



MICHEL BIEZUNSKI, INFOLOOM

# WHERE ARE TOPIC MAPS NOW

# THREADS



- Contradiction:
  - Web sites are increasingly organized around topics
  - Topic maps are hardly ever mentioned?
- What does matter?
  - Independence from sources.
  - Human curation

# TOPIC MAPS ARE GRAPHS



- **Topics** are units of meaning that occupy a location in an abstract space.
  - Any subject of conversation is a topic.
- **Maps** are graphs providing the connection between the topics, and from topics to information sources.

# WHERE ARE GRAPHS USED?



- Facebook / LinkedIn / Instagram / etc.
- Google Knowledge Graph
- Back of the book Indexes
- Wikidata Knowledge Base
- ...

About 720,000,000 results (1.06 seconds)

## Top stories



**Shooting in SF's Castro leaves officer, suspect hospitalized**

SFGate · 10 hours ago



**When in San Francisco**

The New Yorker · 9 hours ago



**Sonoma Hotel Welcomes Fire Survivors Alongside Much-Needed Tourists**

Eater SF · 46 mins ago

➔ [More for san francisco](#)

## Things to do in San Francisco



**Golden Gate Bridge**  
Iconic art deco span opened in 1937



**Alcatraz Island**  
Lighthouse, concert, sailing, wine, and wine



**Fisherman's Wharf**  
Crab stands, souvenir shops & sea lions



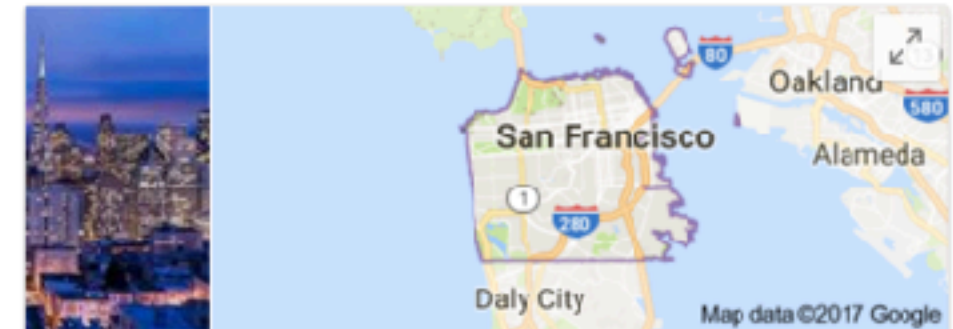
**Golden Gate Park**  
Gardens, trails, museums & festivals

📍 [San Francisco travel guide](#)

**SFGOV**

[sfgov.org/](http://sfgov.org/) ▼

More News. Connect. Twitter · Facebook · YouTube · RSS · 311 City Customer Service Agency - Service 24x7. City and County of San Francisco.



## San Francisco

City in California

San Francisco, in northern California, is a hilly city on the tip of a peninsula surrounded by the Pacific Ocean and San Francisco Bay. It's known for its year-round fog, iconic Golden Gate Bridge, cable cars and colorful Victorian houses. The Financial District's Transamerica Pyramid is its most distinctive skyscraper. In the bay sits Alcatraz Island, site of the notorious former prison.

**Weather:** 67°F (19°C), Wind W at 6 mph (10 km/h), 54% Humidity

**Local time:** Wednesday 1:32 PM

**Population:** 864,816 (2015)

**Minimum wage:** 13.00 USD per hour (Jul 1, 2016)

## Plan a trip

📍 [San Francisco travel guide](#)

🏨 3-star hotel averaging \$166, 5-star averaging \$429

✈️ 6 h 19 min flight, from \$453

**Colleges and Universities:** [University of California, San Francisco](#), [MORE](#)

**Did you know:** San Francisco is the fourth-most-populous city in California (864,816). [wikipedia.org](http://wikipedia.org)

⌵ [More about San Francisco](#)

[Feedback](#)



## San Francisco &gt; Colleges and Universities



University of California, San Francisco



San Francisco State University



University of San Francisco



City College of San Francisco



Academy of Art University



Golden Gate University



California College of the Arts



San Francisco Art Institute



California Institute of Integral Studies

## List of colleges and universities in San Francisco - Wikipedia

[https://en.wikipedia.org/wiki/List\\_of\\_colleges\\_and\\_universities\\_in\\_San\\_Francisco](https://en.wikipedia.org/wiki/List_of_colleges_and_universities_in_San_Francisco)

Arthur A. Dugoni School of Dentistry, part of the University of the Pacific. California College of the Arts, an Oakland-based school. California Institute of Integral Studies, in downtown San Francisco. DeVry University.

## The Best 10 Colleges &amp; Universities in San Francisco, CA - Last ... - Yelp

<https://www.yelp.com> > San Francisco, CA > Education > Colleges & Universities

San Francisco State University. 287 reviews. University of San Francisco. 2 reviews. City College of San Francisco. 213 reviews. University of San Francisco School of Management. 116 reviews. University of California - UC Berkeley. 312 reviews. University of California San Francisco. Cornell University. Academy of Art...

## Colleges near San Francisco, California - San Francisco, California ...

[www.collegesimply.com/colleges-near/california/san-francisco/](http://www.collegesimply.com/colleges-near/california/san-francisco/)

Explore a list of the 34 colleges and universities closest to . Find the best school near San Francisco.

## Excellent Colleges In or Near San Francisco | CollegeXpress

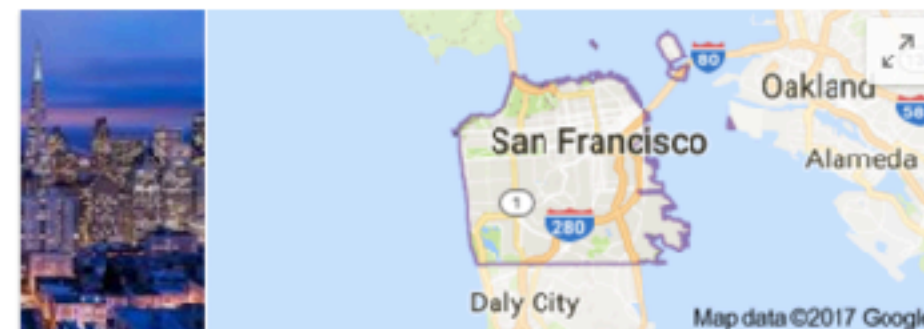
<https://www.collegexpress.com/lists/list/excellent-colleges-in-or-near-san-francisco/726/>

Find peace, love, and higher education at these great colleges located in or near San Francisco, California. List produced by the Experts. Holy Names University ...

## University of San Francisco

<https://www.usfca.edu/>

The Jesuit university in the heart of San Francisco, where you learn how to lead, succeed, and change the world for the better.



## San Francisco

City in California

San Francisco, in northern California, is a hilly city on the tip of a peninsula surrounded by the Pacific Ocean and San Francisco Bay. It's known for its year-round fog, iconic Golden Gate Bridge, cable cars and colorful Victorian houses. The Financial District's Transamerica Pyramid is its most distinctive skyscraper. In the bay sits Alcatraz Island, site of the notorious former prison.

**Weather:** 67°F (19°C), Wind W at 6 mph (10 km/h), 54% Humidity

**Local time:** Wednesday 1:37 PM

**Population:** 864,616 (2015)

**Minimum wage:** 13.00 USD per hour (Jul 1, 2016)

## Plan a trip



San Francisco travel guide

- Knowledge Graph, Uses data from Freebase (Metaweb) Built as a topic map.



- Main page
- Community portal
- Project chat
- Create a new item
- Recent changes
- Random item
- Query Service
- Nearby
- Help
- Donate

- Tools
- What links here
- Related changes
- Special pages
- Permanent link
- Page information
- Concept URI
- Cite this page

Item [Discussion](#)

[Read](#) [View history](#)

# San Francisco (Q62)

consolidated city-county in California, United States [edit](#)

San Francisco, California | The City by the Bay | SF | SFO | The Golden City | Paris of the West | Baghdad by the Bay | San Francisco County | San Francisco County, California | San Fran | Frisco | City and County of San Francisco

[In more languages](#) [Configure](#)

Language	Label	Description	Also known as
English	San Francisco	consolidated city-county in California, United States	San Francisco, California The City by the Bay SF SFO The Golden City Paris of the West Baghdad by the Bay San Francisco County San Francisco County, California San Fran Frisco City and County of San Francisco
French	San Francisco	ville des États-Unis située en Californie	Frisco City and County of San Francisco The City by the Bay SF San Fran The Golden City

[All entered languages](#)

## Statements

instance of	<div><div><div></div><div></div></div><div>consolidated city-county</div><div><div><div></div><div></div></div><div><a href="#">0 references</a></div></div></div> <div><div><div></div><div></div></div><div><a href="#">add reference</a></div></div>	<div><div><div></div><div></div></div><div>edit</div></div>
	<div><div><div></div><div></div></div><div>city</div><div><div><div></div><div></div></div><div><a href="#">0 references</a></div></div></div> <div><div><div></div><div></div></div><div><a href="#">add reference</a></div></div>	<div><div><div></div><div></div></div><div>edit</div></div>
	<div><div><div></div><div></div></div><div>county of California</div><div><div><div></div><div></div></div><div><a href="#">add reference</a></div></div></div> <div><div><div></div><div></div></div><div>edit</div></div>	<div><div><div></div><div></div></div><div>edit</div></div>

**Wikipedia** (158 entries) [edit](#)

- [af](#) San Francisco
- [als](#) San Francisco
- [am](#) ሲን ፍራንሲስኮ
- [an](#) San Francisco (Califo
- [ar](#) سان فرانسيسكو
- [arz](#) سان فرانسيسكو
- [ast](#) San Francisco (Califo
- [azb](#) سان فرانسيسكو
- [az](#) San-Fransisko
- [bar](#) San Francisco
- [ba](#) Сан-Франциско
- [be\\_x\\_old](#) Сан-Францыск
- [be](#) Сан-Францыска
- [bg](#) Сан Франциско
- [bn](#) সান ফ্রান্সিস্কো
- [bo](#) ས་ཁྲ་ཕུ་རྫོང་གི་ཁོང་པོ་
- [bpy](#) সান ফ্রান্সিসকো কাউন্টি,
- [br](#) San Francisco (Kalifo
- [bs](#) San Francisco 🇧🇦
- [ca](#) San Francisco
- [cdo](#) Gô-giêng-säng
- [ceb](#) San Francisco (kapita
- [ce](#) Сан-Франциско
- [chy](#) San Francisco
- [ckb](#) سان فرانسيسكو
- [co](#) San Francisco
- [cs](#) San Francisco
- [cv](#) Сан-Франциско
- [cy](#) San Francisco
- [da](#) San Francisco
- [de](#) San Francisco
- [diq](#) San Francisco



# GRAPH DATABASES WILL BE/ARE USED

- Where databases are currently used.
- Graphs offer more flexibility than databases, and are more maintainable. You can add or delete anything you want.

It's happening right now...



# TOPIC MAPS ARE NOT NEW

Categorical imperative, [31](#), [37](#), [48](#) n. 39, [48](#) n. 40, [72–73](#)  
Chamberlain, Lindy and Michael, [124–25](#)  
*Charter of Rights and Freedoms* (Canada), [209](#)  
Citizenship, [203](#), [207](#). *See also* Socrates  
Civil disobedience, [175](#)  
*Civil Rights Act* (1866), [308](#)  
*Civil Rights Act* (1875), [244](#)  
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Cognitive individualism, [139–42](#), [149–50](#)  
    as regulative ideal, [140–42](#)  
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    as deflationary, [3](#), [15](#), [23](#), [60](#), [73–74](#)  
    democratic view, [187](#), [212](#)  
    as inner judge, [16](#), [32–33](#), [55](#), [62](#), [65–66](#), [70–71](#)  
    as justification, [21](#)  
    liberal view, [187–89](#)  
    narrow v. wide, [170–72](#)  
    of others, [14](#), [20](#), [24](#), [30](#), [36–37](#), [41](#) n. 1, [47](#) n. 35  
    public v. private, [169–72](#), [178–79](#)  
    as reflected moral judgment, [16](#), [27–31](#), [33](#), [38](#), [54–55](#)  
    religious view, [14–15](#), [17–21](#), [38–39](#), [54](#), [64](#), [70](#)  
Consensus, [66](#), [132](#)  
    injudicial interpretation, [318–22](#), [324–26](#)  
    in Kant, [37](#), [40](#), [44](#) n. 20  
    in liberalism, [191](#), [194–95](#), [204](#), [209–11](#)

# DO INDEXES HAVE A FUTURE?

- Is any algorithm able to create the equivalent of an index?
  - Not something that looks like an index.
  - Something that has the intellectual value and the usefulness of an index.
- Same question about topic maps...
- Wrong question. (Is there a publisher in the room?)

FAREWELL to:

- Information silos
- Well-defined schemas
- Taxonomies and Hierarchical Classification Systems
- Ontologies with rigid rules.
- Relational Databases

WELCOME to:



- Complexity
- Multilingual
- Evolving information
- Concurrent Perspectives
- Multidimensional

# WHAT HAPPENED TO ISO 13250?

- External Factors:
  - Google takes over the world knowledge.
  - Do we need standards for knowledge?
- Internal Factors:
  - Limitations of the Data Model
  - Topic Maps Community focused on interchange, but that's a non-requirement.

# THE WILD WILD WEST



- US: Technology has taken over the world assets: information, knowledge, which are now privatized. You need to pay to access the law. During that time, Google takes over libraries. Standards and regulations are not welcome.
- Europe: Tries to regulate more, a lot of red tape. Obstacles to growth?



# INFORMATION OUT OF CONTROL

- How to distinguish fake news from real news?
- Advertisement-based business models used for political propaganda.
- Algorithms and robots get out of control.
- Are there still humans on board?

# WHO NEEDS INTERCHANGE?

- People build their own graphs.
- They are not ready to interchange them with others.
- The main goal of the Topic Maps standard came too early. The world is still not ready for it.

# A HALF-COOKED SOLUTION



- ISO 13250 leaves open the way topics are organized.
- DITA (Darwin Information Typing Architecture) has taken over the industry by providing ready-made solutions for mapping topics.
- RDF/Linked Data provides a graph with a guide to describe semantics and a set of commonly agreed topics.

# LIMITATIONS OF THE TOPIC MAPS DATA MODEL

- Distinction between names, occurrences, types and associations is fuzzy.
  - Types should be related topics.
- What's a topic name? For a person, should it be the first name, last name, a combination of both?
- What is the difference between an occurrence and a topic? For example, Form 1040 is considered both in Taxmap.
- What is the difference between an occurrence and a related topic? Suppose the occurrence goes to a web page which is a "topic" page.
- Can a nickname be a topic related to the formal name considered a topic? If yes, then a name is a topic, not a property of a topic.

# STILL, TOPIC MAPS HAVE A BIG ADVANTAGE



- It is the independence of the
  - Semantic assignment of topics from the
  - Sources to which they refer
- When sources are updated, topics retain most of their characteristics.



# CURRENT DEVELOPMENTS



- OpenCypher as a graph query language
  - used by SAP Hana Graph, Redis, AgensGraph and Neo4J (<http://www.opencypher.org/>)
- Apache Spark, Open Source cluster-computing framework.



# CLEANING

- Analogy with a new house.
  - When entering a new house, we organize our stuff into drawers, shelves, armoires, closets. Everything fits.
  - As time goes by, mess starts to accumulate. Things are not put where they should be, there is a little bit of everything everywhere.
  - A certain amount of mess is useful to feel at home. We kind of know where things are, even if this is not where they are supposed to go.



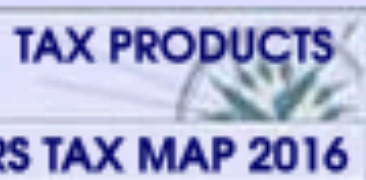
# MAINTENANCE

- Schema-driven information architectures impose every piece of information to fit somewhere.
- New data doesn't necessarily fit the existing locations. It is likely that some would need new fields, but creating them may be impossible, too costly, or too resource intensive.
- When data doesn't fit the existing silos, the whole silo is discarded and a new one is designed.
- The same story starts again....

# WHERE THE RUBBER HITS THE ROAD

- Two topic map stories:
  - Surviving obsolescence. IRS is celebrating 15 years of Topic Maps.
  - Deep into the weeds: Merging indexes of books at NYU.

# TAXMAP TOPIC PAGE



Tax Map Search:

GO

[Search Help](#)  
[Navigation Help](#)

[Tax Map Index](#)  
[A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#)  
[J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Q](#) [R](#)  
[S](#) [T](#) [U](#) [V](#) [W](#) [X](#) [Y](#) [Z](#) <#>

[International  
Tax Topic Index](#)

[Affordable Care Act  
Tax Topic Index](#)

[Exempt Organization](#)

## Cousin

**View** ☐ Publications

### ☒ Publications

#### [Links Inside Publications](#)

#### **Publication 17 - Your Federal Income Tax (For Individuals) - Exemptions for Dependents**

Cousin. Your cousin meets this test only if he or she lives with you all year as a member of your household....

### Related Topic Links

- [Child Tax Credit](#)
- [Dependent](#)
- [Earned Income Tax Credit \(EITC\)](#)
- [Exemption](#)
- [Is My Child a Qualifying Child?](#)
- [Qualifying Relative](#)



View

[Forms](#)[Publications](#)[Tax Topics](#)

Tax Map Search:

GO

[Search Help](#)  
[Navigation Help](#)

Tax Map Index  
[A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#)  
[J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Q](#) [R](#)  
[S](#) [T](#) [U](#) [V](#) [W](#) [X](#) [Y](#) [Z](#) <#>

[International  
Tax Topic Index](#)[Affordable Care Act  
Tax Topic Index](#)[Exempt Organization  
Tax Topic Index](#)[FAQs](#)  
[Forms](#)  
[Publications](#)  
[Tax Topics](#)  
[Worksheets](#)[Comments  
About Tax Map](#)[IRS.gov Website](#)

## [Useful Links](#)

### Popular Publication Links

[Reporting Adjustments to Form 941 or Form 944](#)[Filing Form 941 or Form 944](#)

### Related Topic

[Employment Taxes](#)[Prior Year Form 941](#)

## [Forms and Instructions](#)

**2017** [Form 941](#) Employer's Quarterly Federal Tax Return

**2017** [Instructions for Form 941, Employer's Quarterly Federal Tax Return](#)

**2016** [Form 941](#) Employer's Quarterly Federal Tax Return

**2016** [Instructions for Form 941, Employer's Quarterly Federal Tax Return](#)

### Related Forms

**2017** [Form W-2](#) Wage and Tax Statement (Info Copy Only)

**2017** [Instructions for Forms W-2 and W-3, Wage and Tax Statement and Transmittal of Wage and Tax Statements](#)

**2016** [Form W-2](#) Wage and Tax Statement (Info Copy Only)

[MORE](#)

## Related Topic Links

- [Employer](#)
- [Employment Tax](#)
- [Federal Insurance Contributions Act \(FICA\)](#)
- [Federal Tax Deposit \(FTD\)](#)
- [Filing Form 941 or Form 944](#)
- [Medicare](#)
- [Prior Year Form 941](#)
- [Quarterly Tax Payments](#)
- [Reporting Adjustments to Form 941 or Form 944](#)
- [Social Security and Medicare Taxes](#)
- [Withholding of Tax](#)



- Merging the indexes of ~100 ebooks. Provide an enhanced navigation system for scholars.
- Make entries topics
- Got: 45,000+ topics.
- Reviewed: ~15,000 using the Topic Curation Toolkit

Topics

Search

Names By Letter

A

B

C

D

E

F

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I

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P

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R

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V

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All

Topics by Letter

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V

W

X

Y

Z

#

All

Add Topic

Scopes

Types

Reports

Sources

Relation Types

Data Enrichment

# Topic List

Any Topic

alphabetical

## 45689 topics found

- Americanization (Occurrences: 4) (Relations: 4)
- Americanization -- of Mexicans (Occurrences: 1) (Relations: 2) (Reviewed by Alex on 2017-01-26)
- Americanization -- of Native Americans (Occurrences: 1) (Relations: 3)
- American Jewish Committee (Occurrences: 21) (Relations: 1)
- American Jewish Congress (Occurrences: 18) (Relations: 3) (Reviewed by Alex on 2017-01-26)
- American Jewish history, overviews of (Relations: 7) (Reviewed by Alex on 2017-01-26)
- American Jewish history, overviews of -- in the eighteenth century (Occurrences: 3) (Relations: 8) (Reviewed by Alex on 2017-01-26)
- American Jewish history, overviews of -- in the nineteenth century (Occurrences: 4) (Relations: 7) (Reviewed by Alex on 2017-01-26)
- American Jewish history, overviews of -- in the twentieth century (Occurrences: 5) (Relations: 7) (Reviewed by Alex on 2017-01-26)
- American Journalism Review (Occurrences: 1) (Relations: 2) (Reviewed by Alex on 2017-01-26)
- American Law Institute (Occurrences: 1) (Relations: 3) (Reviewed by Alex on 2017-01-26)
- American Law Institute, Model Penal Code (Occurrences: 1) (Relations: 5) (Reviewed by Alex on 2017-01-26)
- American legal thought (Occurrences: 1) (Relations: 3) (Reviewed by Alex on 2017-01-26)
- American Liberty League (Occurrences: 1) (Relations: 2) (Reviewed by Alex on 2017-01-26)
- American Life in Poetry (Occurrences: 2) (Relations: 3) (Reviewed by Alex on 2017-01-26)
- American Lifers Association (Occurrences: 1) (Relations: 1) (Reviewed by Alex on 2017-01-26)
- American literature (Relations: 16) (Reviewed by Alex on 2017-01-26)
- American literature -- study of (Occurrences: 1) (Relations: 6) (Reviewed by Alex on 2017-01-26)
- American literature -- teaching (Occurrences: 4) (Relations: 5) (Reviewed by Alex on 2017-01-26)
- American Museum of Natural History (Occurrences: 1) (Relations: 4) (Reviewed by Alex on 2017-01-26)
- American Muslims (Occurrences: 20) (Relations: 7) (Reviewed by Alex on 2017-01-26)
- American Muslims -- and defining identity (Occurrences: 1) (Relations: 6) (Reviewed by Alex on 2017-01-26)
- "American Muslims Get ... Happy!" (Occurrences: 1) (Relations: 4) (Reviewed by Alex on 2017-01-30)
- American Nurses Association (ANA) (Occurrences: 1) (Relations: 2) (Reviewed by Alex on 2017-01-26)
- American Online (Occurrences: 1) (Relations: 2) (Reviewed by Alex on 2017-01-26)
- American Philosophical Association (Occurrences: 1) (Relations: 1) (Reviewed by Alex on 2017-01-26)
- American political culture (Occurrences: 1) (Relations: 7) (Reviewed by Alex on 2017-01-26)
- American Postal Workers Union (Occurrences: 1) (Relations: 4) (Reviewed by Alex on 2017-01-26)
- American pragmatist philosophy (Occurrences: 2) (Relations: 2) (Reviewed by Alex on 2017-01-26)
- American Psychiatric Association (Occurrences: 17) (Relations: 3) (Reviewed by Alex on 2017-01-26)
- American Psychological Association (APA) (Occurrences: 2) (Relations: 3) (Reviewed by Alex on 2017-01-26)
- American Psychological Association (APA), APA Handbook (Occurrences: 2) (Relations: 3) (Reviewed by Alex on 2017-01-30)

# EDITORIAL INTERFACE

The screenshot displays the Infoloom Editorial Interface. On the left is a sidebar with navigation options: Topics, Names By Letter, Topics by Letter (with an alphabetical index A-Z and # All), Add Topic, Scopes, Types, Reports, Sources, and Relation Types. The main content area is titled 'Topic Detail Page' and features a 'Topic Names' section with the text 'Labor market -- sectoral studies'. Below this is a 'Topic Types' section indicating 'No Topic Types on this Topic'. A red banner at the bottom of the main area states 'Topic Not Marked as Reviewed'. On the right side, there are three panels: 'Relations' with a list of checkboxes for relationships like 'contains labor', 'Subentry of labor market', etc.; 'Occurrences' showing a list item 'Bill Ong Hing, TO BE AN AMERICAN, page 58'; and 'Weblinks'. The interface includes various icons for editing, deleting, and adding new items.

Infoloom

Search

Names By Letter

Topics by Letter

A B C D E F G H  
I J K L M N O P  
Q R S T U V W X  
Y Z # All

Add Topic

Topic Name

Scopes

Types

Reports

Sources

Relation Types

Topic Detail Page

Topic Names

Labor market -- sectoral studies

Topic Types

No Topic Types on this Topic

Topic Not Marked as Reviewed

Relations

- ☐ contains labor
- ☐ Subentry of labor market
- ☐ Multiple Tokens with Labor market -- regional studies
- ☐ contains Market
- ☐ contains Sectoral studies
- ☐ contains studies

Occurrences

- ☒ Bill Ong Hing, *TO BE AN AMERICAN*, page 58

Weblinks



# EBOOK PAGE



The Employment of English, page 38



## Topics at This Location

- [◀ Faculty -- and graduate student unionization ▶](#)
- [◀ Graduate Employees and Students Organization \(GESO\), Yale -- faculty response to ▶](#)
- [◀ Unionization of graduate students -- opposition to ▶](#)
- [◀ University of Kansas ▶](#)
- [◀ Yale University anti-union stance of -- faculty response to graduate student unionization at ▶](#)

## Indexes

[Index 1](#)

## Content

that they are in some sense “employees.” And if administrators and faculty at Yale or elsewhere want to claim that their graduate students’ wages are not “wages” because their teaching (which is not strictly “teaching”) is merely part of their professional training as apprentice professors, then it makes sense to call the bluff: take graduate students out of the classrooms in which they work as graders, assistants, and instructors; maintain their stipend support at its current levels; and give them professional development and training that does not involve the direct supervision of undergraduates. Then we’ll see how long Yale University can survive without the labor (which is not strictly “labor”) of its graduate student teaching assistants. At the time, I thought my support for graduate student unions—in a speech delivered to, among other people, unionized graduate students—amounted to endorsing candidates after they’d won their elections. To my surprise, however, I learned later that the graduate students were very pleased with my speech, and that some even considered it “courageous.” It seems that I had denounced as ridiculous Yale administrators’ claims that graduate students were not employees in front of a number of Kansas administrators who had claimed that graduate students were not employees. (I told the students I had had no idea that my audience included actual bad faith negotiators, and that my “courage” in



# WHAT DOES "CLEANING" MEAN?

- Topics are grouped into semantic clusters sharing the same meaning.
- However, since their number has no limit, there is no constraint on how many topics there should be.
- Several strategies are possible:
  - Use automated processes to coalesce them: slugification, lemmatization, use of a specialized dictionary
  - Use manual curation for fine-tuning.
- In any case, a topic map is usable, even without cleaning.

Google


conscience

All Books Images Videos News More

About 106,000,000 results (0.63 seconds)

Dictionary


conscience

**con·science**  
/ˈkän(t)SHəns/ 

*noun*

an inner feeling or voice viewed as acting as a guide to the rightness of one's actions  
"he had a guilty conscience about his desires"

*synonyms:* sense of right and wrong, **moral sense**, inner voice; [More](#)

 Translations, word origin, and more definitions


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**Book Review: Conscience, by Andy Naselli & J. D. Crowley : 9Marks**  
<https://www.9marks.org/review/book-review-conscience-by-andy-naselli-j-d-crowley/>   
Jul 12, 2017 - You should probably read this book, too. But of course, that's a matter for you to take up with your own conscience.


**A Man Without Grace Meets a Party Without Conscience**  
<https://www.thedailybeast.com/a-man-without-grace-meets-a-party-without-conscience>   
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
**La conscience disciplinaire - Éducation et didactique - Revues.org**  
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**How Economists Turned Us Blind to Our Own Goodness - Economics**  
[economics.com/how-economists-killed-your-conscience/](http://economics.com/how-economists-killed-your-conscience/)   
Just as the Inuit have many nouns for snow, English has a multitude of words to describe unselfish, conscience-driven behavior, including: virtuous; kind; fair; ...

**La Conscience**  
[laconscience.org/](http://laconscience.org/)   
Empowering youth to be active, conscious, and dedicated individuals, creating and maintaining social change against human trafficking.

**Pharmacist Conscience Clauses Laws and Information**  
[www.ncsl.org/research/.../pharmacist-conscience-clauses-laws-and-information.aspx](http://www.ncsl.org/research/.../pharmacist-conscience-clauses-laws-and-information.aspx)   
Health provider "refusal clauses" (also known as "conscience clauses") were first enacted in response to the United States Supreme Court's decision in the Roe ...

**Soldiers of Conscience | POV | PBS**  
[www.pbs.org/pov/soldiersofconscience/](http://www.pbs.org/pov/soldiersofconscience/)   
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**Parnassus: Investing With a Conscience - Kiplinger**  
[www.kiplinger.com/.../TD41-C009-S002-parnassus-investing-with-a-conscience.html](http://www.kiplinger.com/.../TD41-C009-S002-parnassus-investing-with-a-conscience.html) 

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## Conscience | Define Conscience at Dictionary.com

[www.dictionary.com/browse/conscience](http://www.dictionary.com/browse/conscience) 

the inner sense of what is right or wrong in one's conduct or motives, impelling one to follow the dictates of conscience. 2. the complex of ethical and moral principles that inhibits the actions or thoughts of an individual.

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## Conscience | Definition of Conscience by Merriam-Webster

<https://www.merriam-webster.com/dictionary/conscience> 

Define conscience: the sense or consciousness of the moral goodness or badness of one's own conduct, intentions, ... — **conscience** in a sentence.


## Conscience - Wikipedia

<https://en.wikipedia.org/wiki/Conscience> 

Conscience is an aptitude, faculty, intuition or judgment that assists in distinguishing right from wrong. Moral judgment may derive from values or norms (principles and rules).

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## conscious vs. conscience : Choose Your Words : Vocabulary.com

<https://www.vocabulary.com/articles/chooseyourwords/conscious-conscience/> 

# NEXT STEPS



- Provide easy-to-use tools with a comfortable user interface to create and manage a topic network.
- Can pick up updated sources on the fly.
- These tools are aimed at organizations or companies that are making public some of their information assets in a way which is both easy to create and easy to navigate.

# DIRECTION



- Leverage the experience gained from Topic Mapping to take full advantage of the graph database technologies, existing and future.