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Guidelines for the annotation of arguments and further discourses

Ernst-von-Glasersfeld-Archive

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Background

Following annotation guidelines were developed within the project *DigiVis: Digitization and Visualization of Archives and Collections*[1] and have build the basis for the visualization of a selected collection of Glasersfeld texts. This interdisciplinary project has been funded as a Lighthouse-project in the Field of Digitization by the Tyrolean Regional Government.

The development of the guidelines had been conducted in three phases. The first version of the guidelines was produced before the first annotations were made. These guidelines were created during a workshop with the media expert Rainer Leschke and were further developed and modified after the first five annotated texts. Discussions with Manfred Kienpointner and Peter Kügler, both experts in the field of argumentation analysis, and another workshop with Rainer Leschke led to the third and current version of the guidelines.

For the visualization of argumentation and discourse structures, selected scientific papers from the Ernst-von-Glasersfeld-Archive, which were published between 1960 and 2006, a collection of critics in the journal 'Ethik und Sozialwissenschaften 9 (1998)' as well as Glasersfeld answers to the critics in the same journal were manually annotated. These three different types of texts (Glasersfeld texts, criticism from other authors, and Glasersfeld answers) build therefore the base for annotation, structuring and visualization.

The annotation of Ernst von Glasersfeld texts

Before the annotation process starts, different levels of the Glasersfeld texts will be created:

- The first level contains the plain text and metadata information (author, publication year, etc.)
- In the second level, the text will be segmented into text units and assigned to a specific discourse. In addition, the text units of arguments will be assigned to specific topics (see graph below)
- In the third level, the formal criteria will be assigned to the discourse annotations (see graph below).

[1] https://dbis-digivis.uibk.ac.at/mediawiki/index.php/Main_Page

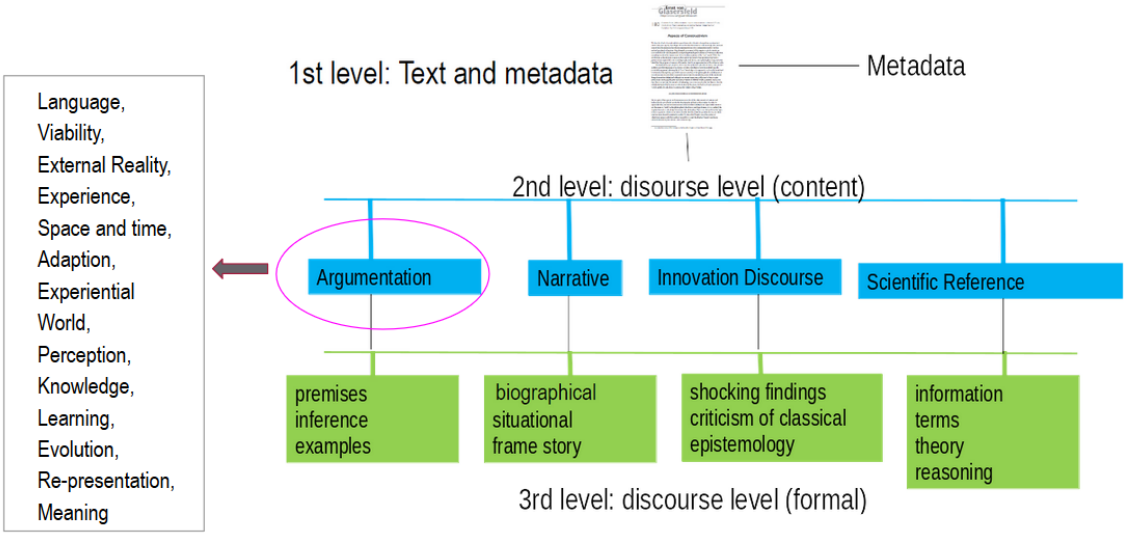

Figure 1: Annotation process in three levels.

The annotation process itself is divided into four steps:

1. Segmenting the text
2. Assigning the text units to different types of discourses (argument, innovation discourse, narrative, and scientific reference)
3. Assigning arguments to topics (language, viability, external reality, ...)
4. Assigning formal criteria to the innovation discourses, narratives and scientific references
5. Annotating premises, examples and conclusions within the arguments

The annotation of arguments:

The first step is to identify and assign arguments to specific topics. In a second step, premises, examples and conclusions will be identified and annotated within the annotated argument.

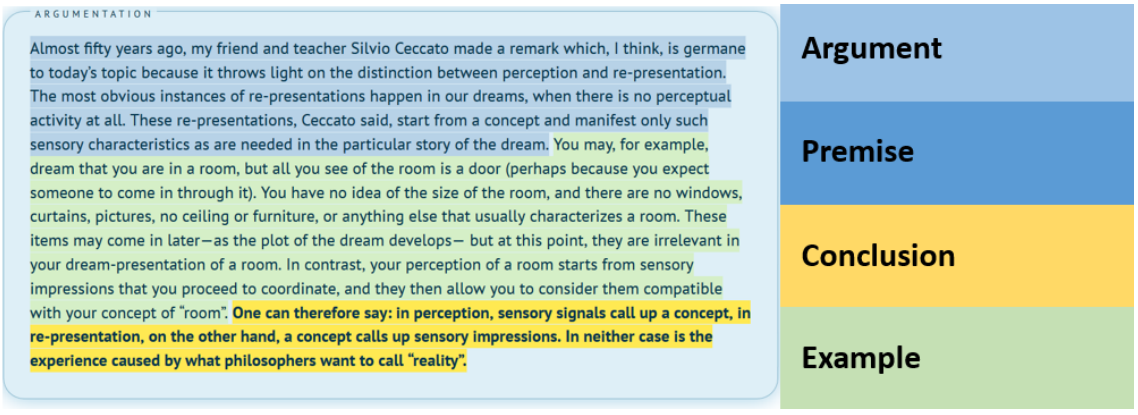

Figure 2: Semi-automated annotation of arguments.

- An **argument** is a statement that includes at least one premise, a conclusion, and in some cases an example. The following quote shows an argument with a premise, an example and a conclusion from the Glasersfeld texts:

  > 'Gordon Pask links the prescriptive purpose with the preposition 'for', the descriptive with 'of', and he completes this by adding that "any system with a purpose for it ... also has a purpose in it" (loc.cit., p.24). A simple example may illustrate this. Having got tired of buying matches, someone may decide to design a cigarette lighter. Lighting cigarettes will be the purpose prescribed for the gadget. "People do not build purposeless machines" (loc.cit.). Prescriptive purposes, therefore, are there prior to their embodiment, which then has the particular purpose in it.'

- The **premise** in this example provides reason or support for the conclusion:

  > 'Gordon Pask links the prescriptive purpose with the preposition 'for', the descriptive with 'of', and he completes this by adding that "any system with a purpose for it ... also has a purpose in it" (loc.cit., p.24).'

- The **example** underlines the premises with illustrative information:

  > 'A simple example may illustrate this. Having got tired of buying matches, someone may decide to design a cigarette lighter. Lighting cigarettes will be the purpose prescribed for the gadget. "People do not build purposeless machines" (loc.cit.).'

- The **conclusion** indicates of what the arguer is trying to convince the reader/listener:

  > 'Prescriptive purposes, therefore, are there prior to their embodiment, which then has the particular purpose in it.'

Arguments are assigned to main topics, which read as follow:

> Language, Viability, External Reality, Experience, Space and time, Adaption, Experiential World, Perception, Knowledge, Learning, Evolution, Representation, Meaning.

Innovation Discourse, Narrative and Scientific Reference:

Other categories of discourse - besides arguments - that are annotated are the innovation discourses, narratives and scientific references. The annotation off all this discourses makes it possible to reconstruct the discursive structure of the texts.

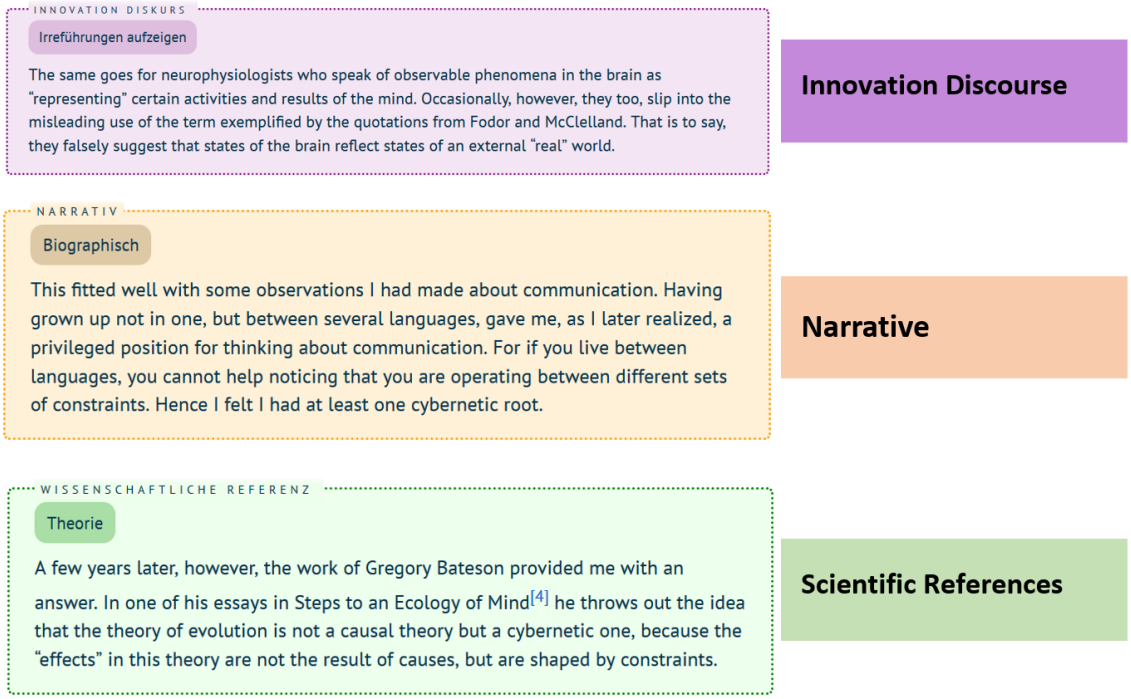

Figure 3: Annotation of innovation discourse, narrative, and scientific reference.

The innovation discourse:

The innovation discourse is a very specific discourse that was used from Ernst von Glasersfeld. It serves the legitimisation of his theory, his research and his thinking. There are different types of innovation discourses:

- **Shocking Findings**
  Points out that the new findings could be shocking for those believing in the traditional theories of knowledge and reality:

  > 'This is a shocking suggestion, and I have elsewhere laid out the reasons for such a radical step (Glasersfeld, 1985). I have called my position radical constructivism to accentuate the changed concept of knowledge and to differentiate myself from those who speak of the construction of knowledge in the framework of a traditional epistemology.'

- **Break with the classical epistemology**
  Underlines the difference to traditional theories in pointing out the break with the conventional framework:

  > 'In traditional theories of knowledge, the activity of "knowing" is taken as a matter of course, an activity that requires no justification and functions as an initial constituent. The knowing subject is conceived of as a "pure" entity in the sense that it is essentially unimpeded by biological or psychological conditions. The radical constructivist epistemology quite deliberately breaks that conventional framework and commits what professional philosophers, more or

less disparagingly, dismiss as "psychologism." The deliberations that have led me to this somewhat iconoclastic step derive from what was said in the first two sections as soon as one considers them jointly.'

- **Showing the own gaps**
  Explains the own gabs in underlining that not everything can be explained in detail:

  > 'I begin with a brief historical review of key ideas that were crucial for the development of the constructivist position. Needless to say, this review will be biased and, given the limitations of space, incomplete. Then I shall deal with the frequent complaint that constructivism denies the existence of any reality and counter it by explaining some of the steps involved in the construction of what I have called experiential reality. Ideally this should add up to a demonstration that the constructivist approach to the problem of knowledge is a feasible one.'

- **Questioning the traditional theory of knowledge**

  > 'Most philosophers considered knowledge as a static entity. Knowledge, for them, was there, ready to be discovered. The notion that individuals could generate knowledge, and that one could specify the processes involved in its production, was not a notion that fitted the traditional pattern. How something arises and comes to be what it is, its evolution, was not to be considered a justification or valid explanation. Indeed, philosophers had formulated a ban against 'genetic fallacies'.'

- **Critique of trivial constructivism**
  Differentiates the own theory - the radical constructivism - from 'trivial constructivisism':

  > 'To embark on the radical constructivist path, thus, means to relinquish the age-old untestable requirement that knowledge must match the world as it might 'exist' independently of our experience; instead, one demands of knowledge that it prove itself by a functional fit. From my perspective, those who merely speak of the construction of knowledge, but do not explicitly give up the notion that our conceptual constructions can or should in some way represent an independent, 'objective' reality, are still caught up in the traditional theory of knowledge that is defenseless against the sceptics' arguments. From an epistemological point of view, therefore, their constructivism is trivial. Trivial constructivism manifests itself in professionals who treat the knowledge of others as subjective construction and never doubt the 'objectivity' of their own.'

- **Criticism of the skeptics**
  Shows the 'failings' of the so called skeptics, on which ideas von Glasersfeld's theory is building on:

  > 'Yet, in spite of their power on the common sense level, the achievements of science and technology do not actually resolve the fundamental

> problem of knowledge. In order to appreciate this, one has to become aware of the fact that validity in our experiential world is not the same as "truth" in the philosopher's absolute or ontological sense. It was, indeed, the skeptics themselves who helped to obscure this distinction. Their error did not lie in the logic of their arguments which are in fact irrefutable. But they failed to question the way in which what we know should be related to reality.'

- **Criticism of traditional epistemology**
  Blames the realist view for making other ways of thinking impossible:

  > 'The naive realist view, that what we experience has to be a more or less direct reflection of an independently existing reality in which everything is fully structured and fixed, has made insight into cognitive development impossible. On that basis, development seems an obligatory one-way street of maturation and learning—in the sense of "finding out" or "discovering" how things really are and how they work. The only theoretical puzzle would be that development so rarely leads to any adequate understand or wisdom.'

- **Pointing out misunderstandings**
  Points out that scholars or theories have been misunderstood:

  > 'It is important to make this clear because there is much talk today about "evolutionary epistemology" and I consider this misleading. For me, as for a number of thinkers at the turn of the century, the important idea was the notion of "fit" rather than "match".'

- **Pointing out misleads**
  Blames scholars or theories for being misleading:

  > 'The same goes for neurophysiologists who speak of observable phenomena in the brain as "representing" certain activities and results of the mind. Occasionally, however, they too, slip into the misleading use of the term exemplified by the quotations from Fodor and McClelland. That is to say, they falsely suggest that states of the brain reflect states of an external "real" world.'

- **Pointing out new ways**
  Points out new ways of how to understand theories:

  > 'It is here that Piaget's use of the notion of adaptation opens a path that makes it possible to accept the skeptics' logical conclusion without diminishing the obvious value of knowledge.'

Narrative

Ernst von Glasersfeld uses different kinds of narratives in his scientific papers to underline his theory or to describe the way how his thinking developed.

- **Frame story**
  A frame story consists of several independent narratives. The frame stories in Glasersfeld's work surround his theory and provide insights into the development of his thinking and important influences on his way of thinking. An example reads as follow:

  > 'In retrospect I realized that, without knowing it, I had tended that way long before cybernetics was invented. I became aware of this in the many conversations with students who were worrying about their future and asked for advice. I heard myself telling them that it was far more important to know what one did not want to do, than to have detailed plans of what one did want to do. One day it dawned upon me that this was plain cybernetic advice: It is more useful to specify constraints rather than goals. – And then I explained it by adding that in one's teens or twenties one usually has already discovered a number of things that one cannot stand, whereas it is quite impossible to foresee what, ten or twenty years later, will provide the satisfactions needed to maintain one's equilibrium.'

- **Biographical narrative**
  Reflections on his own childhood and earlier stages of his life in order to underline or illustrate parts of his theory:

  > 'When I explain that, for me, language was a source of constructivism, I cannot help but speak in a biographical vein. I was in what I consider the fortunate position of growing up without a particular native language. I grew up with two, and very soon it was three. So I grew up between languages.'

- **Situational narrative**
  Portrayal of a situation that was essential for Ernst von Glasersfeld:

  > 'We have come to this meeting to discuss Origins and Evolution of Language and Speech. The two conjunctions in the title indicate that we are dealing with a composite subject. The items in each pair are certainly related, but they are also different. At the risk of being considered a nit-picker I shall pursue these differences for a moment. Formulating them has helped me a great deal to clear my head and will, I hope, justify some of the things I am going to say later.'

Scientific Reference

References to scientific literature are divided into four different types:

- **Information**
  Relevant information from other authors:

  > "The scientist does not believe in effects without causes; not even when they happen in the brain' (Ashby, in Conant, 1981; p.425).'

- **Terms**
  Terms from other authors:

  > 'Once such a tendency is established – and if living organisms can be described as "inductive systems" (Maturana, 1970), it could not help being established – it would lead the adult organism to engage in some of the activities that seem to defy utilitarian or other simple explanations.'

- **Theory**
  Theoretical statements from other authors:

  > 'Humberto Maturana has characterized this by saying: A living system, due to its circular organization, is an inductive system and functions always in a predictive manner: what happened once will occur again. Its organization (genetic and otherwise) is conservative and repeats only that which works. (Maturana, 1970; p.15–16)'

- **Reasoning**
  Arguments from other authors:

  > 'I am in agreement with Maturana when he says: 'an observer has no operational basis to make any statements or claim about objects, entities or relations as if they existed independently of what he or she does' (1988: 30).'

The annotation of texts from other authors (criticism)

This annotation process is divided into three steps:

1. Segmenting the text (units with critic)
2. Assigning the text units to defined topics: language, viability, external reality, experience, space and time, adaption, experiential world, perception, knowledge, learning, evolution, re-presentation.
3. Defining the type of relation between argument and counter-argument: supplementary, compatible, supporting, conflicting, alternatively, questioning.

The annotation of Glasersfeld answers

This annotation process is divided into three steps:

1. Segmenting the text (answers for the critic).
2. Linking the segmented unit to the annotated text unit to which the answer refers
3. Defining the type of relation between answer and critics: supplementary, compatible, supporting, conflicting, alternatively, questioning.