Moving from a research question to a literature review

Helen Worrell, Archaeology and Anthropology Librarian
Plan for today

- **Part 1**: The literature review process
- **Part 2**: Searching
- **Part 3**: Search tools
- **Part 4**: Citations and bibliometrics
- **Part 5**: Alerts
Learning outcomes

By the end of the session, you should:

- Understand the literature review process;
- Be able to plan an effective and structured search for your dissertation or thesis;
- Know where to look for different types of information;
- Have evaluated different methods of searching;
- Have developed search skills that can be applied across different resources;
- Know where to come for future help.
Part 1:
The literature review process
Developing your literature search

1. Preliminary searching and browsing
   - Scan abstracts and skim-read papers
   - Identify current directions of research
   - How will you contribute new knowledge?

2. Structured searching with appropriate syntax
   - Identify the key articles and heavily-cited papers
   - Establish key authors, organizations and sources
   - Commit to in-depth consideration and re-reading of papers

3. Develop search
   - Track citations to follow research connections
   - “Cast net more widely” in terms of resources searched
   - Set up alerts for new content

• Stay focused on the research question and keep a search log
Part 2: Searching

- Keywords
- Thesaurus
- Natural language
- Boolean
- Citation chaining
- Synonyms

Relevant scholarly research
Start with a clear research area

Pottery in Neolithic China

Image source: https://upload.wikimedia.org/wikipedia/commons/e/ef/China_100.78713E_35.63718N.jpg
Introductory reading

Oxford Bibliographies Online are comprehensive subject bibliographies, which provide an up-to-date overview of the most recent and authoritative scholarship in a given field.

Introduction

Defined by John Lubbock in 1865, Neolithic initially referred to the period when polished stone tools were used. Later the Australian British archaeologist Gordon Childe defined Neolithic as a period when people began to settle down, cultivate plants and herd animals, and make pottery. But this definition is based on archaeological discoveries in Europe and the Middle East and does not fit well into the prehistoric cultural developments in the landmass now called China. On the basis of archaeological discoveries since the late 19th century, it is now generally agreed that the Neolithic cultures in China are dated to between approximately twelve thousand and four thousand years ago, but the characteristics of these Neolithic cultures vary significantly. Some of the Neolithic cultures were created by sedentary farmers and were characterized by labor division, social segmentation, and fortified settlements, while other Neolithic cultures were created by mobile hunters and gatherers with an egalitarian social structure. Consequently, how to define Neolithic remains an issue under debate in China's archaeology. While some scholars have argued that sedentism and agriculture should be key elements to distinguish Neolithic from Mesolithic or Paleolithic, others have pointed out the uniqueness of cultural changes in prehistoric China and have proposed to use pottery as an indicator of the Neolithic cultures in China's context. The majority of Chinese archaeologists follow the latter definition, which is different from that in Europe and western Asia. The discussion on defining Neolithic is not just about how to construct the prehistoric chronology in China but also about whether prehistoric cultural diversity in the world should be recognized and whether the archaeological framework that originated and developed in the West can provide a universal explanation for the development of human cultures in prehistoric eras in other regions.
Introduction

Banpocun (Pān-p’ō-č’un) or Banpo is a site of the Neolithic Yangshao culture, located near Xian, Shaanxi province, China. The entire site is estimated to be c. 5 ha in size, of which an area of 1 ha was uncovered during five seasons of excavation carried out from 1954 to 1957, led by Shi Xingbang of the Institute of Archaeology at the Chinese Academy of Sciences (Fig. 1). Archaelogical deposits were divided into two phases. The early phase contained very rich material remains and was named the Banpo variant (leving), dating to c. 4000-4000 BCE. Fewer remains were found from the late phase, named the Xiaoyuegou variant or late Banpo variant, generally dating to c. 3500-3000 BCE (Institute of Archaeology, Chinese Academy of Sciences, 1967). The entire excavated area of the Banpo site has been preserved as China’s first on-site museum, the Xi’an Banpo Museum, which was first constructed in 1956 and rebuilt in 2008. Banpo has been further excavated in recent years, but a new excavation report has not yet been published.

Ceramics, Southeast Asian and Chinese Trade

Tse Shiang Len

Introduction

Ceramics have been in Southeast Asia since the early Holocene. The earliest, best-dated examples in Mainland Southeast Asia are cord-marked, net-marked, burnished, appliqued, and incised. Hoabinhian earthenware pottery sherds found at the Spirit Cave in north-western Thailand, dated to approximately 8,400 years old. In comparison, the earliest known earthenware pottery found in the
Search method 1:
Natural language searching

Google Scholar

pottery in neolithic china

Articles

Any time
Since 2017
Since 2016
Since 2015
Custom range...

Sort by relevance
Sort by date

Include patents
Include citations

Create alert

Principal component analysis and artificial neural networks applied to the classification of Chinese pottery of neolithic age
Qi Ma, A Yan, Z Hu, Z Li, B Fan - Analytica Chimica Acta, 2000 - Elsevier

Volumetric analysis, as a simple, rapid, accurate and economic method, has been used in studying the chemical composition of Chinese neolithic pottery. The major component analysis, principal component analysis (PCA) and artificial neural networks (ANNs) have been used in the classification of Chinese pottery. The results of this study can form a basis for the classification of Chinese pottery in the future.

Find it @ Oxford

Early cultivated wheat and broadening of agriculture in Neolithic China
X Liu, J Dodson, X Zhou, H Zheng - The ... - journals.sagepub.com

This paper discusses the reasons for the appearance of agriculture in China and how the blending of agricultural practices contributed to the development of Chinese civilization. The study is based on archaeological evidence from the Neolithic period.

Find it @ Oxford

Prehistory of the Indo-Malayan Archipelago: revised edition
P Bellwood - 2013 - capen.org

The interaction between Taiwan and northern Luzon and the pottery and jade evidence from the Cagayan Valley. Journal of Asian-Australian Studies 1, no. 1. New Perspectives on China's Past, Chinese prehistory, 3rd edition, 2017, 2 volumes...

Find it @ Oxford

Archaeological research on neolithic China
A Zimin - Current Anthropology, 1988 - journals.uchicago.edu

In the 1980's, a Neolithic site discovered in 1984 in Nanjing, China, was identified as the most important site of Chinese Neolithic in the North China Plain. The site is dated to the late Neolithic period and the site is located in the middle of the Yangtze River Delta.

Find it @ Oxford

Chinese pottery and porcelain: from prehistory to the present
S J Van It - 1991 - Published for the Trustees of the... Find it @ Oxford

... be used for dating purposes? Identification by Raman microscopy of anatase in decorative coatings on Neolithic (Yangshao) pottery from Henan, China
RLH Clark, Q Wang, A Correa - Journal of Archaeological Science, 2007 - Elsevier

Scanning electron microscopy/energy dispersive X-ray analysis has shown that the white background layer (glaze) on painted pottery sherds (Yangshao culture, Henan, China, 4200 BC) is composed of kaolin clay containing titanium in the assumed form of TiO2 at... Find it @ Oxford
Search method 1: Google Scholar Library Links
Search method 2: Keyword searching
Search topic: Main concepts

Pottery in Neolithic China
Search preparation: Keywords

<table>
<thead>
<tr>
<th>Research Area: Pottery in Neolithic China</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Row 1:</strong> My Keywords</td>
</tr>
<tr>
<td>Keyword 1: Pottery</td>
</tr>
<tr>
<td>Keyword 2: Neolithic</td>
</tr>
<tr>
<td>Keyword 3: China</td>
</tr>
<tr>
<td><strong>Row 2:</strong> Alternative words</td>
</tr>
<tr>
<td>Ceramic</td>
</tr>
<tr>
<td>Ceramics</td>
</tr>
<tr>
<td>pots</td>
</tr>
<tr>
<td>New stone age</td>
</tr>
<tr>
<td>Chinese</td>
</tr>
</tbody>
</table>
Exercise: Search preparation

1. Write a short sentence about your research interest
2. Underline key concepts
3. Write down alternative words/phrases for each concept
4. Discuss with your neighbour.
Search syntax: Boolean logic

**AND**
Pottery *and* China

**OR**
Pottery *or* China

**NOT**
Pottery *not* China
Further search syntax

Truncation and wildcards
  e.g. Pot*, wom?n

Search for a phrase by using quote marks
  e.g. “Stone Age”

Parentheses
  e.g. (Pottery OR ceramic) AND China

Limit to particular fields
  e.g. title, abstract, keywords

Apply search filters
  e.g. date, format
### Example: Combine 3 searches

<table>
<thead>
<tr>
<th></th>
<th>Keyword #1</th>
<th>Keyword #2</th>
<th>Keyword #3</th>
</tr>
</thead>
<tbody>
<tr>
<td>My key words</td>
<td>Pottery</td>
<td>Neolithic</td>
<td>China</td>
</tr>
<tr>
<td><strong>Alternative words</strong></td>
<td>Ceramic; pots</td>
<td>New stone age</td>
<td>Chinese</td>
</tr>
<tr>
<td><strong>Use truncation</strong></td>
<td>Cerami*; pot*</td>
<td>Neolithi*; “new stone age”</td>
<td>Chin*</td>
</tr>
</tbody>
</table>

**My structure search string:**

\[(\#1) \text{ AND } (\#2) \text{ AND } (\#3)\]

\[(\text{Cerami* OR pot*}) \text{ AND } (\text{neolithi* OR “new stone age”}) \text{ AND } (\text{Chin*})\]
Platform: ProQuest

Subjects:
- The Arts
- Business
- Dissertations & Theses
- Health & Medicine
- History
- Literature & Language
- News & Newspapers
- Science & Technology
- Social Sciences

Individual bibliographic databases
Exercise: Building a structured search

1. Create a structured search from your keywords
2. Apply the search in Proquest:
   - http://search.proquest.com/ibss
   - https://search.proquest.com/science
3. Explore the database search functionality
4. Refine your search
Search Method 3:
Database subject headings

• Use database subject headings to identify new and useful search terms

• Terms are assigned by the database editors from a set of controlled vocabulary (thesaurus)

• **Broader terms** – brings together synonyms and related terms under one heading

• **Narrower terms** – helps refine your search
Search method 4: Scholarly search engines

- **SOLO Articles and more**
  - Scholarly search engine
  - Cross-disciplinary resource
  - Some subjects are covered better than others
  - Lacks specialist search options
Part 3: Search tools

- Internet search engines
- Full-text databases
- Abstracting and indexing services
Access online resources provided by the Bodleian Libraries

- SOLO  http://solo.bodleian.ox.ac.uk
- OxLIP+  http://oxlip-plus.bodleian.ox.ac.uk
- E-Journals  http://ejournals.bodleian.ox.ac.uk
- LibGuides  http://ox.libguides.com/
Useful eResources:
**Web of Science Core Collection**

What: Bibliographic database / Citation Index
Focus: Covers all Humanities, Social Sciences & Sciences
How: Use you search string
Useful eResources: **Scopus**

What: Bibliographic database / Citation Index

Focus: Science, Medicine and some Social Sciences

How: Use your search string

**Scopus**
Useful eResources: Dyabola

What: Bibliographic Database
Focus: Classical Archaeology
How: Use simplified keyword searching
Useful eResources: BIAB (British and Irish Archaeological Bibliography)

What: Bibliographic Database
Focus: Britain and Ireland, every chronological period
How: Use simplified keyword searching
Useful eResources: ArtStor

What: Image database
Focus: Global. Images from archives, libraries, museums mostly in North America and Europe (including the UK).
How: keyword searching
Exercise: Exploring eResources

1. Pick an eResource that looks useful to your research.
2. Have a go at keyword searching.
3. See workbook for instructions for:

   - WEB OF SCIENCE™
   - ARTSTOR
   - DYA Home
   - british and irish archaeological bibliography
Part 4: Citations and bibliometrics

Researcher 3 → Cites researcher 2 → Cites researcher 1

Impact
Use citations to:

• Locate current research based on earlier research
• Find out how many times, and where, a publication is being cited
• Identify who is referencing a particular paper
• Explore how a particular research topic is being used to support other research
• Analyse the impact of a publication on other research in the field
• Track the history of a research idea
• Keep track of your own research
Where can you get citation information?

• **Web of Science**
  – Social Sciences Citation Index (SSCI)
  – Over 3150 titles\(^1\)
  – Citations from 1956-present

• **Scopus**
  – Social Sciences & Humanities subject collection
  – Over 9,400 titles\(^2\)
  – Scopus is in progress of updating cited references going back to 1970

• **Google Scholar**
  – ??

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2. http://www.elsevier.com/online-tools/scopus/content-overview#content-overview
Identify current research based on earlier research

- Web of Science citation counts
Exercise: Citation searching and bibliometrics

1. Use your structured search in Web of Science Social Science Citation Index (SSCI) OR Scopus
2. Sort your results by Relevance – note some titles which have been highly cited.
3. Sort your results by Times Cited – note some titles which look relevant.
4. In SSCI, using Journal Citation Reports – look at the journals that have the most impact in your subject area.
Using bibliometrics to assess impact

- Citation counts
- h-index
- Journal impact factor
Researcher h-index

• "The h-index is based on the highest number of papers included that have had at least the same number of citations"*

In the Citation Report you can see the h-index for your search results.

The orange line indicates that this author has an h-index of 8.

i.e. 8 papers that have had 8 citations or more.

*Scopus: “h-graph” at http://help.elsevier.com/app/answers/detail/a_id/2349/p/8150/
Journal Impact Factor

- Use ISI Web of Knowledge Journal Citation Reports (JCR) to look at the impact of a particular journal title, or see how a title is ranked against like journals.
- “The journal Impact Factor is the average number of times articles from the journal published in the past two years have been cited in the JCR year.”

*Thomson Reuters: http://admin-apps.webofknowledge.com/JCR/help/h_impfact.htm*
Part 5: Alerts

- New articles matching search terms
- Tables of contents from selected journals
- New citations referencing ‘parent article’
Search Alerts

• Create and save sophisticated searches
• Receive alerts when new publications match your search
  – Newly published material
  – Material newly added to the database
• Saves you having to re-visit databases and running your searches again manually

• Can receive alerts via:
  – Email
  – RSS
Citation Alerts
WoS and Scopus

• Create an alert for specific articles
• Receive alerts when new publications cites your chosen articles
  – Newly published material
  – Material newly added to the database
• Saves you having to re-visit databases and running your searches again manually

• Can receive alerts via:
  – Email
  – RSS
Journal Table of Contents Alerts

JournalTocs: [http://www.journaltocs.ac.uk](http://www.journaltocs.ac.uk)

- Subscribe to journal titles relevant to you
- Receive alerts with a table of contents when a new issue is published
- Saves you having to check when new issues of relevant journal titles are released

- Can receive alerts via:
  - Email
  - RSS
Exercises: Search Alerts

**Exercise:** Setting up a search alert in Proquest.

**Exercise:** Keeping up to date with journals.
Thank you for your attention.

• Further questions (or feedback)
Email Helen.Worrell@bodleian.ox.ac.uk

• Recommend a book:
http://www.bodleian.ox.ac.uk/libraries/recommendations