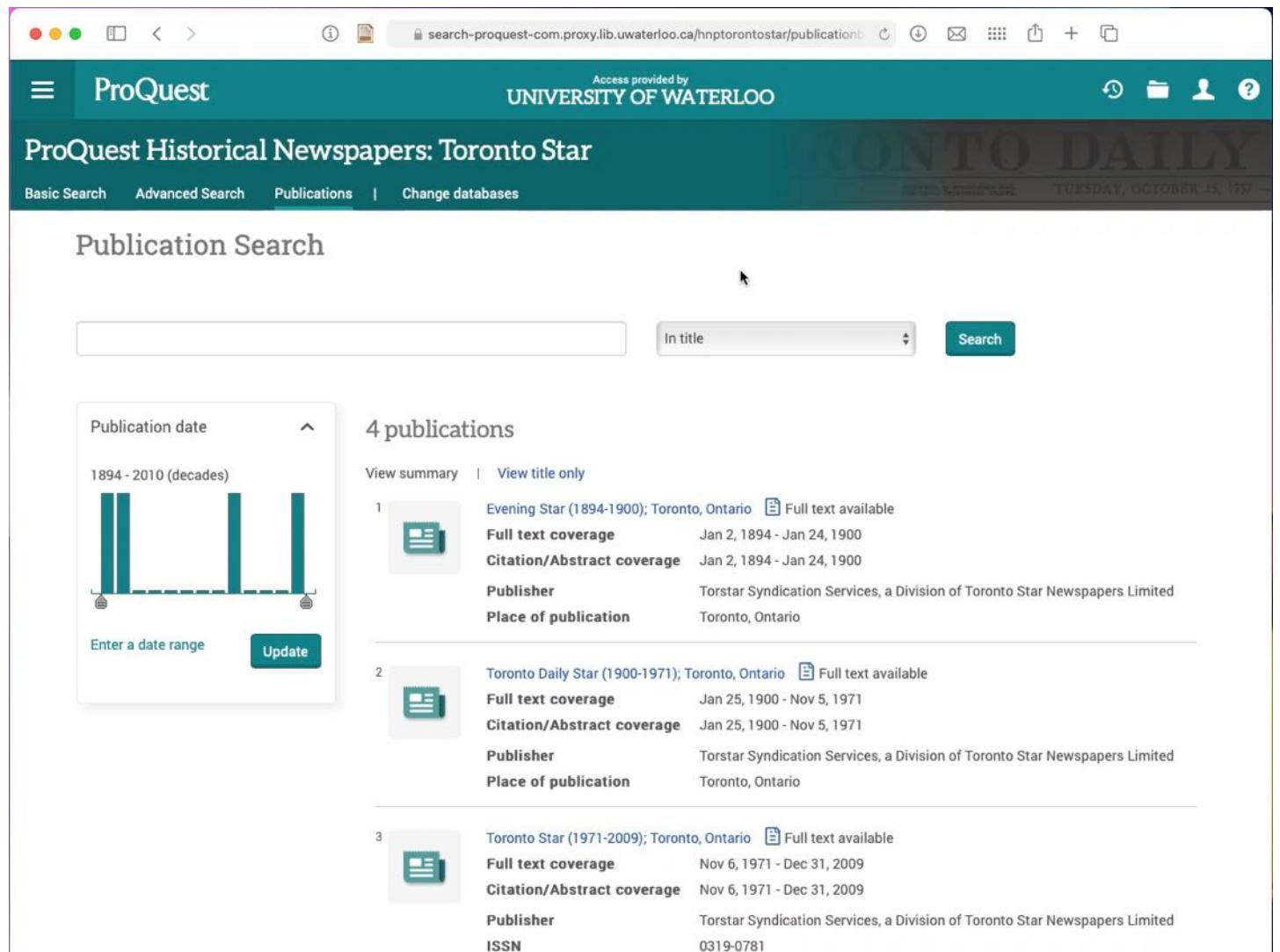
4 publications

View summary | View title only

1 Evening Star (1894-1900); Toronto, Ontario Full text available
Full text coverage Jan 2, 1894 - Jan 24, 1900
Citation/Abstract coverage Jan 2, 1894 - Jan 24, 1900
Publisher Torstar Syndication Services, a Division of Toronto Star Newspapers Limited
Place of publication Toronto, Ontario

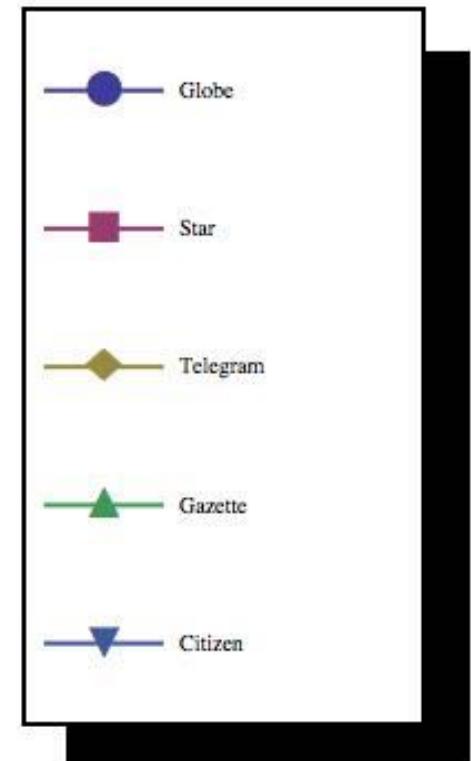
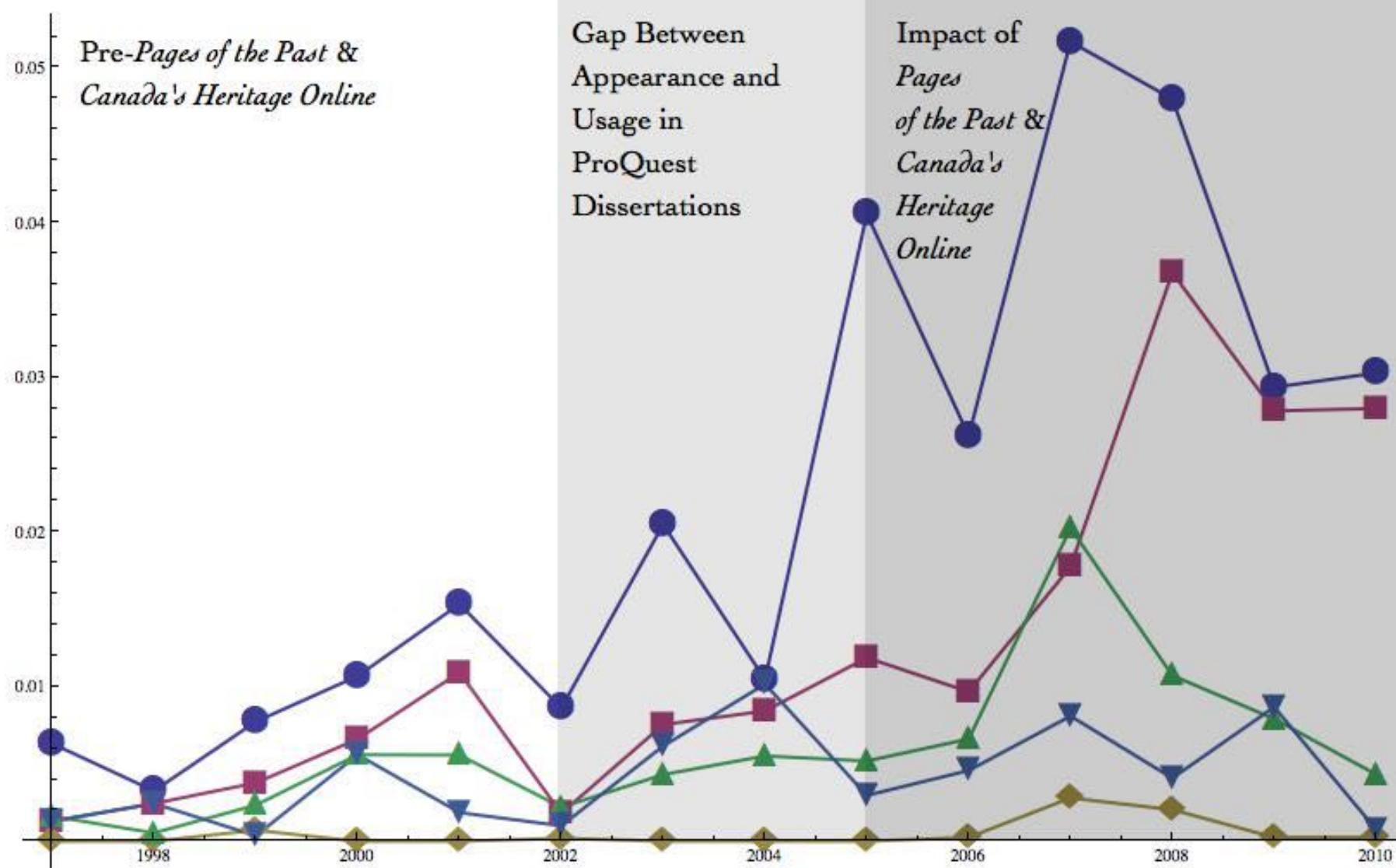
2 Toronto Daily Star (1900-1971); Toronto, Ontario Full text available
Full text coverage Jan 25, 1900 - Nov 5, 1971
Citation/Abstract coverage Jan 25, 1900 - Nov 5, 1971
Publisher Torstar Syndication Services, a Division of Toronto Star Newspapers Limited
Place of publication Toronto, Ontario

3 Toronto Star (1971-2009); Toronto, Ontario Full text available
Full text coverage Nov 6, 1971 - Dec 31, 2009
Citation/Abstract coverage Nov 6, 1971 - Dec 31, 2009
Publisher Torstar Syndication Services, a Division of Toronto Star Newspapers Limited
ISSN 0319-0781



And digitization is
uneven...

... both in Canada



In other words...

The more something is digitized the more it is used (i.e. the *Toronto Star* and the *Globe and Mail* are used far more than before; the *Toronto Telegram* is almost never used)

The mediation of a source impacts its use

The background of the image is a photograph of Earth taken from space. The left side shows the dark void of space with a few distant stars. The right side shows the planet's surface with swirling white clouds over blue oceans and green continents. A bright yellow band of light, representing the aurora borealis, is visible in the upper right quadrant.

But also, globally...

The Transnational and the Text-Searchable

- Technology has exploded the scope and speed of discovery. But our ability to read accurately the sources we find, and evaluate their significance, cannot magically accelerate apace. The more far-flung the locales linked through our discoveries, the less consistent our contextual knowledge. The place-specific learning that historical research in a pre-digital world required is no longer baked into the process. We make rookie mistakes. (Putnam)

The Transnational and the Text-Searchable: Digitized Sources and the Shadows They Cast

LARA PUTNAM

THE TRANSNATIONAL TURN IS accelerating simultaneously with the digital turn, and it is no coincidence. Source digitization has transformed historians' practice in ways that facilitate border-crossing research in particular. Web-based full-text search decouples data from place. In doing so, it dissolves the structural constraints that kept history bound to political-territorial units long after the intellectual liabilities of that bond were well known. Digital search has become the unacknowledged handmaiden of transnational history. It is time to take stock of what that partnership enables—and what it obscures.

Digital search offers disintermediated discovery. Algorithms fetch for us, doing away with the need for intermediaries like brick-and-mortar stores (if you are Amazon.com) or regional expertise, bibliographies, and immersive reading (if you are a historian). For the first time, historians can *find* without knowing where to look. As a result, at an unprecedented rate we are finding connections in unexpected places: powering publication on mobile ideas and international audiences; circuits, networks, and border-crossing flows. Technology has exploded the scope and speed of discovery. But our ability to read accurately the sources we find, and evaluate their significance, cannot magically accelerate apace. The more far-flung the locales linked through our discoveries, the less consistent our contextual knowledge. The place-specific learning that historical research in a pre-digital world required is no longer baked into the process. We make rookie mistakes.

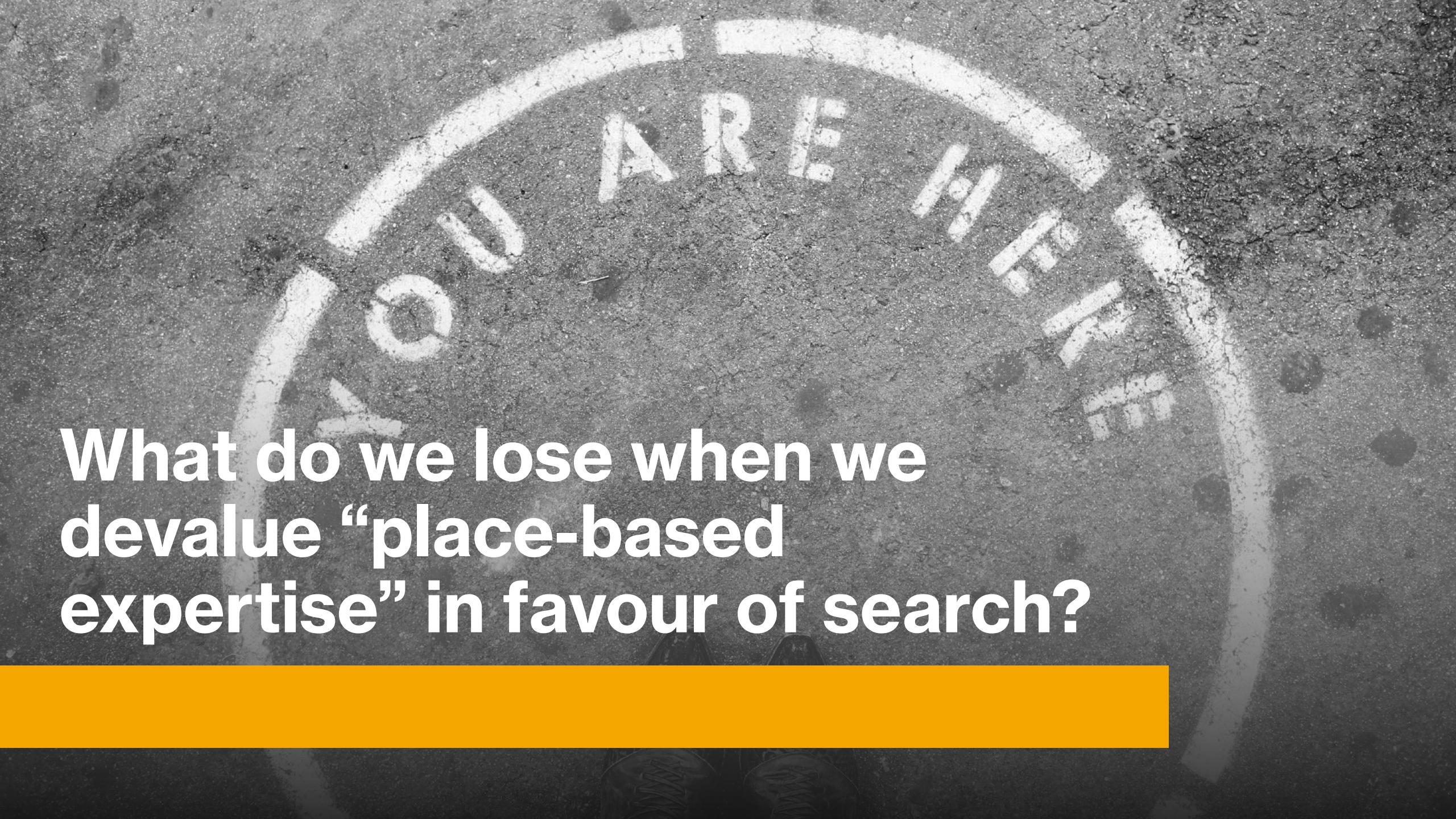
Moreover, historical inquiry that is powered by patterns in the digitizable detritus of the modern world will tend to foreground certain kinds of actors and certain aspects of their lives, pulling toward "a kind of international provincialism" that fails to note key local and national dynamics.¹ We risk overemphasizing the importance of

Global Histories and the “Side Glance”



- We can quickly use Wikipedia/Hathi Trust/Google Books to fact check things we find in our explorations; “side glances”
- **“The impact of such side-glancing – formerly rare, as each glance would have demanded hours or days of effort with no likely return; now quotidian, requiring nanoseconds to search and minutes to read – has been profound. It routinizes peripheral vision that opens us to the possibility of cross-border dynamics of manifold scales and kinds.”**





**What do we lose when we
devalue “place-based
expertise” in favour of search?**

Food for thought

- Could one be a leading historian of the Winnipeg General Strike without ever having been to Winnipeg? Or having been just for two days?
- Can you be a Nigerian historian without having been to Nigeria? Or a whirlwind week of photos?
- What do we gain or lose when our interactions with archives can be measured in clicks, or a week of digital photography, rather than being there in situ for months? What about relationships with fellow researchers, libraries, archivists, etc.?



The Great Undigitized

As so much becomes digitized,
important to remember that
most things are undigitized

Let's take stock

- **Our work in archives has transformed**, as we transition to “surgical strikes” to gather thousands of documents to “bring home”...
- ... **Our work in newspapers** and other digitized resources has changed, as we are drawn towards the digitized and away from contextually aware research, influenced by algorithms we don’t understand...

So, what should we do?





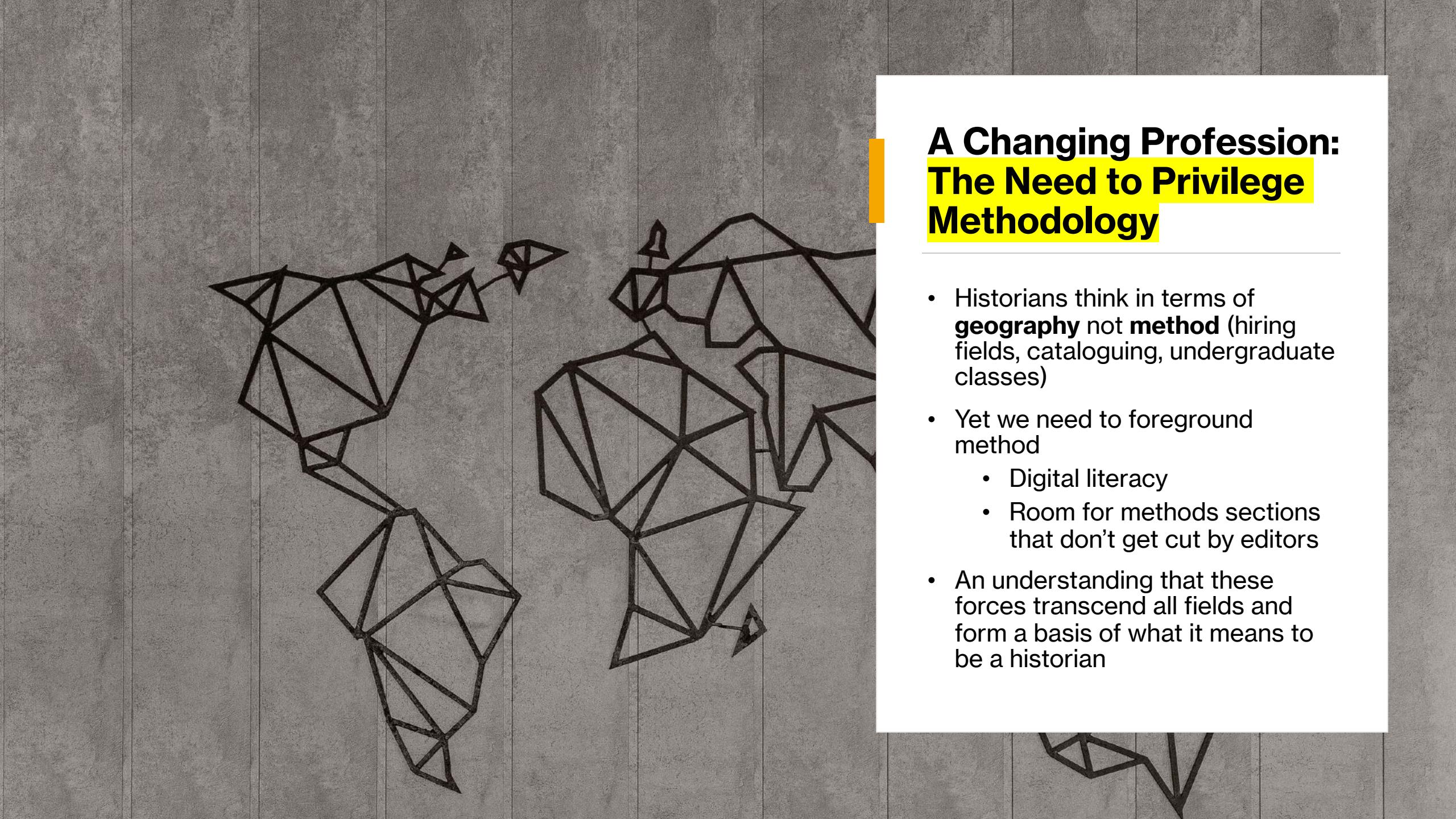
A Changing Profession: Digital Literacy

- **All** historians have been transformed by these forces, whether they are digital historians or not
- **All** of our sources are mediated through technology or archives
- Consciously thinking about this, **citing the mediated sources**, will make us better and more transparent historians.

A Changing Profession: Interdisciplinarity

- Using an archive is an exercise in interdisciplinarity
- Cite an archivist! Engage with them. Discuss their sources.
- Using a search engine or a database is an exercise in interdisciplinarity.
- Read some of the literature! Talk to your librarians.



The background of the slide features abstract, black, geometric shapes resembling shards or puzzle pieces scattered across a light grey surface. A single vertical orange bar is positioned on the right side.

A Changing Profession: The Need to Privilege Methodology

- Historians think in terms of **geography** not **method** (hiring fields, cataloguing, undergraduate classes)
- Yet we need to foreground method
 - Digital literacy
 - Room for methods sections that don't get cut by editors
- An understanding that these forces transcend all fields and form a basis of what it means to be a historian

A Changing Profession: The Need to Change How we Train

- Required undergraduate methods courses are relatively rare (and, in my experience, unpopular amongst students and instructors)
- Graduate education primarily focuses on content, not craft (Queen's may be an exception)
- Learning through an apprentice model is good, but misses major paradigm and medium shifts





A Changing Profession

- Some of this is happening in dribs and drabs here and there
 - HIST 901 at Queen's
 - Special sections/fora in the *Canadian and American Historical Reviews*
 - Roundtables at the AHA (not so much the CHA)
- But this, to me, is one of the defining issues of our time.
- We are becoming a desk discipline. What does that mean?



Changes beyond the discipline

- My focus has been on history as that's our shared discipline
- But many of these issues cut across disciplinary silos
- All of our students in ~~humanities/social sciences~~ the university need
 - An awareness of algorithmic bias
 - An understanding of how content is mediated and contextualized
 - Better digital literacy skills (banish the term "digital native")
- Need to break down silos

In Conclusion

- The historical profession is being transformed by new and emerging digital technologies.
- We haven't sufficiently engaged with this shift, but need to in our roles as educators as well as researchers.
- Most of this is good, but being self-conscious and aware will ensure that we understand the resources and approaches that we are drawing on.
- We're all digital now; let's embrace it.



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sciences humaines du Canada

Canada

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Queen's
UNIVERSITY

My sincerest thanks to you
all, and look forward to your
questions.