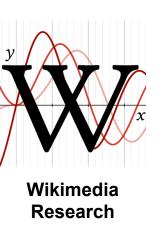
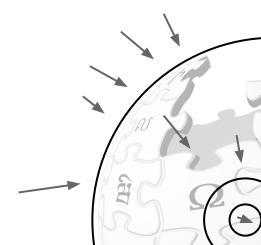
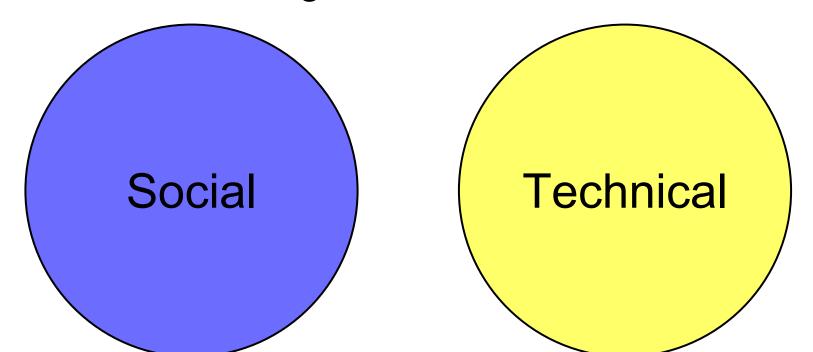
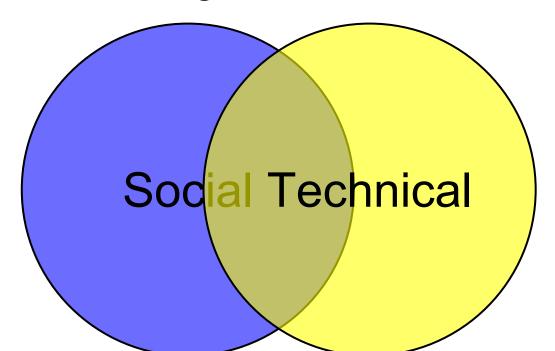
# Managing Open Production at Scale

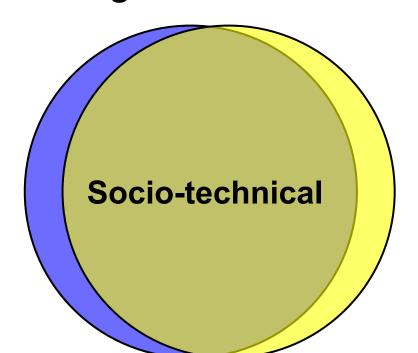


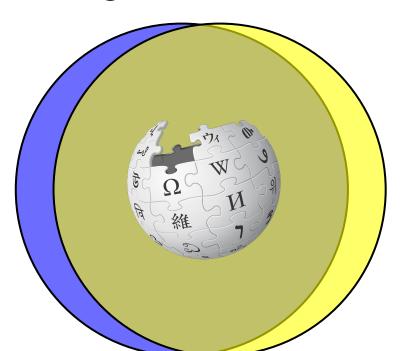
Aaron Halfaker, PhD





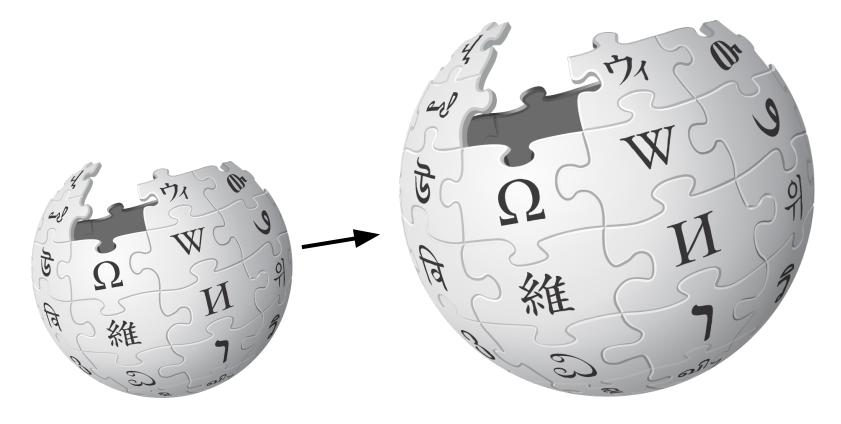






Social technologist

Science → Theory → New technology



#### User:Halfak (WMF)

From Wikipedia, the free encyclopedia

#### Aaron Halfaker

Research Scientist, Wikimedia Foundation

Think big. Measure what you can.



#### About me

Hi. I'm Aaron Halfaker. I'm a computer scientist. I've been a Wikipedian since 2008. See my publications. In 2011, I started working with the Wikimedia Foundation as a researcher. See my

#### My work

I use the scientific method to explore the structure and function of Wikipedia. My goal is to identify problems/opportunities and to use this knowledge to improve/extend the software. See The Rise and Decline for an

#### Contact me

- E-mail: ahalfaker
   @wikimedia.org
- Twitter:

1. Wikipedia is *academically interesting* 

1. Wikipedia is academically interesting

2. My work studying the *socio-technical* 

1. Wikipedia is *academically interesting* 

2. My work studying the *socio-technical* 

3. WMF Research *community support* 

#### Part 1.

Wikipedia is academically interesting

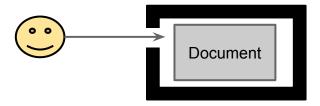
#### It's a wiki.

#### It's a wiki.

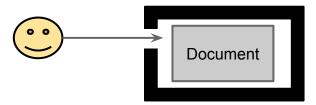
• What's a wiki?

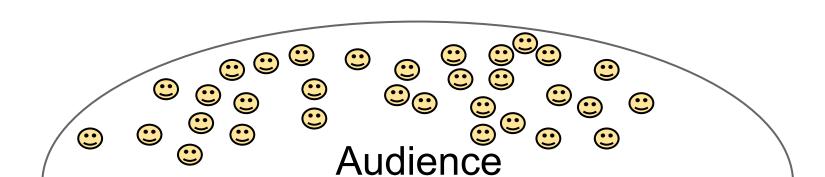
#### **Traditional**





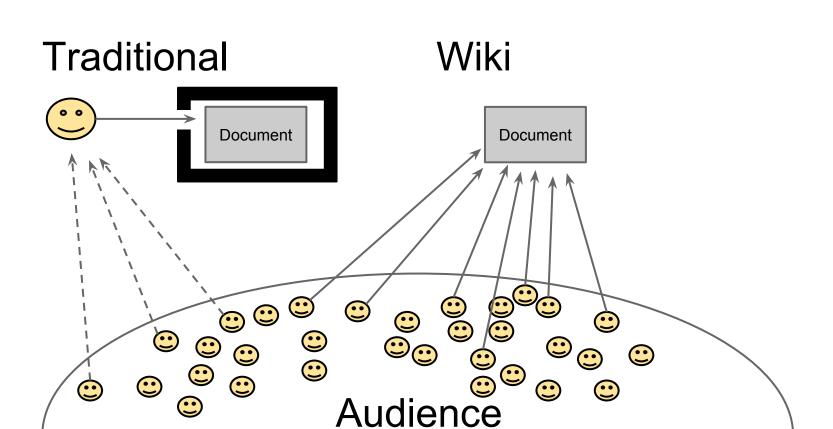
#### Traditional

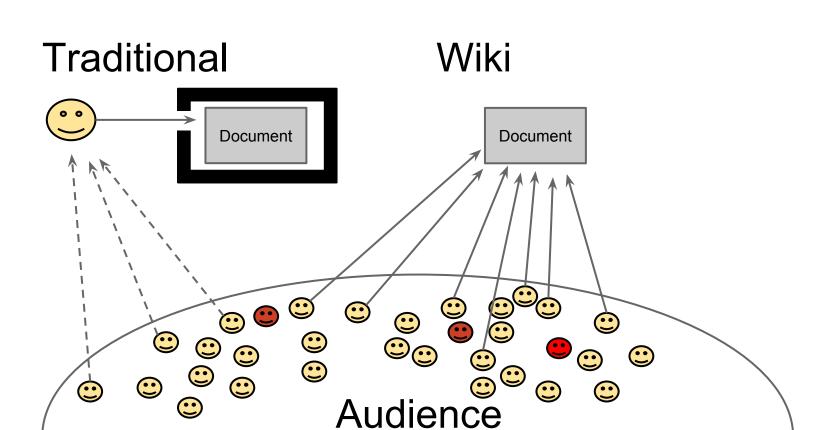


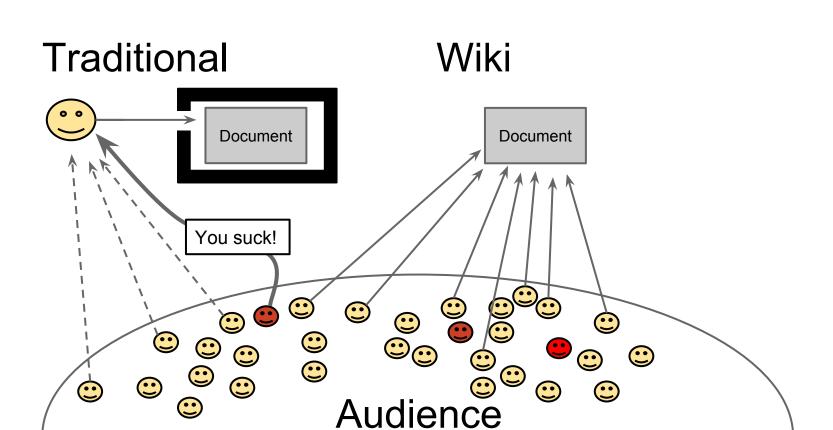


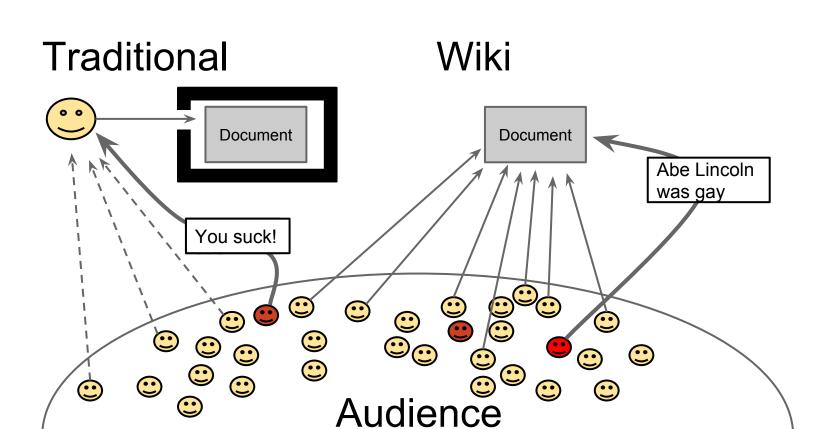
Wiki

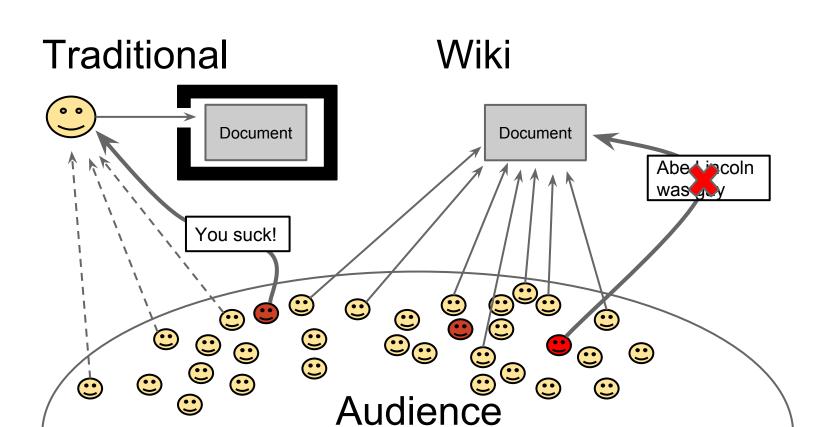
## Wiki **Traditional** Document

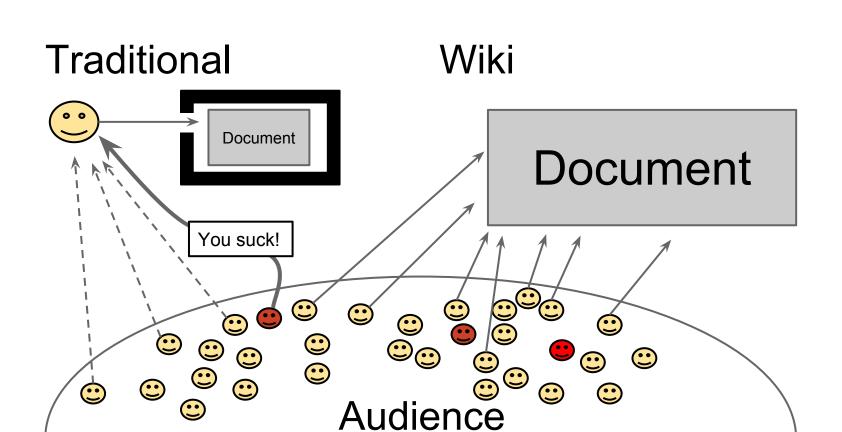












Wiki platform

- Wiki platform
  - Readers → Contributors
  - Openness → more contributions + damage

- Wiki platform
  - Readers → Contributors
  - Openness → more contributions + damage
- Open governance model

- Wiki platform
  - Readers → Contributors
  - Openness → more contributions + damage
- Open governance model
  - Who is allowed to contribute? Everyone!

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  - Who is allowed to contribute? Everyone!
  - Who owns the content? Everyone?

- Wiki platform
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  - Who makes the rules? ...everyone?

- Wiki platform
  - Readers → Contributors
  - Openness → more contributions + damage
- Open governance model
  - Who is allowed to contribute? Everyone!
  - Who owns the content? Everyone?
  - Who makes the rules? ...everyone?

How's that going to work?

## About 37,400 results (0.07 sec)

#### Decentralization in Wikipedia governance

<u>A Forte</u>, V Larco, <u>A Bruckman</u> - Journal of Management Information ..., 2009 - ME Sharpe How does" self-governance" happen in **Wikipedia**? Through in-depth interviews with 20 individuals who have held a variety of responsibilities in the English-language **Wikipedia**, we obtained rich descriptions of how various forces produce and regulate social structures ... Cited by 107 Related articles All 5 versions Cite Save

[сітатіом] Unpacking **Wikipedia governance**: The emergence of a bureaucracy of peers?

A Aaltonen, GF Lanzara - LAEMOS. Buenos Aires. http://www. egosnet. org/jart/ ..., 2010 Cited by 11 Related articles Cite Save

[СІТАТІОN] Is something fundamentally wrong with Wikipedia governance processes?

M Bauwens - ... -fundamentally-wrong-with-wikipedia-governance- ..., 2008 Cited by 6 Related articles Cite Save

<u>Governance</u>, organization, and democracy on the Internet: The iron law and the evolution of Wikipedia

P Konieczny - Sociological Forum, 2009 - Wiley Online Library

This study examines whether the Iron Law of Oligarchy exists in **Wikipedia** by analyzing how a key policy of the website regarding verifiability evolved into its current form. The study describes the decision-making processes of **Wikipedia** and shows that there are many ...

[PDF] from andreaforte.net

#### Coordination and beyond: social functions of groups in open content production

A Forte, N Kittur, V Larco, H Zhu, A Bruckman... - Proceedings of the ..., 2012 - dl.acm.org

... In our first round of interviews, we sought to understand **governance** in **Wikipedia** as a site-wide phenomenon. As such, we interviewed eleven individuals who had been involved in the site for many years, in many different capacities ...

Cited by 13 Related articles All 5 versions Cite Save

#### Making restitution work: the challenge of building sustainable **governance** and institutional structures in public administration

L Schoeman, DJ Fourie - Journal of Public Administration: ..., 2008 - reference.sabinet.co.za

... Wikipedia. 2008. Governance. Encyclopaedia Wikipedia. Available online: http://en.wikipedia. org/wiki/governance [Accessed 25 February 2008]. Wikipedia. 2008. Treaty. Encyclopaedia Wikipedia. Available online: http://en.wikipedia.org/wiki/treaty [Accessed 25 February 2008]. ...

Cited by 3 Related articles All 5 versions Cite Save

#### Changing governance of local economies: Responses of European local production systems

C Crouch, P Le Galès, C Trigilia, H Voelzkow - OUP Catalogue, 2004 - ideas.repec.org

... specialized manufacturing among small and medium-sized enterprises (SMEs) in France, Germany, Italy, and the United Kingdom, the authors find patterns of economic **governance** far more ... This item is not listed on **Wikipedia**, on a reading list or among the top items on IDEAS. ...

Cited by 157 Related articles All 5 versions Cite Save More

#### Foundations of service science management and business

H Katzan - Journal of Service Science (JSS), 2011 - journals.cluteonline.com

... The development of a service context involves the asking of tough questions to examine the strategic goal and objectives of a service organization in order 9 Adapted from the **Wikipedia** articles on strategy and corporate **governance**. Page 9. ...

Cited by 6 Related articles All 5 versions Cite Save

#### Building semantic kernels for text classification using wikipedia

P Wang, <u>C Domeniconi</u> - Proceedings of the 14th ACM SIGKDD ..., 2008 - dl.acm.org

... Chief executive officer Shareholder Fiduciary Corporate **governance** Corporation Boards of directors Build Thesaurus from **Wikipedia** Ambiguous Concepts: Puma Puma (Car) "Felidae" Category "Puma" "Cougar" "Mountain Lion" "Ford Vehicles" Category "Puma (Car)" ...

[PDF] from andreaforte.net

[PDF] from 137.215.9.22

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No reward system. If anything, negative attention.

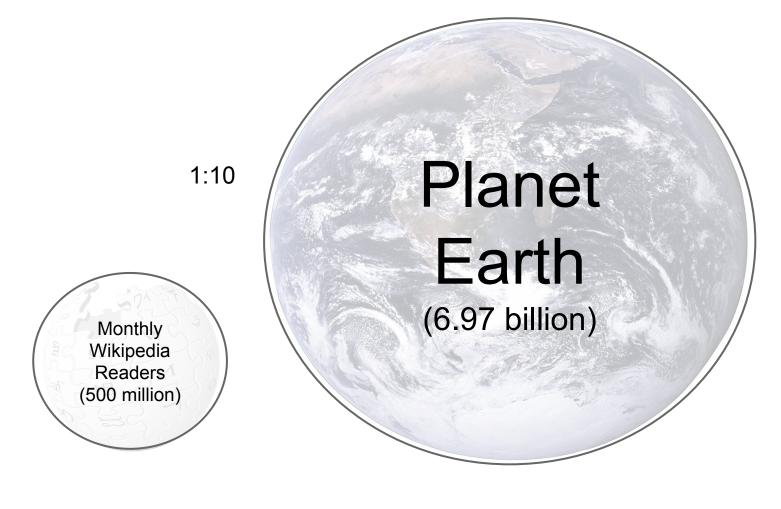
Anyone can edit. No registration necessary.

No reward system. If anything, negative attention.

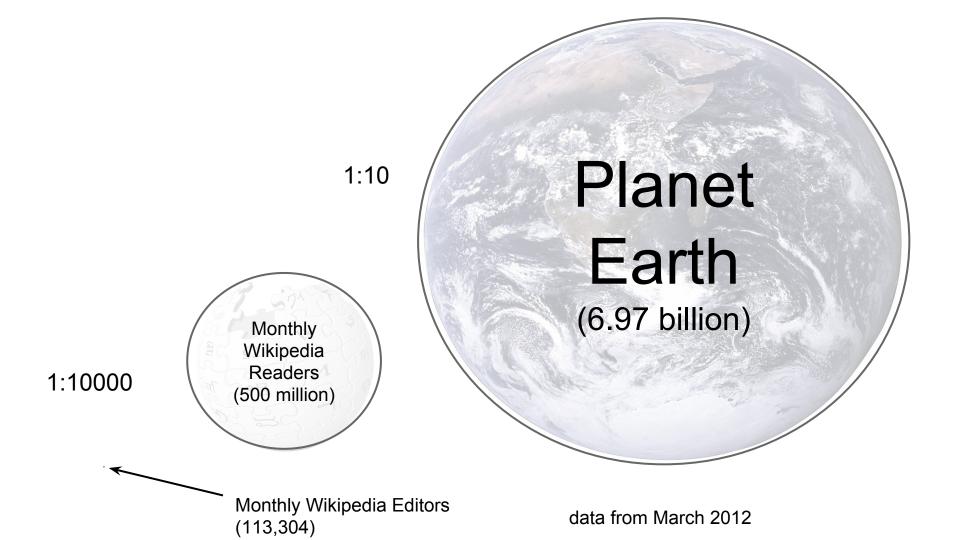
Actually a wild success!

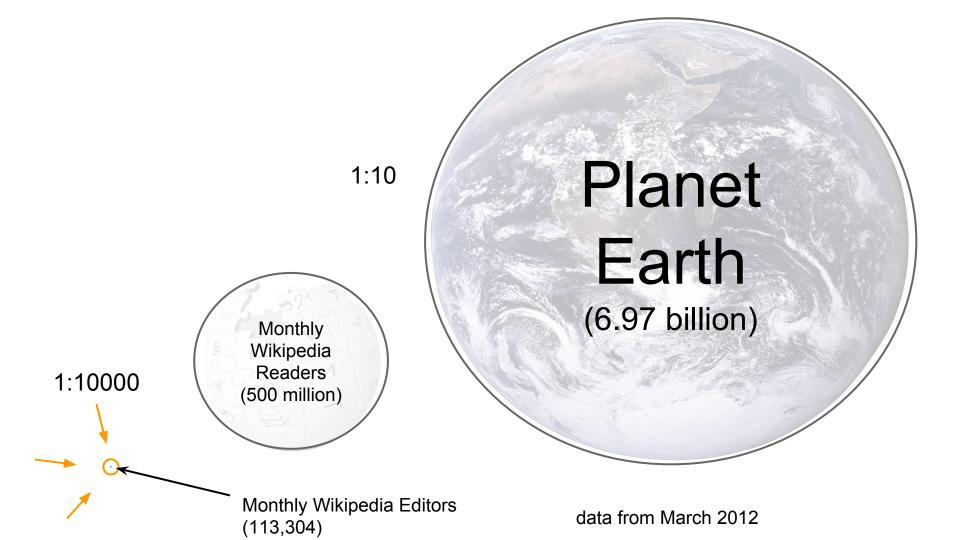


data from March 2012



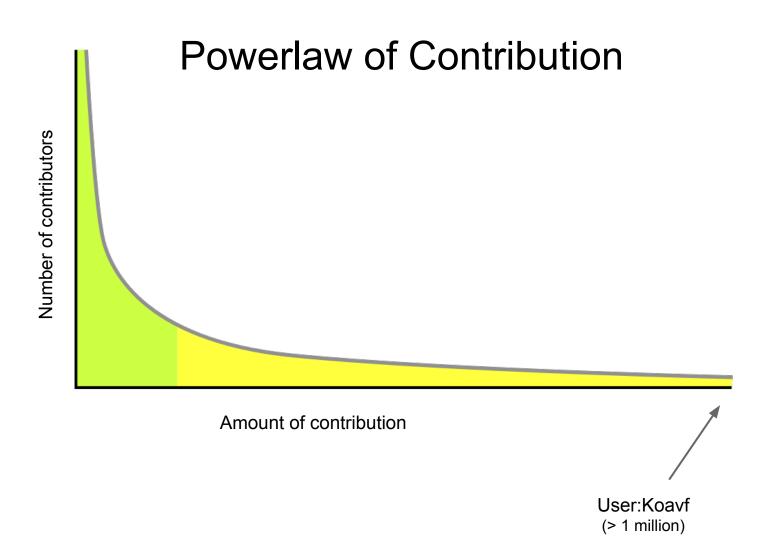
data from March 2012

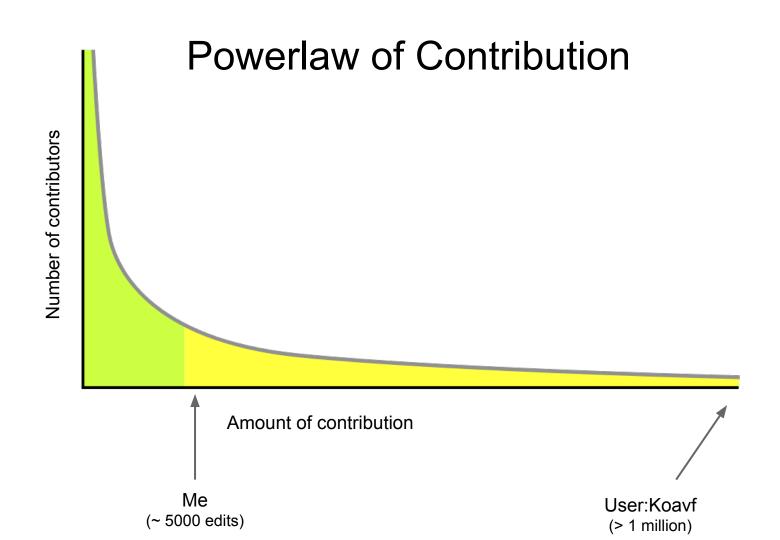


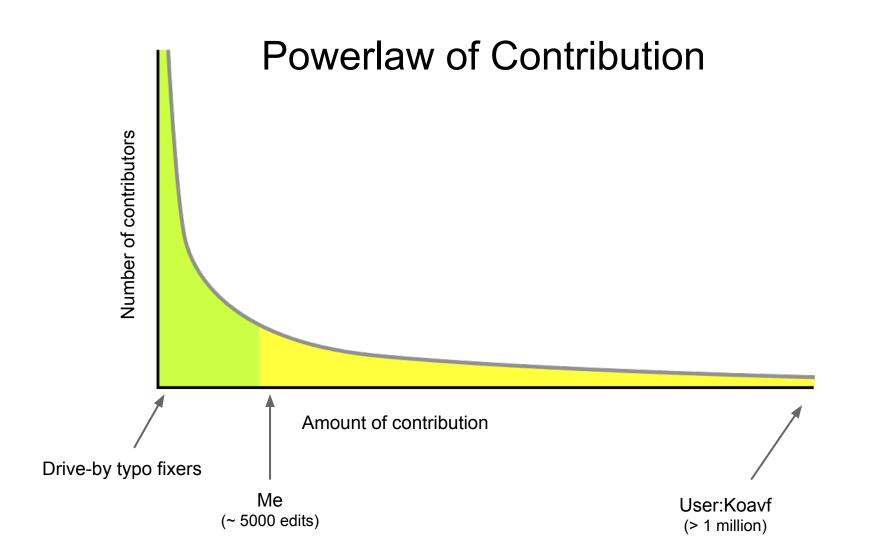


# **Powerlaw of Contribution** Number of contributors

Amount of contribution







#### Powerlaws everywhere

- Wikipedia
- Bugzilla
- Digg
- Essembly

#### Powerlaws everywhere

- Wikipedia
- Bugzilla
- Digg
- Essembly (???)



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#### Essembly

From Wikipedia, the free encyclopedia

Essembly is a non-partisan political social networking website that allows its users to connect with one another based on political opinions, participate in unmoderated discussion, and organize for political action. It was founded in 2005 by Joe Green, a Harvard graduate and college roommate of Mark Zuckerberg, the founder of the collegiate social-networking site Facebook. Essembly differentiates itself from other social-networking sites by actively promoting intelligent discussion and debate while remaining (as the site's "About Us" page claims) "fiercely non-partisan." A July 2006 Newsweek article put the number of registered users at over  $17.000^{[1]}$ 

After its launch in 2005, Essembly membership was offered by invitation only, as the website was still in closed beta. In May 2006, Essembly opened membership to the public (to anyone with a valid email address), and began to run advertisements on Facebook. As of September 2006, Essembly remains in public beta, the staff of Essembly has, on the whole, moved on to a new venture called Project Agape. This has resulted in intermittent user

support and server crashes, as well as some bitterness by many of the long-time users. [who?]

Essembly.com



Screenshot of the "Show Resolves" page on Essembly (User information concealed)

Web address http://www.essembly.com €

Commercial? Yes

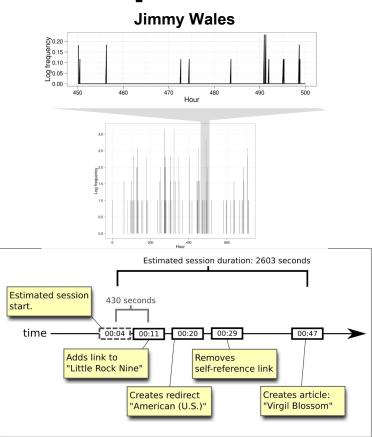
Type of site Social network service

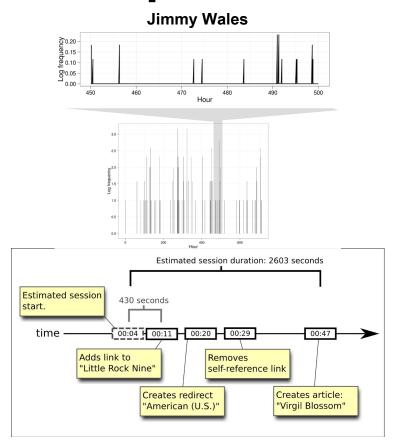
Registration Required

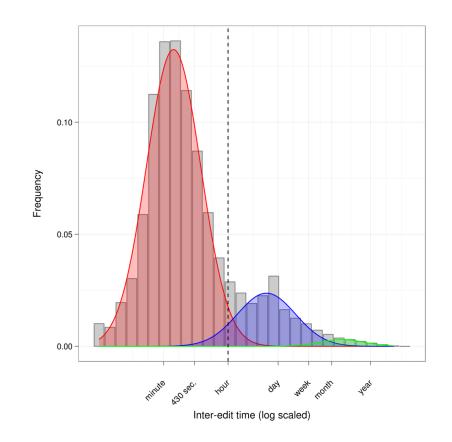
Owner Essembly, LLC

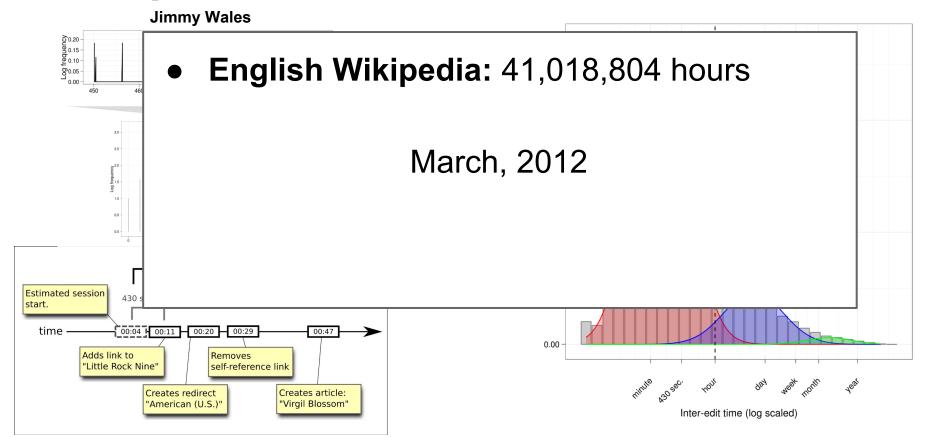
Created by Joe Green

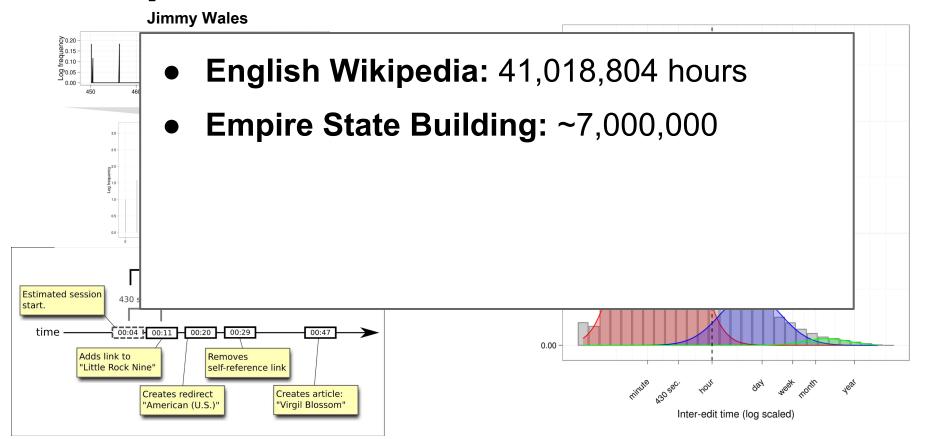
On January 30, 2010 Essembly stopped working. After being alerted to the problem by a long-time Essembly user, Joe Green restored the site by Valentine's Day. However, since May, 2010 the site has been down.

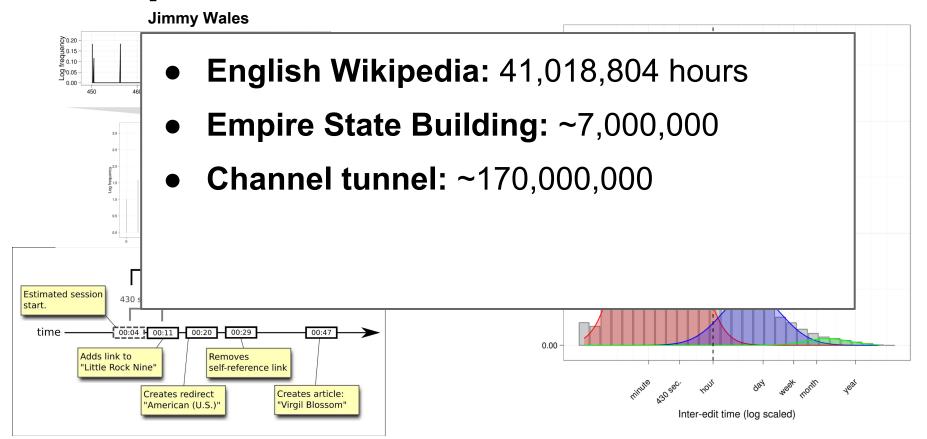


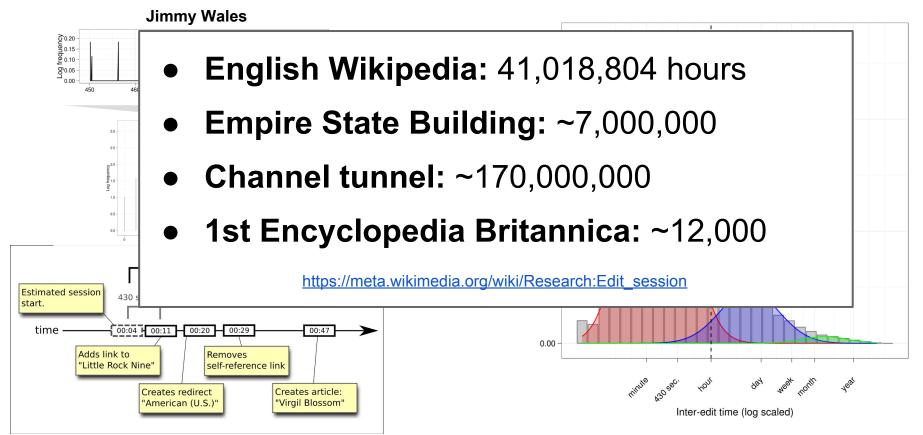












### How did Wikipedia succeed?

### How did Wikipedia succeed?

It's so easy to vandalize!



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- ▶ Tools
- Print/export
- Languages Acèh **Afrikaans** العربية Avañe'ē বাংলা Bahasa Baniar

#### **Elephant**

From Wikipedia, the free encyclopedia



4 reader comments

This article is about the living species. For extinct relatives also known as elephants, see Elephantidae. For other uses, see Elephant (disambiguation).

Elephants are large mammals of the family Elephantidae and the order Proboscidea. Traditionally, two species are recognised, the African elephant (Loxodonta africana) and the Asian elephant (Elephas maximus), although some evidence suggests that African bush elephants and African forest elephants are separate species (L. africana and L. cyclotis respectively). Elephants are scattered throughout sub-Saharan Africa, South Asia, and Southeast Asia. Elephantidae are the only surviving family of the order proboscidea; other, now extinct, families of the order include mammoths and mastodons. The largest living terrestrial animals, male African elephants can reach a height of 4 m (13 ft) and weigh 7,000 kg (15,000 lb). All elephants have several distinctive features the most notable of which is a long proboscis or trunk used for many purposes, particularly for grasping objects. In addition to their trunks, their incisors grow into tusks, which serve as tools for moving objects and digging and as weapons for fighting. The elephant's large ear flaps help to control the temperature of its body. African elephants have larger ears and concave backs while Asian elephants have smaller ears and convex or level backs.

Elephants are herbivorous and can be found in different habitats including savannahs, forests, deserts and marshes. They prefer to stay near water. They are considered to be keystone species due to their impact on their environments. Other animals tend to keep their distance, and predators such as lions, tigers, hyenas and wild dogs usually target only the young elephants (or "calves"). Females ("cows") tend to live in family groups, which can consist of one female with her calves or several related females with offspring. The groups are led by an individual known as the matriarch, often the oldest cow. Elephants have a fission-fusion society in which multiple family groups come together to socialise. Males ("bulls") leave their family groups when they reach puberty, and may live alone or with other males. Adult bulls mostly interact with family groups when looking for a mate and enter a state of increased testosterone and addression known as must which halps them dain dominance and



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▶ Tools
                       * ''[[African elephant|Loxodonta]]''
Languages
                       * ''[[Elephas]]''}}
                      }}
                       '''Elephants''' are STUPID mammals of the family [[Elephantidae]] and the order [[Proboscidea]].
                      Traditionally, two species are recognised, the [[African elephant]] (''Loxodonta africana'') and the
                       [[Asian elephant]] (''Elephas maximus''), although some evidence suggests that [[African bush
                       elephant]]s and [[African forest elephant]]s are separate species (''L. africana'' and
                       ''L. cyclotis'' respectively). Elephants are scattered throughout [[sub-Saharan Africa]], [[South
                       Asia]], and [[Southeast Asia]]. [[Elephantidae]] are the only surviving family of the order
                       proboscidea; other, now extinct, families of the order include [[mammoth]]s and [[mastodon]]s. The
                       largest living [[terrestrial animal]]s, male African elephants can reach a height of
                       {{convert|4|m|ft|0|abbr=on}} and weigh {{convert|7000|kg|lb|-3|abbr=on}}. All elephants have several
                       distinctive features the most notable of which is a long [[proboscis]] or trunk used for many
                       purposes, particularly for grasping objects. In addition to their trunks, their [[incisor]]s grow
                       into tusks, which serve as tools for moving objects and digging and as weapons for fighting. The
                      elephant's large ear flaps help to control the temperature of its body. African elephants have larger
                      ears and concave backs while Asian elephants have smaller ears and convex or level backs.
                        Edit summary (Briefly describe the changes you have made)
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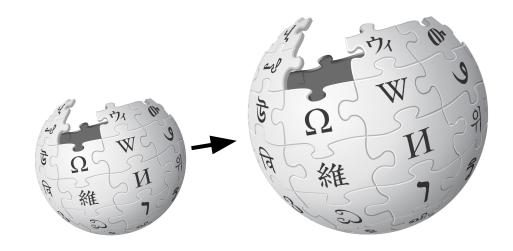
### Wikipedia works in **practice**.

Wikipedia works in **practice**.

But it doesn't work in **Theory**.

### Wikipedia works in **practice**.

But it doesn't work in **Theory**.



### Part 2.

Towards a theory of wikis

1. Observe unexplained phenomena

1. Observe unexplained phenomena

2. Hypothesize explanations

1. Observe unexplained phenomena

2. Hypothesize explanations

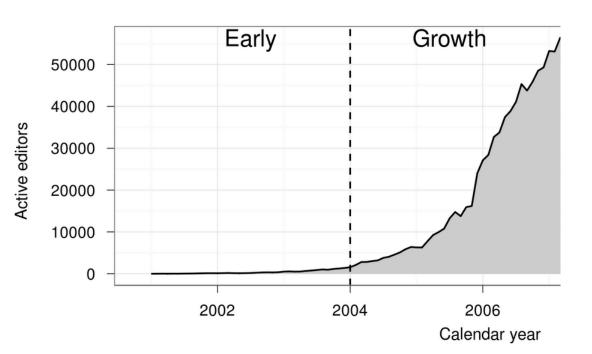
3. Look for evidence

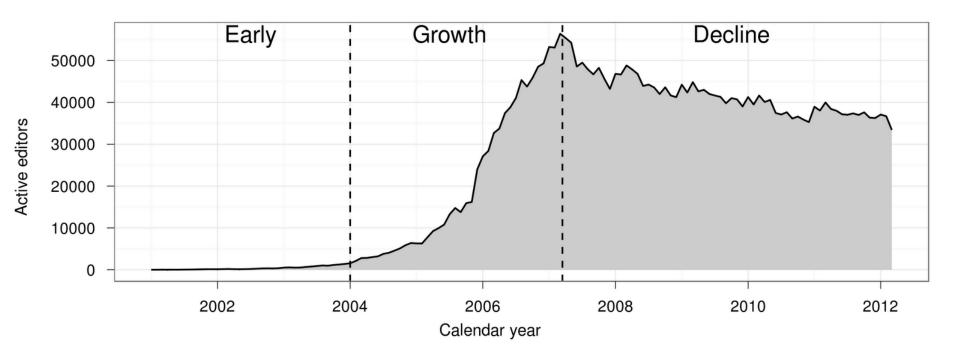
1. Observe unexplained phenomena

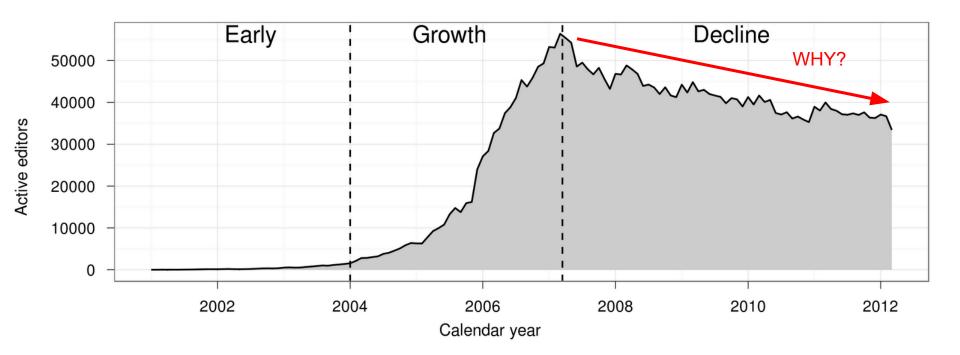
2. Hypothesize explanations

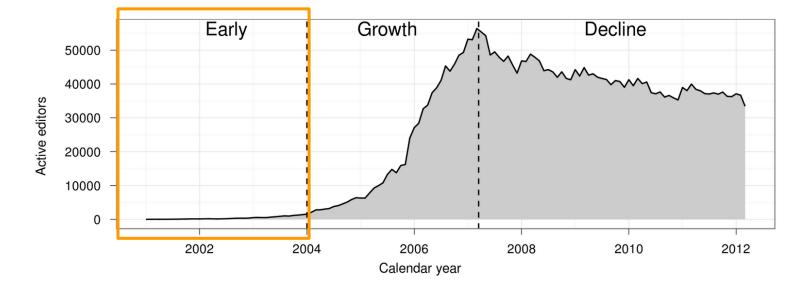
3. Look for evidence

4. Repeat

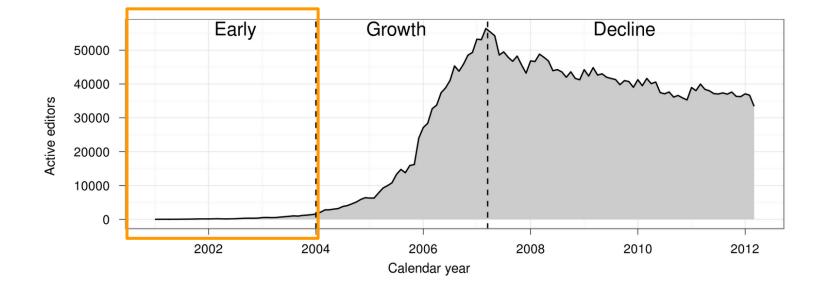




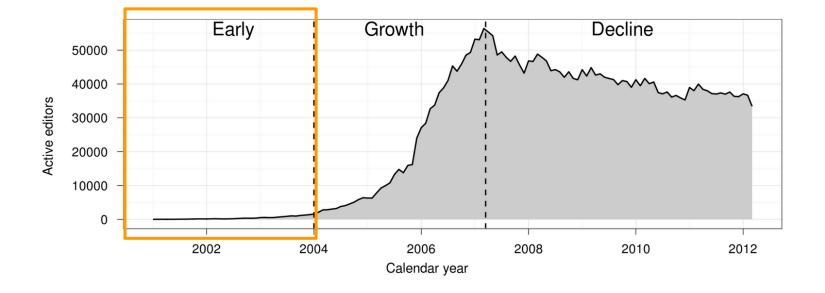




A long time ago -- before it was obvious that Wikipedia worked at all...

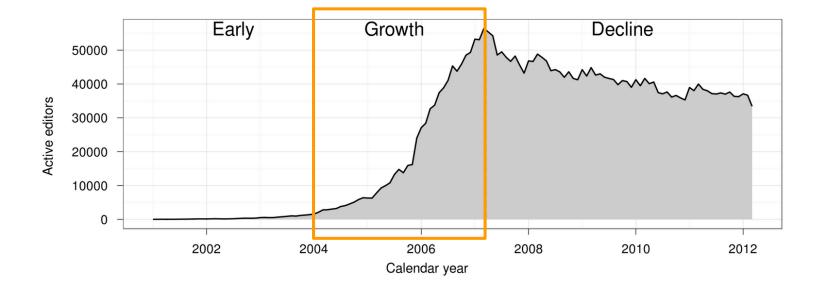


- Small
- Few editors
- Fewer vandals

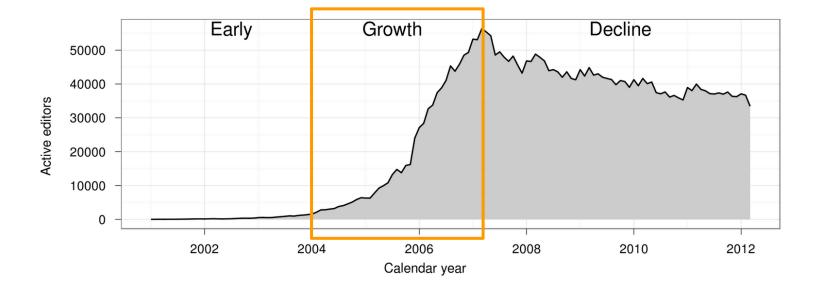


### Little time needed for:

- Vetting new articles
- Removing vandalism
- Socializing newcomers



Popularity → More readers → More editors



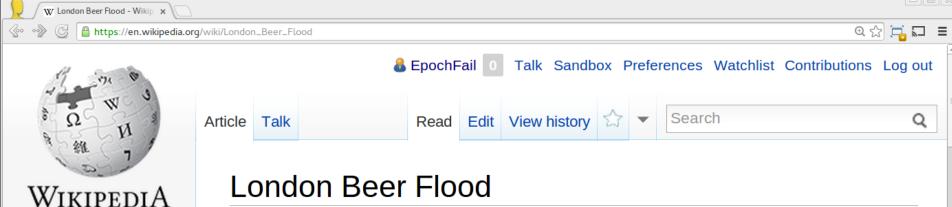
Popularity → More readers → More editors

More editors → More better, right?









From Wikipedia, the free encyclopedia

The **London Beer Flood** happened on 16 October 1814 in the parish of St. Giles, London, England. At the Meux and Company Brewery $^{[1]}$  on Tottenham Court Road, [1][2] a huge vat containing over 135,000 imperial gallons (610,000 L) of beer ruptured, causing other vats in the same building to succumb in a domino effect. As a result, more than 323,000 imperial gallons (1,470,000 L) of beer burst out and gushed into the streets. The wave of beer destroyed two homes and crumbled the wall of

the Tavistock Arms Pub, trapping teenage employee

Eleanor Cooper under the rubble. [3] Within minutes

#### London Beer Flood

Coordinates: 51°31′00″N 0°07′49″W



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The Free Encyclopedia

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#### Known drowning fatalities [edit]

Name <sup>[6]</sup>	Age
Ann Saville	53
Eleanor Cooper	15–16
Hannah Bamfield	4
Catherine Butler	63
Elizabeth Smith	27
Mary Mulvey	30
Thomas Mulvey	3
Sean Duggins	29

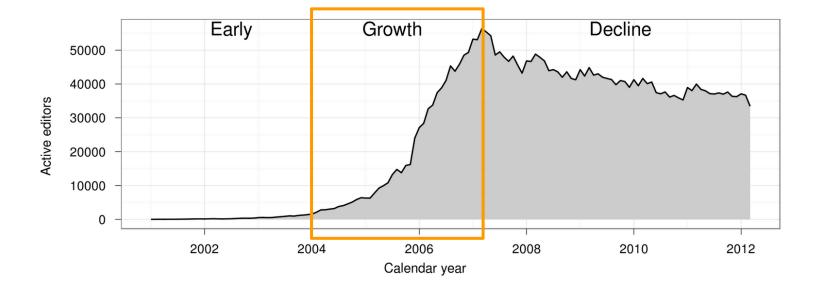
#### See also [edit]

- Boston Molasses Disaster
- Great Fire of London
- Honolulu molasses spill

References [edit]

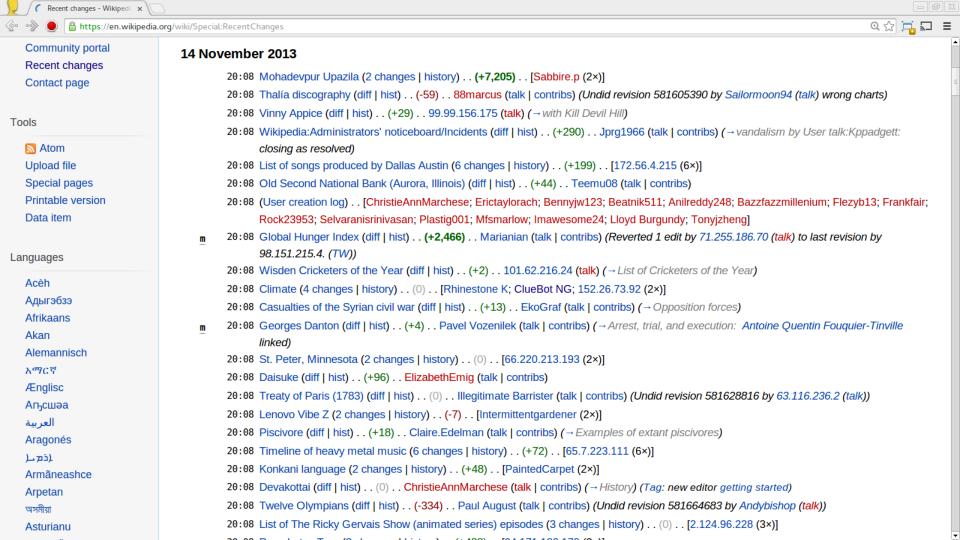


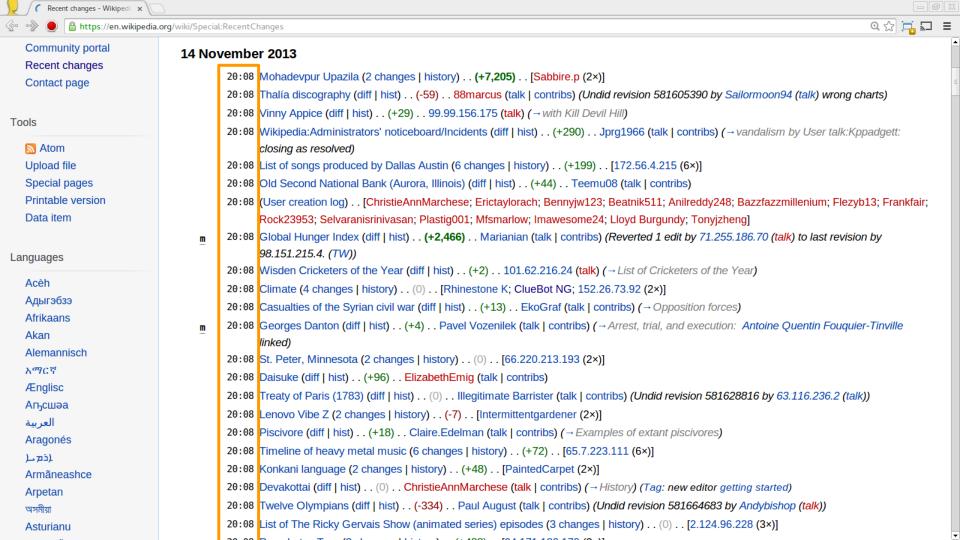
London portal

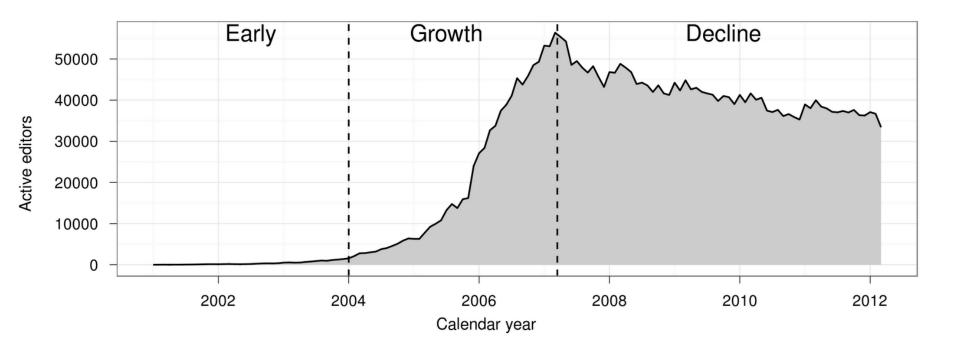


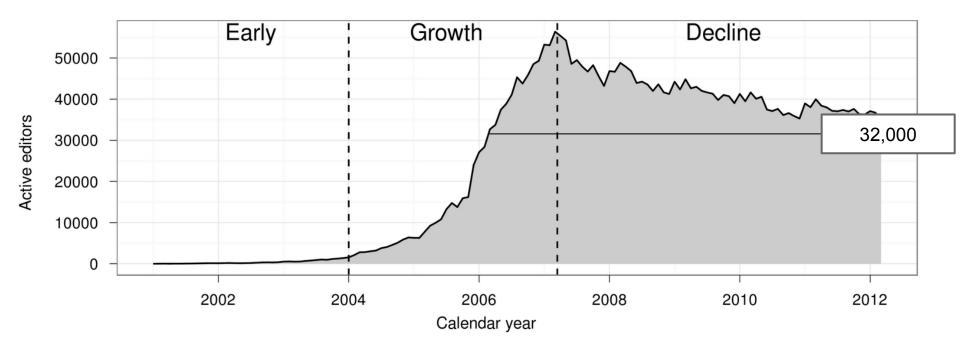
Popularity → More readers → More editors

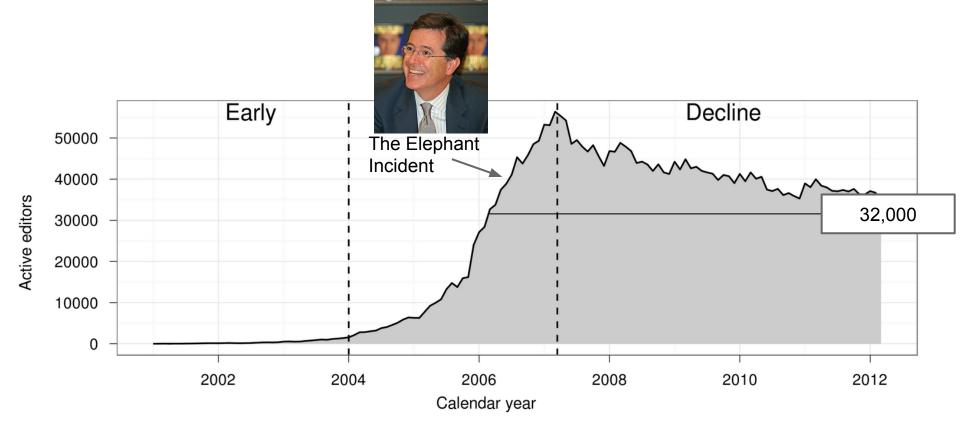
### New editor/content firehose!











Interaction

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#### Elephant

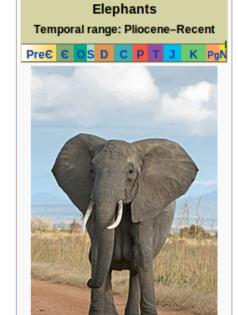


Q

From Wikipedia, the free encyclopedia

This article is about the living species. For extinct relatives also known as elephants, see Elephantidae. For other uses, see Elephant (disambiguation).

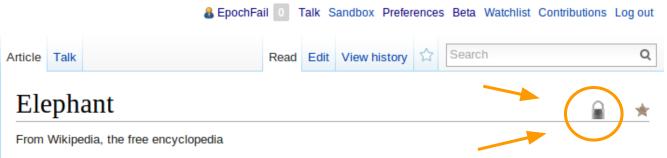
Elephants are large mammals of the family Elephantidae and the order Proboscidea. Traditionally, two species are recognised, the African elephant (Loxodonta africana) and the Asian elephant (Elephas maximus), although some evidence suggests that African bush elephants and African forest elephants are separate species (L. africana and L. cyclotis respectively). Elephants are scattered throughout sub-Saharan Africa, South Asia, and Southeast Asia. Elephantidae are the only surviving family of the order Proboscidea; other, now extinct, families of the order include mammoths and mastodons. Male African elephants are the largest surviving terrestrial animals and can reach a height of 4 m (13 ft) and weigh 7,000 kg (15,000 lb). All elephants have several distinctive features the most notable of which is a long trunk or proboscis, used for many purposes, particularly breathing, lifting water and grasping objects. Their incisors grow into tusks, which can serve as weapons and as tools for moving objects and digging. Elephants' large ear



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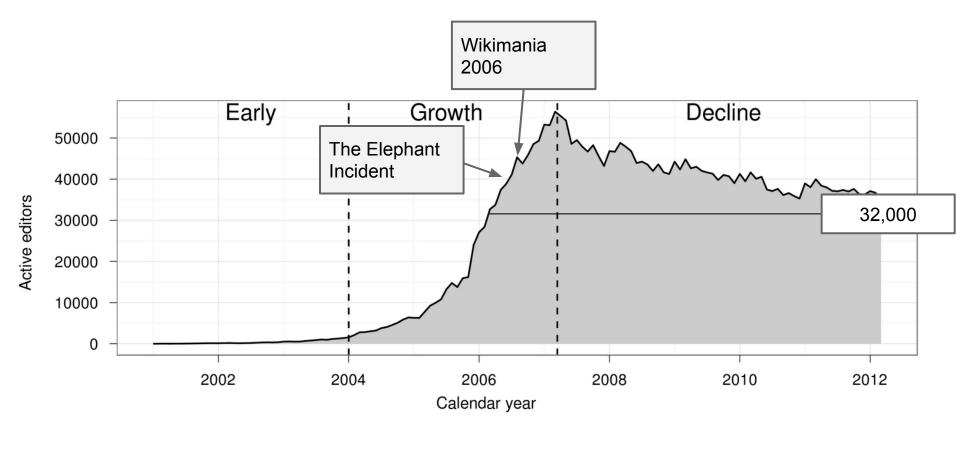
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Special pages
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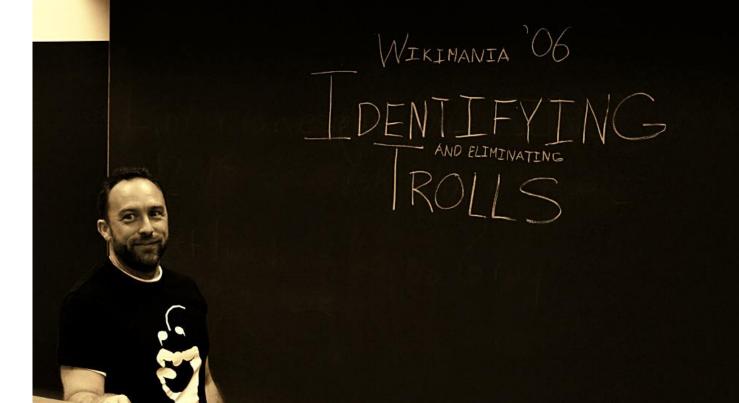


This article is about the living species. For extinct relatives also known as elephants, see Elephantidae. For other uses, see Elephant (disambiguation).

Elephants are large mammals of the family Elephantidae and the order Proboscidea. Traditionally, two species are recognised, the African elephant (Loxodonta africana) and the Asian elephant (Elephas maximus), although some evidence suggests that African bush elephants and African forest elephants are separate species (L. africana and L. cyclotis respectively). Elephants are scattered throughout sub-Saharan Africa, South Asia, and Southeast Asia. Elephantidae are the only surviving family of the order Proboscidea; other, now extinct, families of the order include mammoths and mastodons. Male African elephants are the largest surviving terrestrial animals and can reach a height of 4 m (13 ft) and weigh 7,000 kg (15,000 lb). All elephants have several distinctive features the most notable of which is a long trunk or proboscis, used for many purposes, particularly breathing, lifting water and grasping objects. Their incisors grow into tusks, which can serve as weapons and as tools for moving objects and digging. Elephants' large ear







https://upload.wikimedia.org/wikipedia/commons/e/ea/Troll\_school.jpg

# Technology as Counter-vandalism

#### Fully automated



#### **Machine learning**

- Fast (~ 5 seconds)[1]
- No human effort
- Only obvious vandalism
- 1. R. Stuart Geiger & Aaron Halfaker. When the Levee Breaks (2013). WikiSym.

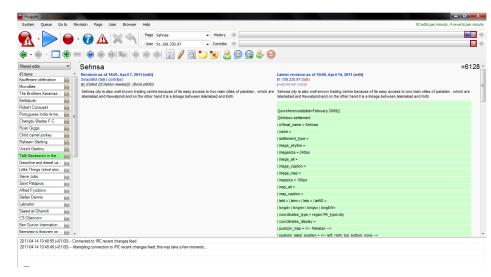
#### Fully automated



#### **Machine learning**

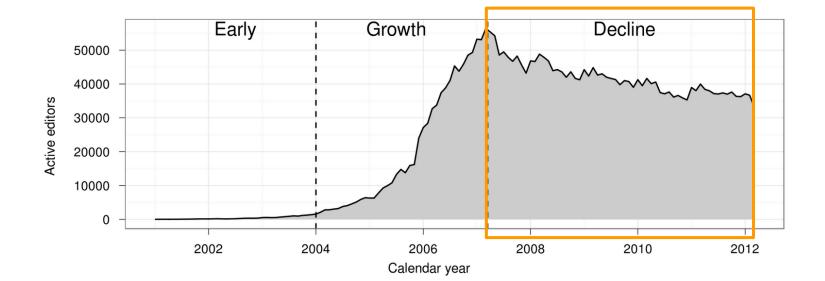
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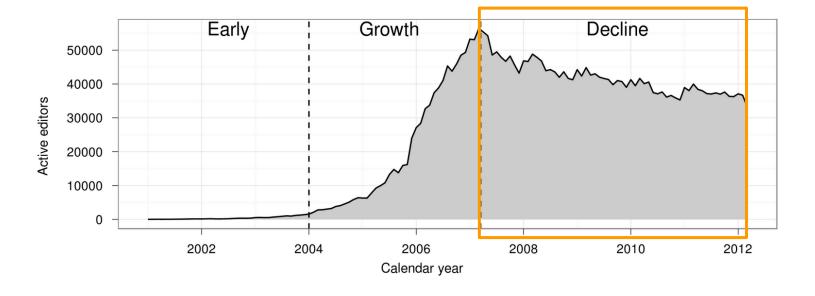
#### Semi automated



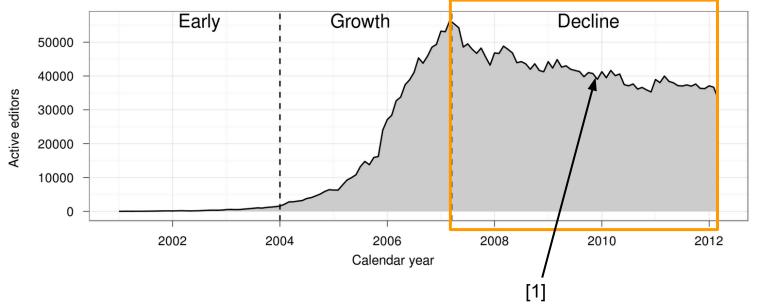
#### **Human computation**

- Still pretty fast (~ 30 seconds)[1]
- Minimizes human effort
- Humans catch most vandalism at a glance
- 1. R. Stuart Geiger & Aaron Halfaker. When the Levee Breaks (2013). WikiSym.





### What's actually declining?



What's actually declining?

Newcomers! Show up, but leave quickly.

1. Suh et al. The Singularity is not Near, (2009) WikiSym'09

Wikipedia is done.

• Wikipedia is done. *It isn't.*<sup>[1]</sup>

- 1. <a href="https://en.wikipedia.org/wiki/Wikipedia:Core topics 1,000">https://en.wikipedia.org/wiki/Wikipedia:Core topics 1,000</a>
- 2. Lam, S. T. K., et al. (2011). **WP: clubhouse?** *WikiSym* (pp. 1-10). ACM.
- 3. <a href="https://wikimania2013.wikimedia.">https://wikimania2013.wikimedia.</a>
  org/wiki/Submissions/Towards\_bridging\_the\_gender\_gap\_in\_Indian\_Wikimedia\_community

- Wikipedia is done. *It isn't.*<sup>[1]</sup>
- Wikipedia has enough editors.

- 1. <a href="https://en.wikipedia.org/wiki/Wikipedia:Core topics 1,000">https://en.wikipedia.org/wiki/Wikipedia:Core topics 1,000</a>
- 2. Lam, S. T. K., et al. (2011). **WP: clubhouse?** *WikiSym* (pp. 1-10). ACM.
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- Wikipedia is done. *It isn't.*<sup>[1]</sup>
- Wikipedia has enough editors. It doesn't.

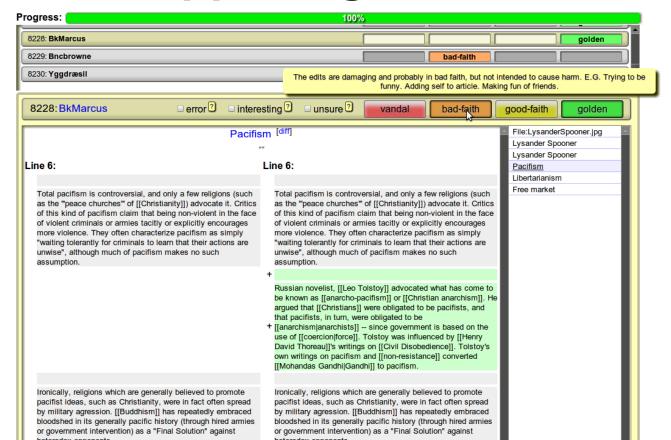
- 1. <a href="https://en.wikipedia.org/wiki/Wikipedia:Core\_topics\_-\_1,000">https://en.wikipedia.org/wiki/Wikipedia:Core\_topics\_-\_1,000</a>
- 2. Lam, S. T. K., et al. (2011). **WP: clubhouse?** *WikiSym* (pp. 1-10). ACM.
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  org/wiki/Submissions/Towards\_bridging\_the\_gender\_gap\_in\_Indian\_Wikimedia\_community

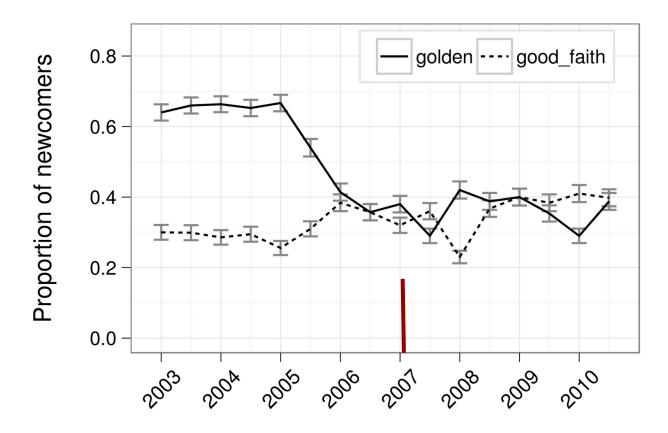
- Wikipedia is done. *It isn't.*<sup>[1]</sup>
- Wikipedia has enough editors. It doesn't.
- Early adopter effect.

- 1. <a href="https://en.wikipedia.org/wiki/Wikipedia:Core\_topics\_-\_1,000">https://en.wikipedia.org/wiki/Wikipedia:Core\_topics\_-\_1,000</a>
- 2. Lam, S. T. K., et al. (2011). **WP: clubhouse?** *WikiSym* (pp. 1-10). ACM.
- 3. <a href="https://wikimania2013.wikimedia.">https://wikimania2013.wikimedia.</a>
  org/wiki/Submissions/Towards bridging the gender gap in Indian Wikimedia community

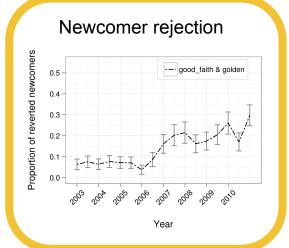
- Wikipedia is done. *It isn't.*<sup>[1]</sup>
- Wikipedia has enough editors. *It doesn't.* [2,3]
- Early adopter effect.

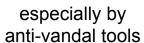
Newbies just aren't as good as they used to be.
-Crotchety Wikipedians

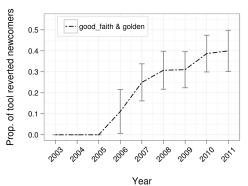




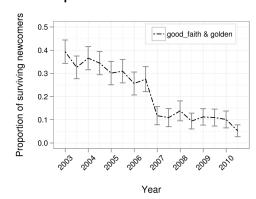
Year



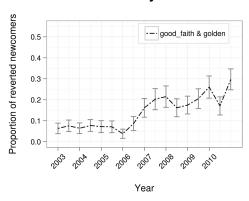


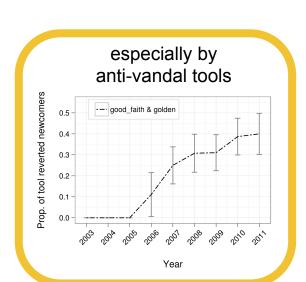


## predicts the decline

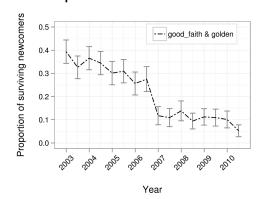


## Newcomer rejection

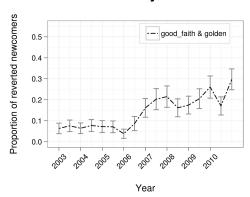




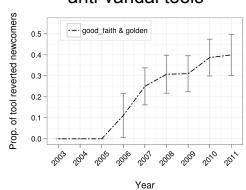
## predicts the decline

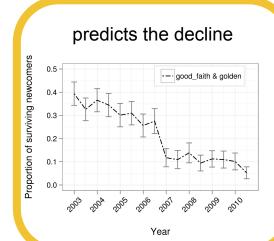


## Newcomer rejection

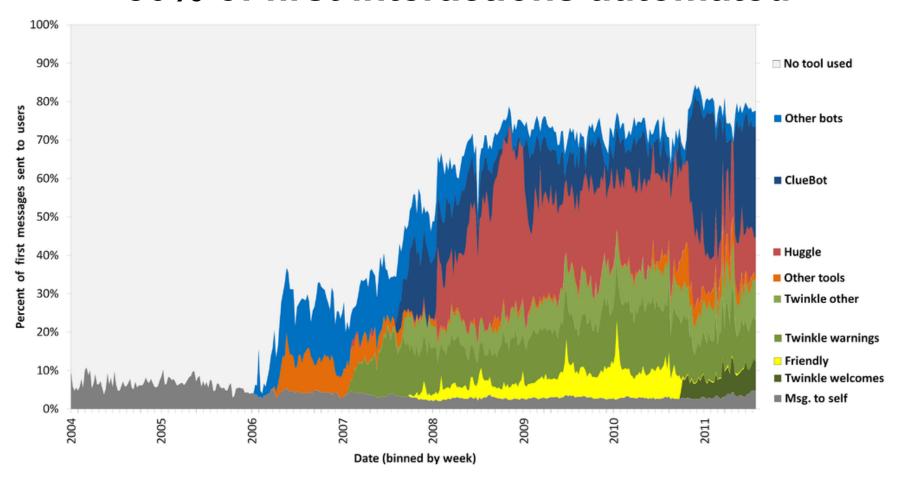


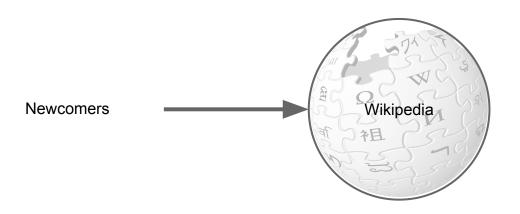
# especially by anti-vandal tools

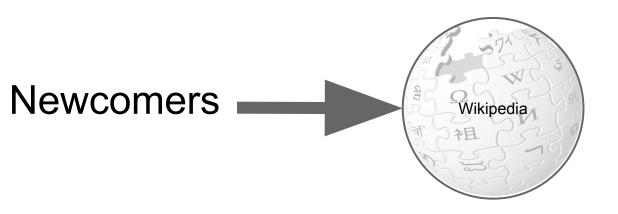


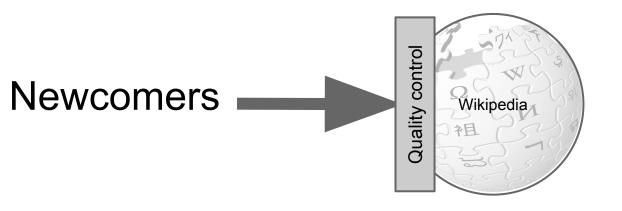


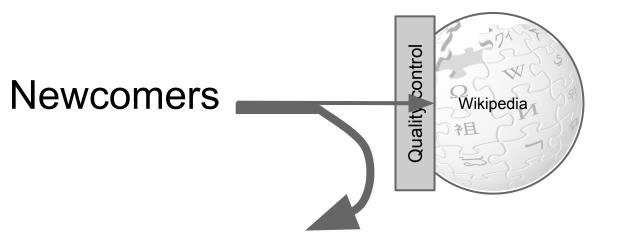
## 80% of first interactions automated



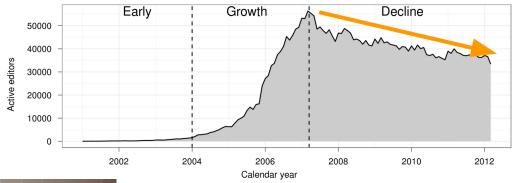








## What's causing Wikipedia's editor decline?





Halfaker, A., Gieger, R. S., Morgan, J., & Riedl, J. (2013). The Rise and Decline of an Open Collaboration System *American Behavioral Scientist* 

# What can be done?

## What can be done?

Efficient quality control is necessary

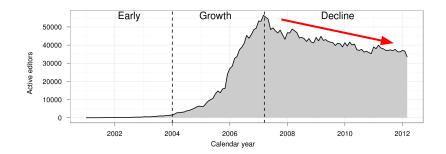


## What can be done?

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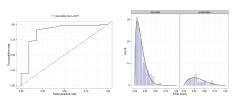


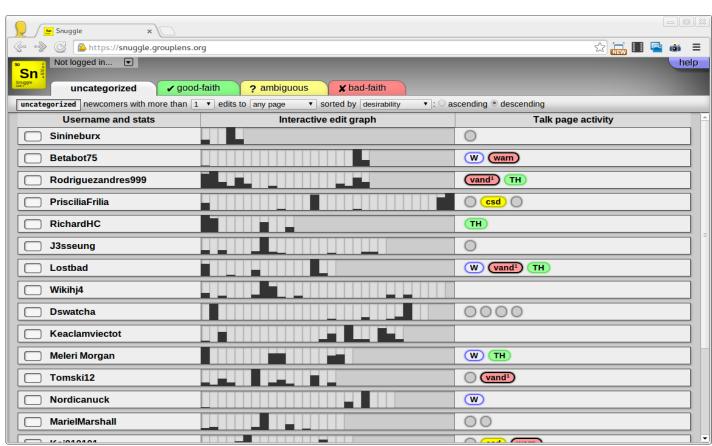
Socializing new editors is necessary



More good

Less good







Welcome to the

## teahouse

A **friendly** place to help new editors become accustomed to Wikipedia culture, ask questions, and develop community relationships.

## Do you have a **question** about editing?



Recent questions...

I am a bit confused after trying to edit this page: https://en.wikipedia.org/wiki/Cycling advocacy#Copenhagenization

I wanted to add relevant supporting links but have run into a battle with another user. I wanted to link to a TED talk by one of the individuals mentioned under Bicycle Advocates - Mikael Colville-Andersen - but another user keeps undoing it, even though allowing a link to a talk by another one of the people mentioned.

## Hosts are here to help >>>



Ad Huikeshoven, Teahouse host

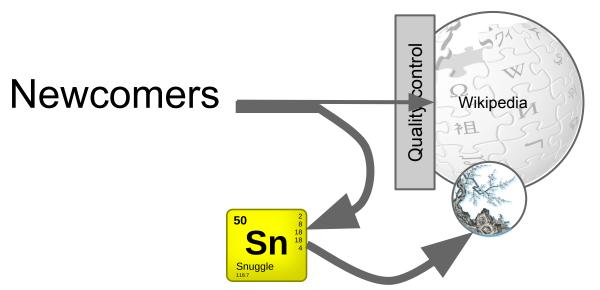
### Guests, create a profile >>>



### Warrenkychu

On Wikipedia I wish to edit and contribute to the best of my ability. I enjoy editing Wikipedia.





#### Projects [edit]

The following pages hold the methodology, experimental design and results of each experiment.

#### Active

- Research: Task recommendations
- Research: Anonymous editor acquisition
  - Research: Asking anonymous editors to register
  - Research: Anonymous phenomena
- Donor email campaigns

#### Complete

- **III** Research:Onboarding new Wikipedians
- m Research:GuidedTour usage
- III Research: Wikipedia article creation
- **III** Research:Newcomer survival models
- Microsurveys, e.g. Research:Gender micro-survey in support of VisualEditor
- m Research: Account creation UX
- **III** Research:Donor engagement
- III Research: Community portal redesign
- III Research:Post-registration editor survey
- III Research:Post-edit feedback
- Template A/B testing
- **III** Research: Necromancy
- **III** Research: Timestamp position modification
- Research:Editor milestones

#### Proposals and ideas

- Research: Section edit modification
- Research:Improve your edit
- Research:Wikimania unconference experiment (suppress cleanup templates)
- Research:Left-hand navigation

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### Pages to improve

Reccommended based on your last edit



#### **Arctic Fox**

94 views this month



#### **Mount Whitney**

924 views this month



#### Nova Scotia Duck Tolling Retriever Dog farts blah blah...

2394 views this month







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The following pages hold the methodology, experimental design and results of each experiment.

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[[William Godwin]] and [[Wîlhelm Weitling]], but beliefs.<ref>{{cite book |title=The Anarchists |l |pages=27-37}}</ref> [[Pierre-Joseph Proudhon]] wanarchism in the mid-nineteenth century. Since th |first=Max |authorlink=Max Nettlau |year=1996 |puoften been used as a synonym for anarchism<ref>"A



## Hypotheses [edit]

Rationale: We suspect that the prominence of guider-based UI cues, as well as a rat concerns, will increase the rate at which anonymous editors decide to register an acc Wikipedia are passive for anonymous editors, in the form of static links to account on the edit form. We suspect that these passive "create account" links (in the personal to messages mid-edit) are relatively hidden to a new users' eyes. We've observed that increases completion rates within a funnel. [1]

Hypothesis 1: More anonymous editors in the experimental conditions will register ε

Rationale: Further, we suspect that the **pre-edit** CTA will encourage more users to reaction between a user and their goal -- to make an edit to a page. Further, the flow c in is a common pattern in web applications and is already used by mw:Extension:Mol only functionality like watchlists.

Hypothesis 2: More anonymous editors in the pre-edit conditions will register accou

#### Proposals and ideas

- Research: Section edit modification
- Research:Improve your edit
- Research: Wikimania unconference experiment (suppress cleanup templates)
- Research:Left-hand navigation

## Hypotheses [edit]

Rationale: We suspect the concerns, will increase the Wikipedia are passive for the edit form. We suspended messages mid-edit are increases completion rational concerns.

Hypothesis 1: More an

Rationale: Further, we s action between a user a in is a common pattern i only functionality like wa

Hypothesis 2: More an

#### Proposals and ideas

- Research:Section edit modi
- Research:Improve your edit
- Research:Wikimania uncon
- Research:Left-hand navigat

## Methods [edit]

## Measuring user behavior via random token [edit]

In order to distinguish between distinct clients as they move between IP ad accounts, we will be assigning users randomly-generated tokens that will id browser/device during the observation and experiment periods. This token user edits, either via wikitext or VisualEditor. Due to the potential sensitivity retained for up to 90 days (per the Data retention guidelines) and only user patterns (e.g. number of signups per experimental bucket), after which all t from analytics databases.

**Note:** There are limitations in the assumption that one token equals one us to one device. Possible complications include shared computers (some res sessions, others don't, which have different effects), users who habitually u automatically clear cookies on browser close, and users who switch betwee computers.

## Schemas [edit]

Schema:SignupExpPageLinkClick

## Hypotheses [edit]

Rationale: We suspect tl concerns, will increase t Wikipedia are passive fo the edit form. We suspemessages mid-edit) are increases completion rat

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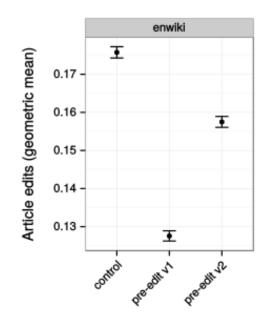
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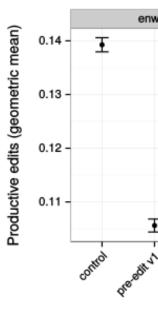
#### Schemas [edit]

Results [edit]

## Measuring user behave Hyp 1 recovered productivity [edit]



Evperimental buckets



Schema:SignupExpPage

Evneriment

# Wikipedia-like projects.

We need **Theory** in order to effectively support

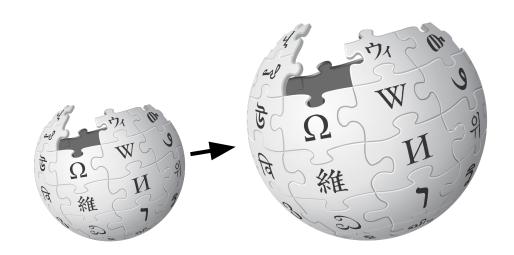
# Part 3

Research strategy & Community support

# **Critical insights**

# **Critical insights**

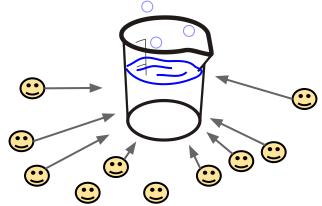
Hard problems are hard



# **Critical insights**

Hard problems are hard

Open collaboration is more productive



# The problem space

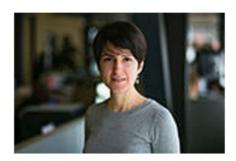




Aaron Halfaker Research Scientist



Oliver Keyes Research Analyst

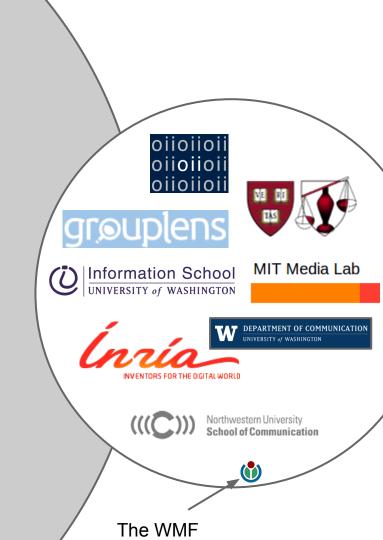


Leila Zia Research Scientist



Dario Taraborelli Senior Research Scientist (Research and Data Team Lead)

# The problem space



# **Openness**

Access: <a href="https://meta.wikimedia.org/wiki/Research:Index">https://meta.wikimedia.org/wiki/Research:Index</a>

## Data:

- <a href="http://datahub.io/dv/group/wikimedia">http://datahub.io/dv/group/wikimedia</a> -- Curated datasets
- <a href="http://dumps.wikimedia.org/">http://dumps.wikimedia.org/</a> -- General data dumps from public wikis
- <a href="http://tool.wmflabs.org/">http://tool.wmflabs.org/</a> -- Hosting and data querying for tools and research
- <a href="http://quarry.wmflabs.org/">http://quarry.wmflabs.org/</a> -- Public querying interface for Tool Labs

### Source:

- <a href="https://github.com/halfak/MediaWiki-Utilities">https://github.com/halfak/MediaWiki-Utilities</a> -- General data processing utilities
- <a href="https://github.com/halfak/MediaWiki-OAuth">https://github.com/halfak/MediaWiki-OAuth</a> -- Authorization for wiki tools
- <a href="https://github.com/halfak/Deltas">https://github.com/halfak/Deltas</a> -- Experimental difference detection
- <a href="https://github.com/halfak/Wiki-Class">https://github.com/halfak/Wiki-Class</a> -- Automatic article quality classification
- <a href="https://github.com/halfak/MediaWiki-events">https://github.com/halfak/MediaWiki-events</a> -- Standardized public event utilities

## **Outreach**

## **Showcases**

https://www.mediawiki.org/wiki/Analytics/Research and Data/Showcase

## **Hackathons**

https://meta.wikimedia.org/wiki/Research:Labs2/Hackathons/August\_6-7th,\_2014

## wiki-research-l@lists.wikimedia.org

https://lists.wikimedia.org/mailman/listinfo/wiki-research-l

#wikimedia-research @ irc.freenode.net (connect)

## Outreach

## **CSCW Workshop:**

 Advancing an industry/academic partnership model for Open Collaboration research (under review)













## Need data?

I want to help you get it.

## Want to run an intervention?

I want to help you get access.

## Want to collaborate?

I'm game.

I'll get you in touch with someone who can.

... and if I can't help you,

We couldn't succeed without you.

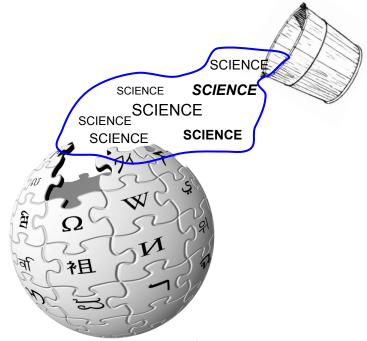
So, we're going to put a lot of energy behind your work.

祀

WE NEED

YOU

# Thank you



# Aaron Halfaker <a href="mailto:ahalfaker@wikimedia.org">ahalfaker@wikimedia.org</a>

Send me emails about science, Wikipedia, the internet or whatever.

Ping me (halfak) in #wikimedia-research on freenode