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February 5, 2013

# Mapping Participation Gaps in Wikipedia

Laura Quilter, *University of Massachusetts - Amherst*



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# Mapping 'Participation Gaps' in Wikipedia

Laura Quilter / Copyright & Information Policy Librarian  
University of Massachusetts Amherst, Feb. 5, 2013  
397M "New Media Technologies & Social Change"

aka: "Systemic Bias in Wikipedia"  
What it looks like, and how to  
deal with it

**part 1**  
**questioning wikipedia**



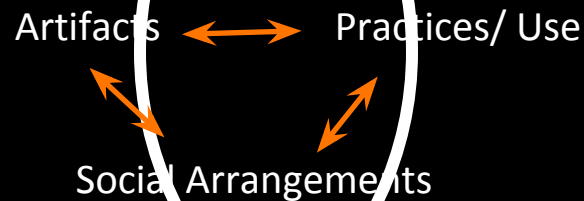
# Social Mediation

## Design & Use

- Recombinant change
- Network organization of Society & Technology

## Social Consequences

- Ubiquity
- Interactivity



New Media as a Socio-Technological System

(Lievrouw, 2011)

## what this talk is NOT about :

- should academics or students use Wikipedia?
  - *any time an encyclopedia would be okay ...*
- is Wikipedia accurate?
  - *studies show ... as much or more than other encyclopedias*
- is plagiarizing Wikipedia okay because it doesn't belong to any one other person?
  - *NO, because student and academic plagiarism is about the plagiarist's violation to the trust invested in them -- not just harms possibly suffered by plagiarized subjects.*

## what this talk IS about :

"**Systemic bias** is the inherent tendency of a process to favor particular outcomes. The term is a neologism that generally refers to human systems..."

"Systemic Bias", Wikipedia, quoted as of Oct. 19, 2012; [http://en.wikipedia.org/w/index.php?title=Systemic\\_bias&oldid=493766084](http://en.wikipedia.org/w/index.php?title=Systemic_bias&oldid=493766084)

# types of SB in wikipedia

- systemic bias on Wikipedia replicates the systemic biases of culture at large: racism, sexism, heterosexism, ableism, majority religion, etc.
- replicates systemic biases of Internet culture: Anglophone, class privilege, "Libertarian" politics, WM
- amplified / modulated by the medium of the Internet:
  - pseudonymized communications
  - self-selected class of privileged, well-educated, technologically-savvy, folks with time on their hands
- various additional biases: pop culture; tech topics; non-academic; current events; corporate / MSM sources; etc.

# what systemic bias looks like

## content bias

- dearth of articles
- inadequate articles
- perspective bias

- editor demographics
- editor experiences
- editor participation, contributions, & retention



# what it looks like: missing content

## User:Dsp13/Biographical Dictionary of Women in Science

From Wikipedia, the free encyclopedia

< [User:Dsp13](#)

The **Biographical Dictionary of Women in Science** is a 2-volume work containing entries on nearly 3,000 scientists. Below is a list of its entries in Volume II, the text of which is accessible online [on bookrags.com](#)<sup>Ⓔ</sup>

Ogilvie, Marilyn; Harvey, Joy, eds. (1999), *The Biographical Dictionary of Women in Science*, II, Routledge, ISBN 978-0415920407

- [Margaret Sibylla von Löser](#) - [Elise Depew Strang L'Esperance](#) / [Elise Strang L'Esperance](#) / [Elise L'Esperance](#) / [Elise Strang](#) - [Marie Louise Dugès La Chapelle](#) / [Marie Louise Dugès Lachapelle](#) / [Marie-Louise Dugès La Chapelle](#) / [Marie-Louise Dugès Lachapelle](#) / [Marie-Louise Lachapelle](#) / [Marie-Louise La Chapelle](#) / [Marie Louise Lachapelle](#) / [Marie-Louise Lachapelle](#) / [Marie Louise Dugès](#) / [Marie-Louise Dugès](#) - [Lora Sarah La Mance](#) / [Lora Sarah Nichols La Mance](#) / [Lora Sarah LaMance](#) / [Lora Sarah Nichols LaMance](#) / [Lora Nichols LaMance](#) / [Lora Nichols La Mance](#) / [Lora LaMance](#) / [Lora La Mance](#) - [Marguerite Hessein, Madame de La Sablière](#) / [Marguerite de La Sablière](#) / [Marguerite Hessein de La Sablière](#) / [Marguerite de la Sablière](#) / [Marguerite Hessein de la Sablière](#) / [Mme de la Sablière](#) / [Madame de la Sablière](#) - [Anne de La Vigne](#) / [Anne de la Vigne](#) - [Lais](#) - [Christine Ladd-Franklin](#) / [Christine Ladd](#) - [Nadezhda Nikolaevna Ladygina-Kots](#) / [N. N. Ladygina-Kots](#) - [Carobeth Laird](#) / [Carobeth Tucker](#) / [Carobeth Tucker Laird](#) - [Elizabeth Rebecca Laird](#) / [Elizabeth Laird](#) - [Marie Jeanne Amélie Harlay Lefrançais de Lalande](#) / [Marie-Jeanne Amélie Harlay Lefrançais de Lalande](#) / [Marie-Jeanne de Lalande](#) / [Marie Jeanne de Lalande](#) - [Cornélié Lamarck](#) / [Cornélié de Lamarck](#) / [Cornelia Lamarck](#) / [Cornelia de Lamarck](#)

- [Suzanne Lambin](#) - [Bertha Lamme](#) - [Francesca Raimonde Lamonte](#) - [Lois Lampe](#) - [Jeanne Lampl-De Groot](#) - [Rebecca Craighill Lancefield](#) - [Ruth Landes](#) - [Janet Elizabeth Lane-Clayton](#) - [Fanny E. Langdon](#) - [Ladema M. Langdon](#) - [Linda Bartels Lange](#) - [Mathilde Margarethe Lange](#) - [Hedwig Langecker](#) - [Grace Langford](#) - [Toni Von Langsdorff](#) - [Phoebe Lankester](#) - [Marcelle Lajoie](#) - [Elisabeth Larsson](#) - [Clara Ethelinda Larter](#) - [Amelia Laskey](#) - [Gerda Laski](#) - [Edna Ernestine Lassar](#) - [Lasthenia Of Mantinea](#) - [Vida Annette Latham](#) - [Caroline Wormeley Latimer](#) - [Linda Laubenstein](#) - [Emma Eliza Laughlin](#) - [Charlotte Louisa Laurie](#) - [Marie Anne Pierrette Paulze Lavoisier](#) - [Annie Law](#) - [Margaret Lawder](#) - [Barbara Lawrence](#) - [Penelope Lawrence](#) - [Alice Louisa Lawrenson](#) - [Elva Lawton](#) - [Hilda Mary Lazarus](#) - [Désirée Le Beau](#) - [Elaine Le Breton](#) - [Dorothée Le Maître](#) - [Mary Frances Leach](#) - [Eleanor Burke Leacock](#) - [Mary Douglas Leakey](#) - [Henrietta Swan Leavitt](#) - [Natalia Ivanova Lebedeva](#) - [Vera Pavlovna Lebedeva](#) - [Marie Victoire Lebour](#) - [Suzanne Leclercq](#) - [Una Christina Ledingham](#) - [Julia Southard Lee](#) - [Rebecca Lee](#) - [Rose Hum Lee](#) - [Sarah Wallis Bowdich Lee](#) - [Mary Elizabeth Leebody](#) - [Florence Sarah Lees](#) - [Helena Lefroy](#) - [Inge Lehmann](#) - [Emilie Lehmus](#) - [Marguerite Lehr](#) - [Dorothea Leighton](#) - [Sarah Plummer Lemmon](#) - [Leontium](#) - [Leopolda](#) - [Nicole-Reine Hortense Lepaute](#) - [Ol'Ga Borisovna Lepeshinskaja](#) - [Lidia Karlovna Lepin](#) - [Ekaterina Vladimirovna Lermontova](#) - [Iulia Vsevolodovna Lermontova](#) - [Jeanne Leschi](#) - [May Sybil Leslie](#) / [May Sybil Burr](#) - [Ruth Mandeville Leverton](#) - [Hilde Levi](#) - [Rita Levi-Montalcini](#) - [Lena Levine](#) - [Margaret Rutherford Bryan Levyns](#) - [Florence Parthenia Lewis](#) - [Graceanna Lewis](#) - [Helen Geneva Lewis](#) - [Isabel Lewis](#) - [Lillian Lewis](#) - [Madeline Dorothy Lewis](#) - [Margaret Adaline Reed Lewis](#) - [Mary Butler Lewis](#) - [Hilda Winifred Ivy Level](#) - [Leona Woods Marshall Libby](#) - [Marie-Anne Libert](#) - [Clara Flora Lieber](#) - [K.O.Victoria Lieu](#) - [Lin Qiaozhi](#) - [Almira Hart Lincoln Hjørdis Lind-Campbell](#) - [Maria GrÄFin Von Linden](#) - [Marianne Lindsten-Thomasson](#) - [Dorolyn Lines](#) - [Laura Alberta Linton](#) - [Mélanie Lipinska](#) - [Srbul Stepanova Lisitsian](#) - [Sofiya Nikolaevna Lisovskaia](#) - [Guilielma Lister](#) - [Henrietta Emma Litchfield](#) - [Elizaveta Fedorovna Litvinova](#) - [Marie Litzinger](#) - [Dorothy Jordan Lloyd](#) - [Rachel Lloyd](#) - [Lorna Lloyd-Green](#) - [Christina Lochman-Balk](#) - [Lotte Luise Friedericke Loewe](#) - [Martha Daniell Logan](#) - [Myra Adele Logan](#) - [Mayme Logsdon](#) - [Elizabeth Anne Lomax](#) - [Cynthia Longfield](#) - [Hannah E. Longshore](#) - [Mary Jane Longstaff](#) - [Kathleen Lonsdale](#) - [Isabella Losa](#) - [Jane Loudon](#) - [Esther Pohl Lovejoy](#) - [Augusta Ada Byron, Countess Of Lovelace](#) - [Mary Hewitt Loveless](#) - [Frances Lowater](#) - [Clemence Sophia Lozier](#) - [Lu Gwei Dien](#) - [Liliana Lubinska](#) - [Adelaida N. Lukanina](#) - [Katharine Fowler Lunn](#) - [Katharine Luomala](#) - [Cecelia Lutwak-Mann](#) - [Marguerite Lwoff](#) - [Katharine Murray Lyell](#) - [Mary Elizabeth Lyell](#) - [Mary Johnstone Lynn](#) - [Mary Lyon](#) - [Yelena Aleksandrovna Lyubimova](#) - [Clara Louise Maass](#) - [Catharine Macaulay](#) - [Bella Dytes Maccallum](#) - [Eleanor Josephine Macdonald](#) - [Mary Stuart Macdougall](#) - [Elsie Gregory Macgill](#) - [Carolina Henriette Macgillivray](#) - [Sheila Scott Macintyre](#) - [Pauline Beery Mack](#) - [Helen Marion Macpherson Mackay](#) - [Madge Macklin](#) - [Marde-Therese Mackowsky](#) - [Florence Edith Carothers MacLaughlin](#) - [Ida Maclean](#) - [Annie Louise Macleod](#) - [Grace Macleod](#) - [Macrina](#) - [Rachel MacRobert](#) - [Ada Isabel Maddison](#) - [Margaret Schönberger Mahler](#) - [Countess Of Artois Mahout](#) - [Lucy Philip Mair](#) - [Maude Makemson](#) - [Harriet Florence Maling](#) - [Elizabeth Malleson](#) - [Edith Mallory](#) - [Margaret Eliza Maltby](#) - [Evelyn Brower Man](#) - [Hilde Mangold](#) - [Harriet Mann](#) - [Ann B. Manning](#) - [Grace Evelyn Manson](#) - [Mary Ann Mantell](#) - [Irene Manton](#) - [Sibnie Milana Manton](#) - [Anna Morandi Manzolini](#) - [Stefania Maracineanu](#) - [Marcella](#) - [Jane Haklmand Marcet](#) - [Marguerite Du Tertre De La Marche](#) - [Marqery](#) - [Tereza Kristoforovna Margulova](#) - [Mileva Maric](#) - [Louise De Marillac](#) - [Evelina Marinov](#) - [Hertha Marks](#) - [Abby Lillian Marliatt](#) - [Alice Lee Marriott](#) - [Mary Elizabeth Marsh](#) - [Clara Marshall](#) - [Sheina Macalister Marshall](#) - [Ella May Martin](#) - [Emilie Norton Martin](#) - [Lillian Jane Martin](#) - [Harriet Martineau](#) - [Josefina Martinez-Alvarez](#) - [Mary The Jewess](#) - [Carol Y. Mason](#) - [Marianne](#)

- each red link is a woman scientist without an article
- *Biographical Dictionary of Women in Science*, User: Dsp13

# what it looks like : inadequate articles

- shorter & less content
- fewer references
- fewer links in or out
- fewer editors & fewer eyes ==> more bugs, typos, bad writing, uncorrected vandalism
- perspective bias ("criticism" sections; unlinked and uncredited family members of men; non-global perspectives; undue weight)
- ... fewer "Featured Articles", "Good Articles", "Do-you-know" highlights; "Vital Articles".

# what it looks like: inadequate content

Create account Log in

Article Talk Read Edit View history Search

## Systemic bias

From Wikipedia, the free encyclopedia

See also: *Wikipedia:Systemic bias*

**Systemic bias** is the inherent tendency of a process to favor particular outcomes. The term is a **neologism** that generally refers to human systems; the analogous problem in non-human systems (such as measurement instruments or mathematical models used to estimate physical quantities) is often called **systematic bias**, and leads to **systematic error** in measurements or estimates.<sup>[*citation needed*]</sup>

**Contents** [hide]

- Bias in human institutions
- Examples
- Systemic versus systematic bias
- See also
- References
- Further reading

### Bias in human institutions [edit]


For example, one might refer to the systemic, systematic, or institutional bias of a particular institution in devaluing contributions by women, men or ethnic minorities. For example, a poetry competition that was consistently won by white women could be subject to suspicion of a bias if there were no inherent reason that white women would consistently be the best poets. Such a bias could be deliberate on the part of the judges or entirely unconscious.<sup>[*citation needed*]</sup>

For example, the poetry contest might be judged by a pool drawn from its own previous winners, reasoning that prize-winning poets are the best to judge a poetry contest. However, it might be that in addition to choosing for poetic skill, they are also inclined to choose people with whom they have values in common, either about poetry or about other matters, resulting in a continuous stream of prizewinning white female poets. In this case, the bias could arise from either conscious or unconscious defense of **gender** and **racial** interests or simply from their shared **point of view**. In either case, it results in a biased representation of the reality they are describing in terms of quality of poets and poetry.<sup>[*citation needed*]</sup>

Because **cognitive bias** is inherent in the experiences, loyalties, and relationships of people in their daily lives, it cannot be eliminated by education or training, but **awareness** of biases can be enhanced, allowing for the adoption of compensating correction mechanisms. For example, the theory behind

Part of a series on

### Censorship



**By media**

Books · Films · Internet · Music · Press · Radio · Thought · Speech and expression · Video games

**Methods**

Bleeping · Book burning · Broadcast delay · Chilling effect · Censor bars · Concision · Conspiracy of silence · Content-control software · Euphemism (Minced oath) · Expurgation · Fogging · Gag order · Heckling · Internet censorship circumvention · Memory hole · National intranet · Newspaper theft · Pixelization · Political correctness · Postal · Prior restraint · Propaganda model · Revisionism · Sanitization/Redaction · Self-censorship · Speech code · Strategic lawsuit · Verbal offence · Whitewashing · Word filtering

**Contexts**

Blasphemy · Criminal · Corporate · Hate speech · Ideological · Media bias · Moralistic fallacy · Naturalistic fallacy · Political · Religious · Suppression of dissent · **Systemic bias**

**By country**

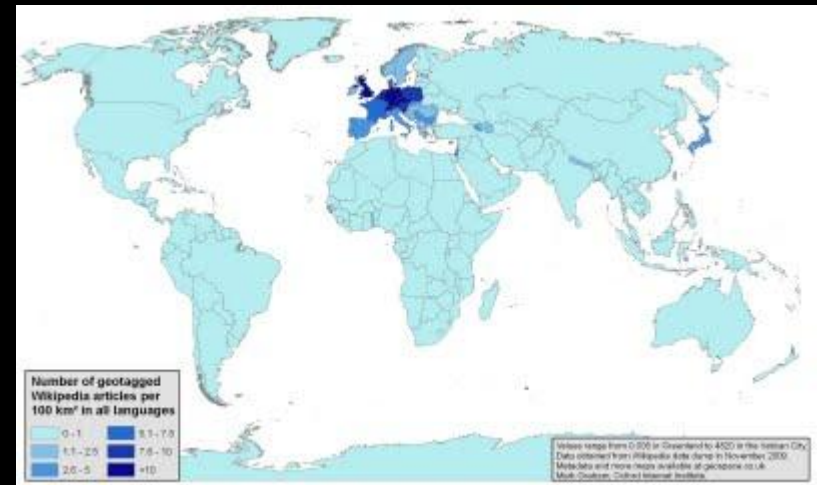
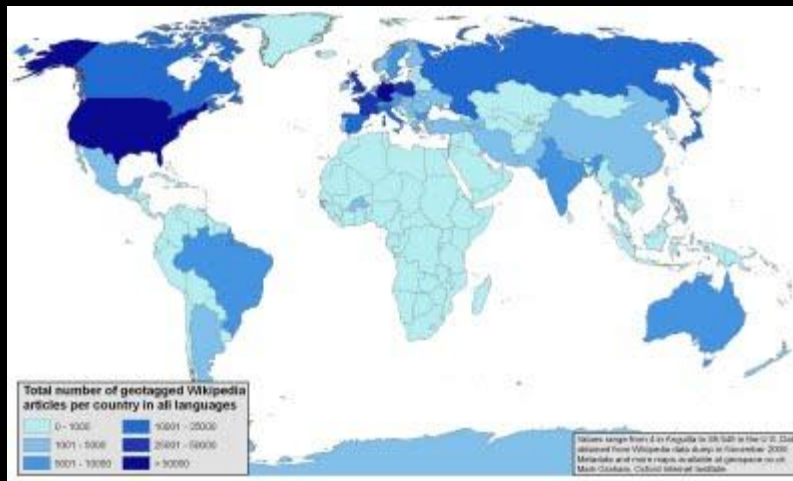
Censorship · Freedom of speech · Internet censorship

V · T · E

- the article exists!
- BUT:
- inadequate article: overall small article relative to topic's importance
- perspective bias: very little discussion of gender / ethnicity

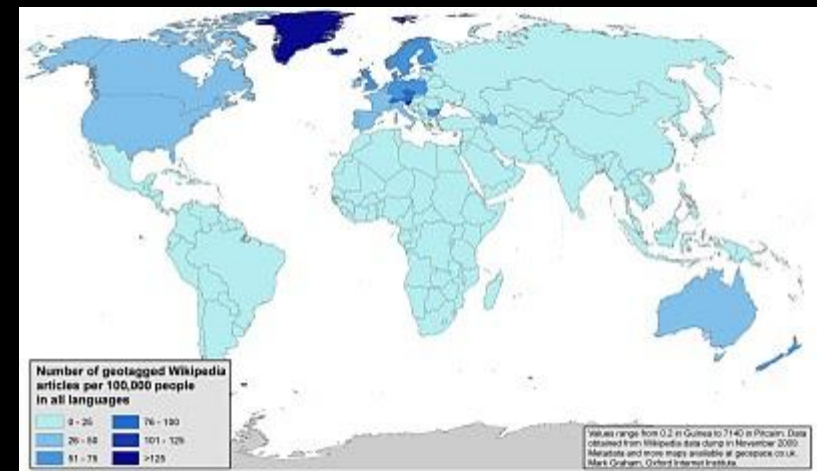
# what it looks like : geographies

Mark Graham (2009) "Mapping the Geographies of Wikipedia Content" <http://www.zerogeography.net/2009/11/mapping-geographies-of-wikipedia.html>



(clockwise) Wikipedia articles  
(a) by country;  
(b) normalized for area;  
(c) normalized for populace

*What do you notice?*



# who writes wikipedia?

- analysis done by Aaron Swartz (2006) looking at total number of characters added suggest most substantive content added by individuals, often doing very few edits
  - people (like you?) make a small number of substantive contributions
- analyses counting total number of edits suggest most work done by a dedicated pool of self-identified "Wikipedians"
  - people like me make lots of edits reviewing, "cleaning up", and organizing content

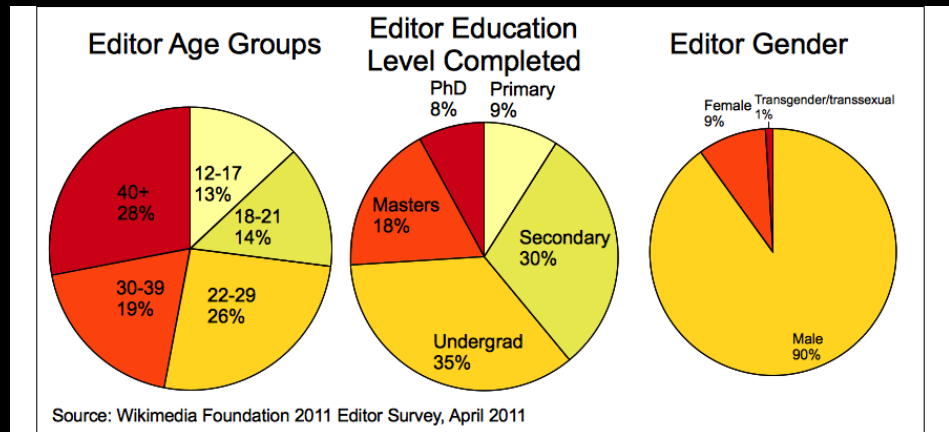
# what it looks like: editor experience

- 8.5-15% of editors are women [various]
  - Internet trolling of women/POC/minorities
- Wikipedians are less "agreeable" & less "open"; cultural expression & tone - conflict, tendentiousness; 24% report harassment [Amichai-Hamburger 2008; WES 2011]
- editor frustration because of deleted/reverted work, or lengthy processes to justify / educate
- Note: Wikimedia Editors Survey 2011 looked at nationality/language; education; motivation & experiences; gender. NOT ethnicity, religion...



# why does systemic bias persist?

- editing comes from editors: average Wikipedian
  - white, male [90%], 32yo, college-educated or student, English-speaking, US or European; single (60%); not a parent (80%) [WES 2011]
- Wikipedia culture established that replicates the "average Wikipedian"
- English sourcing
- digital divide



# so why do we care?

- #6th ranked site on Internet
- #1 general reference on Internet -- the go-to for wide variety of answers for children, students, academics, press, etc.
- 2.7Bn pageviews in US in 2011
- the good news is that while Wikipedia's failings replicate those of the larger society, and in particular those of Internet society, *Wikipedia is easier to change!*



**part 2**  
**see for yourself**



## see for yourself

The best way to explore biases in Wikipedia is to pick some topics, and explore Wikipedia's coverage on them. An approach:

- Pick a topic of personal interest to you
- Identify your assumptions, or questions, about Wikipedia's coverage of that topic.
- Identify some ways to assess your assumptions / test your question.
- Did you find what you expected? Why or why not?
- What next?

## see for yourself

The best way to explore biases in Wikipedia is to pick some topics, and explore Wikipedia's coverage on them. An approach:

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- Identify some ways to assess your assumptions / test your question.
- Did you find what you expected? How was it different if not? Why?
- What next?

# see for yourself

- ...
- Did you find what you expected? How was it different if not? **Why?**
  - This is where you attempt to pull it all together: Assess your own biases in formulating the question; assess what you found; figure out if it's real or an artifact of your method; if it's real, try to describe **WHY** it is.
- What next?
  - Applied research means your question is aimed at figuring out how to make something better. So if you found a bias, how can you (and others) remedy it?

# see for yourself

- What are good ways to assess your assumptions / test your question?

## *Content coverage:*

- *Qualitative article assessment*
- *Quantitative article assessment*
  - compare Wikipedia's coverage to another encyclopedia's coverage; OR
  - compare Wikipedia's coverage of this topic to Wikipedia's coverage of another topic.

Are there other ways to explore Wikipedia's coverage of that topic?

# see for yourself

Some ways to compare articles on Wikipedia:

- Look at length of article
- Consider depth of coverage
- Is it appropriately cited and referenced?
- Is there currently vandalism, hatespeech, or obvious inaccuracies?
- Is it tagged for improvement?
- Count & consider the CATEGORIES at the bottom of the page
- Look at other navigational aids: navigation boxes, "see also" links, Wikipedia "awards"
- Click "What links here" -- is it linked as much as it should be?

# see for yourself

Some ways to compare articles on Wikipedia:

- View the HISTORY to see the edit history.
  - Read the edit summaries, and compare some of the edits to see histories of vandalism, changes in content, edit-wars. What did the article look like to begin with? When was it first created?
- Look at TALK page (and any talk archives)
  - How many people are talking? What are they saying? Was the article challenged for notability or bias? What was the quality of discourse?
- If any challenges or disputes, read those.

## see for yourself

Some possible things to compare:

- language coverage: An article on the English-language (<http://en.wikipedia.org>) versus one of the non-English WPs.
  - Compare a "local" subject in both versions
  - Compare a "universal" subject in both versions
- geographic topics: An article about a US city, landmark, historical event, or political leader; compared with a comparable article in an African country.



## see for yourself

Some possible things to compare:

- gender biases: Pick a topic of mid-level importance in women's history or a cultural issue of interest to women; compare with similar topic for men.
- class & cultural biases: Pick a topic of mid-level importance to a minority or disenfranchised class; compare with similar topic

## see for yourself

Some possible things to compare:

- subject biases: Pick a topic of mid-level importance in pop culture or sports versus a similar academic topic.

# see for yourself

## Other exercises:

- Browse biographical categories in Wikipedia. Look at a random sampling of articles. Are the articles representative of the gender, ethnic, or other diversity of the field? Why or why not?  
Example: [Biologists by field of research](#)
- Consider the Wikipedia "Notability" policy. What is it trying to accomplish and is it successful? Does it encode systemic bias, and if so, does that advance or hinder the goal of the policy? How could the policy be rewritten to address your concerns, if any?  
<http://en.wikipedia.org/wiki/Wikipedia:Notability>

# references & further reading

- Wikipedia, "Systemic Bias" (encyclopedia article)
- Wikipedia, WikiProject Countering Systemic Bias
- Wikipedia Editors Survey, 2011
- Halavais & Lackaff, 2008, "An Analysis of Topical Coverage of Wikipedia"
- Graham, 2009, "Mapping the Geographies of Wikipedia Content"
- Aaron Swartz, 2006, "Who Writes Wikipedia?" at <http://www.aaronsw.com/weblog/whowriteswikipedia> (see also related essays)
- Lots of coverage in press & blogs. See, e.g., Cohen, NYT, 2011/01/31; Sue Gardner, 2011/02/19.

# references & further reading

- "100 longest Wikipedia articles", <http://www.buzzfeed.com/fjelstud/the-100-longest-entries-on-wikipedia>
- Wikigroaning: Comparing two similarly- titled articles on subjects of widely disparate importance: <http://www.somethingawful.com/d/news/wikigroaning.php>

**part 3**

**How to stop worrying  
and learn to love editing Wikipedia**



# how to stop worrying & learn to love editing Wikipedia

- "so-fix-it"
  - become an editor (and more)
  - small changes, big changes, writing articles
- understand Wikipedia culture
  - (a) effectively represent your subjects
  - (b) change Wikipedia culture for the better
- change Wikipedia demographics
  - underrepresented interests, skills, and identities

# How to make an article bullet-proof: 1

## *Become an editor*

- establish yourself as an editor
  - small edits are fine! typos, refs, facts
- follow the core Wikipedia principles
  - notable subject; neutral point of view; no original research; verifiable sources; you don't own it.
  - editorial behavior: assume good faith; talk about content not editors; avoid conflicts of interest.
- when challenged
  - stay civil, and
  - seek allies & outside opinion: friendly objective editors/admins for 2d opinions



# How to make an article bullet-proof: 2

## *Prepare your content*

- Pick a topic
- Review any notability or style criteria for your subject (e.g., biographical; entertainment)
- Find a model: similar topic, handled well
  - copy the source if you are new to Wikipedia!
- Start a draft off your userpage:
  - *User:Lquilter/Subject (draft)*
- Establish notability: Gather 3+ independent refs with detailed coverage of your subject; OR meet other notability criteria
- Seed wikilinks in relevant articles (e.g., awards, lists, subjects)

# How to make an article bullet-proof: 3

## *Write your article*

- Assert notability claim in first sentence / paragraph
- Include relevant categories
- Add references and a references section
- Add a section for awards / 3rd-party recognition
- Add a section for notable works, and in comments or talk describe why the works are notable. Add wikilinks on the notable works if they are independently notable.

# How to bulletproof other projects too

- Pay attention to *who's participating*
  - Get the numbers
  - Try to assess why
  - Systemic biases should be addressed; do not let "reverse racism", "colorblind", "open-to-all" narratives dissuade you.
- When projects are ostensibly open, feel ENTITLED to ensure they are ACTUALLY open.
  - use the mission statement!
- Address non-representative participant outcomes OPENLY
  - Talk about it.
  - Do not let attempts to remedy systemic biases be derailed by accusations around intentional biases or lack thereof