

"Where's ALL the Money Go?"

Enriching Instruction through Information Economics

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NCSU Libraries

Why Economics?

- Introduces academic information ecosystem
 - Larger context to make better sense of searching
 - Valuable information comes at a price
 - Redefines library as gateway to expensive information
- Shows role library plays in buying information
 - Library is buying stuff (not just books!) for students all the time
- Shows students *value* of research information
 - Otherwise why would we spend this much?!?
- Demonstrates why this information is not accessible via search engines
 - ‘Because you can’t get it for free therefore you must use the library
 - We’ve already bought it FOR YOU!’

Pedagogy

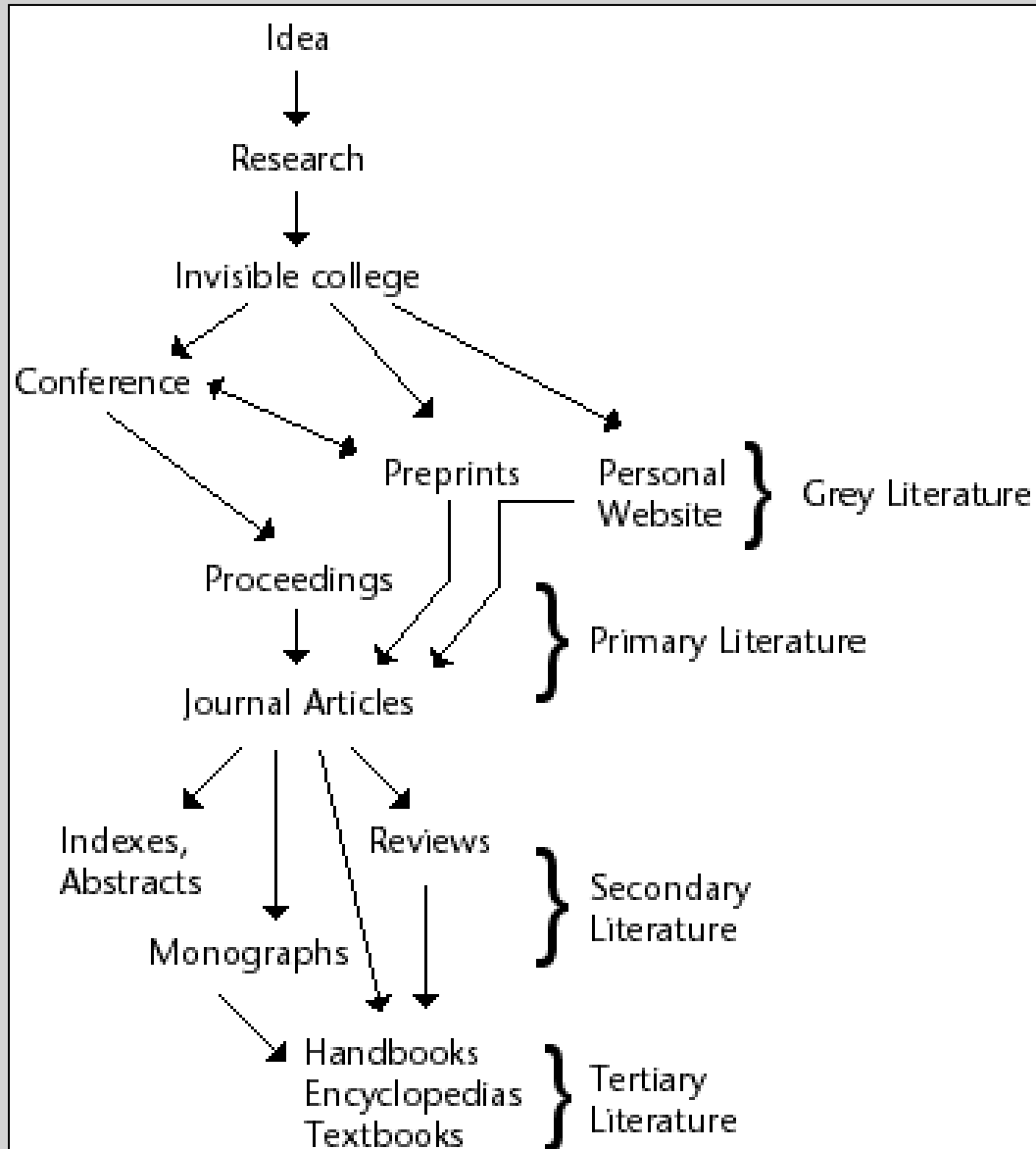
- Moves beyond just ‘how to search’ library resources:
 - Teaches critical thinking
 - Not just mechanics of searching
 - Economics shapes availability of and access to information
- Provides broader context for students:
 - **Why** and **when** to use library resources
 - Why research databases and e-journals exist mainly through libraries
 - Gives students ability to adapt to new databases/new sources
- Positions librarians for broader role in teaching information in society:
 - Just what is ‘information literacy’?

What we're going to focus on...

- The role of journal articles in communication between scientists.
- **Economics of scientific information** – Why can't Google get you everything you need?
- Article **discovery**
- Article **access**
- How one article leads to another.

Flow of Scientific Information

But what is free and what costs money?



Web Search Engines – Yahoo!, Google, Lycos, etc.

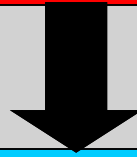


World Wide Web – Millions of web pages!

The diagram consists of a red rectangular box at the top containing the text 'Web Search Engines – Yahoo!, Google, Lycos, etc.'. Below this box is a light blue rounded rectangular box containing the text 'World Wide Web – Millions of web pages!'. Numerous black arrows originate from the bottom edge of the red box and point downwards towards the top edge of the blue box, representing the search engines accessing the web.

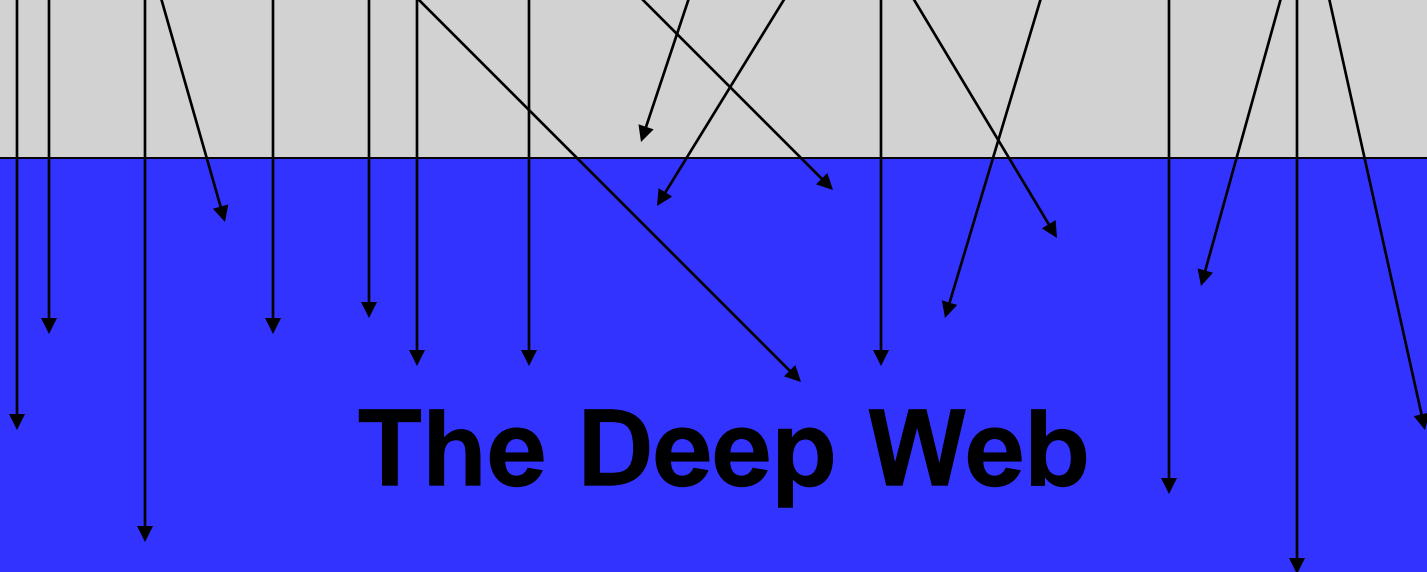
This is the surface of the Web

Web Search Engines



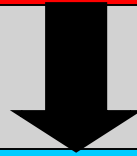
World Wide Web – Millions of web pages!

Web pages containing search tools



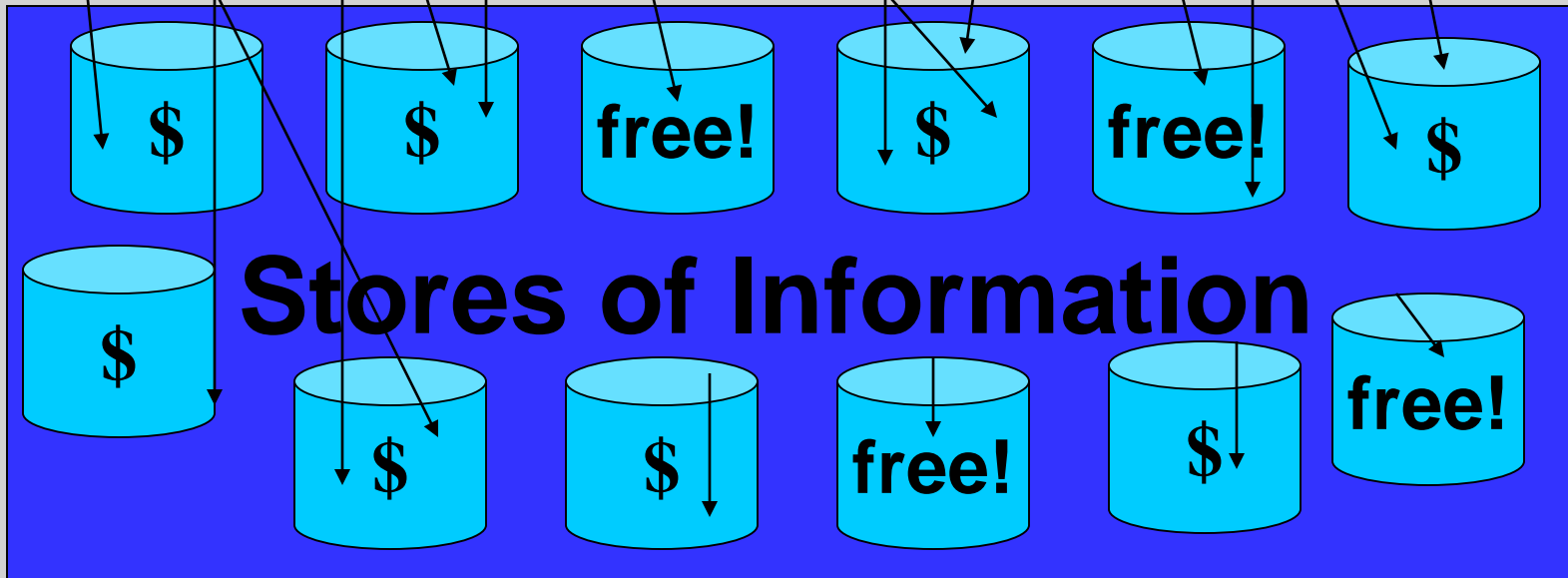
The Deep Web

Web Search Engines

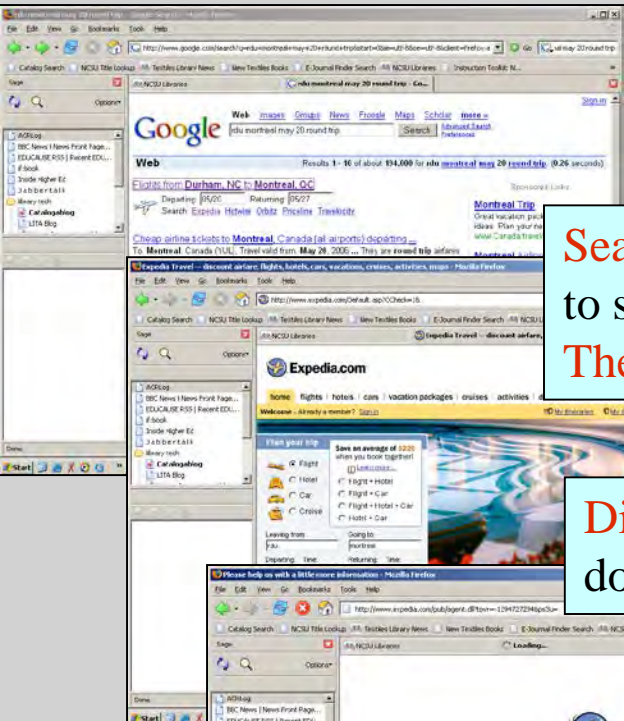


World Wide Web – Millions of web pages!

Web pages containing search tools (DATABASES)



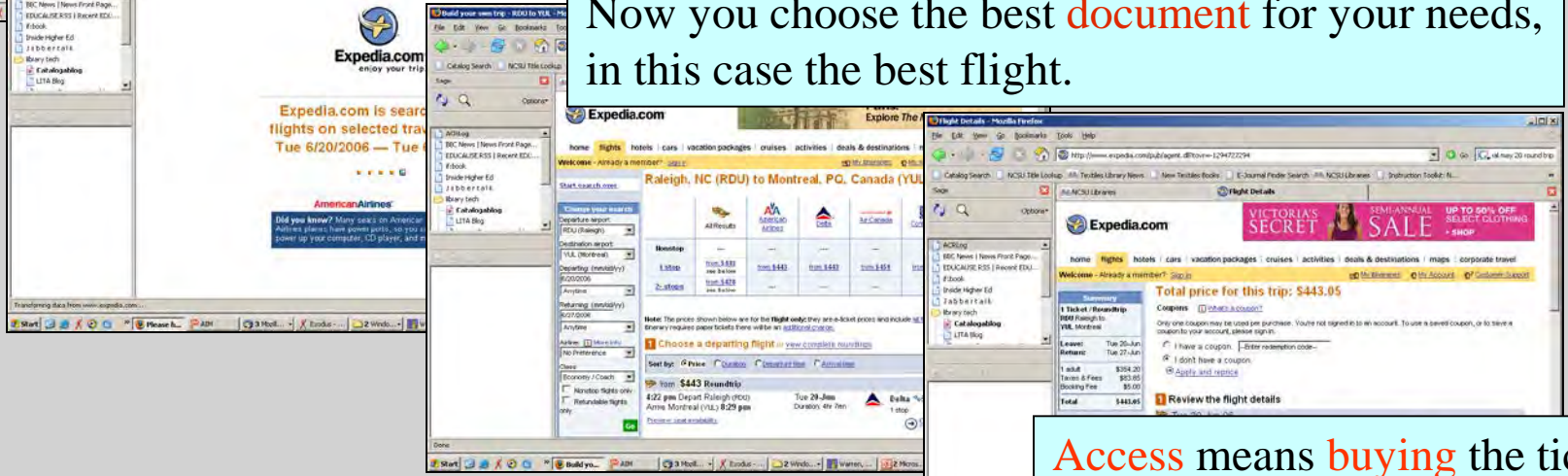
Compare looking for research articles to finding and buying an airline ticket



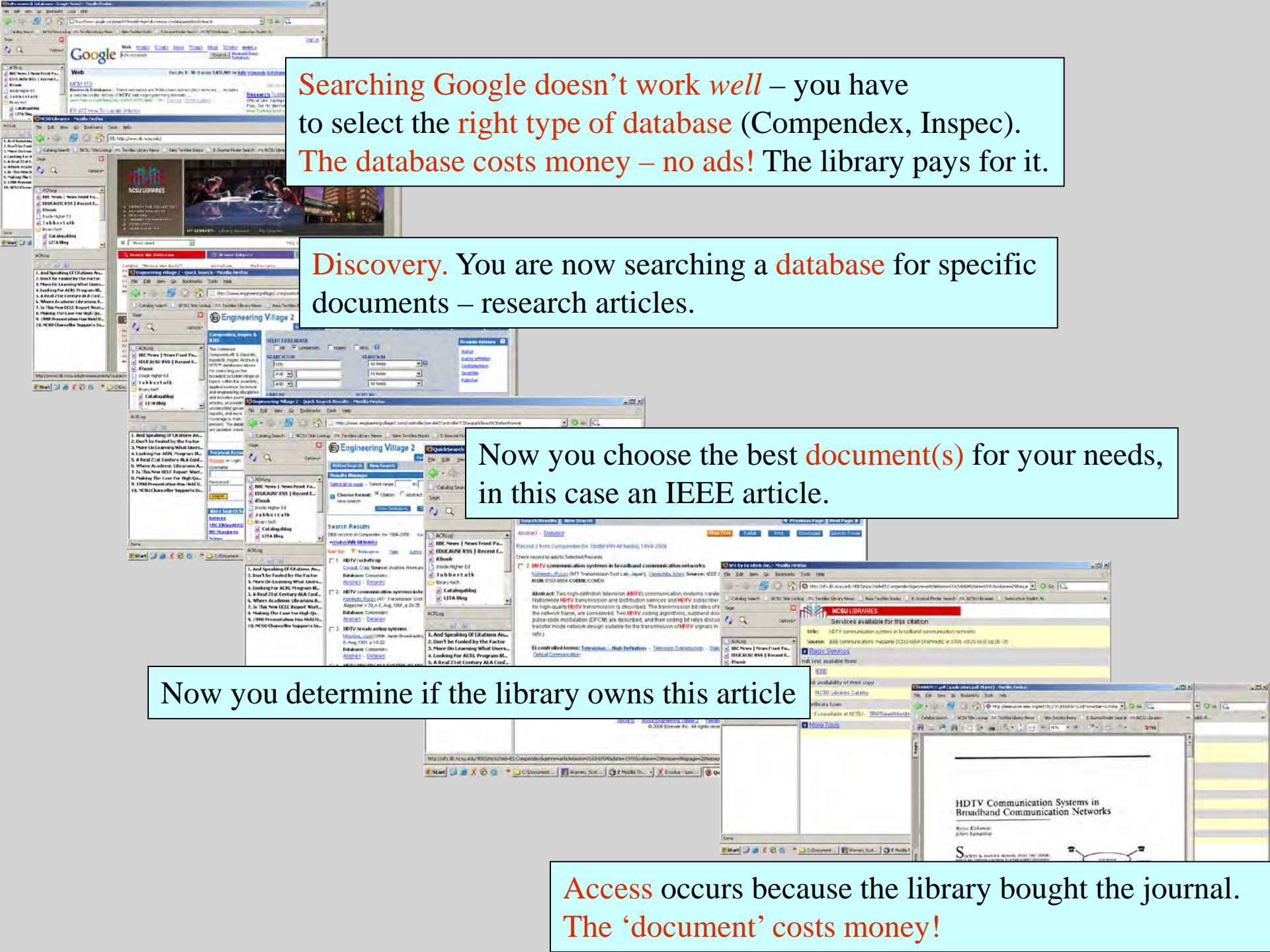
Searching Google doesn't work – you have to select the right type of **database** (Expedia, Travelocity). The **database** is free – ads pay for it.

Discovery. You are now searching a **database** for a specific document – the right ticket.

Now you choose the best **document** for your needs, in this case the best flight.



Access means **buying** the ticket. The 'document' costs money!



Searching Google doesn't work *well* – you have to select the **right type of database** (Compendex, Inspec).
The database costs money – no ads! The library pays for it.

Discovery. You are now searching a **database** for specific documents – research articles.

Now you choose the best **document(s)** for your needs, in this case an IEEE article.

Now you determine if the library owns this article

Access occurs because the library bought the journal.
The 'document' costs money!

Discover citation in database:
-Proof document was published.

Internet Database Service
Search Results
This record was found in:
Genetics Abstracts
1 of 2231 [Full Text @ NCSU]
Title: A Method for Marker-Assisted Selection Based on QTLs with Epistatic Effects
Author: Lu, P.; Zhu, J.; Lou, X.; Lu, Y.
Affiliation: Department of Agronomy, Zhejiang University, Hangzhou, Zhejiang 310029, P. R. China; <mailto:zhu@zju.edu.cn>
Source: Genetica [Genetica], Vol. 119, no. 1, pp. 75-86, Sep 2003
ID: 0016-6707
PB: Publisher: Kluwer Academic Publishers
Abstract

http://content.kluweronline.com/article/5118009/fulltext.pdf - Microsoft Internet Explorer
Genetica 119: 75-86, 2003
A method for marker-assisted selection based on QTLs with epistatic effects

Access to document is available *only* because:
-The library bought the journal the article appears in.

SFX by Ex Libris (USA) Inc. - Microsoft Internet Explorer
NCSU LIBRARIES
Title: A Method for Marker-Assisted Selection Based on QTLs with Epistatic Effects
Source: Genetica [0016-6707] yr. 2003 vol. 119 iss. 1 pg. 75
Here are ways to get this item:
Full text available from [Kluwer Academic](#)
Look for print copy in the [NCSU Libraries](#)
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Key words: breeding values, epistatic effects, marker-assisted selection, QTL
Abstract
A method for marker-assisted selection (MAS) based on quantitative trait loci (QTL) with epistatic effects is proposed. The efficiency of such method is investigated by simulations under a wide range of situations. In the presence of epistasis, MAS generally yields longer persistence response than that based exclusively on additive or additive and dominant. Neglecting epistasis could result in considerable loss in response, and more pronounced at later generations. In addition to population size and trait heritability, genetic variance configurations play an important role in determining both the short- and long-term efficiencies of MAS. MAS using breeding values not only of parents, but also of grandparents, can improve selection response over other methods in most cases.

FindText@NCSU:
-Proof NCSU owns document.
-The Library bought it.

Discovery and **Access** are separate functions

Economics of scientific info

- Academic Information is a **BIG BUSINESS**
- The players:
 - Scientists **Writing**
 - Publishers **Packaging/Selling**
 - Database (index/abstract) companies **Discovery/Selling**
 - Libraries **Access/Buying**
- Big Money! <http://www.library.vanderbilt.edu/jcosts/>
[NCSU Elsevier crisis](#)

Article Discovery

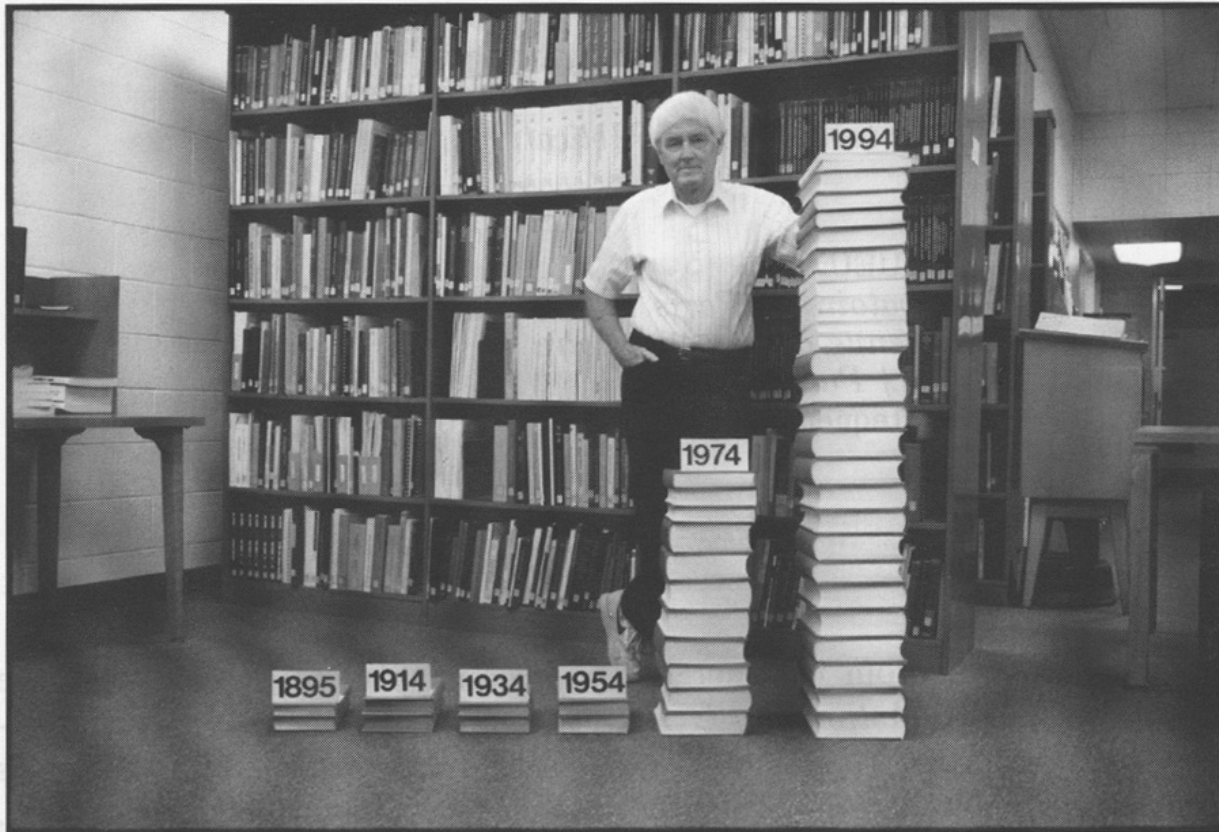


Figure 1. An illustration of the dramatic increase of astronomical literature over the past decades. Helmut A. Abt, Editor-in-Chief of the *Astrophysical Journal*, is standing next to stacks of that leading professional publication (courtesy the *National Optical Astronomy Observatories, NOAO*).

Article Access

Jean and Alexander Heard Library-Placing Items on Reserve - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://www.library.vanderbilt.edu/jcosts/

Catalog Search NCSU Title Lookup Textiles Library News New Textiles Books E-Journal Finder Search NCSU Libraries Instruction Toolkit: N...

Jean and Alexander Heard Library-Pl... Jean and Alexander Heard Library-Placing ...

E-BOOKS
Reference Tools
Government Info
Internet Search Engines


Services
Renew Materials
Interlibrary-Loan
Find Reserves
Place On Reserve
Copyright Clearance
Request Forms
Computers


Research Assistance
?Ask Us
Getting Started
Find an Article
Find Theses/Dissertations
Subject Guides
Subject Librarians

Which is more expensive?

You might be surprised at how the prices of journal subscriptions compare to the costs of other items. Roll your mouse over the picture of the item you think is more expensive in each pair.

A New Beetle or Brain Research?


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A plasma TV or Surface Science?

projects at the following libraries:

- University of Maryland Health Sciences and Human Services Library
- Cornell University Library
- Georgetown University Medical Center Dahlgren Memorial Library

Done

Start 3 Windows ... Jean and Al... 2 Mozilla Th... Warren, Scot... Exodus - saw... ASEE economi... Address 5:56 PM

Article Access

Jean and Alexander Heard Library-Placing Items on Reserve - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://www.library.vanderbilt.edu/jcosts/

Catalog Search NCSU Title Lookup Textiles Library News New Textiles Books E-Journal Finder Search NCSU Libraries Instruction Toolkit: N...

Jean and Alexander Heard Library-Pl... Jean and Alexander Heard Library-Placing ...

E-BOOKS
Reference Tools
Government Info
Internet Search Engines


Services
Renew Materials
Interlibrary-Loan
Find Reserves
Place On Reserve
Copyright Clearance
Request Forms
Computers

Research Assistance
?Ask Us
Getting Started
Find an Article
Find Theses/Dissertations
Subject Guides
Subject Librarians

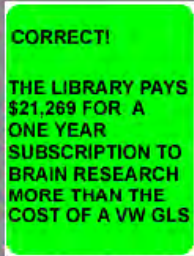
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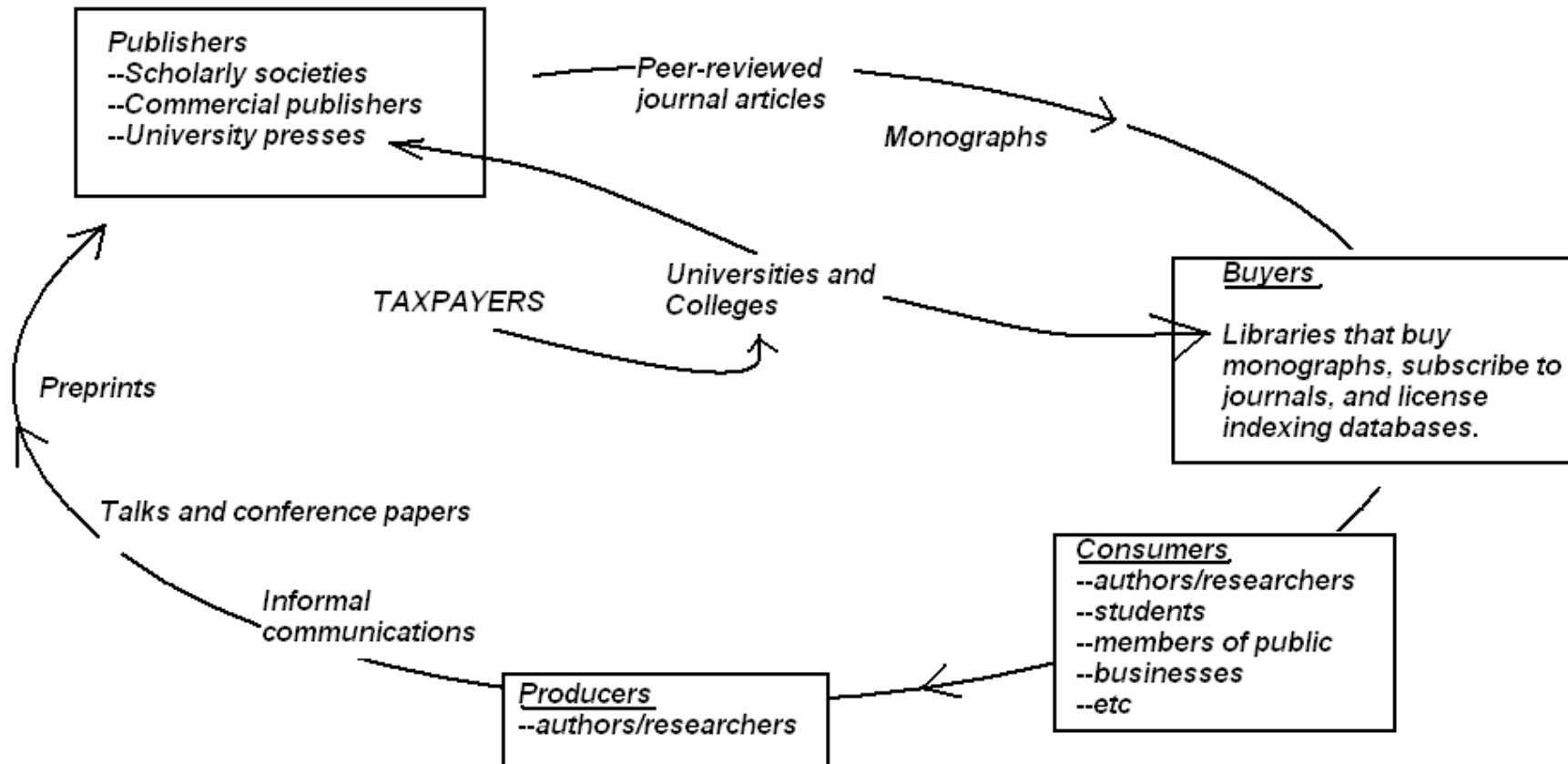
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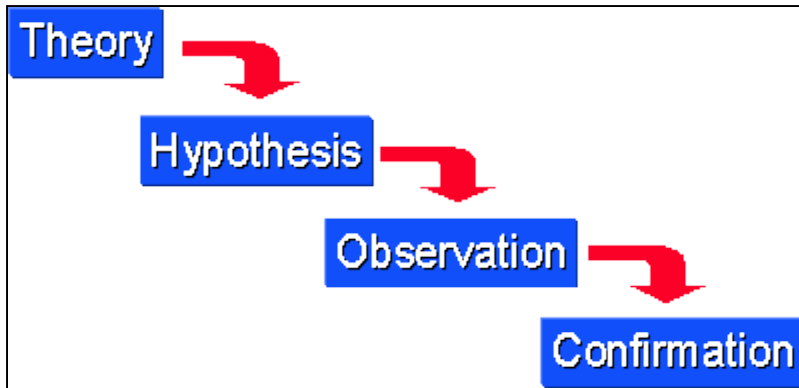
3 Windows ... Jean and Al... 2 Mozilla Th... Warren, Scot... Exodus - saw... ASEE economi... Address 5:57 PM

Stakeholders in the Cycle of Scholarly Communication

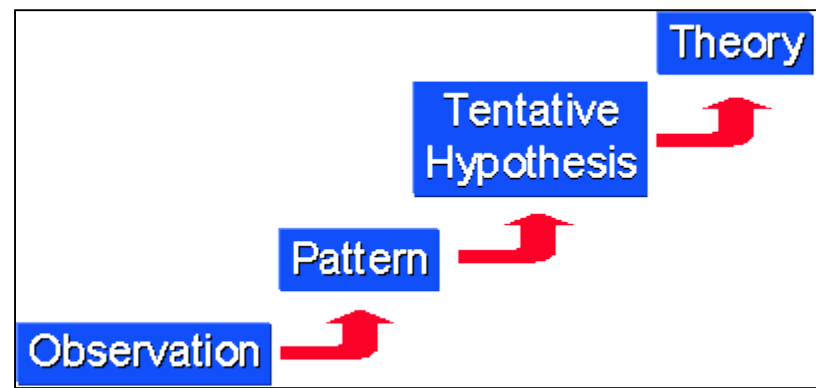


Reasoning

Deductive



Inductive



Teaching databases may work better this way

Students' experiences with Google

Pedagogy

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 - Why research databases and e-journals exist mainly through libraries
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