

Semantic Search - Lexicon of Arguments

How a Semantic Search Algorithm for unedited Sources may look

When dealing with the task of finding scientific positions that are not sufficiently displayed in a text or that are concealed, we can often find key words which embed those places. For an algorithm, we may assemble them in a manner in which they usually appear in phrases.

We then can distinguish a positive and a negative search.

Semantic “Feed” for a Search Algorithm in Scientific Discourse

We are presupposing a body of scientific texts which was compiled according to a search of relevant concepts in a field. Our aim is to highlight the differences and controversies between authors and between scientific camps, not the repetition of well-known theses.

The Semantic Search with key words will now be applied to our body of texts in order to show the structure of arguments and to permit improvements of theories.

Here, we give some sample phrases. Expressions which are underlined may be replaced by others out of a thesaurus of key words.

A. Positive Form - Sample Phrases – Examples

“We are showing the supremacy of our approach related to powers of discernment and explanatory virtues.”

“We are showing that our discrimination is useful and necessary”.

“We avoid slipping into theory X.”

“We also cover X.”

“The theory at hand makes Y unnecessary.”

“The unrefuted traditional theory at least assures X”.

B. Negative Form - Sample Phrases

“We rebut/refute/vitiate the antagonistic theory by showing that the discrimination is useless and superfluous.”

“The obsolete approach ignores the important distinction X/Y.”

The traditional approach does not guarantee/assure/warrant the avoidance of X.”

“Some authors are risking commingling of X and Y.”

“The refutable/disputable/rebuttable/disprovable theory resurrects the old problem of X.”

“Some authors do not assess/judge X in the right way. “

“The tradition gives X too much emphasis/ too little attention.”

“The overlooking/ignorance of X leads to the problem of Y.”

“X is not expressible in the system Y”.

The following device could be a general pattern of an argumentative sentence which contains relevant results:

key word 1 – result - key word 2 – result - key word 3– result – etc.

Now a (simple Boolean) search algorithm might be built according to this

key word a \vee b \vee c $\vee \dots \vee$ n₁ - result – key word x \vee y \vee z $\vee \dots \vee$ n₂ - result....

Key words, examples

A. Positive

| | | result | | result | | | result |
|--|------------------------------------|--------|--|--------|--|--|--------|
| I/we my/our at hand present | shows prooves solves | | Problem contradiction discrepancy dilemma | | solution distinction discrimination explanatory strength | complete comprehensive new stronger than expressing more than | |
| approach/ theory essay | | | | | | | |
| superior undisputed unchallenged new up to now undiscovered | satisfies | | condition demands | | | picking up coming back to taking up | |
| | supports reinforces endorses | | | | | | |

B. Negative

| | | result | | | result | | result |
|--|----------------------------|--------|--|---|--------|--|--------|
| I/we my/our at hand present approach/ theory essay text | refutes proves shows | | The author of which some author group ism Text essay | Problem of misunderstan ding wrong interpretation of | | misunderstood unnecessary superfluous unimportant | |

| | | | | | | | |
|--|-----------|--|--|---|--|---|--|
| | | | | | | | |
| | | | tradition opinion theory | has not considered forgotten failed overlooked risks leads to | | mistake mix-up blending identification equation comparison | |
| | | | opposing antagonistic outdated antiquated established wrong incomplete vacuous refuted | | | | |
| | questions | | | | | | |

The results – weren't they expected all the time?

What are the results good for, though? Aren't we after all discovering exactly the words we were looking for? Sure, if we wanted to know whether the concept of representation is used, we might have looked it up directly.

What we wanted to know instead was how the text at hand is to be classified. To which scientific camp the author belongs, against which position he is fighting and which arguments he is using.

Is the author using "inner objects" instead of "representation"? Then he might belong to the scientific camp of dualists for example. In this manner we can show which arguments there are against the presupposition of representations or against dispositions, etc.

We then can arrange the results according to our FFM in "Vs", "Thesis", "Example", "Def"/Concepts, "Camp".

So we might learn about the way an author tries to make the assumption of *inner images* unnecessary by adopting *dispositions*, for example.

Perhaps our key for this was searching for "inner image" in combination with "antiquated" and not in combination with "representation". We found dispositions as a solution. But we did not know before that we should have looked for this term!

One more result of our search will be that we can now count this author to the scientific camp of Anti-Mentalism and Anti-Dualism.

We will see that a concept may inspire more "hostilities" when paraphrased or refined. Let's look at this for the concept of representation.

Paraphrasing – Expansion of the conceptual field – Expansion of controversies

Will the rephrasing or rewording in the edited source or in the search lead to more accuracy or will it make things more obscure?

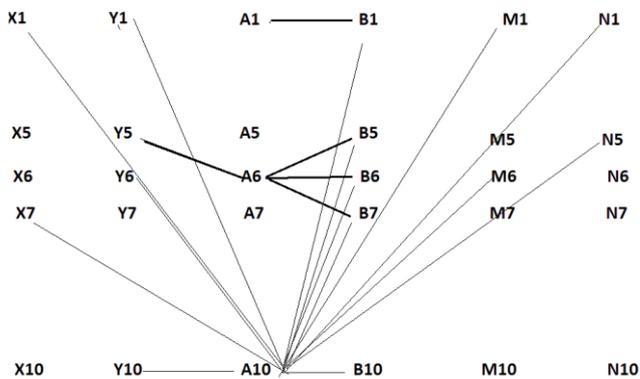
Our search might lead us to quite different controversies than those we originally had in mind. We will learn that a paraphrased concept can have more "enemies" than the original one. Let us take a look at a possible conceptual field around "representation".

| | | |
|---------------|---|------------|
| thinking | sign/word/sentence noise/picture/gesture | memory |
| | representation | storage |
| | inner objects | motion |
| disposition | inner images | repetition |
| faculty | inner entities | activity |
| knowledge how | | |
| processing | | |
| computation | | |

Explanation: not everyone who talks about representation is talking about inner images, some authors are referring to sentences or words. Not all authors who write about thinking consider dispositions to be relevant; not everybody who speaks of recollection (memory) assumes that it is like a depot or a computer memory. Not everyone who writes about dispositions will always find computation worth of mentioning. He who talks of thinking as processing of content is not obliged to understand these contents as inner entities etc.

For the following illustrations it might be helpful to think of the above concepts instead of letters and dots:

Generally:

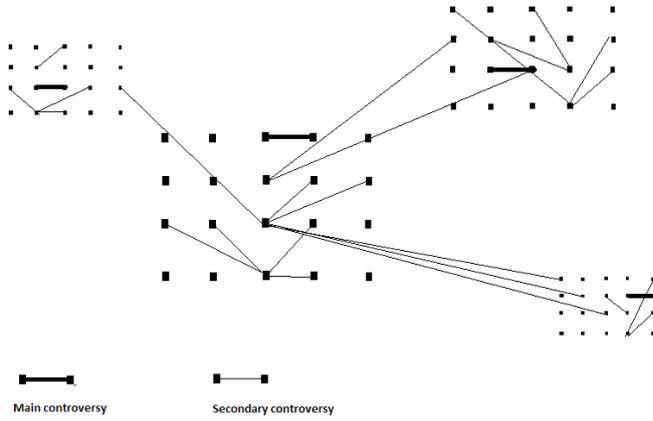


Illust. 1. Increasing „hostilities“ while paraphrasing and developing concepts

Example: Somebody who takes inner objects for granted will be opposed to a greater number of scientific camps than an author who assumes only a functional role for the object of his research.

So there might be controversies beyond

- a) A terminology that had been taken for granted
- b) A field of knowledge that had been considered to be limited

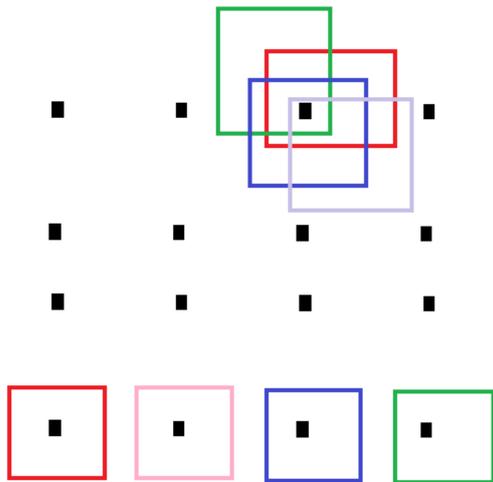


Illust. 2: Controversies beyond an original scientific field

Example: When transferring Elementary Logic into the field of Ethics, we will be confronted with paradoxes which are no paradoxes at all in other fields.

A concept from the upper line (see above) may belong to several scientific fields or branches – while in the paraphrased concepts in the lower lines these branches will be separated.

Example: “Representation” is used in many fields – the concept of computation is used in far less. While “computation” then is used in quite a consistent way, this is not true for the concept of representation.



Illust. 3. The scientific camps and branches differ in paraphrasing and shaping the concepts within the discussion.

The Lexicon of Arguments (www.philosophy-science-humanities-controversies.com) shows this camp-building and shifting.