



Linguistic neighbourhoods:

Explaining cultural borders on
Wikipedia through multilingual
co-editing activity

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Wikipedia articles: topic (concept) vs. language

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Beer

From Wikipedia, the free encyclopedia

This article is about the alcoholic beverage. For other uses, see [Beer \(disambiguation\)](#).

Beer is the world's oldest^{[1][2][3]} and most widely consumed^[4] alcoholic drink; it is the third most popular drink overall, after water and tea.^[5] The production of beer is called [brewing](#), which involves the [fermentation](#) of sugars, mainly derived from [cereal grain starches](#)—most commonly from [malted barley](#), although wheat, maize (corn), and rice are widely used.^[6] Most beer is flavoured with [hops](#), which add bitterness and act as a natural [preservative](#), though other flavourings such as herbs or fruit may occasionally be included. The fermentation process causes a natural [carbonation](#) effect, although this is often removed during processing, and replaced with forced carbonation.^[7] Some of humanity's earliest known writings refer to the production and distribution of beer: the [Code of Hammurabi](#) included laws regulating beer and beer parlours,^[8] and "The Hymn to [Ninkasi](#)", a


Schlenkerla Rauchbier being poured from a cask


François Jaques: Peasants

Languages

- Afrikaans
- Alemanisch
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- العربية
- Aragonés
- Armāneashti
- অসমীয়া
- Asturianu
- Atikamekw
- Avañe'ẽ
- Azərbaycanca
- বাষ্ণব
- Bân-lâm-gú
- Basa Banyumasan
- Башҡортса
- Беларуская
- Беларуская (тарашкевіца)
- Bikol Central
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- Boarisch
- ବୁଝିଲ୍
- Bosanski
- Brezhoneg
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- Чӑшӑла
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- ChiShona

■ 170 languages

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Suomi
Svenska
Türkçe
Українська



Kölsch (beer)

From Wikipedia, the free encyclopedia

Kölsch (German pronunciation: [kœlf]) is a beer brewed in Cologne, Germany. It is a clear, top-fermented beer with a bright, straw-yellow hue similar to other beers brewed from mainly Pilsener malt.

Kölsch is warm fermented at around 13 to 21 °C (55 to 70 °F), then conditioned by lagering at cold temperatures.^[1] This style of fermentation links Kölsch with some other central northern European beers such as the Altbiers of western Germany and the Netherlands.

Kölsch is defined by an agreement between members of the Cologne Brewery Association known as the **Kölsch Konvention** (de). It has a gravity between 11 and 16 degrees Plato.

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Kölsch



A glass of Kölsch in Aachen

Country of origin	Germany
Yeast type	Top-fermenting
Alcohol by volume	4.4%-5.2%
Bitterness (IBU)	20-30
Original Gravity	1.044-1.050
Final Gravity	1.007-1.011
Malt percentage	usually 100%

■ 24 languages

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Cölner Hofbräu Früh

From Wikipedia, the free encyclopedia
(Redirected from [Früh Kölsch](#))

Coordinates:  50°56'23"N 6°57'26"E

This article **relies too much on references to primary sources**. Please improve this by adding secondary or tertiary sources. (January 2011) (Learn how and when to remove this template message)

Cölner Hofbräu Früh (German pronunciation: [ˈkœlnər ˈho:fbrœy̩ ˈfʁyː]; or just *Früh*) is a private brewery for top-fermented beer called *Kölsch*. The brewery was founded in Cologne in 1904^[2] by Peter Joseph Früh.

References [edit]

1. ^ Karabasz, Ina (2012-02-18). "Brauereien: Der Kölsch-Markt scheint entspannt zu sein". *Wirtschaftswoche*. Düsseldorf, Germany.
2. ^ Alles begann *Früh*, frueh.de

External links [edit]

- [Cölner Hofbräu Früh](#) (in German)

Cölner Hofbräu P. Josef Früh KG



Location	Cologne, Germany
Coordinates	 50°56'23"N 6°57'26"E
Opened	1904
Annual production volume	380,000 hectolitres (320,000 US bbl) ^[1]



Brauhaus Früh (center left) in Cologne.

■ 4 languages

Empirical questions

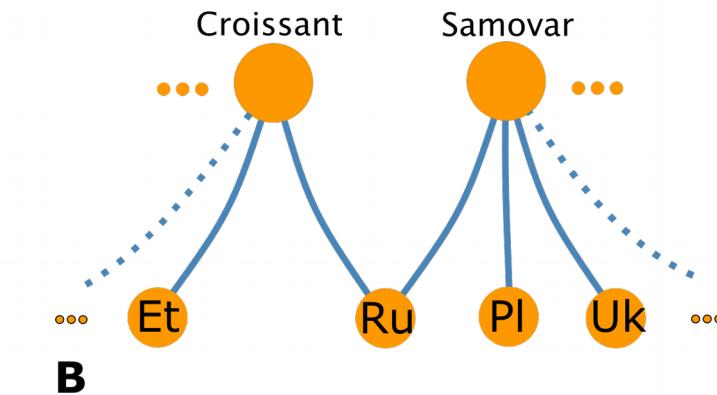
RQ1: How do language communities on Wikipedia relate to each other with respect to the shared co-editing interests?

RQ2: What can explain these relations?

Data

- 110 largest Wikipedia language editions
- Article pages created between 2005 – 2013
- 3M unique concepts
- 1.3B edits

Inferring the network of shared interest



$$z_{ij}^c = \frac{w_{ij}^c - \mu_{ij}^c}{\sigma_{ij}^c}, \quad z_{ij} = \sum_c z_{ij}^c.$$

$$\widetilde{w}_{ij} = \begin{cases} z_{ij} - t & \text{if } z_{ij} > t \\ 0 & \text{if } z_{ij} \leq t. \end{cases}$$

a. Set of languages in which a concept exists

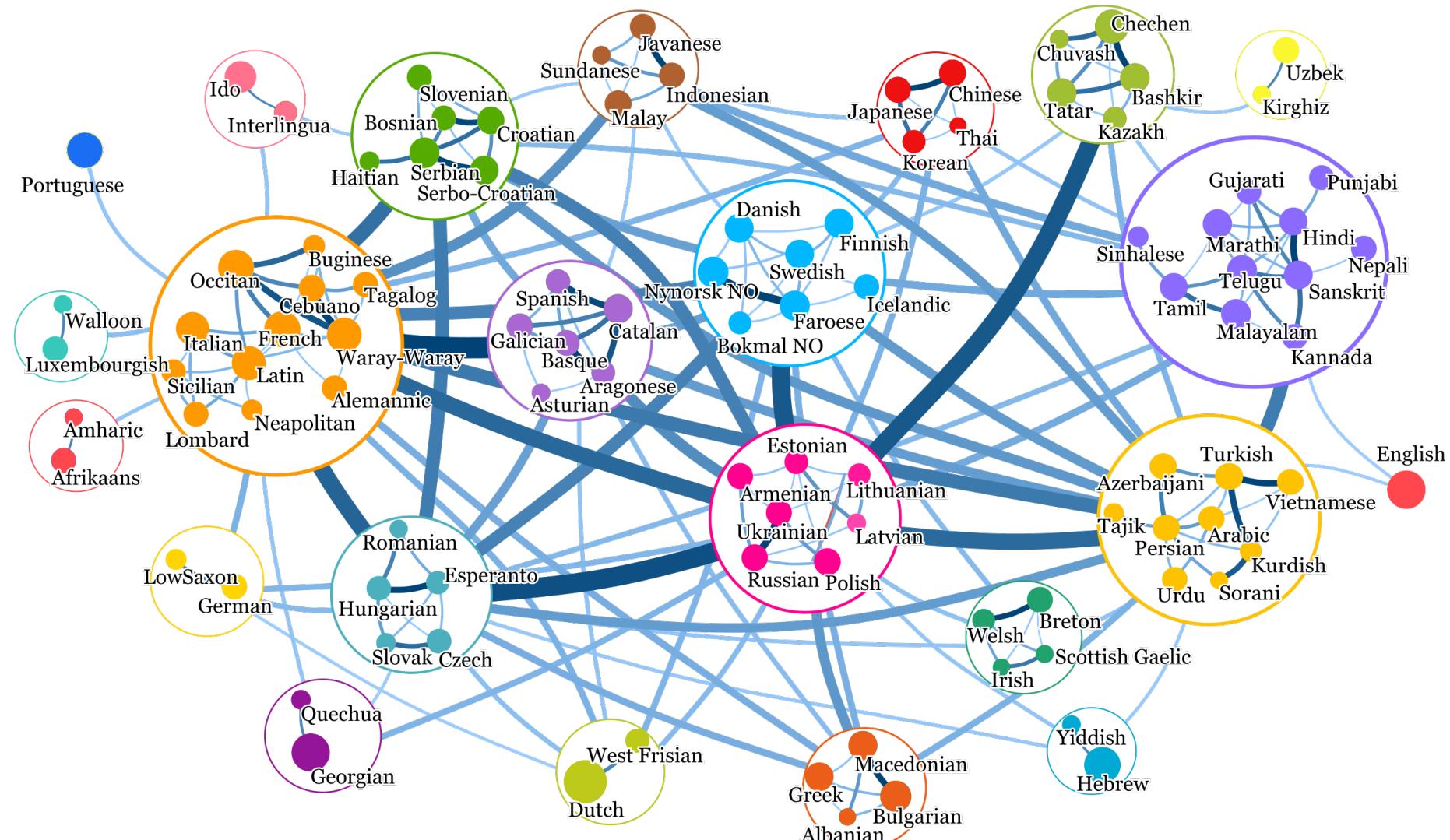
b. Bipartite network of concept co-editing

c. Network of significant links

Empirical questions

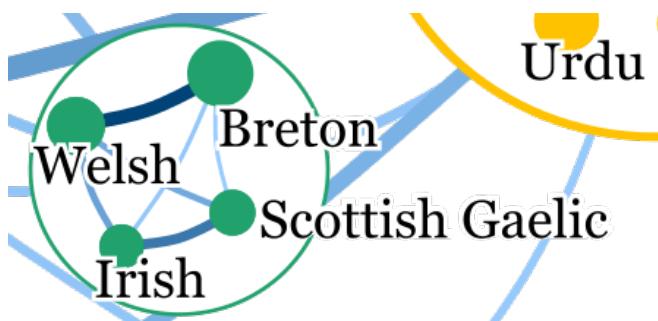
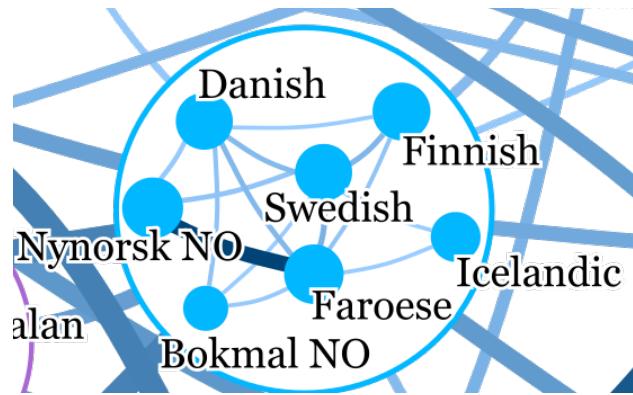
RQ1: How do language communities on Wikipedia relate to each other with respect to the shared co-editing interests?

Co-editing ties between Wikipedia editions



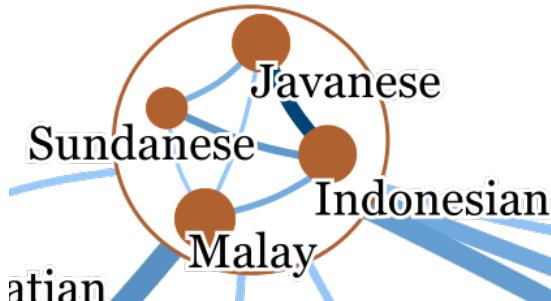
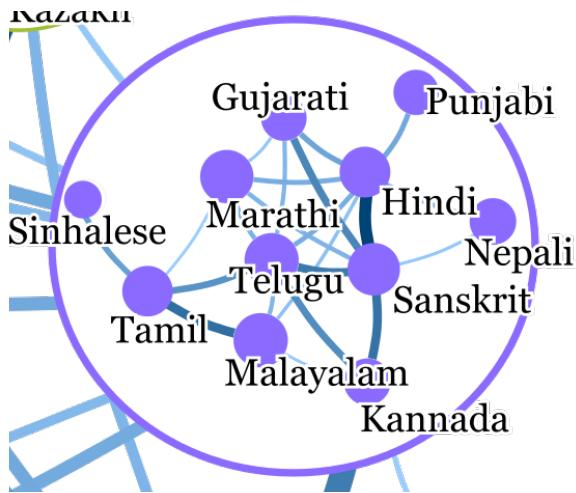
- 23 strongest clusters displayed
 - In-cluster links significant at 99% level

Observations



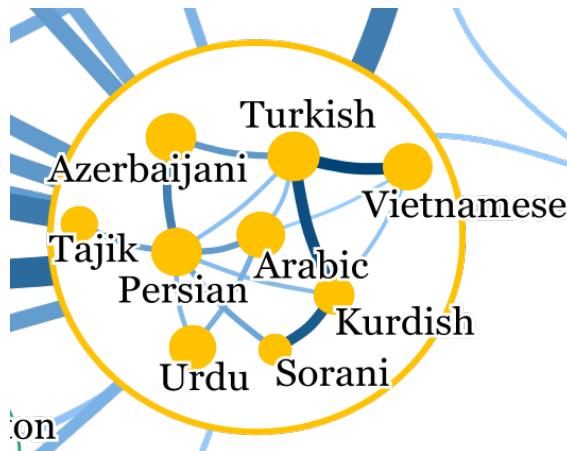
- Geographical proximity
- Shared language family
(North Germanic, Celtic)

Observations



- Local lingua franca of a multilingual country / region
- Dialects of the dominant language

Observations



- Shared religious tradition

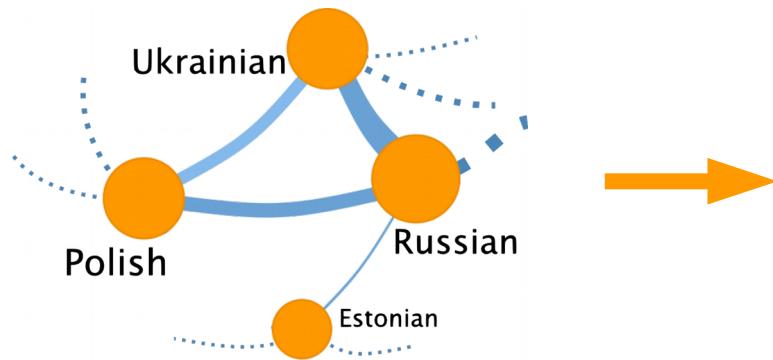


- Recent changes in socio-political situation (partially reflect, e.g. in bilingualism)

Empirical questions

RQ2: What can explain these patterns?

Hypotheses formulation



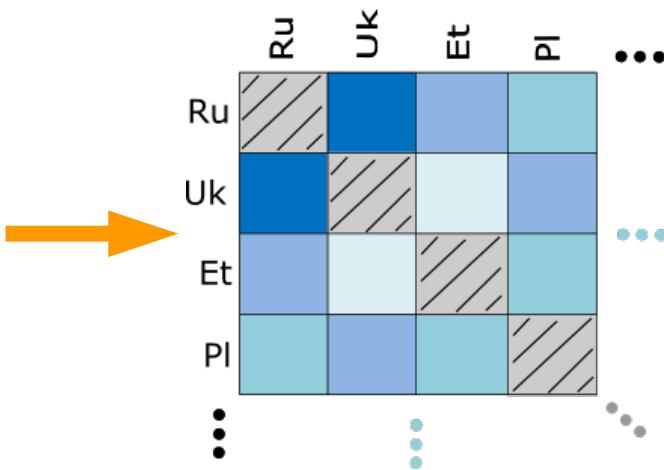
- Shared language family
- Bilingual population within a country*
- Geographical proximity of countries**
- Gravity law – demographic force attracting language communities**
- Shared most common religion**

* i, j are co-spoken in a country

** i is the primary language of a country

Testing hypotheses

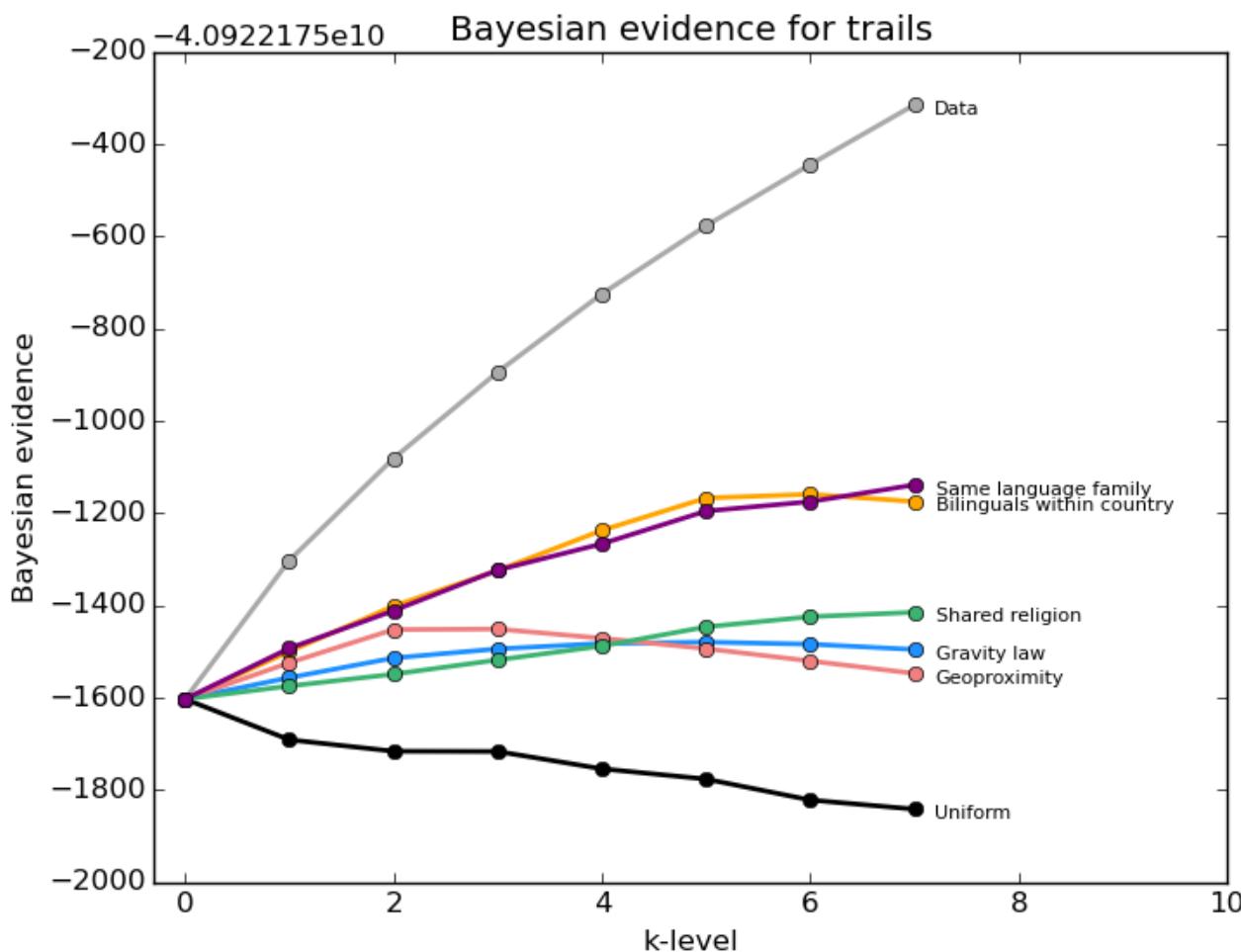
Hypotheses



Ranking of plausible
hypotheses using
Bayesian inference*

* Singer et al. 2016,
<https://arxiv.org/abs/1411.2844>

Results

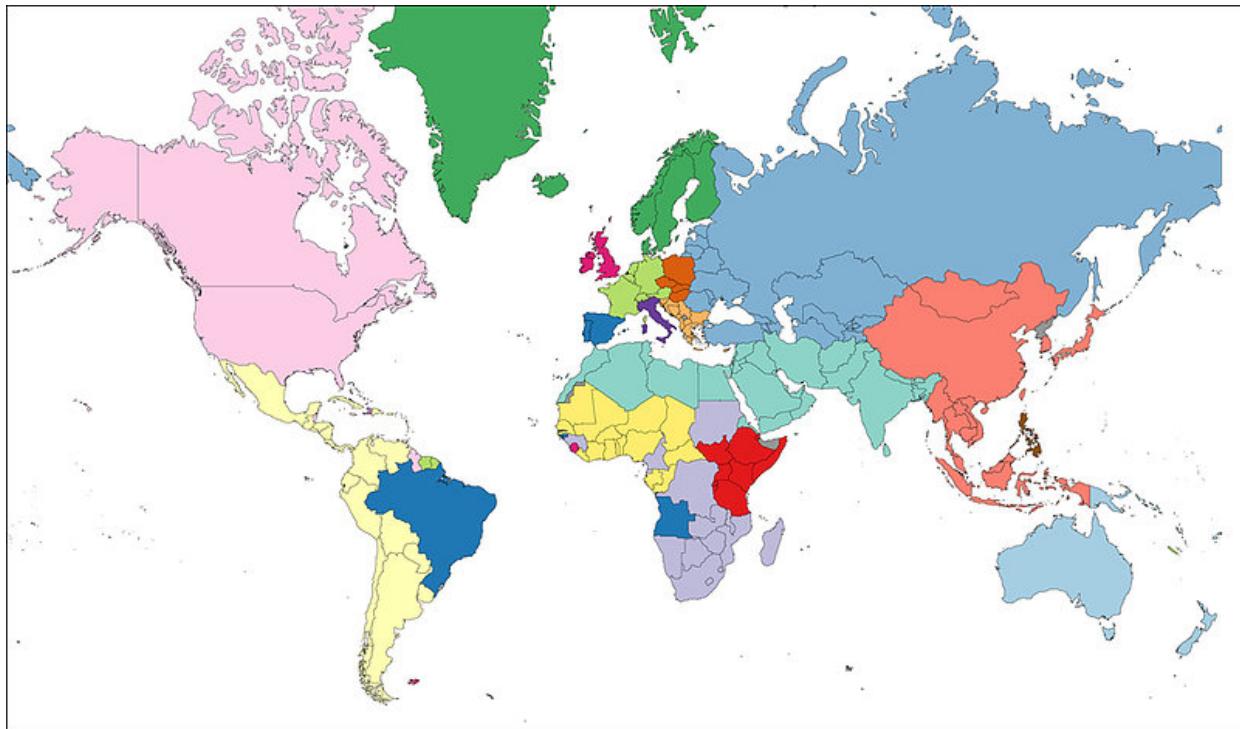


- All hypotheses are plausible
- Most significant factors: linguistic proximity and bilingual population

Empirical results summary

- Article repertoire of Wikipedia language editions is not a random selection;
- The network of co-editing interests has no hubs; local interconnections are important;
- Co-editing similarity of language communities is rooted in socio-linguistic factors:
 - genetic proximity of languages,
 - bilingualism,
 - shared religion,
 - demographic attraction between communities.
 - geographic distance (a significant, but weak factor).

Related research



Information Highways:
What are the global connections of shared interests between countries?

Karimi et al. 2016
palcomms201541

More info:

<http://annsamoilenco.wixsite.com/homepage/information-highways>

<http://annsamoilenco.wixsite.com/homepage/linguistic-neighbourhoods>

Thanks!