



Scientific citations in Wikipedia

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Scientific citations in *Wikipedia*

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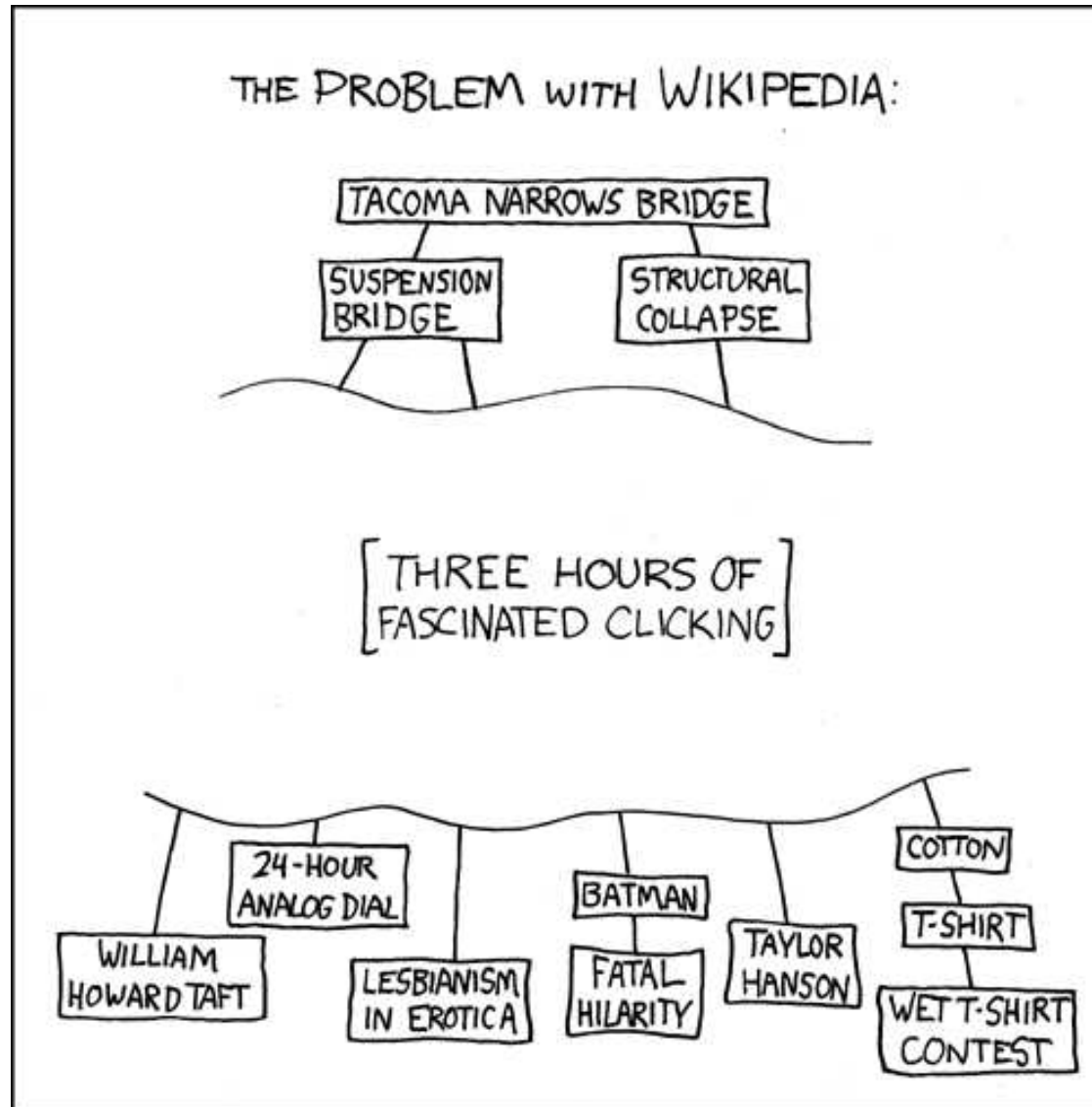
November 30, 2007

Wikipedia

The screenshot shows a Wikipedia article titled "5-HT_{2A} receptor". The article text states: "The mammalian **5-HT_{2A} receptor** is a subtype of the 5-HT₂ receptor which belongs to the **serotonin receptor** family and is a **G protein coupled receptor (GPCR)**. This is the main excitatory receptor subtype among the GPCRs for serotonin (5-HT), although 5-HT_{2A} may also have an inhibitory effect on certain areas such as the **visual cortex** and the **orbitofrontal cortex**. This receptor was given importance first as the target of psychedelic drugs like LSD. Later it came back to prominence because it was also found to be mediating, at least partly, the action of many **antipsychotic drugs**, especially the **atypical** ones. 5-HT_{2A} also happens to be a necessary receptor for the spread of the human **polyoma virus** called JC virus."

The right sidebar contains a table of identifiers and a Gene Ontology section. The identifiers table lists symbols (HTR2A, 5-HT2A, HTR2), external IDs (OMIM: 182135, MGI: 109521), and Homologene IDs (68073). The Gene Ontology section is currently hidden. Below this is an RNA expression pattern section with two bar charts showing expression levels for HTR2A and 5-HT2A across various tissues. The Orthologs section shows that the human gene (Entrez: 3256) has a mouse ortholog (Entrez: 15558).

One can read Wikipedia . . .



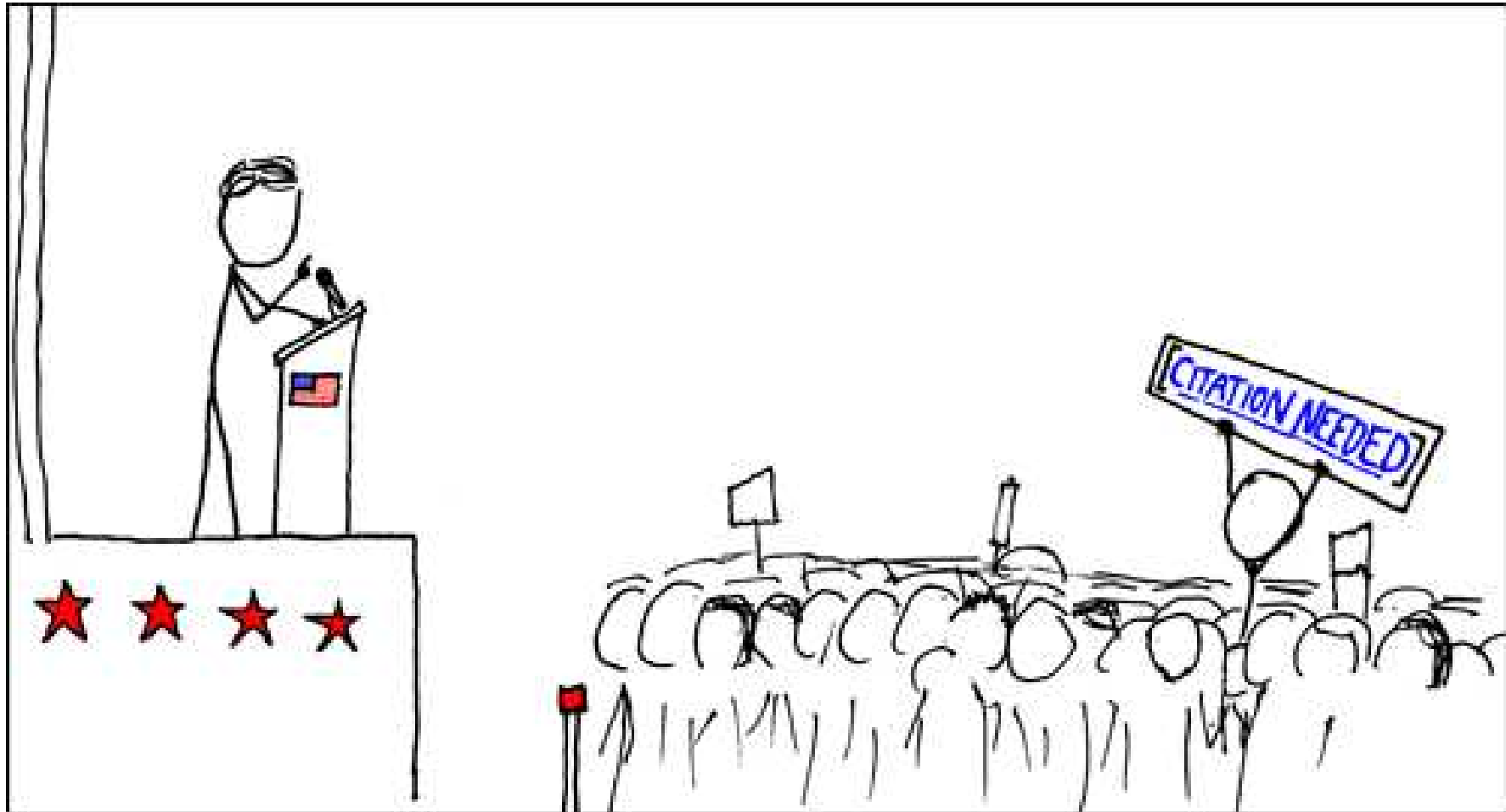
Randall Munroe, "The Problem with Wikipedia", *XKCD*. (cc by-nc/2.5/).

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

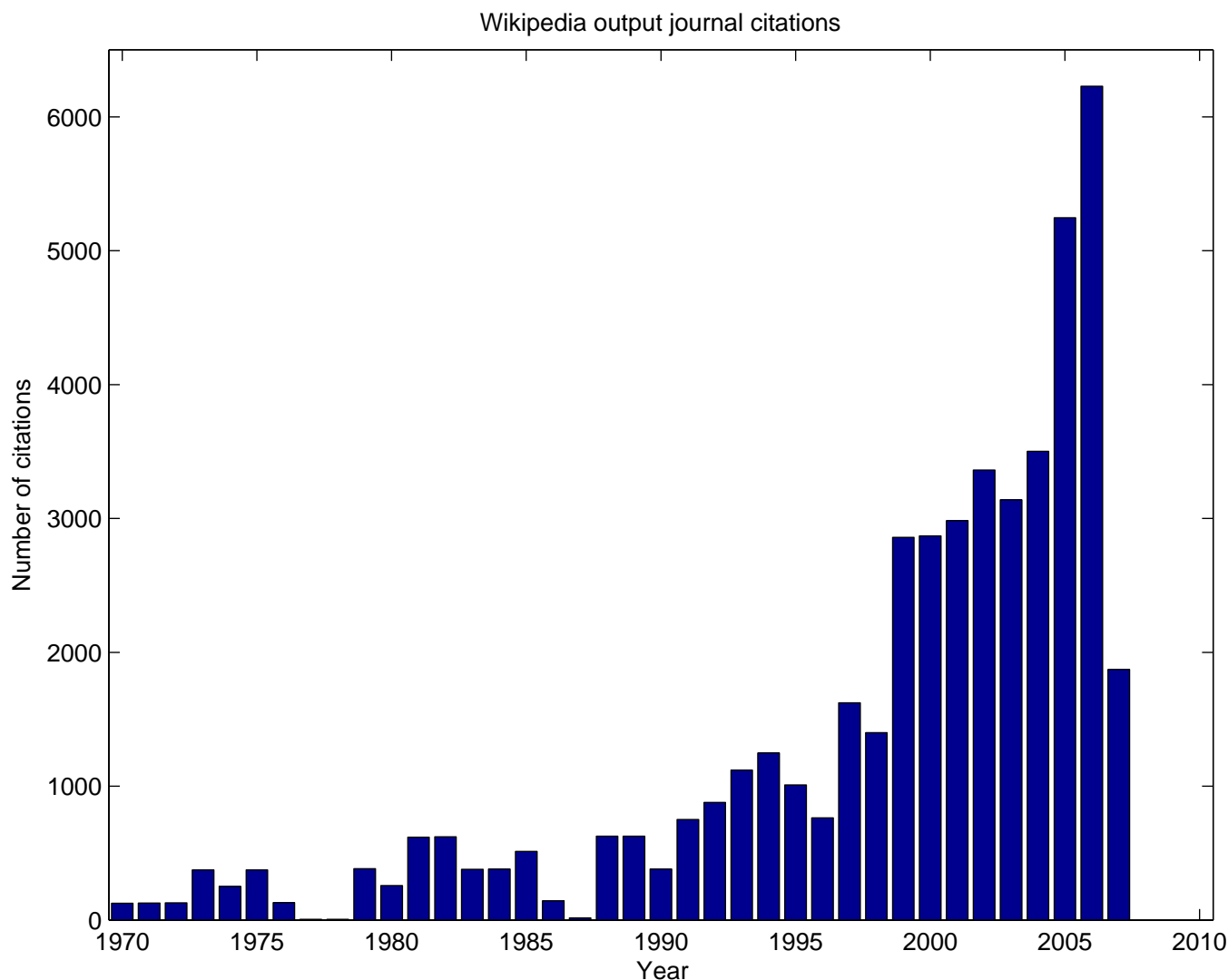
The Internet-based collaborative “database” /encyclopedia Wikipedia may contain structured information, e.g., scientific citations:

```
{{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



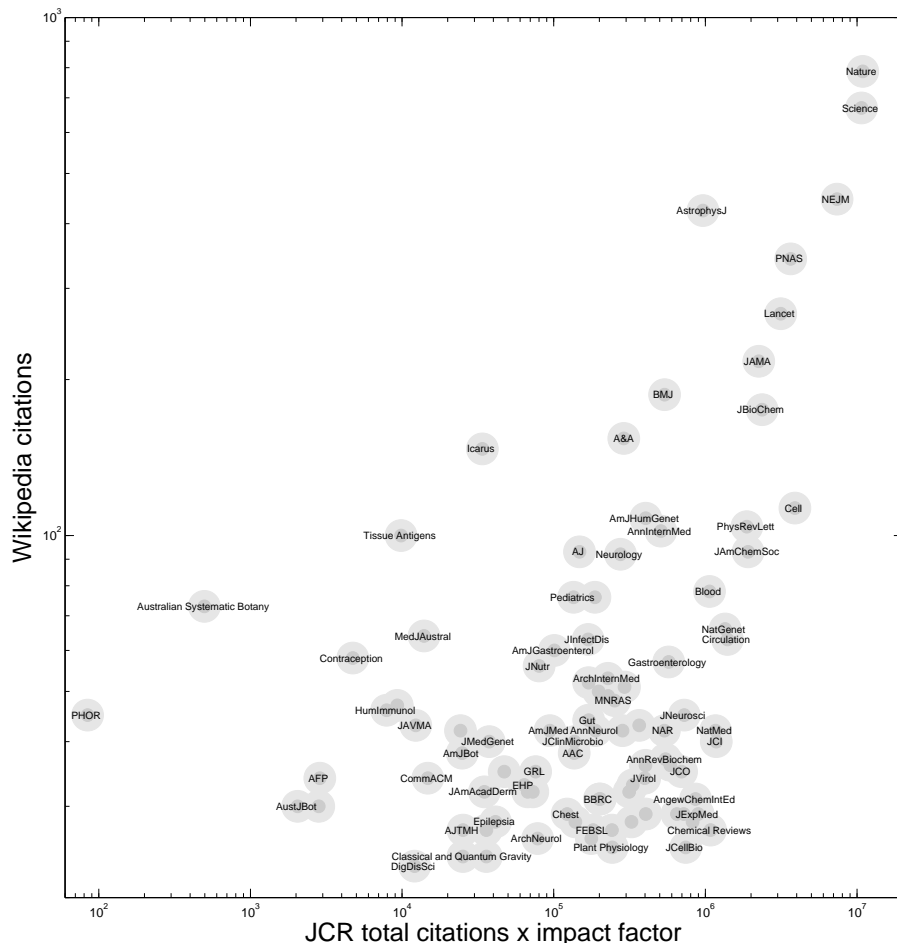
Analysis of scientific citations

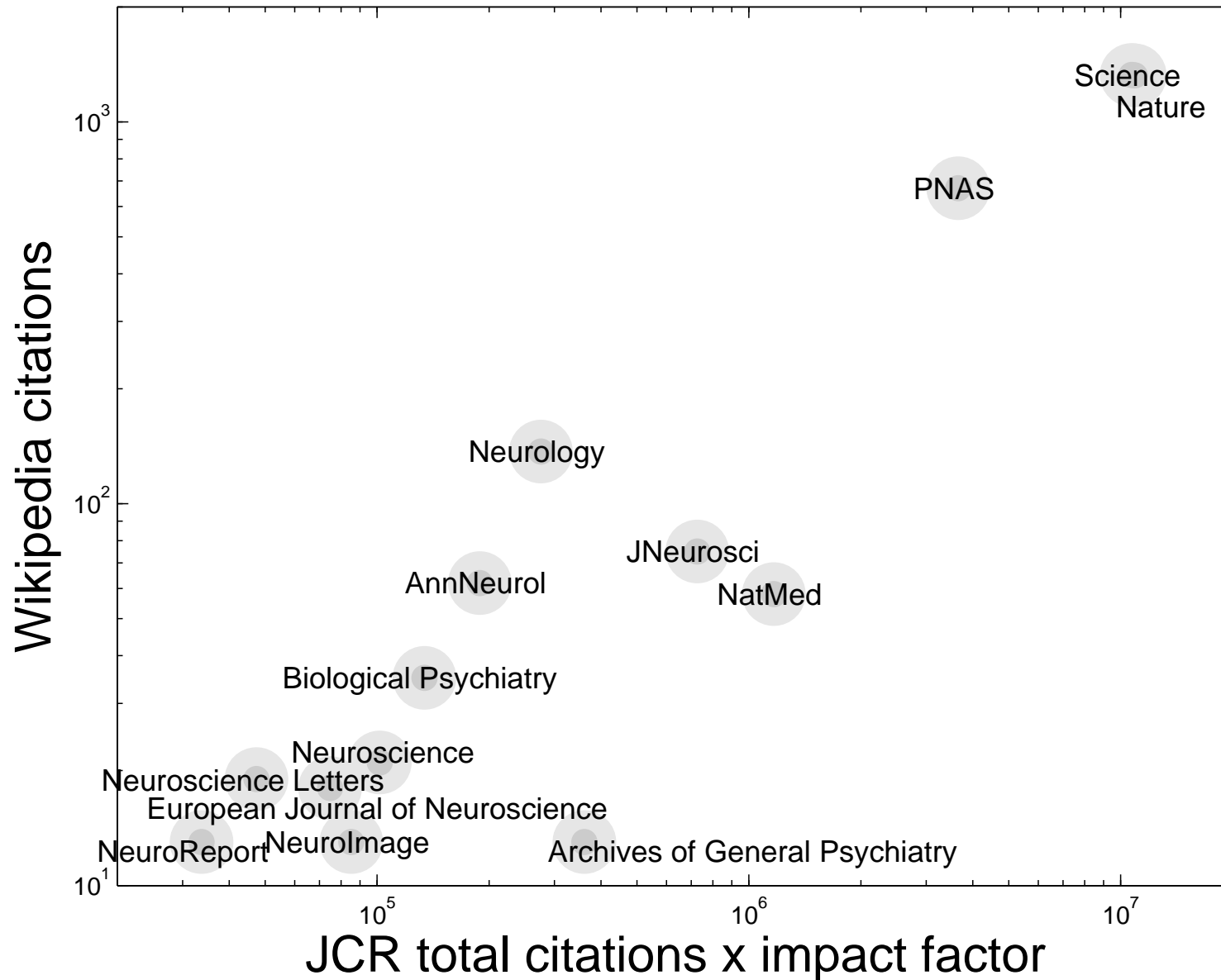
Scientific citations from Wikipedia to journals

Comparison against *Journal Citation Reports* from *Thomson Scientific*

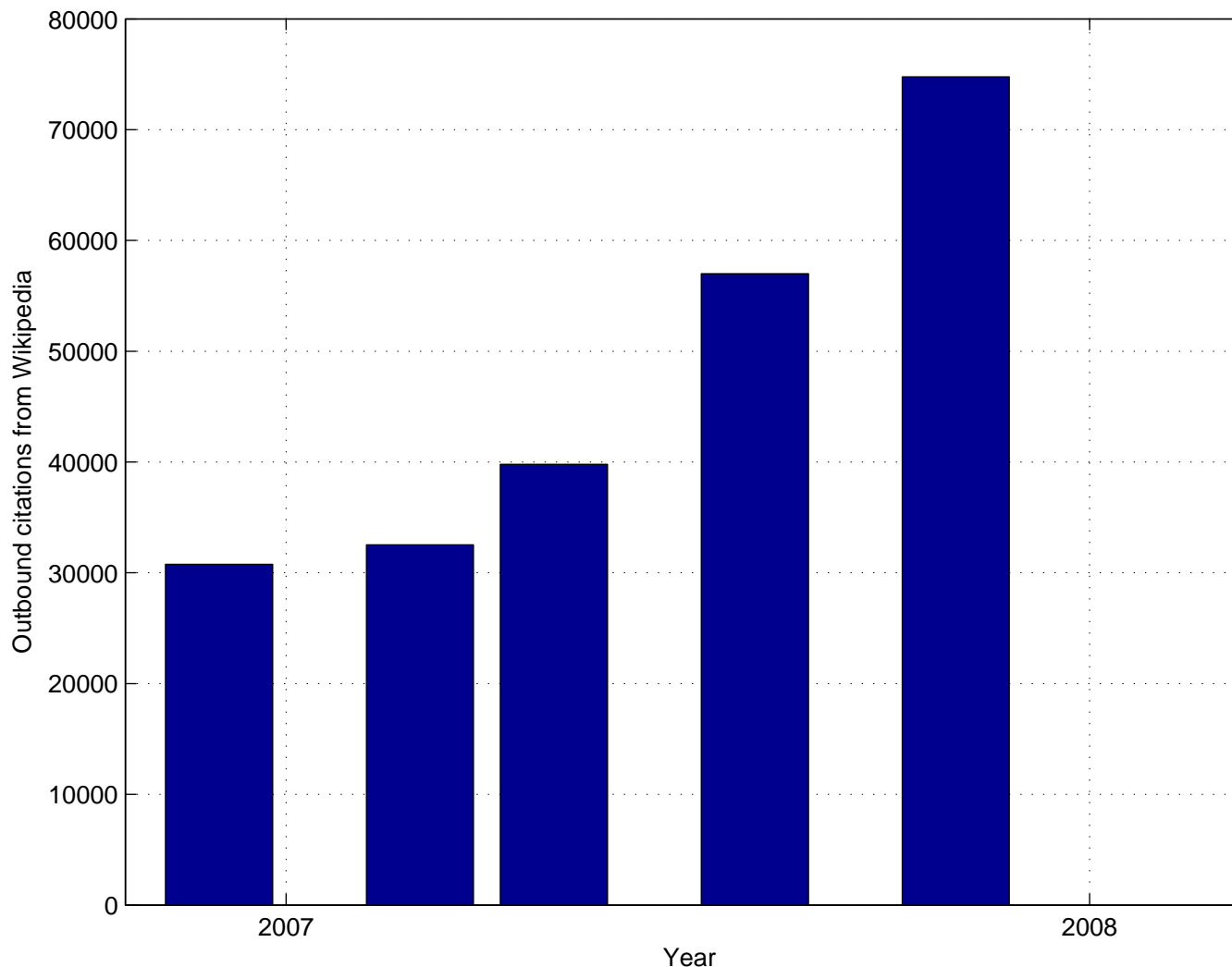
The *Nature* and *Science* journals are the most cited from Wikipedia.

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).