Evidence Finding
with a
Collection of Books

Marc Cartright

Henry Feild

James Allan

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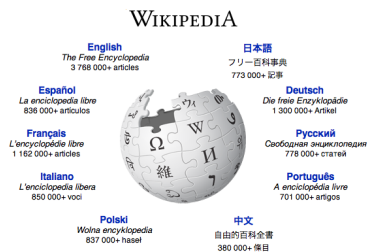
Concluding the Revolution

Main articles: Philadelphia Convention and United States Bill of Rights

See also: Annapolis Convention and Federalist Papers

Creating a "more perfect union" and guaranteeing rights

After the war finally ended in 1783, there was a period of prosperity, with the entire world at peace. The national government, still operating under the Articles of Confederation, was able to settle the issue of the western territories, which were ceded by the states to Congress. American settlers moved rapidly into those areas, with Vermont, Kentucky and Tennessee becoming states in the 1790s.[119] However, the national government had no money to pay either the war debts owed to European nations, the private banks, or to Americans who had been given millions of dollars of promissory notes for supplies during the war. Nationalists, led by Washington, Alexander Hamilton and other veterans, feared that the new nation was too fragile to withstand an international war, or even internal revolts such as the Shays' Rebellion of 1786 in Massachusetts.

Calling themselves "Federalists," the nationalists convinced Congress to call the Philadelphia Convention in 1787.[120] It adopted a new Constitution that provided for a much stronger federal government, including an effective executive in a check-and-balance system with the judiciary and legislature.[121] After a fierce debate in the states over the nature of the proposed new government, the Constitution was ratified in 1788. The new government under President George Washington took office in New York in March 1789.[122] As assurances to those who were cautious about federal power, amendments to the Constitution guaranteeing many of the inalienable rights that formed a foundation for the revolution were spearheaded in Congress by James Madison, and later ratified by the states in 1791.

The new government under President George Washington took office in New York in March 1789.[122]

Concluding th...

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Creating a...

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[http://en.wikipedia.org/wiki/American_Revolution]

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Supportive

Ref

FIRST ADMINISTRATION—FEDERAL.

March 4, 1789, to March 3, 1793.
SEAT OF GOVERNMENT, New York City, 1789, and Philadelphia from Dec. 6, 1790.
George Washington, Virginia, President.
John Adams, Massachusetts, Vice-President.

George Washington, Fi... 97. — The Congress of the Confederation appointed March 4, 1789, for beginning the new government, and New York as the temporary capital. Electors, chosen in five² of the states by the legislatures, and in the others by the people, voted unanimously for Washington as the first President. They chose John Adams as Vice-President. It was long after March 4 before Congress was organized and Washington was officially notified of his election. On April 30 he took the oath of office and read his inaugural address to the two Houses of Congress assembled in Federal Hall. It was a day of great rejoicing. In the morning crowds attended services in the churches to pray for the welfare of the new government and the safety of the President. Bonfires and illuminations at night ended the celebration.

"Harper's encyclopaedia of United States history from 458 A. D. to 1909, based upon the plan of Benson John Lossing." New York: Harper, 1905: pp 168.

Eldridge, Henry and Elbert Jay Benton. "A history of the United States." Boston, New York: D.C. Heath and company, 1913: pp 242.

Overview

- *Motivation*

- Evidence finding formalized

- Experiments & analysis

- Future directions

Evidence Finding

Task:

Given an assertion a and a context c surrounding a, find sources that support or refute a.

Evidence Finding & Prove It

	Prove It	Evidence Finding
Given:	• Fact • Query • Subject • Wikiurl (optional) • Narrative	• Assertion • Surrounding context (e.g., whole wikipedia page)
Find:	• Books pages that: 　▪ support fact 　▪ refute fact	• Sources that: 　▪ support assertion 　▪ refute assertion

Our focus in this work

Given:

Evidence Finding

- Assertion from Wikipedia
- Context:
  - containing paragraph
  - containing section
  - section & article title

Find:

- Book pages that:
  - support assertion
  - refute assertion

Overview

- *Motivation*
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Experiments & Analysis

- 50k books (from INEX Prove It)
- Prevalent topics from collection
  - most published years ~1910
  - most popular title terms
- Manually chosen Wikipedia articles
  - American revolution
  - Shakespeare
  - Battle of Gettysburg
  - History of the light bulb
  - …
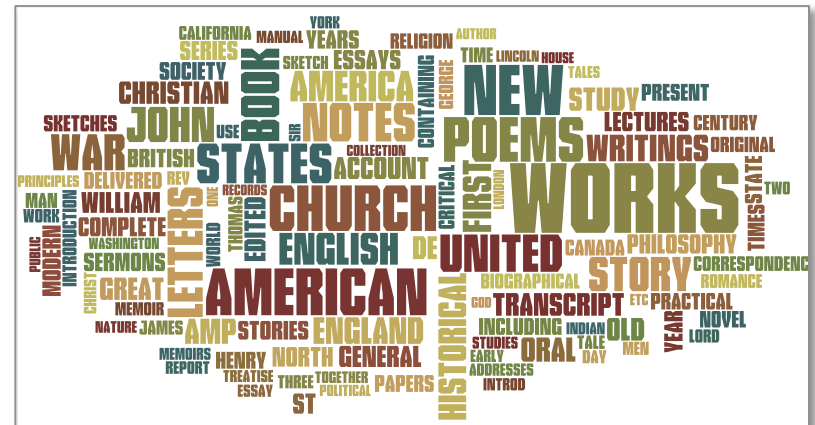
Generating an evaluation set

- Automatically extract assertions
  - find sentences that end in a footnote
  - randomly choose some to form a dataset
- Analyze manually runs
  - how would a human formulate a query?
- Generate automatic runs
  - how can we mimic the manual runs?

Manually generated queries

- Three humans generated manual queries for each assertion
  - given anaphora resolved version of the assertions
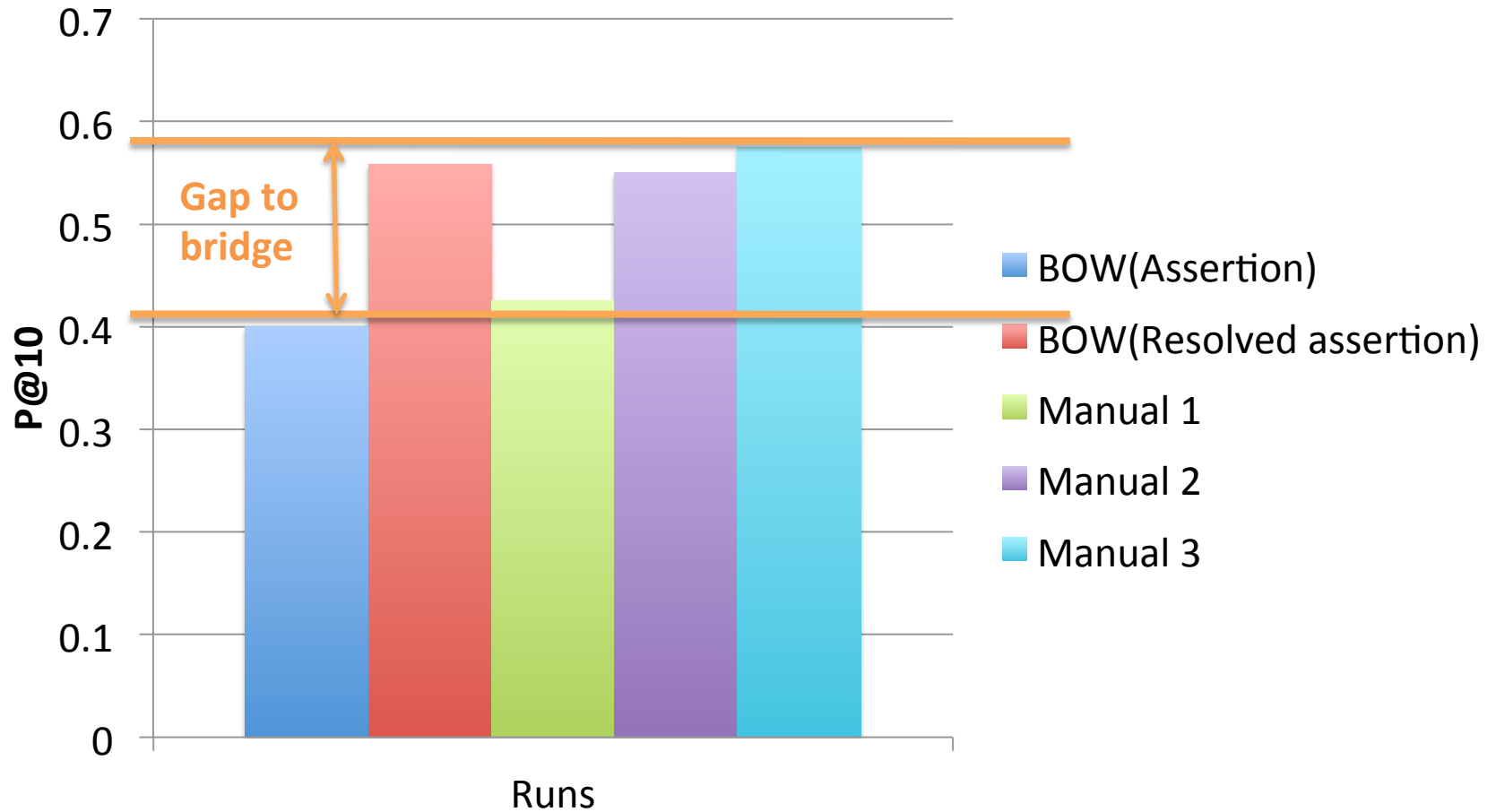 - could use domain knowledge

Original assertion:

> **This event** became known as the Boston Tea Party and remains a significant part of American patriotic lore.

Anaphora resolved assertion:

> **The dumping of tea from British East India Company ships into the Boston harbor** became known as the Boston Tea Party and remains a significant part of American patriotic lore.

Performance gap

Results averaged over 12 assertions.

Manually generated queries: Ex. 1

Assertion:

The dumping of tea from British East India Company ships into the Boston harbor became known as the Boston Tea Party and remains a significant part of American patriotic lore.

```
#uw:10( boston harbor ) #od:1(boston tea
party) tea british dump
```

```
#od:4(boston tea party) american lore
```

```
#od:1(boston tea party) harbor #od:1(east
india company)
```

Manually generated queries: Ex. 2

Assertion:

In 1841, Frederick de Moleyns of England was granted the first patent for an incandescent lamp, with a design using platinum wires contained within a vacuum bulb.

```
1841 #od:1( frederick de moleyns ) frederick
de moleyns #od:3( incondescent lamp )
incondescent #syn(lamp bulb) platinum
```

```
#od:4(frederick moleyns) england patent
incandescent lamp platinum
```

```
moleyns #od:1( incandescent #syn( lamp
light )) incandescent patent platinum vacuum
```

Issues regarding assertions

- Anaphora resolution
- Highly selective synonym expansion
- Noun phrase detection
- Key phrase detection

Automatic query formulation

- Sequential dependency model
  - αUniGram + βOrdered + γUnorderedWindow

- Helps extract key phrases

```
e.g., "the boston tea party"

#weight(
  α #combine( the boston tea party )
  β #combine(
      #od:1( the boston )
      #od:1( boston tea )
      #od:1( tea party ) )
  γ #combine(
      #uw:8( the boston )
      #uw:8( boston tea )
      #uw:8( tea party ) )
)
```

*[Metzler & Croft, SIGIR'05]*

Automatic query formulation

- expand query with text and [[Wikiwords]] from surrounding context:
  - paragraph
  - section
  - section title
  - article title
- Helps resolve anaphora and incorporate synonyms implicitly

Models

- Context SDM:
  - λ_1SDM(assertion) + λ_2SDM(context1) + λ_3SDM(context2)...
- Four conditions:
  - assertion + paragraph SDM(A+P)
  - assertion + wikiwords SDM(A+WW)
  - assertion + paragraph + section SDM(A+P+S)
  - assertion + paragraph + section + title SDM(A+P+S+T)

Performance
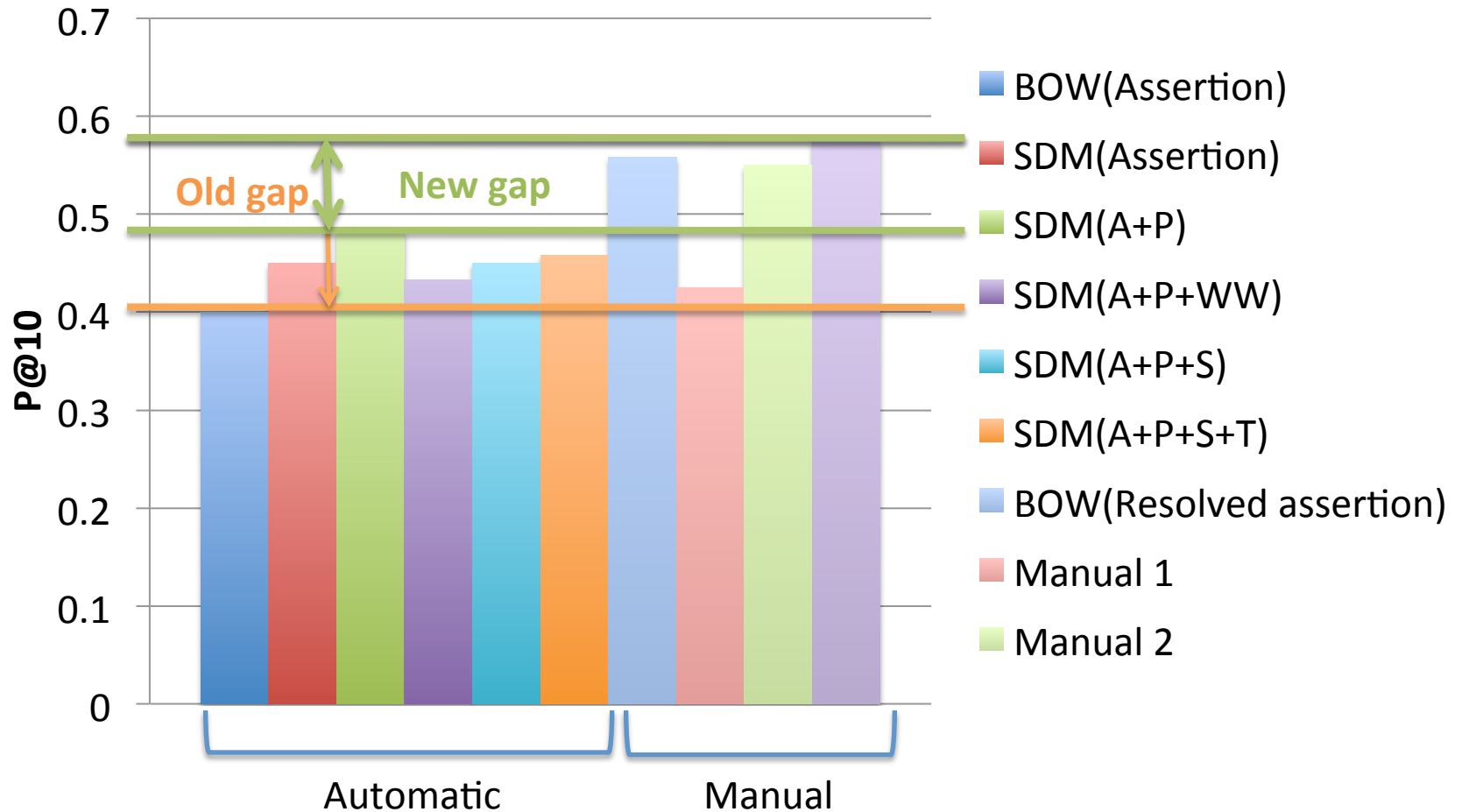
Overview

- *Motivation*
- *Evidence finding formalized*
- *Experiments & analysis*
- Future directions

Future directions

- Automatic query formulation
  - anaphora resolution
  - key phrase detection and weighting
  - explicit synonym expansion
- Evaluation
  - dealing with complex and compound assertions
  - levels of relevance: more than only
    - supportive
    - refutative
    - relevant

How we do it

In 1767, the Parliament passed the Townshend Acts, which placed a tax on a number of essential goods including paper, glass, and tea. Angered at the tax increases, colonists organized a boycott of British goods. In Boston on March 5, 1770, a large mob gathered around a group of British soldiers. The mob grew more and more threatening, throwing snowballs, rocks and debris at the soldiers. One soldier was clubbed and fell. All but one of the soldiers fired into the crowd. 11 people were hit; three civilians were killed at the scene of the shooting, and two died after the incident. The event quickly came to be called the Boston Massacre. Although the soldiers were tried and acquitted (defended by John Adams), the widespread descriptions soon became propaganda to turn colonial sentiment against the British. This in turn began a downward spiral in the relationship between Britain and the Province of Massachusetts.[32]

This 1846 lithograph by Nathaniel Currier was entitled "The Destruction of Tea at Boston Harbor"; the phrase "Boston Tea Party" had not yet become standard.[33]

In June 1772, in what became known as the Gaspée Affair, a British warship that had been vigorously enforcing unpopular trade regulations was burned by American patriots including John Brown. About a year later, private letters were published in which Massachusetts Governor Thomas Hutchinson called for the abridgement of colonial rights, and Lieutenant Governor Andrew Oliver called for the direct payment of colonial officials (until then the purview of the colonial assembly, and a means by which it controlled the governor). The furor over the affair contributed to Hutchinson's recall, and brought a conciliatory Benjamin Franklin firmly to the side of the colonists.

On December 16, 1773, a group of men, led by Samuel Adams and dressed to evoke American Indians, boarded the ships of the government-favored British East India Company and dumped an estimated £10,000 worth of tea from its holds (approximately £636,000 in 2008) into the harbor. **This event became known as the Boston Tea Party and remains a significant part of American patriotic lore.[34]**

```
#weight(
    1.0 #seqdep( <fact> )
    0.1 #seqdep( <paragraph> )
    0.01 #seqdep( <section> )
)
```