

# COGNITIVE MODELLING AND INTERPRETATION APPLIED ON THE INTERPRETATION OF PHILOSOPHICAL TEXTS<sup>1</sup>

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## 1. *Introduction*

In the development of knowledge systems more and more attention is paid to the so called "cognitive modelling". Indeed in the cycle of developing a knowledge system, a crucial phase is the modelling. In the modelling one differentiates generally the interpretation and the implementation oriented aspect of the modelling.

By the terms "interpretation" and "implementation oriented aspects" of modelling we mean the following. Symbols, data, texts gathered, need to be manipulated in view of constructing a relevant structure, which will permit the execution or fulfillment of relevant functions or tasks. This structure however need at one or another moment in the process be implemented in a computer. So the modelling can be strongly implementation oriented or on the contrary be weak implementation oriented. In the latter case, a rather complex translation process will be needed to be executed by the knowledge engineer when he is engaged in making the implementation. In the former case, the implementation will be an easy job as the model is eventually already in the implementation language.

So the straightforward point of view is to make your modelling strongly implementation oriented. But this has also important drawbacks. Indeed this implies that the data gathered, which is the base for the model to be constructed, will be manipulated entirely in view of the target implementation. This means that a strong selection and abstraction will be executed entirely implementation oriented or, stated even more strongly, implementation dominated. However, if we are more source oriented, we are much better off if the modelling is subdivided in two subprocesses. The first one is the source dominated structuring, the second one is then the implementation dominated structuring. With the first one, we mean the following. Taking

into account the source, we can try to find the basic symbols used and determine the interrelations: the structures. In that way a first model can be generated, or even we can say an interpretation of the source. This structuring or interpretation can be used as a starting point for a second type of structuring which is much more implementation oriented. This we can consider to be a target oriented, here in casu an implementation oriented or implementation dominated interpretation of the source.

Let us call the first type of modelling the SOI (Source Oriented Interpretation) and the second type the TOI (Target (implementation) Oriented Interpretation). It will be evident if we change from one computer language to another, from one knowledge tooltype to another, the implementation requirements will change too. As a consequence the whole work and effort of interpretation of the source material gets entirely worthless. On the contrary the source oriented interpretation will keep its validity even if one changes from one implementation to another, from one AI-tool to another. Taking into account the fast evolution of knowledge tools, having such a source oriented interpretation or modelling is not at all a luxury. A second important benefit of the combined SOI/TOI approach is that proper specific features and properties of the source get more attention and so they get a better chance to be discovered and to be taking into account in the job management.

An analogous problem we see in the grammatical study of natural languages. The last decennia lots of grammatical theories have been developed. Each adept has put enormous effort in describing many languages, dialects, ideolects, etc. But what do we see, many of these descriptions are entirely meaningless outside the specific theoretical frame in which they are made. But as the grammatical theories are changing that quickly, it means that most if not all of this research became entirely obsolete, uncommunicative and therefore cannot be taken into account or used for a different theoretical outlook. But, the raw data, the examples they used, can still be of much heuristical value. So also the informal comments, explanations and justifications of a certain theoretical solution can stay very relevant. In other words, the informal comments of a theoretical structure can become more relevant then the concrete final implementation.

As far as philosophical interpretations in particular and scientific theories in general about social and other phenomena, be it texts, are concerned, an analogous stand can be taken. It is rather dangerous that f.i. the text studied, is directly translated in the target philosophical theoretical language. The text ori-

ented structuralisation that is the SOI interpretation, need to be clearly differentiated from (in our proper jargon or our own philosophical structuration) the TOI interpretation, that is the target theoretical approach. Such a differentiation is an inbuilt guarantee that the philosophical interpretation is more than an arbitrary projection, in the text studied, of the philosophical point of view and a priori structuration. This happens frequently. To avoid this at the one side and in order that the text analysis is not obsolete and worthless once the philosophical jargon becomes so, the combination of a SOI/TOI approach when making an analysis of a text is certainly recommended.

In this paper we want to introduce certain theses about the SOI-interpretation in preparation of a TOI-interpretation.

### 1. *Some theses about interpretation*

Interpretation is a process by which a symbol or series of symbols is brought in a certain structure of symbols. In this process the symbol(s) to be interpreted are in general very strongly manipulated: transformed, dissected, higher abstractions can be constructed of certain parts and concretizations of other parts can be made.

But this process of interpretation is not a process executed just for the sake of interpretation. Interpretation is done with a certain function. This intentionality of the process of placing a symbol or series of symbols in a certain structure is crucial for the definition of interpretation, even if it is true that interpretation does not have one function but rather has a whole set of functions. About the most striking functions of interpretation we can mention:

1. explaining
2. generating new texts
3. generating equivalent texts
  - + reviews
  - + abstracts
4. generating decisions, choices
5. generating actions
6. predicting, etc...

The adequacy of an interpretation needs to be defined in terms of the quality of the fulfillment of the functions of the interpretation. One can determine the adequacy entirely in terms of only one of the functions. In this case we have a very narrow

defined interpretation. However we can also define the adequacy in terms of several or all functions, eventually introducing a threshold of minimal value needed for a particular function or eventually introducing a default value as soon as one descends under a certain threshold. In such an approach different interpretations can be adequate, even if each of them has nothing in common. This happens in view of a different target one has in mind. It is even not evident that two different interpretations can not be very efficient for a same function: f.i. explanation.

Does this mean that interpretation is an arbitrary matter? We do not believe so. But we believe that it is a real danger that it becomes so. Therefore it seems important to introduce some more structure into the adequacy determination and more peculiarly some point of reference. The adequacy needs to be defined in terms of such a point of reference. Two different important points of references can be introduced. One is internal to the source, the second is external. In an adequacy determination both are important. Nevertheless from a certain point of view the internal reference can be more important than the external one. But the inverse can be true, too.

In what way can the source itself be a point of reference for the adequacy of the interpretation? One can argue that an interpretation is the better the more it permits to construct or to understand the coherence, the cohesion and the consistency of the source. Consistency refers to non-contradiction. Cohesion refers to the well-formedness and interrelations between the several aspects and components of the source and finally the coherence refers to strategies, plans in which the several sub-parts of the source suits. In this view, consistency is the weakest form of organization of a source, coherence refers to the strongest form of organization and cohesion is an in between.

Interpretation of a source now can be evaluated in terms of the degree of coherence, cohesion and consistency, it permits to capture (from a realistic interpretation) or to construct (a strict nominalistic interpretation) in the source. The more coherence, cohesion, consistency produced, the better the interpretation in a source oriented approach.

But we can have also a target oriented interpretation. To take an example. I can read Plato's work in view (a) of having a better understanding and a better grasp of the nowadays political world, or in order to solve some scientific problems, or for reorganizing social structure; realizing better education, etc. The evaluation of a Plato interpretation can here be made dependent on realizing a better coherence, cohesion, consistency

in my description or/and involvement in my target-world. In this latter case it is my target's world which is the point of reference. Taking into account the several interpretations, the one which produces the highest coherence, cohesion and consistency in my target world will be considered to be the best. This target oriented interpretation is rather popular. However we can eventually also opt for a combined source and target domain reference approach.

But this reference approach is just helpful for a basic selection of interpretations. On the top of this reference approach (be it the reference source or the reference target approach or a combination of both), we have to construct the target function evaluation or second order evaluation.

This reference approach guarantees a kind of basic structure on the base of which more sophisticated approaches can be constructed. But we want to stress without such basic reference approach, the more sophisticated target function approach is in danger of arbitrariness.

It is crucial to be aware that the reference approach highly evaluates the organisation (of the source or of the target domain). The reason is that a source or target domain is only a source or domain taking into account its organisation. This justifies that from two interpretations the one which constructs (discovers) the highest organisation is the better. Indeed as it 'creates' most intensively its domain. *An incoherent interpretation of the source or target domain is always experienced as a failure; for the best as a fructually start for a better future interpretation to make.*

A more detailed description and approach of the second order evaluation of interpretations is certainly much promising. But for this sake a large empirical actiological and discourse frame need to be introduced.

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#### NOTE

1. We were strongly inspired by D. Vervenne's lecture on cognitive modelling.