

INFO116 Assignment:

Making Sense of Wittgenstein

Introduction

Ludwig Wittgenstein is regarded as one of the foremost philosophers of language and logic of the 20th century. He left some 20,000 pages of "[Nachlass](#)" consisting of both manuscripts and typescripts. In the period 1990-2000, The Wittgenstein Archives at the University of Bergen (WAB) made photo image facsimiles, and transcribed each and every page to a machine readable version. It was published on CD-ROM in 2001 as "Wittgenstein's Nachlass - The Bergen Electronic Edition" on Oxford University Press.

For the time being, the complete version is actually still only available on CD-ROM (and at UiB it can be installed locally by the IT department as a networked version). However, as part of two EU projects (Discovery and Agora), 5,000 pages were published Open Access, Open Source on wittgensteinsource.org. WAB is also building a "Wittgenstein repository" (wittgensteinrepository.org) of secondary/commentary material on Wittgenstein, both written, audio and audio-visual, also Open Access, Open Source.

As you can see, these are so far published on different platforms. (And of course, utilizing the semantic web we need not necessarily bring them together on one platform either). But our ambition is to bring together different resources and functionalities in the coming few years. For example, we are cooperating with the University of Munich on the development of searching techniques of both a lemmatized and semantic nature. Also, our EU project partners Net7 have developed an annotation tool called Pundit (<http://thepund.it/>) which can be used on the 5000 pages of the Wittgenstein Source, but also links to resources like our Wittgenstein Repository and our background ontology (cf. our R&D page at http://wab.uib.no/wab_R&D.page), so that the reader can annotate the primary resource by setting up RDF's.

These are all experimental applications/functionalities, but we do hope to integrate them all with a complete online, OA version of the Nachlass, that is all 20,000 pages in a new facsimile and transcription edition.

In this assignment you will read Wittgenstein's famous lecture on ethics, and a few commentaries that have been written about the lecture. Then you will do some semantic stuff which could contribute to the effort just described.

Tasks

Your mission, which you have to accept, is to show an example of how semantic markup of individual resource pages with ontology concepts could contribute to this effort.

These are the specific tasks you will need to perform in this assignment:

1. Create an ontology of concepts for Wittgenstein's Philosophy as it relates to Ethics
2. Write some SPARQL queries to show how an application could use the semantic data embedded in the web pages (you do not have to write any applications, only demonstrate what queries they might use).
3. Annotate select web pages with semantic data, including your ontology and schema.org
4. Write a project report

The ontology

This will be a creative and perhaps the most difficult part. You will have to read the Wittgenstein resources you are given at the end of this project description. You will then have to understand them enough to be able to extract the key concepts. This is a typical task for a knowledge engineer who has to make an ontology for a domain with which they are not familiar. You don't have to become an expert on Wittgenstein, you just have to be able to understand the key concepts.

You will get some help with this through an introductory lecture on Wittgenstein.

Remember that, in order to build a good ontology, you need to know what you will use it for. In our case we want to help with the integration effort. We want to semantically annotate the pages so that we can identify pages with overlapping content, and so we can semantically search for documents by content.

First of all you should read the target document, the lecture on ethics. This will get you started on identifying the key concepts.

Then you should read the supplementary articles, which are about the lecture. There is quite a lot of overlap in the topics covered by the lecture and the supplementary articles, but not a 100% overlap. For example one article talks about Wittgenstein's use of "simile" in his lecture, but the others do not.

One of our competency questions would therefore be "give me all articles dealing with topic X", where the question should not return all the articles. That is, we need some way to discriminate the articles. This might force you to have a fairly detailed ontology.

You should also insert key schema.org concepts into your ontology, to do with the authorship of the articles and so on, for the bibliographical information. Also look at other ontologies like the Dublin core which has more specific attribution properties.

Depending on your interests you should formulate a set of competency questions and integrate the ontology concepts that will help you answer those questions.

The ontology should also contain the documents as instance data. Then each document will have its set of properties, such as schema:Author or dc:Creator or dc:Subject, and so on.

You will note that we did not give you very many documents, because philosophy papers are quite tough to read. But many of you will know other works dealing with ethics. Shakespeare, for example, was always on about right and wrong. So if you have a favourite body of literature then you could use some of those books as instances in the ontology and assign their relevant properties like dc:Subject and so on. Similarly, much of Wittgenstein's argumentation revolves around the use of language, and books dealing the technical details of language use could also be interesting to include. This is the power of semantics, because now you could ask questions like "show me all literary works which deal with Wittgenstein's notion of simile" or "show me language books that explain the linguistic use of simile".

There are also a couple of taxonomies and ontologies which might give you "inspiration".

<https://inpho.cogs.indiana.edu/taxonomy>

http://wab.uib.no/wab_philospace.page

(this ontology is giving us some problems in terms of loading into Protege, but we are trying to sort it out).

SPARQL

You should make up 5 non trivial SPARQL queries that will return an interesting result from your ontology

Annotation using RDFa and JSON-LD

You should add the relevant information to the web pages, using both RDFa and JSON-LD.

You should test the markup with the google testing tool (<http://www.google.com/webmasters/tools/richsnippets#>).

Make sure you know how to use the tool by copying and pasting some sample code from the schema.org examples into the snippet tool, and look at the structured data output.

Here are some resources to help you write and test schema.org:

An example for <http://schema.org/Event>

<https://support.google.com/webmasters/answer/4620133?hl=en>

<http://webdesign.tutsplus.com/articles/getting-started-with-the-structured-data-markup-helper--webdesign-12953>

<http://www.google.com/webmasters/tools/richsnippets#>

And here is the canonical representation of all schema.org concepts in RDFa view-source:

https://schema.org/docs/schema_org_rdfa.html

Try this with the Green Turtle RDFa extension for Chrome which you saw in the lab classes.

You might also think about OGP for sharing on Facebook.

Deliverables

This is a fairly complicated assignment. A good pass can be obtained with appropriate and technically correct schema.org markup, a sensible basic ontology, adding some data to the web site with RDFa and JSON-LD, and getting a few basic SPARQL queries working. The highest marks will go to groups with creative uses of the markup, and more extensive and complete uses cases covered, and good justifications for their particular use of markup.

The deliverables will be

1. A written report (explained below)
2. All of the annotated HTML pages
3. The ontology as an OWL file
4. All SPARQL queries and result sets

The report should present an overview of what has been achieved. What work did each group member contribute? Why was the ontology constructed in the way it was? What kinds of questions can be answered by the ontology (the competency questions you used)? What can the web site do with the added semantics (e.g. third party applications)? The report should also include examples of the expected rich snippet from the markup (from the rich snippet tool). The report should be no longer than 15 pages, including figures, example markup, queries, etc.

The articles

Target article:

Ludwig Wittgenstein (1929) Lecture on Ethics:

http://wab.uib.no/cost-a32/Ts-207_norm.html

(You can also find both the transcribed and facsimile version at WittgensteinSource.org. Go to the “Bergen Nachlass Edition” dropdown menu and find TS207 from there. However, for your work you should use the html linked above.)

Discussion pieces which must be marked up:

Deirdre Smith (2007) Ethics, Language and the Development of Wittgenstein’s Thought in MS139a:

<http://wittgensteinrepository.org/agora-alws/article/view/2671/3066>

A nice paper in that it points out the connection between Wittgenstein’s ethical thought and his philosophy of language, placing Wittgenstein as both a philosopher of language and of ethics.

Deirdre’s other paper from the same year – “Re-Discovering Wittgenstein” – could be nice for the students to read in order to place the Lecture on Ethics within the ‘technological’ framework of our resources:

<http://wittgensteinrepository.org/agora-alws/article/view/2669/3062>

Paul Formosa (2007) Saying the Unsayable: Wittgenstein’s Early Ethical Thought:

http://www.sorites.org/Issue_19/formosa.htm

This is a paper external to our WAB resources, but it seems to be Open Access. It does a nice job of explaining Wittgenstein’s early ethical thought and connects it to his first main work, the Tractatus Logico-Philosophicus (which unfortunately is not a part yet of our Open Access collection).)

Janyne Sattler (2010) Moral Judgments as Part of What Ethics Must Show:

<http://wittgensteinrepository.org/agora-alws/article/view/2840/3404>

Does a nice job of explaining the importance of Wittgenstein's distinction between what we can say and what we can only show, be it in language or other modes of representation.

Secondary sources of information which do not have to be marked up

Here is the main site for exploring:

<http://wittgensteinrepository.org/>

Here is another site rich in information:

<http://wab.uib.no/>

And some selected useful references:

<http://wittgensteinrepository.org/agora-alws/article/view/2703/3130>

<http://wittgensteinrepository.org/agora-alws/article/view/2535/2794>

<http://wittgensteinrepository.org/agora-alws/article/view/2827/3378>

For those who really want to get into the interpretative side of things, there's actually an entire book both on, and including the Lecture on Ethics available Open Access through PhilPapers. The bibliographical info is found here:

<http://philpapers.org/rec/ZAMLWL>

...and it also has a link for a free, direct download.

Additional articles about building a Wittgenstein ontology

Please note that some of these articles are available under institutional subscription so you must be with a UiB IP address to view them. I hope students also have access!

Also, the articles are about building an ontology for all of Wittgenstein's philosophy, which is not what you are trying to do. You only need an ontology that deals with the lecture on ethics.

Still, you might find some useful suggestions in them.

Probably the most updated one:

<http://ilc.oxfordjournals.org/content/28/4/700> (may require accessing through the UiB network)

Another interesting one with another perspective:

<http://garbaczp.nazwa.pl/ftp/OntologyOfMetaphysics/Papers/PhilKR.pdf>

A third one which Rune was involved in writing (also PDF):

<http://dl.acm.org/citation.cfm?id=2517984>

...and a couple of Open Access papers:

<http://wittgensteinrepository.org/agora-alws/article/view/2675/3074>

<http://wittgensteinrepository.org/agora-alws/article/view/2668/3060>