



Nanomaterials for Green Technology Introducing Discourse Analysis to Nanotechnology

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Nanoscience and nanotechnology as well as green technology are fields with high potential for the development of completely new ways of doing engineering, with major societal implications. This work applies the discourse method, a method that has long been known in the social sciences, to nanoscience and nanotechnology as well as green technology, and potential combinations. The analysis is based on respective articles that appeared in the online version of one of the major daily newspapers in the world, the Austrian Kronen Zeitung.

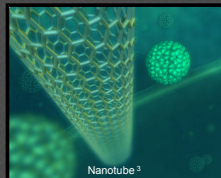
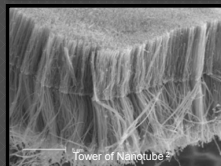
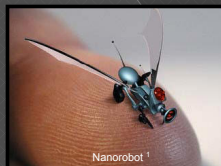
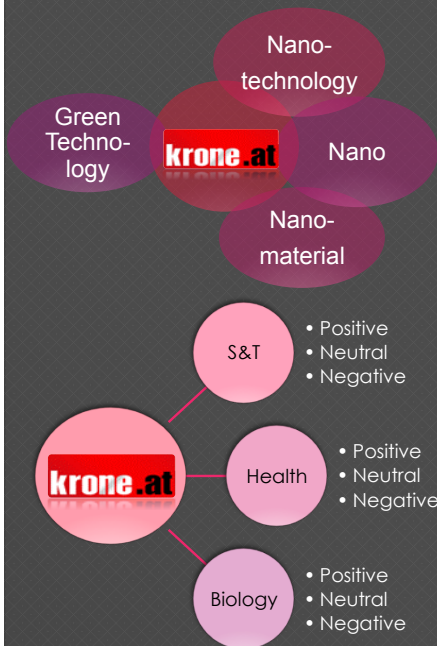
Discourse Analysis in Nanotechnology

Discourse analysis

The philosopher Michael Foucault (1926-84) is the founder of discourse analysis⁴. In a nutshell, a discourse is the sum of statements regarding a specific theme, which controls the perception, the thinking and the acting of individuals in society, including researchers. Discourses are processes that change with time. The analysis of discourses in nanoscience and –technology requires interdisciplinary collaboration between scientists from the social sciences and the nanosciences, and shall contribute to deeper understanding of opinion-generating processes.

Kronen Zeitung

The Kronen Zeitung was ranked in 2005 #45 of the 100 largest newspapers in the world⁵. It is the most widely circulated Austrian boulevard daily newspaper. If measured by the population in Austria, the Kronen Zeitung is one of the strongest, most successful and influential newspapers in the world⁶: it reached 38.9% of the population in 2006⁷. This is the reason why the Kronen Zeitung was chosen for this pioneering study.



Methodology

1. Basic Question in the Analysis:
"What can be distilled from newspaper texts regarding 'nano' in various subject areas?"

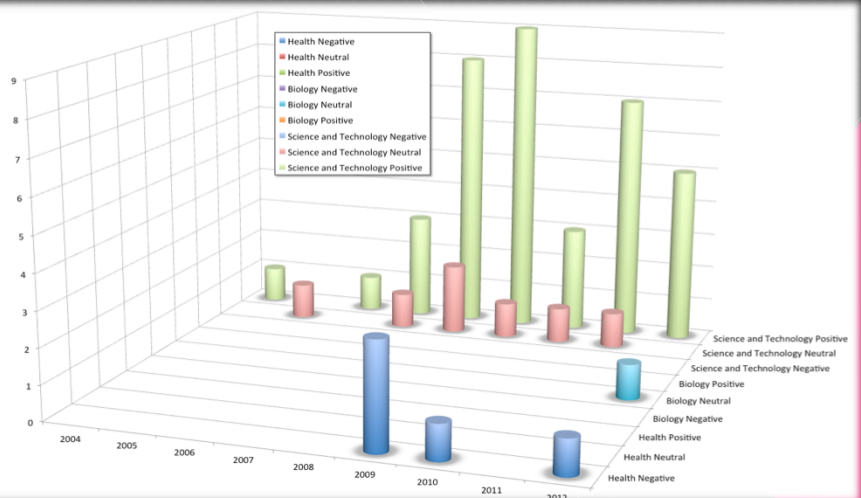
2. Methodological Approach:
a) Search for Nano-related Articles
b) Reduction of Text Material
c) Analysis and Evaluation

References

- <http://www.nanodeltech.com/nanotechnology-applications/applications-of-nanotechnology.html>
- <http://www.trynano.org/gallery.html>
- <http://www.resnet.trinity.edu/sbrown3/origin.html>
- Michael Foucault. *The Archaeology of Knowledge & the Discourse on Language*. New York: Vintage, 1967/reprint 1982.
- World Association of Newspapers, 2005, "World's 100 Largest Newspapers", <http://www.wan-press.org/article2825.html> *
- Die Zeit, 10.05.1996, "Zeitungswirren in Österreich", <http://www.zeit.de/1996/20/medien.txt.19960510.xml> *
- Austrian Media Analysis, 2006, Range Daily Newspapers, <http://www.media-analyse.at/> *

* All links last accessed November 20, 2012.

Results



Analysis of 50 nano-related articles from the Austrian Kronen Zeitung. Most of the articles cover the "S&T" field, in a positive or neutral way, just rarely "Biology" or "Health" are touched, and if, in a neutral or negative way. No connection between nanotechnology and green technology was made in any of these articles.