Visualizing the gender issue through digital methods.

Gender imbalance and Wikipedia
The Atlas comprises a set of visualisations exploring new aspects of gender research in the collaborative encyclopaedia Wikipedia.
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The bias in Wikipedia this Atlas will help you figure out

Bibliography
You can’t escape from gender declares Uta Brandes, founder of the international Gender Design Network (iGDN) and professor at KISD.

Gender is recognized as the first and most important social construction process in human life. It shapes the individual identity and the relational network in its complexity. Throughout history, social studies, cultures, advertisements, mass media and other forms of visual artifacts have not only been influenced by gender stereotypes but have also been deeply influential in the process of shaping perception about gender.

Not so far, social norms and common sense have persuaded designers and image-makers to hand the responsibility of achieving informed choices about portraying men and women in a sensitive and balanced way.

In this study, the aim is to undertake an exploration into the relationship between gender bias and Wikipedia, and attempt to understand how the information flux can be biased in multilingual collaborative source of human knowledge.

According to the goal, the complementary research has been switched in two parts: one side comprehends a volume about the theoretical assumptions, the context analysis, the case-studies and the detailed project description; the other side concerns a narrative exploration composed by the set of visualizations, the resulting observations and the applied methodologies.

Therefore, the present Atlas is structured in eight parts. At the beginning, some pages reflect an introductory approach: the first chapter regards the concept of gender in order to define the study and give a inter-disciplinary perspective; the second step is related to a general explanation about Wikipedia, its structure and its implicit rules.

The third chapter recaps the potential relationship between visual cultures and social researches, and opens to new perspectives of gender analysis, which include Wikipedia as cultural reference, explained in the chapter four.

Seen the importance of the references in the background, the research gets into the visual exploration from the fifth chapter presenting the overall project. Then, the narrative process has been divided in two kind of analysis: the sixth chapter shows the article main page and its multilingual comparison; the seventh chapter focuses on the process of making the Wikipedia, detecting edits with a special consideration to vandalism.

At the end, a final observation attempts to consider the results gained e compared to the previous research questions keeping in mind the socio-cultural diversity people live in.
Map of the sections

Basic assumptions

1. Making sense of the gender question

2. The Wikipedia paradigm

Connect design to gender research

3. Design as a social research

4. How to ride gender imbalance in a collaborative source of knowledge

Research: gender and Wikipedia

5. The overall project

6. Reading experience

Final observations

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7. The root behind
1 Making sense of the gender question

1.1 Define the concept

The word Gender has existed for a very long time but came formally into consciousness only as late as 1975, when American cultural anthropologist Rubin used the term to define the set of arrangements by which a society transforms biological sexuality into products of human activity, and in which these transformed sexual needs are satisfied. So, while the term Sex refers to the biological differences between male and female; the social classification of masculine and feminine, patterned by culture, defines the gender distinction.

Gender is defined as the result of socially constructed ideas about the behaviour, actions, and roles a particular sex performs. The beliefs, values and attitudes taken up and exhibited by them are as per the agreeable norms of society and the personal opinions of the person are not taken into the primary consideration of assignment of gender and imposition of gender roles as per the assigned gender. W.H.O. (2009)

Passing over historical assumptions, nowadays, the sociological and anthropological thinking concerns the concept of gender as a dynamic process strictly influenced by socialization practices and daily background, a journey which people do to define their own identity and sense of belonging. Beyond theoretical reasons, the concept of gender is still discussed as hot button topic extended to academic researchers, public opinion, ONG, institutions and every digital citizen.

1.2 Interdisciplinary field

Understanding the complexity of gender appears as the final aim embraced by Gender studies. Traditionally, this discipline includes men’s studies, women’s studies, mostly focused on women, feminism gender and politics, and LGBT studies, but it is strictly supported and investigated by social sciences - sociology, anthropology, literacy, philosophy, scientific studies and media researches. Studies around the concept of gender, referred to the social and cultural constructions of masculinities and femininities, can be also broken in many areas of interest, whose peculiarities relate to specific temporal moment.

Seen the history of gender, the discipline while focusing on the difference between men and women, also looks at sexual differences and less binary categorization. This bunch of perspective has deeply influenced the view men and women should receive equal treatment, avoiding discrimination based on gender, in domestic and working environment, such as in law and social situations (Figure).

After the revolution of the universal suffrage and the women’s liberation movement of the 1960 and 1970s promoted form the feminists to actively interrogate the common sense and the traditional representation of masculine and feminine, several academic fields and institutions have recognized the importance the explore the many ways that gender affect an individual’s thought process. A number of theorists have influenced the field of gender studies in terms of psychoanalytic theory: from Freud to Lacan focusing the attention on the process of sexual acceptance, or since the early 1990s including the semiotic approach to understand cultural habits and subjectivity transformation, as Kristeva and Ettinger have done.
A proper terminology

Agender/Genderless
The term reflects a person who does not identify with any gender.

Androgyn
The term conveys the combination of masculine and feminine elements, it can be used to human intersex physicality; it can be found also in social context i.e. fashion or lifestyle.

Asexual/nonsexuality
The term defines the lack of sexual attraction to anyone, or low or absent interest in sexual activity.

Bigender/dual gender
The term is related to a person who fluctuates between feminine and masculine gender identities and behavior, possibly depending on the context.

Binary Gender/Binary Sex
Both terms refer to the traditional and outdated classification of gender/sex into two distinct, opposite and separated forms of masculine and feminine.

Coming out
The term refers to the process in which one acknowledges and accepts one’s own sexual orientation. The term closeted refers to a state of secrecy or cautious privacy regarding one’s sexual orientation.

Cross-dresser
Cross-dressing refers to people who wear clothing and/or makeup and accessories that are not traditionally associated with their biological sex, but it is not necessarily indicative of a person’s gender identity or sexual orientation. They are sometimes called “transvestites,” but that term is considered pejorative.

Drag Queen/Drag King
The term refers to a person, usually male, who consciously dresses in drag with exaggerated femininity characteristics and in overexposed feminine gender role.

Gender
The term refers to the attitudes, feelings, and behaviors that a given culture associates with a person’s biological sex. Behavior that is compatible with cultural expectations is referred to as gender-normative; behaviors that are viewed as incompatible with these expectations constitute gender non-conformity.

Gender dysphoria
The disorder is a psychological diagnosis recognized by the American Psychiatric Association (APA). It is marked by clinically significant distress caused by a marked difference between the individual’s expressed/experienced gender and the gender others would assign him or her. It replaces the term “gender identity disorder”.

Gender expression
The term refers to all of the external characteristics and behaviors that are socially defined as either masculine or feminine, i.e. dress, grooming, mannerisms, speech patterns and social interactions. Social or cultural norms can vary widely and some characteristics that may be accepted as masculine, feminine or neutral in one culture may not be assessed similarly in another.

Gender Fluidity
The term conveys a wider, more flexible range of gender expression, with interests and behaviors that may even change from day to day, i.e. gender fluid children do not feel confined by restrictive boundaries of stereotypical expectations of girls or boys.

Gender Normative/Cisgender
The term refers to people whose sex assignment at birth corresponds to their gender identity and expression.

Gender Role
The term refers to a set of societal norms dictating what types of behaviors are generally considered acceptable, appropriate or desirable for a person based on their actual or perceived sex. The occidental culture recognizes two basic gender roles: Masculine (having the qualities attributed to males) and feminine (having the qualities attributed to females), although there are myriad exceptions and variations.

Gender transition
Transitioning is the process some transgender people go through to begin living as the gender with which they identify, rather than the sex assigned to them at birth. Hormone therapy, sex reassignment surgery and other medical procedures are not always taken.

Gender identity refers to a person’s inner sense of being, as psychological identification, man or woman which may or may not correspond to the sex assigned to them at birth.

Sex refers to a person’s biological status and is typically categorized as male, female, or intersex. There are a number of indicators of biological sex: chromosomes, gonads, internal reproductive organs, and external genitalia.

Sexual orientation
The term refers to an individual’s physical and/or emotional attraction to the same and/or opposite gender. “Gay,” “lesbian,” “bisexual” and “straight” are all examples of sexual orientations.

Transgender
This concept is defined as an umbrella term for people whose gender identity or expression is different from those typically associated with the sex assigned to them at birth.

Definitions can be also included: Male, FTM/ MTF, LGBPTTQ, Androsexual, Closeted, Female, Gynesexual, Hermaphrodite, Heterosexual, Homophobia, Homosexual, , Outing, Pansexual, Questioning, Skoliosexual, Straight, Third Gender, Two-Spirit.

”All the terms result from the combination between academic references, as a guidelines by the American Psychological Association - APA (2011), and definitions from Wikipedia and other digital encyclopedias.

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On the other side, feminist theorists, as Irigaray or Butler, argued that psychoanalytic theory must be criticized by women focusing on crucial details, i.e. the dialectic penis/power or the concept of patriarchy. Post-modernism theories include the impact of post-structuralism formulated by Foucault and Derrida, paving the way for the multiple gender identities and the development of second wave feminists and queer studies.

It becomes increasingly evident that dialogue around gender studies has included a wide number of speakers over time, building up critical perceptions and strategical goals in policies and global thinking.

### 1.3 From gender-oriented to gender-sensitive

For years many studies have been focused on a gender-oriented approach tending to analyze female characteristics and behaviors as opposed to male ones. According to the multidimensional perspective just discussed, the strategy adopted refers to a gender-sensitive perspective which include men and women in the framework processing socio-cultural pattern and relationship related to gender.

Stereotypes are the product of a “typical” human behavioural process: by creating categories, we simplify decision-making. Given that the vast majority of information received by us is stored in our subconscious without first being consciously “filtered” or analysed, it is inevitable that our judgment, attitudes and behaviour are very often influenced by stereotypes and prejudices of which we are unaware. Boillat F. (2013)

This paradigm has allowed a profitable integration in terms of qualitative and quantitative methodology applications increasing the analysis strategies through a cross-perspective. The resulting intersection has allowed the use of a mixed-methods research combining many techniques in the process of data extraction - focus group, surveys, statistics, software skills and digital methods - supported by a theoretical observation.

### 1.4 Making the invisible visible: Design and Gender

Gender perspective can be performed by design as a critical practice: everyday life is guided by a system of codes mentally created by individuals which depend and reflect a variety of factors, such as ethnicity, class, gender and social norms (as remarked by the theoretical framework). Compare this to the role of designers and image-makers in the representative production of men and women, there may be several reasons why introducing visual cultures in the gender research represents a necessary re-thinking on gender stereotypes and diversify approach.

The traditional communication guidelines (television, magazine, advertising and their adaption on the Web) move around different portrayals of gender perception, especially female: the ideal of young and beautiful which exclude women from aging; the iconizing process of the female body as sexual object; the implicit hierarchy condition which represents men in a dominant position in terms of social models or conveyed contents; and, at last, the product language and its visual connotation often oriented to a gendered audience.

This perspective puts in evidence that the interaction between individuals and visual content can be seen as a mutually transforming process which is situated in time, place and context. Being aware of the social process that take place between the user, the artefact and the society may be practical step to making the invisible visible and providing different set of interpretations.
Social sciences

Disciplines involved
Anthropology; Biology; Cultural studies; Feminist theories; Literacy; LGBT studies; Mass media; Men’s studies; Psychology; Psychoanalysis Sociology; Sociolinguistic; Women’s studies

Gender studies
Theoretical domain
Gender identity
sexuality; identity variation; biological definition; gender expression; individual construction process; categorization

Gendered representation
relationship among men and women; cultural patterns; social discrimination; acceptance of the variety.

Academic research
From
Gender-oriented
to
Gender-sensitive
Integrated qualitative and quantitative approach to men and women analysis. i.e. mixed-methods.

Visual cultures
Practical effects
Gender equality request
equal pay for equal work; women empowerment; equal opportunity to public debate and leadership; female education

Policies against
Gender-based violence
rape; sexual abuse; honor killings; forced prostitution; genital mutilation; sex trafficking; domestic violence.

Gendered re-arrangements of work and care
family planning; forced marriage; abortion; fertility control; bride price; divorce; family laws; social treatments; male breadwinner role.

Critical portrayal of women in the media:
gender stereotypes; sexist portrayals; objectified process; male perspective.

Role of designers
Elements of the design process
Users Functions Products

Stereotypes
Deconstruction
Symbol functions
Indicating functions
Practical functions
Aesthetic functions
Structured by

Making the invisible visible

Applied to
Public policies
Legal restrictions
Strategic inclusion
Spreading knowledge
Awareness

Supported by
Societal macro areas
Institutions
i.e. UN, W.H.O., National Governments.

Mass media
i.e. Public opinion and New media.

Non-profit organizations
i.e. LGBTQ community

Citizenship
i.e. Active users through social networking.

How interdisciplinary works

Discernability of the design process

For a complementary reading about the gender research and the design contribution, have a look to the theoretical volume.

- Seen the design process, the scheme refers to the conceptual model of the Offenbach theory of product language (cfr Ehrnberger and others (2012) Visualising Gender Norms in Design).
The Wikipedia paradigm

2.1 Collaborative writing experience

Wikipedia is an online free encyclopedia that anyone can edit which includes more than 35 million articles, on November 2014, in 288 languages.

Imagine a world in which every single person on the planet is given free access to the sum of all human knowledge. That’s what we’re doing. Wales J. (2008)

This collaborative writing experience was launched on 2001 by Jimmy Wales and Larry Sanger and its idea of user-generated knowledge turned into a global phenomena.

The word Wikipedia refers to fast culture, from the haywain term “wiki” with the addition of the suffix “-pedia” that is education.

Despite his popular success, the laissez faire approach has produced many doubts about the information accuracy and the policy of inclusion concerning newcomers and community members. Even if openness and dynamism in updating contents may be considered some of the relevant peculiarities (Kittur e al., 2008), many articles have supported a long term debate about the quality of articles compared to print encyclopedias.

However, the scientific journal Nature declared a turning point showing a comparable high level of information accuracy in selected articles from Wikipedia and Encyclopedia Britannica (Giles, 2005).

2.2 Editing process

Supported and hosted by the non-profit Wikimedia Foundation, the encyclopedic platform is perceived as free-access and free-content.

Those who have an Internet access can make variation on a Wikipedia’s article simply writing or manipulating existent or new content.

Depending on personal choice, editors can contribute under a registration - pseudonym or real identity - or anonymously. Since the beginning, no special requirements in terms of qualification or expertise, have involved the participation of people from all ages, cultures and backgrounds. Unlike traditional encyclopedia, editors can create articles that could be edited by any reader and modifications would be published on real time and stored in the revision history page related to the selected lemma. Obviously, any article may reflect errors, any kind of biases or irrelevant texts), which are immediately fixed by others.

According to this process of negotiation, the core policies of Wikipedia are embodied in three principles - neutral point of view, verifiability and no original research - intended to appropriately reach the consensus among different users.

All the encyclopedic content must be composed from a neutral point of view (NPOV) which means a critically and carefully exam of reliable sources in order to convey a significant, balanced and not biased information. According to the verifiability point, all published materials should be supported by a reliable source which not strictly suppose editor’s beliefs or experience. The third point is deeply related to the previous ones: Wikipedia articles must no contain original research.

This limit means that all materials added must be attributable to a reliable published source respecting the verifiability policy. All these guidelines determine together the type a quality of the online encyclopedia.
A compound path

1. Information related to community portal and help center.
2. Page information and wikidata item.
3. Printable version
4. List of the different language editions which contain the same article.
5. Talk page
   General discussion of the article’s subject and its improvements.
6. TOC
   List of the parts of the article organized in order of appearance.
7. Internal link to Wikipedias’ pages.
8. Supported reliable sources.
9. Create account / Log in
   Contributors can edit through registration or anonymously.
10. Search button

For a comprehensive overview about structural elements and items of the platform, visit en.wikipedia.org/wiki/Wikipedia:Glossary
or en.wikipedia.org/wiki/Help:Page_history
2.3 Edit war and vandalism: consensus’ flaws

Respecting the core policies, editors tend to reach consensus as a natural lending of the editing process through negotiation attitude assumed by community members. However, when agreement cannot be found, users turn to the talk page, a section on the back side of the lemma, and become involved in the discussion trying to affirm their reasons. Controversial topics, such as political, sexual and religious issues, damage the linear mechanism of consensus building (Kittur et al., 2009).

When editors are engaged in a dispute and constantly disagree about the content of the article overriding each other’s contributions, there is an ongoing edit war (Viégas et al., 2004). Clearly unaccepting the sentence my edits were right, so it wasn’t edit warring, users who engage in edit wars risk being blocked or even banned.

Different opinions simply exist in society and, since Wikipedia is “the free encyclopedia that anyone can edit,” it is a good mirror of such controversies. Brandes e al., (2008)

In the editing process, vandalism refers to another flaw remarkable as disruptive towards Wikipedia’s integrity. It may be referred to adding irrelevant obscenities, blanking pages with no reason or inserting nonsense texts. However, any hidden vandalism may be detected through malicious or offensive comments, blasphemy or spam.

Being a free-content platform has a price, Wikipedia is always struggling to preserve an high quality level against false information and offensive edits.

The software, for instance, support contributors to undo inappropriate variations and restore the previous version of the article lost through revert.

As stored in each revision page, this action assumed the sign of disagreement between editors highlighting the density of conflicts related to the topic (Viégas et al., 2004; Suh et al., 2007).

Even if considered a useful way to revert vandalism, the revert option is often used by the community members to reject the newcomers’ content still not adapted to the Wikipedia core policies. As noticed, this process discourages new members in being involved in the editing process.

2.4 Comparing different editions

The encyclopedic platform contains a list of 288 different editions (as of July 2015 there are 290 Wikipedias of which 279 currently activated). Considering the english version the most obvious example of lingua franca, its encyclopedic edition may be seen a complex mix of worldwide materials and cultural trends.

Therefore, the distribution of the articles shows that the most used languages on Wikipedia are English, Swedish, German, Dutch, French, Waray-Waray, Russian, Cebuano, Italian and Spanish (June, 2015). To identify language singular editions, each Wikipedia has a corresponding code which refers also to a specific orthography.

Sharing social and cultural characteristics of editors from different languages undermines the principle of the neutral point of view related to Wikipedia policies. This process created a systematic bias for the most part typical to English Wikipedia but also referred to other languages. The bias perpetuates against underrepresented cultures and topics resulting as an imbalanced coverage of subjects and contents on the platform.
Editors

Read

Contribute

Contents

Current consensus

Talk page

Revert

Consensus

New consensus

Core content policies:
- Neutral point of view
- Non verificability
- No original research

Implications

Neverending process

“The mechanism of consensus building is an ever-changing process of negotiation. The pursuit of compromise in the collaborative platform has been examined in different studies; Viégas et al. (2004) and Kittur et al. (2009) are an example. For a thorough examination of this subject consult the theoretical volume.”

Editors who disagree about the content of a page repeatedly his/her preferred version overriding other’s contributions.

Vandalism
Any addition, removal, or change of content, in a conscious attempt to damage the integrity of Wikipedia.
3 Designing a social research

3.1 The methods of the medium

*Internet is not only an object of study but also a source of knowledge* states Richard Rogers (2013).

The conceptualization of digital social research provides a multidimensional perspective that goes beyond the evolving cultural change and societal conditions related to the Web and its implications. Rogers moves on from the virtual/real divide in Internet research thinking along with devices and following the methods of the medium.

Repurposing digital techniques for social research, the effort has implemented concepts from humanities, social science and computing making use of visualization the explore the complexity of data.

Analyzing through digital methods involves seeking to learn from an existing method related to the dominant devices online, and redesigning them to achieve a cultural and social research.

The aim is to mix info-web and social web, reorganizing contents and repurposing an assembling device techniques. The general protocol starts taking all the outset of the natively digital contents available about a specific topic or goal, as links, threads, tags, and observing how devices, such search engines or platforms, deal with them.

A study called cultural research with Wikipedia undertakes comparative analysis of articles on the same subject matter across language versions, proposing to study Wikipedia not so much for its accuracy as a reference work, or its biases, but as a cultural reference in itself. Rogers R. (2013)

3.2 Wikipedia as a cultural reference

The approach taken in the digital social research can be also referred to the examination of Wikipedia.

Discussing the rationale and counter-intuitive approach to studying Wikipedia as a cultural reference generally includes a cross-linguistic comparison in terms of temporal variation, semantic dimension, relational networking and controversial issues.

The development of this study means the exam of a specific topic which is shared in many version as well a singular one, considering the neutral point of view perspective and the implicit consensus-building process, not always held by contributors.

The comparisons across language versions in Wikipedia are structured on a form of web content analysis which highlight on basic elements involved in the article: as its title, table of contents (TOC), images and references (Rogers et Sendijarevic, 2012).

Another focus refers to Wikipedia as an interesting setting to apply the cartography of controversies (Venturini and Latour, 2010), it reflects a public dispute where actors disagree and express different points of view to achieve the consensus balancing disagreement and stability.

How to visualize Wikipedia with a digital approach

The recapitulatory framework results from a comprehensive research about digital methods, visualization and Wikipedia based on the collection of academic papers and online sources. According to method and goals, each element corresponds to a trend highlighted in the case-studies, but cross-check researches are deeply supported.

Areas of study

Method

Insight

Goals

Monitoring and showing articles’ evolution;
Understanding the activity of the users;
Defining possible chronological repetitions.
- Showing the actors relational scheme;
Exploring the process of negotiation;
Analysing the correspondence between users and edits;
Underlining possible bias.
- Exploring content similarities, missing elements and socio-cultural implications;
Verifying the principle of neutral point of view;
Building narratives pattern.
- Comparing similarities between different language editions; Pointing out bias and peculiarities in specific language domain.

Object of study

From

To

Chronological dimension

Relational dimension

Semantic dimension

Cultural reference

Chronogram
History Flow
Timeline
Streamgraph

Edit network
Matrix
Revert graph
Scatter plot

Alluvial diagrams
Circle
Matrix
Treemaps
Scatter plot

Matrix
Pie chart
Tag cloud

Articles
Editing process
Revision history
Talk page
Textual content

Academic studies and scientific researches on Wikipedia

Theoretical volume

Areas of study

Method

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Content

Language

Theoretical volume

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Academic studies and scientific researches on Wikipedia

Theoretical volume

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How to ride gender imbalance in a collaborative source of knowledge

4.1 Who writes Wikipedia?

Despite Wikipedia’s purposes to be an universal source of knowledge that anyone can edit, the gender gap on the platform is still an open matter which deeply involve academics, community dialogue and mass media.

Estimates of the percentage of Wikipedia have revealed the female range from 8 to 16% (Editor Survey 2008, 2011; Hill and Shaw, 2013). The lower female participation relates also to a less coverage: articles on topics of interest to women are minorities or wrote in shorter form (Lam et al., 2011).

According to Reagle (2013) the tradition of the computer world is dominated by men and continues being uncomfortable for women. The partial presence and absence of women, whatever as article subjects, editors or readers, causes the practical effect of disparities in the quality and accuracy of encyclopedic contents.

4.2 Nine Reasons Women Don’t Edit Wikipedia

Dealing with diversity and its importance to Wikipedia, Sue Gardner, the Foundation’s former executive director, embraces the cause aiming to increase female enrollment to 25% by 2015.

At the same time, Gardner collects several conversations about the lower participation in female collaborative writing from scientific sources, blogs and online forum. From this bunch of online comments, it’s possible to define a synthetic framework of analysis about the origin of gender gap in Wikipedia in nine points:

1. Some women don’t edit Wikipedia because the editing interface isn’t sufficiently user-friendly.
2. Some women don’t edit Wikipedia because they are too busy.
3. Some women don’t edit content because they aren’t sufficiently self-confident, and editing requires a lot of self-confidence.
4. Some women don’t edit Wikipedia because they are conflict averse and don’t like Wikipedia’s sometimes-fighty culture.
5. Some women don’t edit Wikipedia because the information they bring to Wikipedia is too likely to be reverted or deleted.
6. Some women don’t edit Wikipedia because they find its overall atmosphere misogynist.
7. Some women find Wikipedia culture to be sexual in ways they find off-putting.
8. Some women whose primary language has grammatical gender find being addressed by Wikipedia as male off-putting.
9. Some women don’t edit Wikipedia because social relationships and a welcoming tone are important to them, and Wikipedia offers fewer opportunities for that than other sites.

These reasons provide an overall picture about the discussing topic and its actors involved showing the importance of gender researches in online communities.
How being engaged in the conversation

Is Wikipedia biased?
- Supported strategies
- Understanding and awareness
- Building an inclusive culture
- Developing a respectful interaction leads to collaboration
- Sharing various decision-making opportunities
- Creating the quality of knowledge

Word of Mass Media
- Morris K., Does Wikipedia’s sexism problem really prove that the system works?, The Daily Dot, May 2013.
- Auerbach D., Encyclopedia Frown: Wikipedia is amazing, but it’s become a rancorous, sexist, elitist, stupidly bureaucratic mess, Slate, Dec 2014.

Community experts
- Academic studies of the gender bias in Wikipedia
- Wikipedia Editors’ Surveys
- Academic researches
- Media
- Selection of articles concerning the topic from 2011 to 2015.

For a complementary reading about the gender bias and Wikipedia, just go deeper into the theoretical volume.
The overall project

5.1 General lines

According to the previous statement, this project achieves a visual exploration of the gender issue on Wikipedia as a proxy.

Two pages relating to opposing concepts – Man and Woman – translated into different language versions have been selected for analysis. The research moves along two established comparative axes: one perspective relates to the observation of the couple of articles selected composed in the same language; and another perspective regards a cross-linguistic comparison between different encyclopedic versions. Understanding the methodology behind the study, it’s important to point out that the linguistic versions considered in the research have been chosen on the basis of their level of complexity as defined by the number of articles based on up-to-date statistics on Wikipedia. Based on this list, five language versions were extracted – German, English, Spanish, French and Italian – which would enable an active, equivalent comparison in respect of the subject under discussion. The collaborative nature of Wikipedia defines new linguistic geographies. The linguistic phenomena are therefore examined beyond their limited territorial coverage.

This enables possible gender differences to be examined in a restricted, but at the same time identifiably neutral and generalized, context.

The whole procedure explores every steps of the study in a constant observation starting from micro details to a macro preview: it means a strictly consideration of the single article items to return to a comprehensive cross-linguistic overview.

These lens refer to three main frames: the chronological evolution of the articles’ informative content related to its editing process; the relational dimension resulting from the both internal and external networking activity of Wikipedia; and at last, the tagging process enables to detect edits stored in the revision history page.

The analysis as a whole explores the activity of the user and contributor without revealing and examining his identity. It faces the difficult retrieval of this type of data and, therefore, an analytic comparison that is superficial and difficult to incorporate into a report of a more detailed examination.

5.2 Goal

A study by the Wikimedia Foundation showed that fewer than 13% of Wikipedia editors (2011) identified themselves as female, evidence of the practical effect of a disparity, the reasons for which are a potential subject for discussion among experts, scholars, mass media and involved people.

Based on the findings, this project aims to identify those linguistic and cultural differences tending to restrict a contribution to information equally divided between the genders.

To this end, the overall research tends to promote social research capable of exploring aspects of the gender question from the less conventional perspective of a linguistic comparison.
1. Gathering language editions

Extracted from statistics 4 December 2014;
All Wikipedias ordered by number of articles.
1 000 000+ articles.

2.1 First analysis

Which articles?
Choosing the definition of Man and Woman to compare all articles in the selected language editions.

Peculiarities.
The Italian term for Italian male article shows the specification (genere) added to Uomo.
This specification refers to the common usage of the Italian language to declare “Uomo” as human being which includes also women.

To simplify the visual process sometimes Uomo (genere) is replaced by Uomo (*).

<table>
<thead>
<tr>
<th>Language</th>
<th>Wiki</th>
<th>Articles</th>
<th>Edits</th>
<th>Users</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. English</td>
<td>en</td>
<td>34,403,479</td>
<td>745,836,457</td>
<td>23,322,351</td>
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<tr>
<td>2. Swedish</td>
<td>sv</td>
<td>1,949,645</td>
<td>28,964,912</td>
<td>409,079</td>
</tr>
<tr>
<td>3. Dutch</td>
<td>nl</td>
<td>1,799,544</td>
<td>43,622,940</td>
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<td>4. German</td>
<td>de</td>
<td>1,782,609</td>
<td>142,043,452</td>
<td>2,024,107</td>
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<tr>
<td>5. French</td>
<td>fr</td>
<td>1,567,152</td>
<td>111,970,925</td>
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<tr>
<td>6. Waray-Waray</td>
<td>war</td>
<td>1,258,841</td>
<td>6,248,254</td>
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<tr>
<td>7. Cebuano</td>
<td>ceb</td>
<td>1,208,469</td>
<td>5,768,489</td>
<td>19,341</td>
</tr>
<tr>
<td>8. Russian</td>
<td>ru</td>
<td>1,608,024</td>
<td>79,466,884</td>
<td>1,455,707</td>
</tr>
<tr>
<td>9. Italian</td>
<td>it</td>
<td>1,160,024</td>
<td>74,760,370</td>
<td>1,133,867</td>
</tr>
<tr>
<td>10. Spanish</td>
<td>es</td>
<td>1,142,063</td>
<td>83,991,147</td>
<td>3,404,868</td>
</tr>
</tbody>
</table>

Wikipedias selected by common socio-cultural ground and language dimension:

Building the color Palette recurring in compared visualizations.

First image related to each article. Color average 100% saturare
General comparison

Growing pages: contents and edits

What do you read?

What's behind?

Data mining

Questioning
Main page

1. Changing structure of the TOC
2. Connections inside Wikipedia
3. Public Reliable sources
4. Concept analysis

Revision history

5. Edits detection
6. Vandalism

Observe

Explore

Visualize

Conceptual model

Findings

Actions

Temporal structure
words amount
Networking by Gephi
Data refine
Matrix
Clustering
Treemap
Manypedia
Data refine
Matrix with similarities

Actions

Tagging
Clustering
Streamgraph
Clustering
Narration
Temporal structure
What do you read on the main article page?
Frau (mittelhochdeutsch frouwe; von althochdeutsch frouwa vornehme, hohe Frau; Herrin) bezeichnet einen weiblichen, erwachsenen Menschen.
- A woman is a female human.
- Mujer (del latín mulier, -iris), o fémina (lat. femina), es el ser humano del sexo femenino.
- Une femme est un être humain de genre féminin et d’âge adulte. Avant la puberté, elle porte le nom de fille.
- Una donna è un essere umano adulto di genere femminile, della specie Homo sapiens.

Mann bezeichnet einen erwachsenen Menschen männlichen Geschlechts.
- A man is a male human.
- Varón es un ser humano de sexo masculino, independientemente de su edad
- Un homme est un être humain de genre masculin et d’âge adulte.
- L’uomo è un individuo adulto di sesso maschile, appartenente alla specie umana (Homo sapiens) contrapposto a donna o a bambino, fanciullo, ragazzo.

*Each sentence refers to the first line of the selected articles in the proper language edition of Wikipedia.*
Growing pages: contents and edits

In order to introduce more detailed analyses, it is necessary to examine the total flow of contributions that have enabled the growth of the individual pages.

The aim is to identify the intensity of growth of the pages in order to understand the contributors’ interest in the subject also in terms of timescale. Data on the growth of the page from the start of the year were collected at the end of December of each year through WikiStats.

The ten pages were first published at different times: the Woman and Man pages were added in 2001 when Wikipedia was launched, corresponding pages were added in each version between 2003 and 2004, while the Donna page was only created in the Italian edition in 2005.

In addition to monitoring development over time, data was also collected on the percentage changes made annually by contributors in the various language versions, showing the peak activity for each page.

According to selected topics how the intensity of the pages’ growth change in the time line?

In the process of pages’ implementation, how long has been the positive interest keeping stable?
Is possible to notice differences per editions or comparing variations over time?

Which is the possible connection between the climax per single page and the editing activity?

Research hypothesis
Method behind

1. Data extraction
From launch page to 4 Dec 2014.

2. Data collection
Byte and edits.

The whole procedure was repeated for all ten selected pages (fig.).

3. Building the evolving timeline

Unit of measure/
The growth of the page proceeds through the number of bytes.

All edits refers to quantitatively number which is introduced in the visualization as total sum related to the temporal progression.

Preliminary step:
Timeline of the selected pages.

Comparison between the page growth/#Edits

Counting edits
In the German edition, the *Frau* and *Mann* pages were both created in 2004 and saw a constant growth in content up to 2010, followed by a standardisation of activity with a tendency towards a decline in implementation, particularly on the women’s page. The *Frau* page has more informative content with staffing, compared with the *Mann* page which has a relatively low change density – in general fewer than 100 edits a year – but a more active and variable variation in the rate of changes.

Development of the pages in the English edition does not follow a regular pattern. From their launch, the *Woman* page was found to have a high percentage growth initially, with consolidation of the page in 2004, followed by a period of settlement and sharp decline in implementation in 2010 and a steady increase in activity between 2013 and 2014. This process is compared in part with the activity of the contributors and progresses actively, showing a peak in changes to the page and having a positive impact on the percentage of total changes. The *Man* page, on the other hand, had exponential growth followed by a parallel pattern of constant change activity up to 2009 and subsequent decline up to 2014. The pattern of changes follows the general trend and, after a peak in activity around 2007, a sharp decline followed – fewer than 80 changes a year – tending towards a reduction. It can be confirmed that in recent years, consistent with the proj-
ect hypotheses, the Man page is the least attractive of the pages analysed in terms of contributor and user interest in relation to the predominance of the English language at an international level.

The Mujer and Varón pages were created in the Spanish edition of Wikipedia in 2003 with massive, immediate development of the content on the women’s page followed by a more extensive period of growth than on the man’s page. The Mujer page had variable implementation with parallel content change activity, which declined slightly after 2011. There was a net percentage increase on the Varón page from 2006, with a difference in the number of changes which tended to remain low but constant, fewer than 100 actions a year.

The two pages selected in the Spanish Wikipedia, therefore, show an imbalance in information content which tends towards greater attention to the women’s page.

In the French language version of Wikipedia, both pages grow exponentially in the initial period but to different degrees: the Femme page had three times more content than the Homme page. Change activity progresses chronologically, however, in a manner consistent with the general trends. Of all the pages selected, the Homme page was the only one where the period of greatest implementa-
This histogram shows the growth % over time related to selected pages compared to the total number of edits. Climax and declines points are also displayed.

How to read it

Articles
Frau
Mann
Woman
Man
Mujer
Varón
Femme
Homme
Donna
Uomo (genero)

Editing %

High increase
Uomo (...) +27,273%
Mujer + 4766,8%
Varón + 2746,4%
Woman + 1560,7%
Man + 1462%
Editing +1336%

Page growth
Byte %
Years
Since 2011, all the pages present a general downturn in the growth rate.

The editing process is constantly decrasing, except in 2010.

Growing pages: contents and edits.
Frau: constant growth; small variation/annual %

Mann: linear growth; progressive decrease/annual %

Woman: exponential growth; strong decrease/annual %

Man: constant growth; progressive decrease/annual %

Mujer: constante growth; progressive decrease/annual %

Varón: constant growth; sudden decrease/annual %
In the case of all the language editions compared, the percentage growth in the pages tends to vary over time with a drop in implementation of the content from 2011, which coincides with lower user participation compared with the previous year.

The pairs of pages selected developed in a consistent way over time, maintaining a predominant growth in the content relating to woman. Only in the pair of pages in the French language edition was the position less balanced.

Comparison of the different language editions showed, fully in line with expectations, that the English version had most contributions, followed by an equal number of contribution in French and Spanish, and finally by German and Italian.

Generally speaking, the intensity of changes was higher in the case of the women’s pages selected, indicating greater user interest in monitoring and implementing these on a consistent basis.

Lastly, the growth peak shown by the data collected tended not to coincide with a high level of change activity on the part of users. In fact, only the Homme page out of the ten pages chosen showed a correspondence between the two elements examined.
Changing structure of the TOC

The TOC - Table of Contents is at the top of each page and serves as an index to the main articles and their sub-sections, giving the reader an overview of the information content.

Every Toc is subject to change over time and is arranged differently in each language version.

As a first step in analysing the arguments on the individual pages in order to make a final general comparison, the individual TOCs were examined on the last day they were updated during the data gathering period (4 December 2014).

The depth of each section and sub-section was considered on the basis of a word count. The attributions were excluded from this part of the research and will be analysed subsequently. An initial reading of the individual pages shows both explicit similarities and differences.

The length of the sections is not strictly related to the development of the argument and its completeness, in some cases it was found that the section served as an incipit with possible further details given by internal links to other Wikipedia pages. All the pages tend to respect the principle of proportionality between the arguments.

Based on this initial exploration, the sections in all the selected pages that looked similar were extrapolated and arranged in terms of conceptual proximity. From the point of view of a content comparison, it is interesting to clarify which arguments are addressed by only one page or one language version.

Understanding which subjects are presented in the title to define an encyclopedic approach? Do they remark any chronological variation?

According to language editions and gender question which topics reflect the majority of interest?

Is it possible to highlight any chapters or subchapters explicitly related to just one single page?

Are these assumptions a first step to define a cross-cultural balance among multilingual editions?

Research hypothesis
Method behind

1. Data extraction
   TOCs from selected articles - Last update Dec 2014.

2. Timeline

3. Words amount
   The whole procedure was repeated for all ten selected pages.

Visualize
   Cross-linguistic observation

TOCs structure
   Corpus of selected pages.

Years
   Displaying TOCs temporal evolution.

Chapters and sub-chapters of the current TOCs.
Frau
This page remains stable in the length of time. From 2006 to 2013, the editing process hasn't modified the TOC structure. Only in 2014, the chapter "Gesellschaftliche Rolle" und "Emanzipation" (Gender role) has been relocated as sub chapter "Frauen in der Urgeschichte" (Society).

Woman
This page presents a steady growth of its contents related to TOC evolution. Despite of being the most completed edition, the article seems to miss important aspects, as the political dimension of women (the chapter is removed and never introduced again), or the reference concerning the violence against women, a hot button topic lately added in 2013.
Exploring TOC evolution through time and titles

This page presents a particular TOC comparing to other articles. The most popular chapter about biology is not such recurring, except in 2009 and 2010. At first sight, Activism and Women's rights seem to be the central topic of the TOC.

Mujer

This page hasn't been significantly changed since 2008. The contents related to the female historical dimension, presented in “Condizioni della donna” chapter, have been massively deleted along 2006.

Donna

This page hasn't been significantly changed since 2008. The contents related to the female historical dimension, presented in “Condizioni della donna” chapter, have been massively deleted along 2006.

The visualization displays the temporal variations in TOC evolution per single page. The articles are divided in two groups related to gender. All TOC were collected in the first days of December per year starting from the each page launch. The data extraction maintains a relevant time closeness. Chapters and sub chapters displayed remain over time or go through relocation or removal.

<table>
<thead>
<tr>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
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<td>1 Etimología del termine</td>
<td>1 Biología y sexo</td>
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<td>2 Biología y sexo</td>
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<td>3 Los derechos</td>
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<td>3.1 Preistoria</td>
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<td>legales de las mujeres en la historia</td>
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<td>4 Mujeres en la política</td>
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<td>5 Sufragio femenino</td>
<td>3.2.2 Roma antica</td>
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<td>6 Cultura y roles</td>
<td>6 Cultura y roles</td>
<td>3.3 Medioevo</td>
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<td>7 Véase también</td>
<td>7 Véase también</td>
<td>3.4 Età moderna</td>
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<td>3.5 Età contemporanea</td>
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<td>3.5.1 Cultura occidentali</td>
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<tr>
<td>4 Voci correlate</td>
<td>3.5.2 Altre culture</td>
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<td>4 Note</td>
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<td>7 Altri progetti</td>
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<table>
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<tr>
<th>2003</th>
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<tr>
<td>1 Etimología del termine</td>
<td>1 Etimología del termine</td>
<td>1 Etimología del termine</td>
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<td>3.5.1 Cultura occidentali</td>
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<td>6 Voci correlate</td>
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<td>7 Altri progetti</td>
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</tbody>
</table>
The description of the biological characteristics of the female figure refers to a central knot in the comparative TOC evolution analysis between the selected pages. The Spanish page presents just an exception.

The chapters concerning politics and violence against women seem to be missed or unable to maintain a persistence over time in the different language editions.
### 1 Biologische und medizinische Bedeutung

#### 1.1 Männerhaut

#### 2 Soziologische Bedeutung

(Geschlechterrollen)

#### 3 Unterschiede zwischen Männern und Jungen

#### 4 Siehe auch

5 Literatur

6 Weblinks

---

### 2003

<table>
<thead>
<tr>
<th>2003</th>
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<th>2005</th>
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<tr>
<td>3 Unterschiede zwischen Männern und Jungen</td>
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</tbody>
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### Exploring TOC evolution through time and titles

The visualization displays the temporal variations in TOC evolution per single page. The articles are divided in two groups related to gender. All TOC were collected in the first days of December per year starting from the each page launch. The data extraction maintains a relevant time closeness. Chapters and sub chapters displayed remain over time or go through relocation or removal.

---

### Mann

This page remains stable over time in its TOC structure. At last, in 2004, it registers some insights about specific male biological characteristics sub chapters.

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### Exploring TOC evolution through time and titles

The visualization displays the temporal variations in TOC evolution per single page. The articles are divided in two groups related to gender. All TOC were collected in the first days of December per year starting from the each page launch. The data extraction maintains a relevant time closeness. Chapters and sub chapters displayed remain over time or go through relocation or removal.

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### Man

At the beginning, this page has presented many changes to fix a stable TOC structure around 2011. “Gender role” and “Gender stereotypes” chapters have been deleted in 2006 and re-integrated in a comprehensive chapter “Culture and gender role”. To note, in 2009 the “General masculine role” has been transformed in “Exclusive masculine role” and never changed again.
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Varón
This page refers to the same TOC since 2007. It’s also the unique article with a proper “Matrimonio” (marriage) chapter, transformed later in sub chapter.

Uomo (genere)
This page changes its TOC structure in 2009 following the model of the English edition.
<table>
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<tr>
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**Changing structure of the TOC**
Homme
This page shows a radical change across 2008-2009 with the Les hommes et les activités chapter and its specific sub chapters. From 2010, the TOC structure has never changed again.

Comparing the TOC evolution in the different language editions related to male page, the chapters are characterized by a lower mobility and variation, except sporadic case as the Homme page.

In addition, the Uomo (genere) article bases its TOC structure on the model of the Man article translating the titles from English to Italian in one year distance. These two articles are the only ones to specify a sub chapter about the exclusively male roles in society.
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1 Origine
2 Biologie et anatomie
3 Taux de masculinité
4 Psychologie
5 Identité sexuelle masculine et genre
6 Notes et références
7 Voir aussi
7.1 Bibliographie
7.2 Articles connexes
7.3 Liens externes
7.4 Liens externes
The _Frau_ page develops its arguments in a proportional manner, particularly in the sections covering biological characteristics and the social role of women.

Within the latter, there is a major jump in time between the section on prehistory and that on female emancipation, which, although supported by further information links to other Wikipedia pages, are less specific than another section devoted to female names in the _German language_.

In the _Mann_ page, clear emphasis is given to the section on biology which addresses in detail both man’s physical and morphological characteristics.

The chapter on man in society is summarised briefly compared with the corresponding section in the _Frau_ page.

This suggests that in the German edition, the _Mann_ and _Frau_ pages structure their Toc on the basis of similar subjects, but the second page contains a wealth of specifics and amplification of the main items of information.

In the _English edition_, both the pages selected can be considered largely complete in view of the absolute international nature of the language.

The structure of the Toc for the _Man_ and _Woman_ pages shows differences in the progressive develop-
Structure of the current TOC

6. Reading experience

Comments

The selected pages in the Spanish edition of Wikipedia show a difference in TOC construction, with the Varón page standardised with respect to general characteristics, while the Mujer page is distinguished by content choices.

With regard to the range of pages analysed, the latter is the only one to address women's rights specifically with sections on feminism and women's suffrage. The biological characteristics presented and well articulated in all the other pages are addressed here in a summary focused on the subject of reproduction. In contrast, the Varón page has a section on biological characteristics in line with all other language versions, particularly the Man and Mann pages.

It is worth noting in the section on culture and gender studies that the sub-section on male stereotypes is the most developed in the entire page and that it is the only place where the subject of marriage is given a whole sub-section. This latter point could be an idea for an interesting cultural reflection, if related to the arguments addressed in the Mujer page.

In the French edition, the two pages chosen contain different amounts of information, with significantly more on the Femme page. The TOC structure is thus different in terms of the number of sections and the presence of sub-sections. The Femme page in fact has the items arranged by macro-topic - biology, religions, politics – discussed in a set of detailed sub-sections. The figure of woman is represented in a historical context, showing her position through the phases of antiquity, and in religions, providing an inter-cultural content barely present in the other pages.

Although reference is made to psychology and gender arguments, the Homme page contains less on the social dimension of men in broad terms: for example, the sections on work and politics are not cited.

The two pages in the Italian version studied have a common TOC structure in line with the general characteristics of the other language versions. The Donna page summarises the social and cultural dynamics in a single section on woman's condition and behaviour, concentrating mainly on biological aspects.

In the Uomo (genere) page, on the other hand, there is a balance between the sections and sub-sections and, following the example of the English version, it addresses the topics of masculinity and gender roles, reserving for the latter an item on exclusively male roles.
The visualisation shows that biology and its characteristics are a shared theme in all language versions with different levels of detail.

In the encyclopaedic definition of man and woman, the first requirement is a scientific description of human nature.

This first objective perspective is followed by the section on culture and gender roles, which are quite different in the various sub-sections in each gender and language version. For example, a very important, topical argument such as violence against women is only related to gender roles in the men’s page of the English edition.

Shared similarities on a lesser scale, however, are those concerning history, religion and politics. In the case of the first two, there is a vast amount of information on the women’s pages, which can also be found on the corresponding men’s pages.

Analysis of the Toc shows that the Italian version follows the English example in the way the information is structured, as evident from the sections on etymology and masculinity, which correspond only in these two languages.

Finally a cross-linguistic comparison of the Tocs shows that sections and sub-sections are only presented explicitly on one page. Notification of the contents gives rise to an initial reflection on the amount of information, missing information and contributors’ activity.

It should be noted that the absence of a section does not necessarily imply that the argument is not relevant to the page; it may in fact be present in the text in another section, as a citation or internal link to Wikipedia.
Connections inside Wikipedia

Analysis of the TOC shows that the structure of the sections and their titles are fundamental in order to formulate initial hypotheses on the development of the page and, at the same time, demonstrate the specific nature of the language versions.

However, a user’s searches on the web are never limited to the acquisition of information from a single source and it is relevant in this context to understand the possibilities of more thorough research on the chosen topic offered by Wikipedia.

This part of the research will, therefore, look at defining a network of relationships between the pages involved in the research and other associated pages within Wikipedia.

This investigation is aimed at producing two networks of relationships divided by gender, in order to explore the first and second level links. A body of Wikipedia links was extrapolated from each individual page selected; each of these links was opened and a subsequent batch of links was obtained from these. A dataset was then built to make clear the connection between the first and second level links.

The links already present on the initial page were entered in the Source column and the links found in the second search level were entered in the Target column.

A weighting was assigned to each connection based on the number of repetitions of the links in the Target. The whole procedure was repeated for all ten selected pages and each dataset constructed was entered into Gephi, an open source software for the visualisation of networks.

After an experimental phase which saw the creation of networks too complex to be analysed specifically, the datasets were reorganised by eliminating from the final visualisations those links which were shared by a single connection.

This process made it possible to move from separate visualisations of the individual pages to two visualisations subdivided by gender in order to facilitate cross-observations of the language versions.

Exploring the resulting network between the main pages and the connected Wikipedia links.

Observing the density of patterned connections and comparing the two visualisations according to gender.

Is it possible to remark any relevant peculiarities or “missing points” in the whole network?

Research hypothesis
Method behind

1. Data extraction

1.1 Data gathering
   1° Level links, already present on the main page;
   2° level links, subsequent connection to the main page.

2. Dataset
   The whole procedure was repeated for all ten selected pages

   Visualize
   Exploring the network

3. Data refinery
   Visualize
   Synthetic visualizations of the compared and gendered networks.

Matrix

1° Level links from the main page of a selected article.

2° Level links from the extracted connections.

Building connections through Source, Target and Weight (n° of repetitions).

Visualizing all connections and sub connections per single articles.

Counting only the 2° level shared connections per article.

Some examples of the networks displaying all connections inside Wikipedia related to the main page per language edition.
The *Frau* page enlarged its content by considering details of the current social situation such as women’s rights, the gender pay gap and employment. Discrimination against women is addressed from a more institutional perspective with a page on the United Nations Convention.

As the more developed page, the degree of depth on the *Woman* page is high. Some topics, at the centre of daily debate due to their controversial nature, are addressed in less depth on the main page but are considered more fully within the network of links. This is the case with religions, a theme hardly mentioned in Woman but addressed in a series of connected pages such as Women in Judaism, Women in Islam, Gender roles in Christianity for example. The same applies to the Gender Studies and Feminism pages, referred to on the main page but at the centre of citations and links within the English edition.

In analysing the Toc, the *Mujer* page had interesting unique features which are made clear in the definition of the links containing more information. The section devoted to women’s rights is examined in detail compared with the other editions. Linked to the page are a series of arguments relating to emancipation and the legal protection against violence such as the page Fondo de desarrollo de las Naciones Unidas para la Mujer and Dia Internacional de la Eliminación de la Violencia contra la Mujer. Likewise, the content on reproduction on the main page is analysed from a more social and international perspective as in the case of the pages Envejecimiento de la población, Modelo generaciones salopadas and Tasa de supervivencia.

The *Femme* page contained a series of analyses on other pages which complemented information already found on the start page. In this case, the internal links to Wikipedia did not fill in the gaps in the original page but stated precisely the level of knowledge of the subjects presented in them.

Finally, the *Donna* page is linked to other Wikipedia pages to form a more detailed framework on the social and cultural dynamics summarised on the start page.
From analysis of the Tocs, the *Mann* page noted that the figure of the man an society has been addressed in brief in order to leave more space for the section on the physical and biological characteristics, such that the majority of internal links are directed at the debate and social movements and topics associated with social research. This trend is demonstrated by a number of pages such as Männerrechtsbewegung (Men's rights movement) or Masculinismus (Masculinism).

The links on the *Man* page to other Wikipedia pages follow the arguments set out in the Toc section. As before, the links to other pages take the wealth of information already given on the start page to a greater level of detail. In this case, for example, the section Culture and Gender roles is supported by a series of pages largely directed at the subject, including Stereotype, Gender neutrality, Men and Feminism and Gender identity.

The *Varón* page is similar to the other pages chosen with regard to the *Mujer* page as already demonstrated by the view of the Toc and contains on its main page a detailed analysis of male stereotypes. Consequently, the links to the Wikipedia pages connected to the original page address the lifestyles and social dimension of the male figure, as can be seen for example in references to the pages Metrosexual, Tecnosexual and Retrosexual.

The *Homme* page is less detailed than all other pages: its Toc shows some sections missing in the encyclopaedic treatment of the subject. Such aspects are in part provided for by the start page network at the centre of an interconnection of pages linked to man's social life and conditions. The pages Études de Genre, Hominisme, Transsexualisme and Genre (sciences sociales) are in fact part of this network internal to Wikipedia.

Finally the page *Uomo (genere)* points to more detailed consideration of the topic of gender with a link to the pages Ruolo di genere and Identità di genere. It is worth noting the predominant presence compared with the number of links taken from pages such as Culto dello stupro, Violenza sessuale, Abuso sessuale and Violenza contro le donne.
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<tr>
<th>Frau</th>
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<td>ONU Femmes</td>
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<tr>
<td><strong>Declaración de los Derechos de la Mujer y de la Ciudadana</strong></td>
<td><strong>Déclaration des droits de la femme et de la citoyenne</strong></td>
</tr>
</tbody>
</table>
Comparison of the two previous visualisations is concerned with content **density and non-presence**. It can be seen how on the one hand the number of links favours the option of direct detailed consideration by the user, while on the other it creates a hierarchy in the predisposition and implementation of the content on the part of the contributors.

The first step in the examination of the same type of pages in different language versions showed that the links to all other Wikipedia pages either provided more specific information or amplified the subject.

This implies that some language versions, such as the French edition, have a tendency to propose links with more detail on content already present, while others, such as the German edition, are supported by content on other pages.

However, the network of Wikipedia links showed more interconnections and amplification of the topic in the women's pages in all versions considered, in line with current public debate.

This leads to discussion of the non-presence of some references which address the subjects of the family and the management of domestic life, present in the
female links and absent from the male ones (excluding a few approximations).

This disparity in the treatment of information is an interesting detail given the progressive, shared tendency towards gender equality.

The observations supported by the visualisations of the networks were subsequently confirmed by a cross-referencing of the presence of the Wikipedia pages in the language versions.

This manual investigation was performed in order to support the resulting network of relationships. The links corresponding to the body of first level links from the start page were identified for the other editions and their presence labelled in one of three categories: present on the research page, present on another Wikipedia page and linked to the research page, present on another Wikipedia page but not linked to the research page, not present in the language version.

The resulting matrix gives an overall view of the individual content to which the users link and the choices of the contributors in the system of association to the page topics.
### Comparing possible connections in Wikipedia

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<th>Man</th>
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<td>Mannerrechtsbewegung</td>
<td>Men's rights movement</td>
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<td>Machismo</td>
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<td>Virility*</td>
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<td>Vergewaltigung</td>
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</table>

### Comments

An initial reading of the matrix showed the pages Studi di genere and Sessismo to be the only two pages present in all versions for both genders.

There is, therefore, a wide variation in the approach to the same subject which reflects, in some cases subtly, a cultural differentiation associated with the language spoken.

In this way, the pages of the Italian version reflect the limitations of the language and have the largest number of missing pages.

Likewise, the popularity of the English language, particularly in the case of the Woman page, results in a high level of completeness with a wealth of Wikipedia pages linked to the research topic.
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<tr>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Hombres más ancianos del mundo</td>
<td>Doyen masculin de l'humanité</td>
<td>X</td>
</tr>
<tr>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Androcentrismo</td>
<td>Androcentrisme</td>
<td>X</td>
</tr>
<tr>
<td>Identidad sexual</td>
<td>X</td>
<td>Padre</td>
</tr>
<tr>
<td>Paternidad</td>
<td>Père</td>
<td>X</td>
</tr>
<tr>
<td>Comportamiento sexual humano</td>
<td>Comportement sexuel humain</td>
<td>X</td>
</tr>
<tr>
<td>Metrosexual</td>
<td>Métrosexual</td>
<td>Metrosessualità</td>
</tr>
<tr>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Retrosexual</td>
<td>Physiologie masculine</td>
<td>X</td>
</tr>
<tr>
<td>Adaptación social</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Homo sapiens</td>
<td>Homo sapiens</td>
<td>Homo sapiens</td>
</tr>
<tr>
<td>Índice de masculinidad</td>
<td>Sex-ratio</td>
<td>X</td>
</tr>
<tr>
<td>Naturaleza humana</td>
<td>Humanité</td>
<td>Natura umana</td>
</tr>
<tr>
<td>Andropausia</td>
<td>Déficit androgénique lié à l'age</td>
<td>Andropausa</td>
</tr>
<tr>
<td>Transexualidad</td>
<td>Transexualité</td>
<td>Transsexualisme</td>
</tr>
<tr>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Identidad de género</td>
<td>Identidad de género</td>
<td>Identità de genere</td>
</tr>
<tr>
<td>Violencia contra la mujer</td>
<td>Violencia contra la mujer</td>
<td>Violence contre les femmes</td>
</tr>
<tr>
<td>Violación</td>
<td>Violación</td>
<td>Violenza sessuale</td>
</tr>
</tbody>
</table>

Finally, if on the one hand the number of links directly present on the pages selected appears equally divided between the genders, the search options provided by the network of links and the existence of corresponding pages in other language versions are greater in the case of the women's pages.
Visualisation enables a quantity of data, generally considered separately, to be seen concretely in a single space: a set of 242 was grouped together within the same time span and subsequently arranged by macro-level.

The visualisation method is freely based on the model developed Martin Wattenberg for Map of the Market (SmartMoney, 1998), an interactive tool on investment trends and opportunities based on the use of treemaps.

The result can be read on various levels and enables development of a number of patterns for the exploration on content. The individual Wikipedia pages are in fact subdivided by sector - History, Gender issues, Science, Society, Statistics and Vocabulary - and arranged in the space in groups. These groups are separated by a demarcation line that varies in thickness depending on the degree of separation. From the line outside the sectors, you then go to a thinner point that distinguishes the translated pages for man and woman, to their demarcation by language version and finally to the lighter line for the communication type. The size of the rectangles represents the total number of sources for each individual item, while the area of the sub-sectors relates to the proportion of the sector box (external sectors are consider 100% of their parts).

In order to keep to a simplified reading structure, the unit counted was calibrated on a decimal scale. Finishing by quantifying the attributions, the basis of Wikipedia content, enables direct experience with a configured diagram of existing and usable elements, without them yet being compared.

Public reliable sources

If an article topic has no reliable sources, Wikipedia should not have an article on it is written in the page referred to attribution,

Supplying full source references enables their origin, validity and reliability to be clarified, as recommended in the guidelines on Wikipedia:No original research, Wikipedia:Neutral point of view and Wikipedia:Verifiability.

The attribution of sources is a key indication for the development of an argument, resolving any potential editorial conflicts and avoiding accusations of plagiarism or unreliability.

Appropriate use of attributions attests to the reliability of the page.

The objective of analysing the attributions in the gender research on Wikipedia was to check the wealth of knowledge made available and selected by the contributors in their approach to the process of using the information.

Understanding and comparing the reliable attributions which are selected by contributors, do they differ from different language editions?

Can the bunch of knowdolge shared be a symbol of cultural similarities or differences in the cross-linguistic analysis?

Research hypothesis
The attributions are organised from internal to external on various scales:

**Subdivision by gender.**

Grouping together all the sources enabled an initial comparison of the two groups, with the woman pages having the support of 180 attributions, while the man pages had 61 attributions (to be considered in relation to the length and complexity of the pages in the different editions).

**Subdivision by individual page.**

Arrangement of the ten rectangles of different size and colour corresponding to the man and woman pair translated for all language versions studied.

**Subdivision by communication type.**

Clarification of the origins of the source by category - Dictionary, Books, Media, Papers and Websites - so as to provide an starting point for a subsequent cultural study. In the case of these communication types, it should be noted that Papers refers exclusively to scientific publications and Media to press articles and online television channels.

**Traceability of attributions.**

An intermediate step in evaluating the support for the sources, i.e. the rate of digitisation of the information cited, so as to be able to provide for any more detailed user actions.

**Sector to which they belong.**

Six macro categories were identified from reading the sources and verifying them analytically in the case of each individual page selected; these cover different types of arguments:

*History, historical events, people and episodes from the past.*

*Gender issues,* the branch of knowledge associated with gender research as expressly indicated in the source.

*Science,* information in the field of biology and the sciences.

*Society, cultural and social content* updated chronologically.

*Statistics, data gathering, reports* from institutions and demographic research.

*Vocabulary, encyclopaedic and vocabulary definitions.*
6. Reading experience

1. Data extraction

1.1 Data gathering
Collection of 242 sources and organization

2. Criteria for categorization
The whole procedure was repeated for all ten selected pages

Visualize
Comparing attributions through socio-cultural implications.

Building the structure of Treemap (fig.)

How to read it

Articles
Frau
Mann
Woman
Man
Mujer
Varón
Femme
Homme
Donna
Uomo (genere)
Method behind

Level 1
Subvision by sectors

Level 2
Subvision by gender
Female items
Male items

Level 3
Subvision by language

De. Frau/Mann
En. Woman/Mann
Es. Mujer/Varón
Fr. Femme/Homme
It. Donna/Jomo (genero)

Level 4
Subvision by medium
- Alluvial diagrams.

Vocabulary
Statistics
Science
History

Gender issues

Society

Public reliable sources
The length of the pages (bytes) does not increase in proportion to the number of sources involved; for example, the Frau page which is larger than the Donna page has fewer attributions, as is the case with the Homme and Man pages compared with the Uomo (genere) and Varón pages.

In the case of the communication types, the largest number of attributions comes from Books, particularly in the case of the woman pages, a rate with remains constant for both scientific publications and the media. The Spanish language edition is the one with the greatest number of digitised attributions, compared with the predominate use of physical sources in the case of the German edition. Information on topical subjects (Society sector) tends to comes from the Media, while historical content (History) and gender topics (Gender issues sector) come from books.

With regard to the number of sources considered in comparing the sectors, the majority of sources in the woman page are from Society and History, while the man pages favour Gender Issues and Science. Many attributions refer to a wealth of information supplied by institutions such as the United Nations Organisation (UN) and the World Health Organisation (WHO). Finally, it was found that references in English were consulted in drafting all the pages selected for the study.
After analysing and comparing each article based on the Toc, the further information proposed and the attributions, the study proposed considering the content of the text in greater depth.

Secondarily, the two final frameworks were compared in a single matrix in order to enable a better inter-language comparison.

A limited number of concepts not found to be similar but not intrinsic to the research topic were excluded from the extraction.

The concepts presented in the frameworks and subsequently cleansed were inserted into the matrix by macro area to which they belonged in order to simplify a study of their relationships.

This processing phase confirmed the hypothesis that user-generated content is discussed at the level of individual pages and versions but tends to belong to reference patterns given by the same gender diversities.

**Concept analysis**


Manypedia, an open source tool, was used in considering the effectiveness of the tool in conducting a cross-cultural study, based on searching a specific page in a version of Wikipedia to be compared with the equivalent in a second language version.

The analysis tends to monitor the neutrality of the content of the language versions with respect to the criteria of balance, consistency and convergence of the arguments presented.

The study cross-referenced each page grouped by gender in the case of the five language versions, resulting in ten possible comparisons for each page title. The data provided Manypedia were processed and organised on various dimensions to build a conceptual panorama supported by the findings from the previous research studies.

Following the data gathering, the dataset of words common to the pair of pages analysed was compared within all the language versions in order to define a framework of the words most frequently occurring within the same gender.

**Exploring the resulting textual concept similarities. Is it possible to put in evidence any repetitions?**

**Comparing the results in a cross-linguistic analysis showing socio-cultural references.**

**Do any concepts relate to only one gender or specific edition?**

**Research hypothesis**
Method behind

1. Manypedia

   How to read it
   Articles
   Frau
   Mann
   Woman
   Man
   Mujer
   Varón
   Femme
   Homme
   Donna
   Uomo (genere)

   All possible connection to achieve the concept similarity percentage.

1.1 Data gathering

   Conceptual exploration

2. Data refinery
   From 621 concepts to 340.

3. Framework
   From 621 concepts to 340.

   Ordering contents through macro areas of interest.

Visualize

   Exploring the general map

Matrix

   List of the shared concepts mentioned in all the ten articles excluding miscellanies.

How to read it

   Articles
   Frau
   Mann
   Woman
   Man
   Mujer
   Varón
   Femme
   Homme
   Donna
   Uomo (genere)

Man - Homme
49%

Man - Uomo (*)
37%

Femme - Donna
35%

Man - Mann
33%

Woman - Frau
27%

Woman - Donna
27%

Frau - Femme
25%

Varón - Mann
24%

Varón - Uomo (*)
24%

Woman - Femme
23%

Woman - Mujer
23%

Woman - Donna
27%

Man - Varón
21%

Homme - Varón
20%

Femme - Mujer
18%

Homme - Uomo (*)
18%

Mann - Uomo (*)
17%

Frau - Donna
14%

Mujer - Frau
11%
Mapping the corpus of refined data highlights the predominance of female concepts instead of the male ones which tend to be widely shared.

As previously seen, a great bunch of similar contents refer to the biological dimension of the female and male representation.

The conceptual proximity is also relevant referred to topics concerning gender issues and social relation. However, it’s possible to note a variation in the conceptual pattern according to historical events, famous people and institutional figures mentioned in the corpus of selected articles.
### Biology

Following a general overview, the information about scientific-descriptive content seems to be grounded.
Through the matrix scheme is possible to detect peculiarities that led directly to topics embraced by socio-cultural spheres.

According to the biological dimension, the matrix presents a full informative and conceptual coverage for both genders.

However, the majority of concepts related to birth and procreation are reserved to female pages. These findings may be considered a first spark seen the recent socio-political strategies to involve men towards an active fatherhood.
Following a general overview, the information about scientific-descriptive content seems to be grounded.
### In their own words

<table>
<thead>
<tr>
<th>Sex differences in humans</th>
<th>Sex organ</th>
<th>Sex atavism</th>
<th>Sexual dimorphism</th>
<th>Sexual reproduction</th>
<th>Sexuality</th>
<th>Shoulder</th>
<th>Skin</th>
<th>Spermatogenesis</th>
<th>Spermatoblast</th>
<th>Tejido adiposo</th>
<th>Testicle</th>
<th>Testosterone</th>
<th>Total fertility rate</th>
<th>Trans woman</th>
<th>Urethra</th>
</tr>
</thead>
</table>

### How to read it

- **Male contents**: ●
- **Female contents**: ○

### Biology

Following a general overview, the information about scientific-descriptive content seems to be grounded.
These findings reflect the issues of the current debate around gender, society and tradition showing some relevant omissions.

**Findings**

检测到不对称，婚姻和离婚概念仅在女性文章中澄清，而家庭概念仅在男性文章中出现。

从文化角度来看， patriarchy概念在所有不同版本中都被讨论，除了意大利版，而matrarchy概念仅被包含在女性文章中。

所有关于宗教的问题都严格参考了女性文章及其类似版本。

**Society**

These findings reflects the issues of the current debate around gender, society and tradition showing some relevant omissions.
In their own words

6. Reading experience

How to read it

Male contents ●
Female contents ○

Society

These findings reflect the issues of the current debate around gender, society and tradition showing some relevant omissions.
Shifting the focus on the lack of certain contents, some key issues deeply discussed by public opinion, as abortion, contraception, maternal mortality, feminicide and violence against women, are excluded from the Man page and its corresponding editions.

In terms of research, it means that any pages contain these kind of concept similarities, even if manipulated or extended to different language.

The same process can be postpone to the Homosexuality and Stereotype concepts which are missing on the female pages.
6. Reading experience

In their own words

How to read it

Male contents ●
Female contents ○

Society

These findings reflects the issues of the current debate around gender, society and tradition showing some relevant omissions.
6. Reading experience

In their own words

<table>
<thead>
<tr>
<th>Women's rights</th>
<th>Women's studies</th>
<th>Women's suffrage</th>
<th>World War II</th>
<th>XXI century</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

How to read it

Male contents ●
Female contents ○

Society

These findings reflect the issues of the current debate around gender, society and tradition showing some relevant omissions.

People

The English and France articles contain the most part of concepts about historical figures and active personalities of the public debate.
In their own words

How to read it

Male contents ●
Female contents ○

People

The English and France articles contain the most part of concepts about historical figures and active personalities of the public debate.
Geography

Basically, it is mentioned in the male pages related to English and French editions.
The root behind

Discovering and detecting actions from the Revision History.
There was no controversy against the image. Consensus was always for the image. You started the discussion against the image in Talk yourself right now. No other editors have been against the image.

See Talk:Man#Dispute_over_need_for_an_image and get consensus before restoring, per WP:BRD.

Sorry, while the Pope is a good example, there is not room for many images, and picking one can be offensive to many, so let’s not even go there. The text is good enough.

The woman contains pictures of quite “suggestive” nature, it is only fair that this article do the same to avoid double-standard. Added a rather “tasteful” and well-shot image of a nude male.

President of the United States is a very high position, and elect is not a position at all.

*Example of a Revision history focus gathered from the Man page (March, 2010).*
Detecting edits

A Wikipedia page is grown and edited via the activity of contributors. These activities range from expanding to deleting contents. Analysing edits is important in the transformation process that pages undergo and allows us to compare gender representation from several angles.

Reading the history of the individual pages, starting from the date on which the article first appeared in a given language, we see the editing activities branch into subdivisions according to the nature of the action. Expansion and deletion of contents involves minor modifications (editing and grammar corrections) and acts of vandalism (intended to damage Wikipedia's own criteria).

The historiography of the ten pages selected has been analysed, organised analytically and observed from a content perspective.

15,700 entries were recorded since the individual pages first appeared, which occurred at various times between the creation of the encyclopaedia in 2001 and 4th December 2014; the date on which the data were collected.

For the purposes of the research undertaken at this time, edits deemed to be minor (5,571 entries) have been excluded while acts of vandalism have been examined in greater detail and are therefore shown separately.

During the first part of the experiment, single histograms were created to explore the creation process of each individual page, focusing on the chronological element and the action of the contributor according to the relational profile.

If, on one hand, this methodology maintained the accuracy of data retrieval, on the other hand it moved away from the objective of cross-linguistic comparison, which is at the root of this investigation.

Therefore, the display was simplified to extrapolate the data from the chronological context and allow them to be read on multiple levels, starting from two blocks; the dynamics between the expansion of contents for each page and the deletion of information, shown side-by-side.

Gender relationships between the individual pages are compared within the same language version and in a multilingual dimension. The result provided two different views of content ranking arrangement.

A first chart is arranged in decreasing order, established from the total amount of content implemented. A second chart was then created according to the same model, using the total number of deletions per page as a unit of measurement.

View a simplified, general chart of the activities of the individual pages in their language versions.

Do the pages belonging to a gender show more content implementation or content deletion activity?

Research hypothesis
Method behind

1. Detection from Revision History
   From the launch page to the last update Dec 2014.

2. Tagging
   15,700 entries recorded and organized in Growing, Deleted, Vandalism, Minor

   The whole procedure was repeated for all ten selected pages

   How to read it
   Growing
   Deleted
   Minor
   Vandalism

   Visualize
   Exploration per single pages

   Charts
   The whole picture: comparing growing and deleted edits.

Appendix

Man
Total 3929
Growing 941
Minor 1178
Reverted 786
Deleted 1024

Woman
Total 3365
Growing 1125
Minor 999
Deleted 751
Vandalism 488

Mujer
Total 1834
Growing 452
Minor 606
Deleted 310
Vandalism 36

Femme
Total 1699
Growing 539
Minor 574
Deleted 337
Vandalism 247

Frau
Total 1235
Growing 279
Minor 606
Deleted 178
Vandalism 180

Homme
Total 1013
Growing 363
Minor 239
Deleted 256
Vandalism 155

Mann
Total 794
Growing 352
Minor 707
Deleted 119
Vandalism 132

Donna
Total 727
Growing 187
Minor 285
Deleted 131
Vandalism 124

Uomo (genere)
Total 590
Growing 232
Minor 172
Deleted 157

Varón
Total 514
Growing 132
Minor 205
The chart is arranged in decreasing order, established from the total amount of content implemented since the beginning to December 2014. It displays the total amount per single pages while the total number of deletions is on the right.

How to read it

Growing contents

Deleted contents

From this general overview, it was possible to observe that the English language version, as anticipated, records the most added contents and deletions, revealing a large number of positive contributions for the page Woman and, contrary to this, the highest number of deletions for the page Man.

The other encyclopaedia entries, however, steadily progress in terms of implementation and deletion. The French and Spanish pages referred to Woman undergo the greatest number of variations, while both the Italian pages appear in last position in the ranking; an indication of the limitations of the Italian language.
Nevertheless, the study has highlighted two distinctive features: the Spanish version shows a clear contrast in the number of activities between the *Mujer* and *Varón* pages, while, more specifically, the German *Mann* page shows fewer deletions and a great deal of activity to expand the informative contribution.
The concluding phase of the research project is focused on a detailed study of acts of vandalism, in other words a text or part of a text deemed capable of harming Wikipedia’s integrity.

As evidenced by geographical studies of controversy (Venturini, 2012) and studies of the hostile nature of relationships between users, a series of vandalism can be triggered by numerous arguments - from intolerance of disinformation to political beliefs, even touching on the more extreme religious and social reasons and extending as far as discrimination of diversification and minority groups.

Given these assertions, it is clear that acts of vandalism recorded within the revision history of each page create a store of data that is essential for checking the scope of social practices in relation to research of this type.

In carrying out this investigation, the general dataset was created in several phases. Acts of vandalism were extracted from the body of previous modifications and then categorised analytically according to the type of text presented. Finally, a corpus was created with the aim of directly responding to research questions to define a narrative picture.

The insertion or replacement of text with obscenities, nonsensical content or misleading words was considered when classifying acts of vandalism.

In some cases, whole paragraphs had also been deleted in order to limit the user’s viewpoint or the inappropriate insertion of promotional content.

Others edits relate to inappropriate behaviour, evidence of non-expert users and expressions of personal opinions, which are sometimes detrimental to the principle of maintaining a neutral viewpoint, it is also possible to identify definite acts of vandalism in provocative images, blasphemy, offence, spamming and deliberate misinformation.

From the first survey, out of a total of 15,700 recorded edits it is possible to identify a total of 2,810 acts of vandalism with the aforementioned characteristics. An analytical analysis by article was then carried out and looked at modification data and the type of offence.

The overall picture was then organised according to seven variables:

- **Misplaced sentences**, 667 times;
- **Jokes**, 632 times;
- **Suggestions and expressions of sexual desire**, 494 times;
- **Verbal offences**, 421 times;
- **Notes expressing opinion**, 239 times;
- **Male chauvinist statements**, 194 times;
- **Comments relating to the body**, 162 times.

In each category, it was possible to check the chronological progress and the relationships between individual pages and versions.

For the purposes of social research, it was nevertheless preferable to create a narration able to connect the traditional assumptions of gender research with the previous findings of the project.

A comparison display model was configured and allowed synchronous observation of the chronological progress of all of the acts of vandalism and the specific variation of the topic discussed.
Method behind

1. **Tagging vandalism**
   Extracted from the editing process.

2. **Objective areas**
   Organizing data through effective sentences.
   - Alluvial diagrams

3. **Building the narrative process**
   a. From Body to Sex
   b. From Sex to "Female things"
   c. From "Female things" to Imbalance

**How to read it**
- Articles
  - Frau
  - Mann
  - Woman
  - Man
  - Mujer
  - Varón
  - Femme
  - Homme
  - Donna
  - Uomo (genere)

The whole procedure was repeated for all ten selected pages.

Is Wikipedia biased?

[diagram showing alluvial diagrams with categories such as Man, Woman, Mujer, etc., and labels for tagging vandalism, objective areas, and building narrative process.]
Titten.Lock - Fertig; They (men) are attracted to womans large breasts; Les hommes on dominant les femmes parce qu’ils avaient des pénis géant; tette!!!!!!!!!!; Girls have vaginas, Vaginas are fun, mmmm...vagina; La demme est une chose de l’homme, ce n’est que son objet sexuel; Mujer definicion de todo aquello que rodea a la vagina y se puede abrir de piernas; A life support system for a vagina; Parte circundante del coño Men can refer to humanity as a rather large cock; Tambien se dice que “mujer” es un conjunto de células mediamente organizadas que rodean a una vagina; le sexe masculin a un pénis qui peut être, selon l’individu très gros ou vraiment petit comme une saucisse cocktail; donna ovvero colui il quale ha mangiato troppe caramelle ed è ingrassato nella zona del petto; Une femme est un animal de type mammifère qui n’ont pas de pènises; El varón tiene que tener pene;
Man is a [[male]] [[human]]. <!--The word adult is not needed in this sentence; see the following sentence.-->

The term “man” (irregular plural: “men”) is used for an [[adult]] human male, while the term [[boy]] is the usual term for a human male child or [[adolescent]] human male. However, “man” is sometimes used to refer to [[World population|humanity as a whole]]. Sometimes it is also used to identify a male human, regardless of age, as in phrases such as “[[Men's rights]]”. 
Talking about the body inside vandalism

The visualization refers to the chronological trend of a specific kind of vandalism compared to their progressive total amount. All articles are arranged in descending order. Here, vandalism concern offensive to the body or its physical parts.

How to read it

Articles

Frau
Mann
Woman
Man
Mujer
Varón
Femme
Homme
Donna
Uomo (genere)

The starting point for this exploration was to question which areas of the body would feature most frequently in the offensive comments.

Looking at the main page of each article and its relative content, we can see that, by and large, physical and biological characteristics are the themes treated in the greatest detail and most shared by all language versions on both the male and female pages.
Talking about the body inside vandalism

This focus offers a view on the most mentioned parts of the body comparing their recurrence in the different articles.

How to read it

Articles

Frau  Mann  Woman  Man  Mujer  Varón  Femme  Homme  Donna  Uomo (genero)

Penis
By tagging acts of vandalism, sexually offensive names and comments aimed at the body and, more specifically, the male and female sex organs have been catalogued.

Although the physical dimension of the body appears to receive little coverage compared with harmful activity, variables linked to the sex organs are predominant.

Though the breast and vagina are mainly present on the female pages, broadly speaking the penis is omnipresent, particularly in versions referring to man. This is no surprise to sexual psychology, from Freud to Lacan, in which the phallus has traditionally been associated with arousing sexual desire, pleasure and power.
La donna è quella cosa intorno alla figa; sexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsexsex; La femme est un object sexuel de l’èspece humaine; Woman is the natural pleasurer for man, it is her duty to please men through sex and to cleaning; Ha lo scopo di far provare piacere sessuale all’uomo; les femmes aimes se faire penetrer; las mujeres solo sirven para chupar el pene de los hombres; La femme est un trou pour l’homme; Category: Sex Toys; Una donna è un essere da scopare; Aussi on dit que la partie la plus intelligente de l’homme est son engins sexuelle (penis); Elle est bien souvent considérée comme esclave sexuel par l’homme; gli uomini hanno sempre voglia di farlo sia con uomini che con donna; algunas mujeres pueden follarse continuamente sin parar o masturbarse sin piedad; Les femmes sont de bonnes suceuse de pénis; donna=aspiracazzi
In more recent history, the gender roles of women have changed greatly. Traditional gender roles for [[middle class|middle-class]] women typically involved domestic tasks emphasizing child care, and did not involve entering employment for wages. For poorer women, especially among the [[working class]]es, this often remained an ideal, for economic necessity has long compelled them to seek employment outside the home, although the occupations traditionally open to working-class women were lower in prestige and pay than those open to men. Eventually, restricting women from wage labor came to be a mark of wealth and prestige in a family, while the presence of working women came to mark a household as being lower-class.

The women's movement is in part a struggle for the recognition of [[equality of opportunity]] with men, and for [[equal rights]] irrespective of [[gender]], even if special relations and conditions are willingly incurred under the form of partnership involved in marriage. The difficulties of obtaining this recognition are due to historical factors combined with the habits and customs history has produced. Through a combination of [[economics|economic]] changes and the efforts of the [[feminism|feminist]] movement in recent decades women in most societies now have access to careers beyond the traditional one of "[[homemaker]]". Despite these advances, modern women in Western society still face challenges in the workplace as well as with the topics of education, violence, health care, and motherhood to name a few.

Women are created to fuck. That’s it. Men like to ram their dicks into women’s pussies and cum inside them. Women she say, “Oh, baby, oh yeah, fuck that pussy. Oh God, I love your cock inside me. Oh yeah!” This should be said while they are riding a man’s pole.
Talking about the sex inside vandalism

The visualization refers to the chronological trend of a specific kind of vandalism compared to their progressive total amount. All articles are arranged in descending order. Vandalism treat sexual requests or notes to behaviour in the domain of sex.

How to read it

Articles

Frau  Man  Woman  Mujer  Varón  Femme  Homme  Donna  Uomo (genere)

Comments

In the sociocultural paradigm, it seems clear that the sexual dimension and the language applied to it lead to a different perception in the depiction of the male and female form.

Therefore, the variable of comments linked to sex is previously described. In this case, in-depth analysis touches on the exploitation of the female body and the presence among the acts of vandalism of comments connected to the role of the woman as an object. For example, see “object of desire”, “piece of meat” and “natural sex slave”.

Can the exploitation of the female form as an object of desire be defined as an isolated comment or a recurring phenomenon?
The right to cook and clean

La femme est le complément de l’homme, elle fait le ménage pendant que ce dernier travail pour gagner sa vie; The best place for women is the kitchen doing “women things” like washing and cooking, you know it’s true; il termine utilizzato per dire donna “persona che lava, stira e soddisfa il marito senza dire una parola”; se debe quedar en casa cuidando de los hijos y haciendo la comida; An object that belongs to kitchen and laundry; Woman is the natural pleasure of man, in her duty to please men through sex and to cleaning, she remains in the kitchen for the most of her adult life; Traditionnellement, les femmes ont des fonctions différents de celles des hommes au sein de la société: faire la vaisselle, faire à manger, faire le repassage, faire des bébés, faire l’amour; It’s a common knowledge they are the best kept in the kitchen; Sa mission terrestre est de satisfaire les hommes (homo erectionus) de faire les courses, le ménage, faire les devoirs des enfants, la popote, le pipe du samedi sans oublier le repassage du dimanche matin pendant que homo erectionus regarde turbo sur M6;
Women belong in the kitchen and are adult females human.

<!--The word adult is not needed in this sentence; see the following sentence.--> The term "woman" (irregular plural: "women") usually is used for an adult, with the term [girl] being the usual term for a female child or adolescent. However, the term "woman" is also sometimes used to identify a female human, regardless of age, as in phrases such as “[Women’s rights]".

Women belong in the kitchen and are adult females human.

<!--The word adult is not needed in this sentence; see the following sentence.--> The term "woman" (irregular plural: "women") usually is used for an adult, with the term [girl] being the usual term for a female child or adolescent. However, the term "woman" is also sometimes used to identify a female human, regardless of age, as in phrases such as “[Women’s rights]".
The online community appears to possess standard gender stereotypes that have shown temporal persistence via the introductory visualisations for each harmful variable.

A third question is therefore put forward regarding Woman’s condition and her predisposition, which is generally exclusively seen as carrying out domestic functions.

This is a key datum when compared with the lack of references to the role of women employed in political and social sphere, which are missing or scarce both when reading the articles and when analysing the processes of content writing.
The superiority speech

GENDER DOMINANT GENDER DOMINANT GENDER DOMINANT GENDER DOMINANT GENDER DOMINANT GENDER DOMINANT GENDER DOMINANT GENDER DOMINANT GENDER DOMINANT GENDER DOMINANT GENDER DOMINANT GENDER DOMINANT; LE DONNE SONO INFERIORI AI MASCHI; La femme est destinée à se soumettre aux hommes; Ser inferior al hombre que solo sirve para le dos F: fregar y Follar; Une femme est un individu inférieur de l’espèce humaine; Women are generally recognized to be the lesser of the genders, they are emotionally “impaired” in that they allow their emotions to interfere with logic; L’uomo è superiore alla donna per natura; zLe femme ou le sexe faible a été envoyé sur terre par dieu dans le seul but d’assurer la pérénité de l’espèce ainsi que pour nourrir et nettoyer après le passage du sexe fort: les HOMMES!; La donna è un essere inferiore, lo dice la Bibbia; Funcion en la vida: satisfacer el hombre; La femme n’a pas du tout évoluée, elle retera à sous l’enterprise et la domination de son être supérieur; MEN ARE BETTER THAN WOMEN IN EVERY SINGLE WAY!!!; men rule and girls drule; Biologia del varon (ser superior); La femme est inférieure à l’homme; Una donna è un individuo della specie Homo Sapiens debole
There are various words used to refer to the quality of being a woman. The term “womanhood” merely means the state of being a woman, having passed the [[menarche]]; “femininity” is used to refer to a set of supposedly typical female qualities associated with a certain attitude to [[gender role]]; “womanliness” is like “femininity”, but is usually associated with a different view of gender roles; “femaleness” is a general term, but is often used as shorthand for “human femaleness”; “distaff” is an archaic adjective derived from women's conventional role as a spinner, now used only as a deliberate [[archaism]]; “[[muliebrity]]” is a “neologism” (derived from the Latin) meant to provide a female counterpart of “[[virility]]”; but used very loosely, sometimes to mean merely “womanhood”, sometimes “femininity”, and sometimes even as a collective term for women.

shit in comparison to men

shit in comparison to me
Lastly, the concluding phase of the study aimed to answer the general question of the research by checking textual instances of attempts to highlight gender superiority.

Excluding acts of vandalism relating to jokes and misplaced comments, 13.3% of the edits across all language versions actually state that men are superior to women.

In this sense, examination of the practical effects of gender disparity finds a hypothesis for response.
The bias in Wikipedia this Atlas will help you figure out

Comparing to the low female participation highlighted by the Wikimedia Foundation editors survey (2011), the project presented explores the practical effects of gender disparities through the analysis of Wikipedia. The reasons behind the gender gap stated by Sue Gardner (2011) have deeply verified showing an interface platform not sufficiently user-friendly which is not enable to cover the increasing complexity of the bureaucratic system.

A consequent perspective relates to the users’ dynamics to achieve the consensus in collaborative writing. This process confirms to be discourage by veteran users frequently deleting new contents or being discriminatory against minorities’ points of view.

That’s why the conflict’s prerogative can be found in the acknowledgment of vandalism which perpetuated over time through stereotyped comments and sexist insults addressed to women. These acts may be seen as real mirror of a compromised socio-cultural situation.

The conflicting themes of the current debate, related to political and societal role of women, seem to be discussed in a shallow dimension breaking the contents’ mobility of the collaborative encyclopedia which used to be driven by socio-cultural button topics in its implementation (Kittur and al, 2009).

Considering Wikipedia as a proxy to explore the gender issue on digital communities, the analyzed papers and case-studies, and the effective research project developed have remarked how the impaired gender participation and the lack of female-related informative contents reflect a general and current knowledge gap.
Step by step in reverse

Theoretical volume

Narrative and visual explorations

Basic assumptions

1. Why all people talking about gender: an interdisciplinary study.


Connect design to gender research

3. Visualize social issues through digital approach.

4. Is Wikipedia biased?

Visual exploration

5. Goals and guidelines.

6. Relevant gendered contents and structure verified through cross-linguistic analysis.

General findings

7. Observing the persistence of stereotyped assumptions.

8. From Gender to Knowledge gap.
Bibliography


