

# Scientific citations in *Wikipedia*

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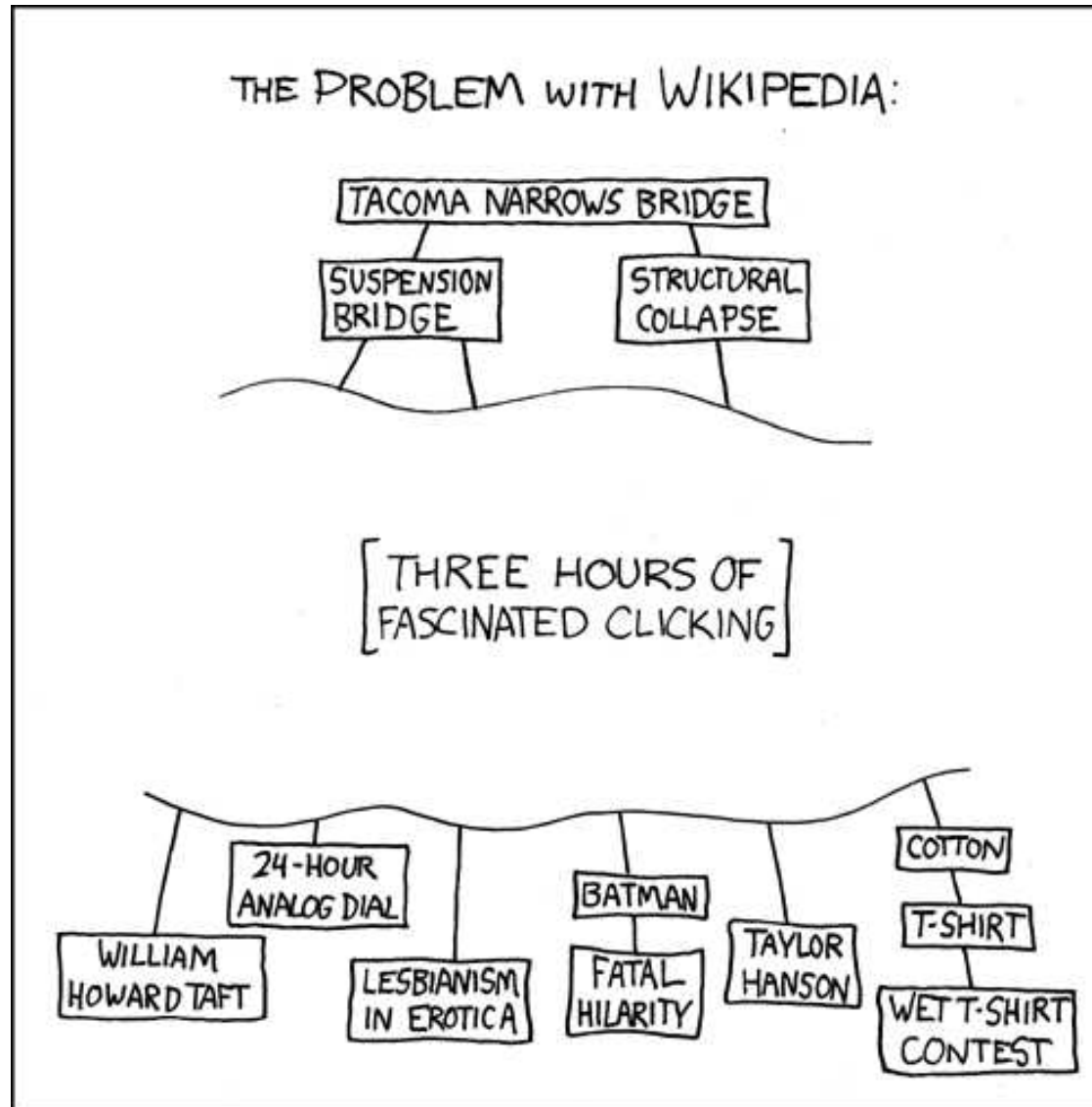
Copenhagen University Hospital Rigshospitalet

December 7, 2007

# Wikipedia

The screenshot shows a web browser window displaying the Wikipedia article for "5-HT<sub>2A</sub> receptor". The browser's address bar shows the URL "http://en.wikipedia.org/wiki/5-HT2A\_receptor". The article text describes the mammalian 5-HT<sub>2A</sub> receptor as a subtype of the 5-HT<sub>2</sub> receptor family, belonging to the serotonin receptor family and the GPCR family. It mentions its role in the visual cortex and orbitofrontal cortex, and its significance as a target for psychedelic drugs like LSD and antipsychotic drugs. A sidebar on the right provides additional information, including identifiers (HTR2A, 5-HT2A, HTR2), external IDs (OMIM: 182135, MGI: 109521, Homologene: 68073), Gene Ontology, RNA expression patterns for two tissues (287181\_H and 219181\_H), and orthologs in Human (Entrez 3356) and Mouse (Entrez 15558).

One can read Wikipedia . . .



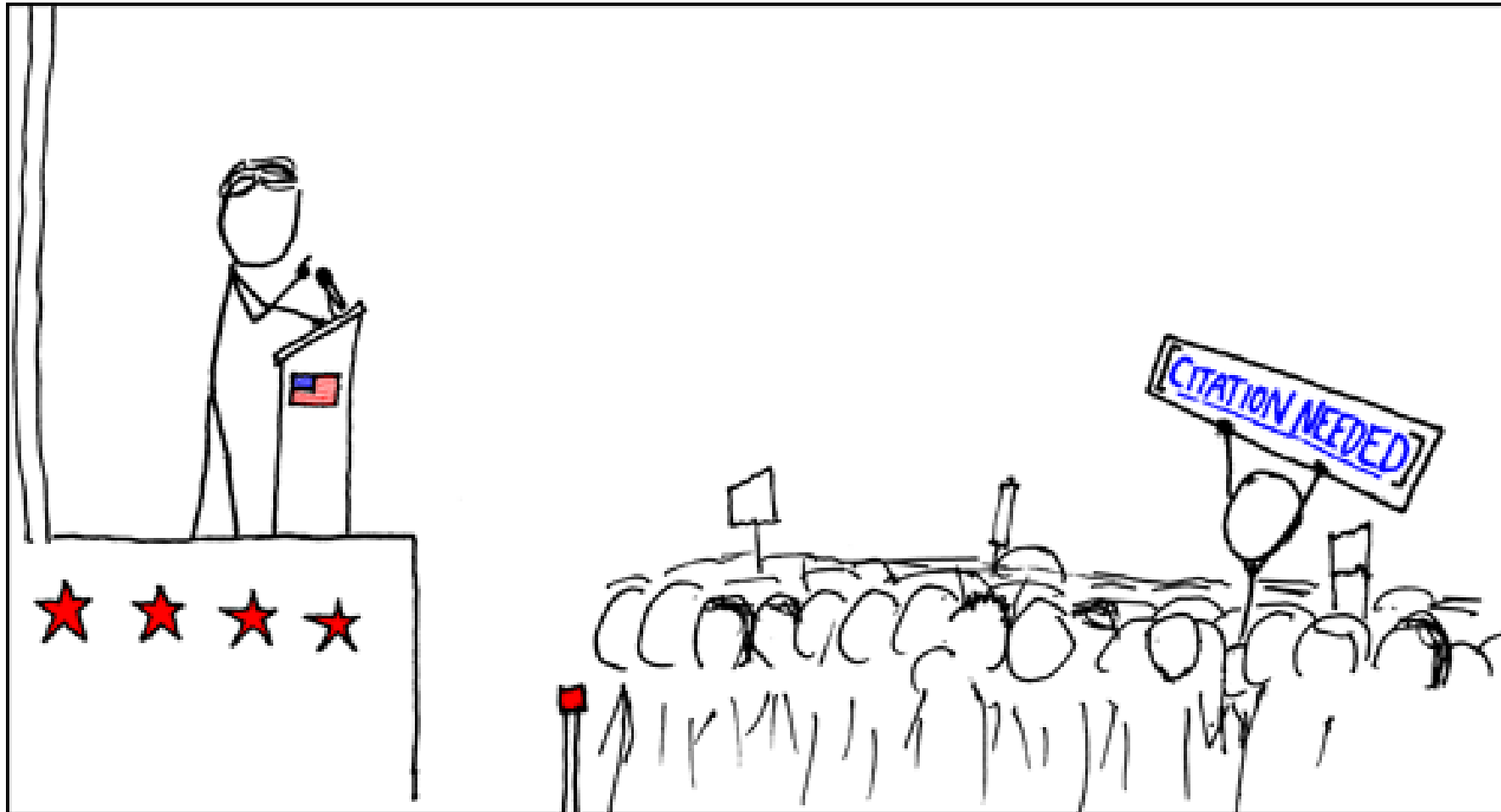
Randall Munroe, "The Problem with Wikipedia", *XKCD*. (cc by-nc/2.5/).

One can write Wikipedia . . .

A cartoon by Danish cartoonist couple “Wulffmorgenthaler” wrongfully claims that the Wikipedia is written by an extremely dedicated squirrel. This is not the case, and the cartoon is not reproduced here due to the faulty content.

Wulffmorgenthaler, November 2007.

One can support statements with references to trusted material . . .



Randall Munroe, "Wikipedia Protester", *XKCD*. (cc by-nc/2.5/).



# Citations as structured content

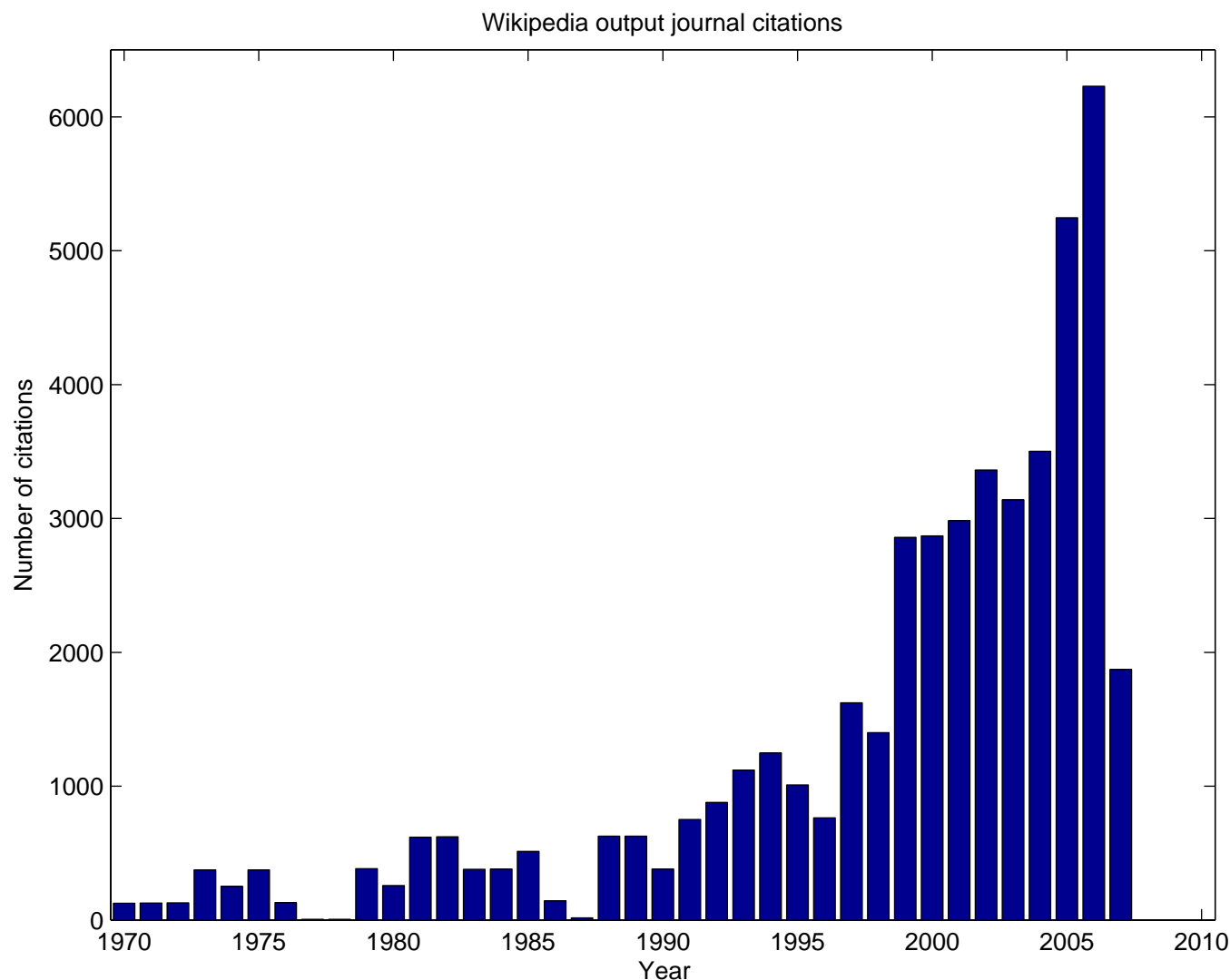
The Internet-based collaborative “database” /encyclopedia Wikipedia may contain structured information, e.g., scientific citations:

```
{{cite journal|author=Filipek PA, Accardo PJ, Baranek GT ''et al.''  
|title=The screening and diagnosis of autistic spectrum disorders  
|journal=J Autism Dev Disord |date=1999 |volume=29 |issue=6  
|pages=439--84  
|doi=10.1023/A:1021943802493|pmid=10638459}}
```

Or Proteins:

```
{{protein  
|Name=5-hydroxytryptamine (serotonin) receptor 2A  
|caption= |image= |width= |HGNCid=5293 |Symbol=HTR2A  
|AltSymbols=HTR2 |EntrezGene=3356 |OMIM=182135 |RefSeq=NM_000621  
|UniProt=P28223 |PDB= |ECnumber= |Chromosome=13 |Arm=q |Band=14  
|LocusSupplementaryData=-q21}}
```

# Year of publication of cited journal article



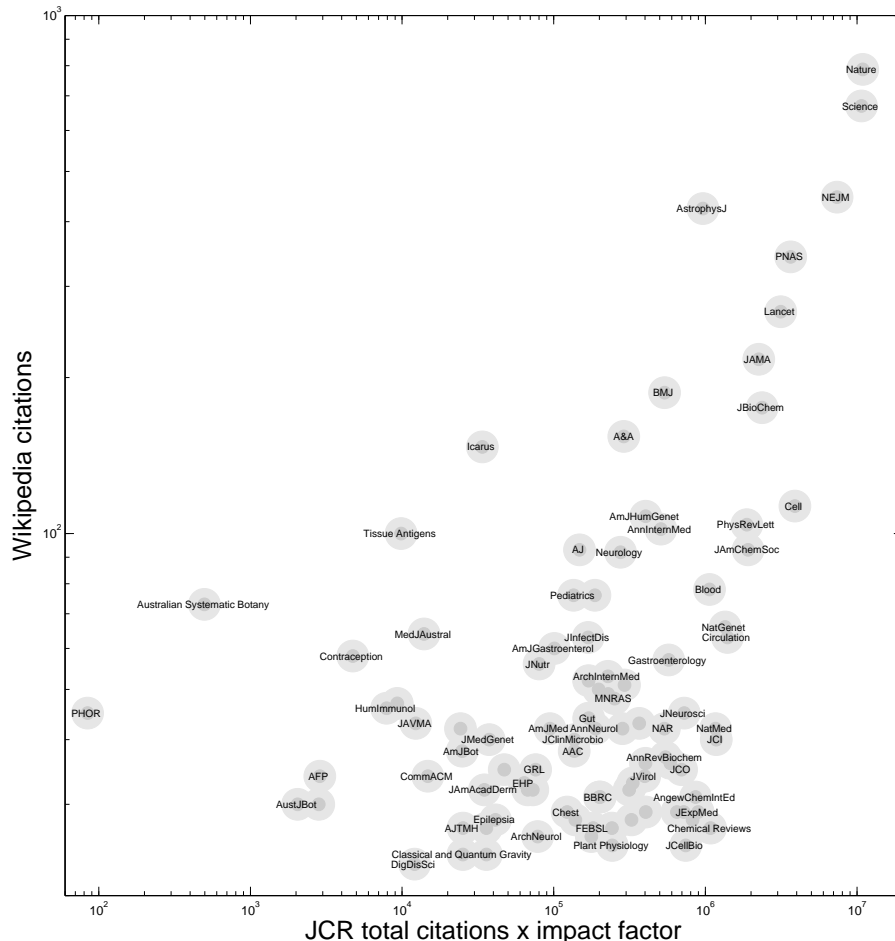
# Analysis of scientific citations

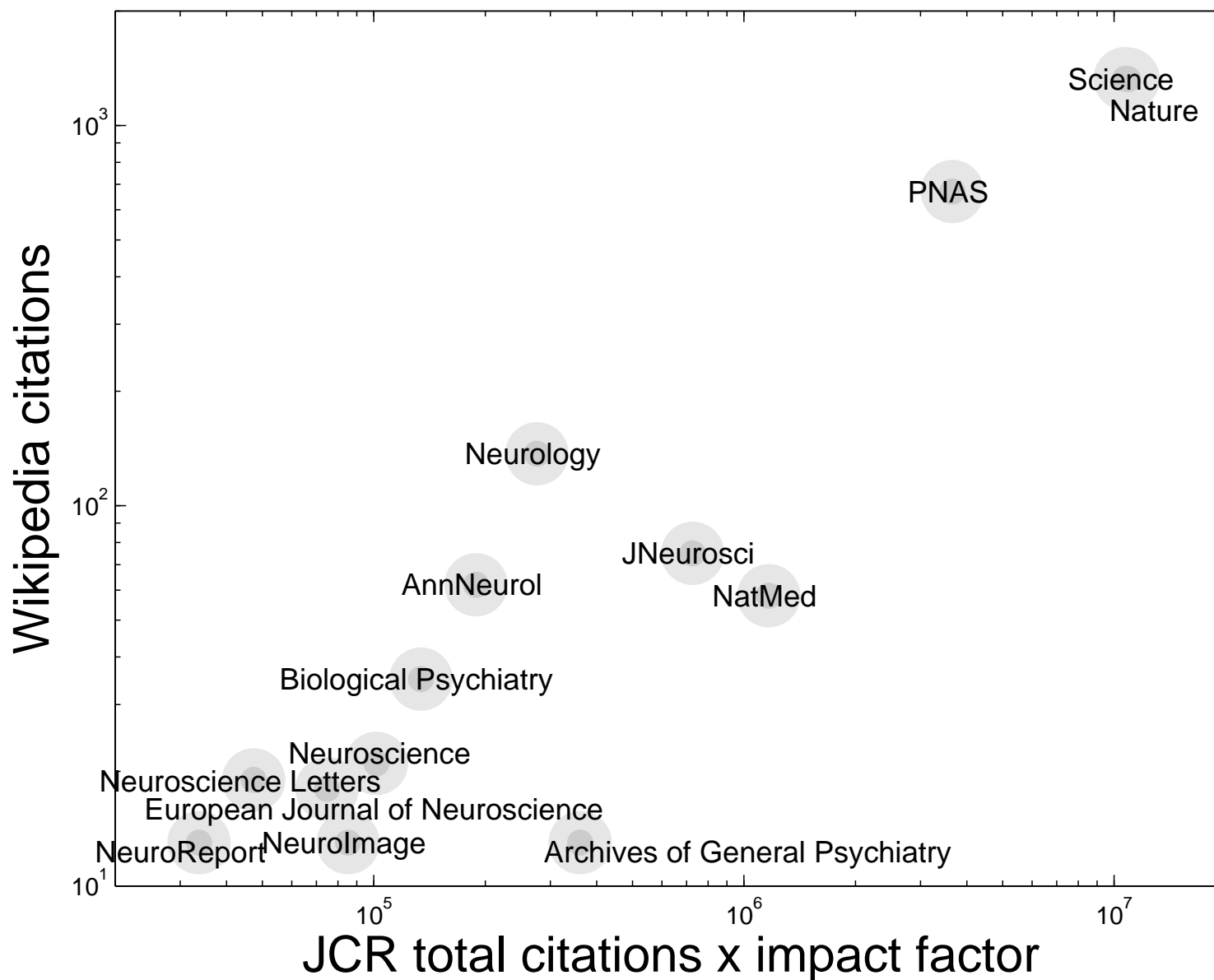
Scientific citations from Wikipedia to journals

Comparison against *Journal Citation Reports* from Thomson Scientific

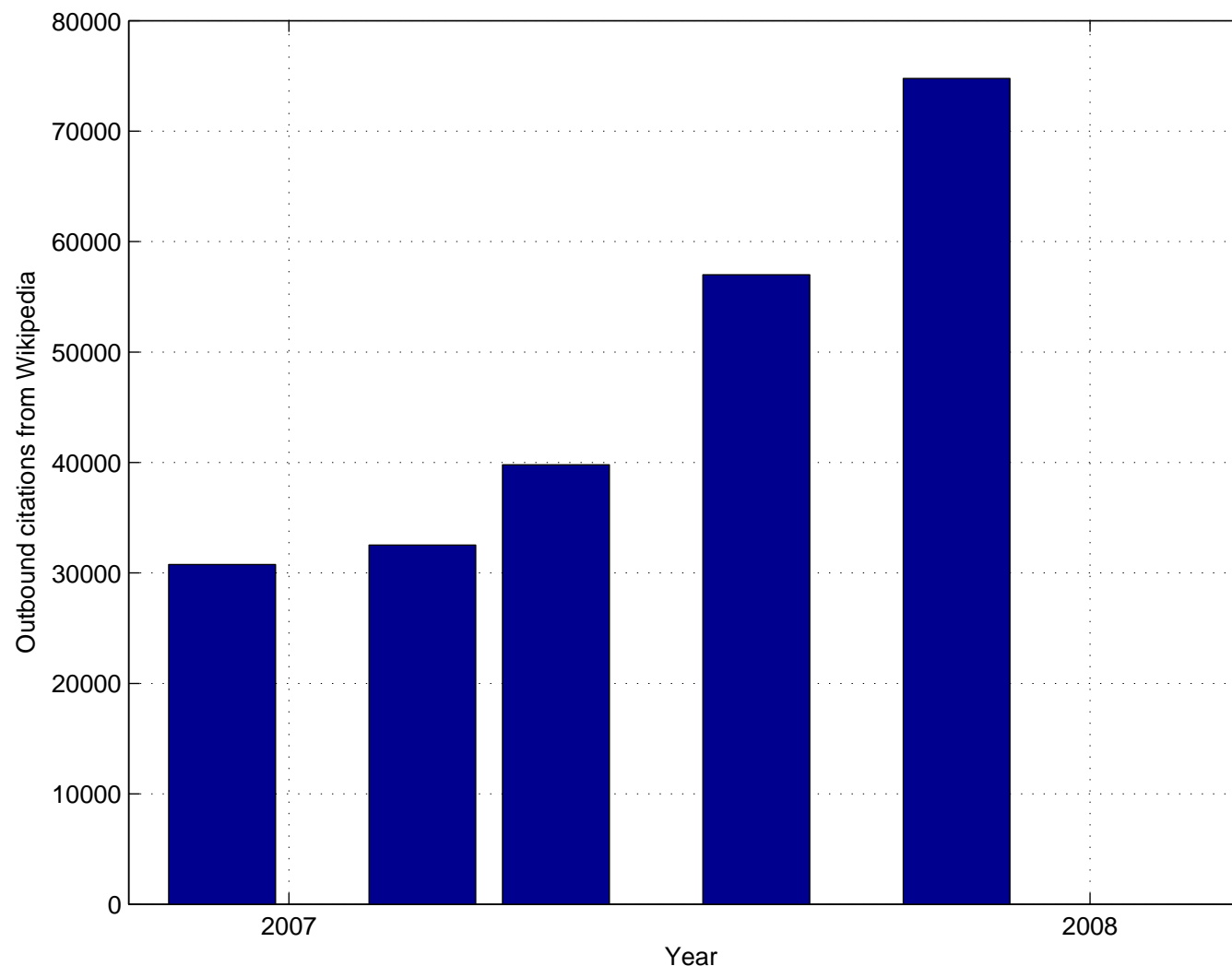
The *Nature* and *Science* journals are the most cited from Wikipedia.

The product between total citations and impact factor showed good correlation with the Wikipedia citation count (Nielsen, 2007).





# Growth in citations from Wikipedia . . .



... So Wikipedia may not only be source for “human reading” information but also a source for data that may be subjected to computer-based analysis ...

## References

Nielsen, F. Å. (2007). Scientific citations in wikipedia. *First Monday*, 12(8).  
[http://www.firstmonday.org/issues/issue12\\_8/nielsen/](http://www.firstmonday.org/issues/issue12_8/nielsen/).