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# Ontological interpretation model for hermeneutic analysis of discourse

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**The primary purpose of this paper is to reveal the role of cognitive significance of 'ontopretive model' in the axiomatization of a discourse. The linguistic interpretive architecture which has been modeled as 'ontopretive model' is a new and an extensive work of discourse analysis of a learning agent. The explanatory ontological concept of hermeneutical exercise is axiomatized by an interpreter according to the rule of this 'ontopretive model'. Therefore this discourse schematic representation of 'ontopretive model' enables to provide a comprehensive, holistic integration of 'onto hermeneutic semiotic' formation in a discourse. This linguistically structured 'onto hermeneutic semiotic' will be a logical form and representation of a discourse.**

**Key words:** Axiomatization, cognitive, discourse, episodization, hermeneutics, ontology, ontopretive model, semiotic.

## INTRODUCTION

Discourse analysis focuses on the knowledge about language beyond the word, clause, phrase and sentence that is needed for successful communication. It looks at patterns of language across texts and considers the way that the use of language presents different view of the world and different understandings. It examines how the use of language is influenced by relationships between participants as well as the effects the use of language has upon social identities and relations. It also considers how views of the world, identities, are constructed through the use of discourse (Blommaert, 2005).

According to Barbara (1986), a discourse is a communicative behavior that typically involves multiple utterances and multiple participants with intention as a discourse purpose. A discourse may be produced by one or more of these participants as actors; the audience may comprise one or more of the participants as reactors and the discourse purpose is the intention that underlies engaging in the particular discourse. There is a two-way interaction between the discourse segment structure and the messages constituting the discourse: linguistic

expressions (as connotation or denotation) can be used to convey information about the discourse structure; conversely, the discourse structure constrains the interpretation of expressions (and hence affects what an actor does and how a reactor will interpret what is conveyed). Linguistic expressions are among the primary indicators of discourse segment boundaries. The structure of any discourse is a composite of three distinct but interacting components (Barbara, 1986):

- (i) The structure of the actual sequence of utterances in the discourse;
- (ii) An attentional state;
- (iii) A structure of intentions.

## STRUCTURE OF THE ACTUAL SEQUENCE OF UTTERANCES

The linguistic structure's basic elements are sequences of phrases and clauses which later can be interpreted according to the syntax and semantics formation. In 'ontopretive model' this actual sequence of utterances structure will be analyzed in 'surface structure' and the utterances structure will be approached as a sequence of events.

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### **An attentional state**

Attentional state, serves during processing to coordinate the linguistic and intentional structures. The attentional state component is not equivalent to cognitive state, but is only one of its components. Cognitive state is a richer structure, one that includes at least the knowledge, beliefs, desires, and intentions of an agent, as well as the cognitive correlates of the attentional state. In 'ontopretive model' this attentional state which is a meta-state of a discourse will be positioned in the 'meta transformation structure'.

### **A structure of intentions**

The intention provides both the reason a discourse (a linguistic act), rather than some other action, is being performed and the reason the particular content of this discourse is being conveyed rather than some other information. For each of the discourse segments, it can also single out one intention - the discourse segment purpose (DSP). From an intuitive standpoint, the DSP specifies how this segment contributes to achieving the overall discourse purpose. In 'ontopretive model' this structure of intentions will be located in the 'deep structure' and the DSP will be analyzed as episodic meta state of local intentions.

The ontological hermeneutics is an in-depth effort of this paper to elaborate and allows us to understand the actions and expressions of others within an intentional or goal-directed framework (what Dennett has called the intentional stance) (Dennett, 1991). The recognition that other individuals have presupposition and intentions that differ from our own is a critical step in a discourse and 'ontopretive model' is, providing a hermeneutical grounding instrument during language decoding and possibly in the progression of constructive discourse.

This paper is really an attempt to link hermeneutic logic capabilities with a discourse cognitive model which deal with the world of meaningful objects and actions. The model of 'ontopretive model' as a way of bridging between hermeneutic phenomena and semiotic systems in linguistic is an integrated effort of various disciplines like social science, linguistic, psychology, computer science, education, philosophy etc. This introspective deep structure design has led AI to its original goals of building simple, versatile, hermeneutic architectural system and towards the construction of hermeneutic architectural systems capable of performing wider interpretation on semiotic domains and in various situational conditions. This model can be an appropriate and useful primary building tool for any hermeneutically grounded systems. Of course, learning machine techniques for building sequences of actions in a discourse using cognitive and onto hermeneutic cues to improve communicative structure and message dissemination would be central to this paper's endeavor.

### **AXIOMATIZATION**

Axiomatization is a process of compartmentalizing the global intention in a cognitive state into local intentions and forming ontological conceptualization by episodizing the events of physical state performance (Sivakumar and Yahya, 2008). In any discourse the scope of actor's axiomatization will determine the historization (accumulation of presuppositions) and interpretation level in a reactor.

Any discourse is always with duality of structure called 'deep structure and surface structure'. Every axiomatization activity, exercises onto-pretation by attending to ontopretive duality structure by seeking to hierarchically bound the elements in the 'deep structures to surface structure' that would account for the observable in the 'surface structure' of a discourse.

### **ONTOPRETIVE MODEL**

Onto-pretation is an actor's explicit cognitive process of axiomatization (Sivakumar and Yahya, 2008). Onto-pretation is a reduction process from cognitive state (psychic) to the state of physicalistic. Dennett (1991) asserting that cognitive state (psychic) is not the historically widespread notion of the presentation of data to a mythical subject (the mind), but is rather the sum total of all data streams taken together or as what Crick (1994), Engel et al. (1999) and Newman and Grace (1999) reenacted the consciousness term as a causal relationship of temporal bindings. Now there is neuro biological empirical evidence suggesting that such "temporal binding" may be crucial for generating functionally efficacious representational states and for the selection of perceptually or behaviorally relevant information (Engel et al., 1999).

Ontopretive model is a general visual temporal binding of cognitive process of axiomatization (Sivakumar and Yahya, 2008). As what Poppel (1997) has suggested that binding is required for conscious time perception and establishment of subjective time frames. The recent neuro biological results which strongly suggested that temporal binding may indeed be a prerequisite for the access of information to phenomenal consciousness (Lynds, 2003). The proposed 'ontopretive model' is accommodating the latest the neuro biological result.

The 'ontopretive model' given in Figure 1 can be divided into two concrete layers and one metalayer. The top layer interfacing with real world will be called surface structure (SS) and the layer beneath the surface structure is called deep structure (DS) and it is a 'cognition world or psychological world' of an actor. The middle bridging metalayer between SS and DS is called meta transformation (MT) layer. Ontopretive mechanism will bring forth the DS processes by functionally mapping into surface structure and hold control on processes in it. The operation in the DS layer is independent of MT and

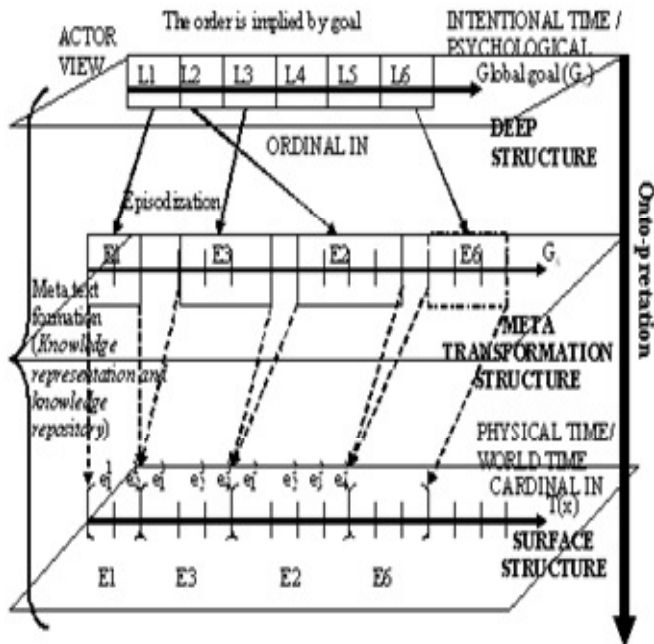


Figure 1. Ontopretive model.

SS layers but MT and SS layers operations are dependent on DS layer operation. The MT layer will help to establish meta link between SS and DS. Before elaborating on the 'ontopretive model', it is better to define the terms that will be used in the model.

- (i) Event is something that happens at a point in time, and an event has no duration. Events have the unique time of their occurrences. Event is also understood as a change in states or some fragment of reality. Eg: Beginning and end of walking is an event but walking is not an event.
- (ii) State is an interval between two events during which an object satisfies some condition. State is an abstraction of the attribute values. Eg: Walking is a state.
- (iii) Contextual state is an agglutinated state from the subset of a domain of states which will be selected based on the interest of an intention.

$$\text{Contextual state} = \bigcup St$$

whereby  $St \subseteq I$  States, I is an intention

- (iv) Action is an atomic behaviour of an entity where the behaviour cannot be further split and involve the notion of agency, intention and purpose. Action is an event that causes a transition from an old state to a new state and operation performed on a state change. Eg: The process of transition from standing position to sitting position is an action.
- (v) Situation is a collection of events with a definite context or combination of circumstances like time and places in which the logical or physical state of an entity is

defined (WordNet Search - 3.0, 2007). Situation also can be called as world (is a terminology for modal logic and hermeneutic logic). Situation is a flux of past, present and future contextual state phenomena with confined resources. According to Gadamer (1975), situation represents a standpoint that limits the possibility of vision.

Hence an essential part of concepts of situation is the concept of 'horizon'. The horizon is the range of vision that includes everything that can be seen from a particular vantage point. The horizon is rather, something into which the agent move and that moves with agent. Understanding of the past, then, requires historical horizon by placing the agents within a historical situation. Rather, the agent must always already have horizon in order to be able to place itself within a situation. Situations have what Sartre (1963) calls "Reciprocal Comprehension-take into account opposed characteristics between all that expresses existence (existents)". Situation is not static and is a constantly changing factor which will enact appropriate behaviors (acts).

### Ontopretive deep structure (ODS)

Intention is the projection of 'being state (to be)-GOAL' for other or self. It is not only futuristic but also it is meant for other and make others obliged to the mode of being to enter into situation (Loganathan, 1992). When an agent performed the GOAL of the action and treating the GOAL of action itself as its scope or scale is called intention. There are two kinds of intentions called global intention and local intention. The global intention is a finite collection of linearly unidirectional ordered local intentions.

A global intention such as building a house and so forth is termed a PLAN. The overall demarcation of scale or the span of events with initial and terminal GOAL of actions set the cluster of events progressing in unidirectional path from one into another successively. Intention is a direction and an order of events or states of an agent. Intention itself, flowing temporality, is ordered towards the formation of permanent units of significance of purpose (GOAL) (Sivakumar and Yahya, 2008). Intention interprets itself by its self evidences. It has itself a hermeneutical structure. Thus the intention constitutes the real ground of the learning machine or human sciences where allow the reactor as a receiving 'being' to decipher the significance of purpose. Every discourse has its global intention leading to a GOAL. The intention makes any two different elements locked into a discourse (Sivakumar et al., 2008). DS takes control of global intention and will compartmentalize the global intention in a cognitive state into local intentions. The global intention in DS will determine the closure of overall event. The closure of global intention is the END of the whole session.

### Ontopretive meta transformation (OMT)

Episode is a sequence or order of a collection of events under a situation in the direction of a local intention as a 'horizon' with termination-initiation (T/I) marker to demarcate the boundary of each episodes. Situation is a resource provider for the local intentions to construct episodes. An episode for a local intention, only can be executed under one situation and cannot be executed under more than one situation simultaneously or consecutively (Sivakumar and Yahya, 2008). The next episode does not depend on the actions taken in previous episodes. The choice of action in each episode depends only on the episode itself. A local intention will form the order and the direction of an episode. The features of openings and closings of episodes as temporally continuous sequence (interactions) by closing up of one phase towards opening up another is called 'episodization'.

Episodization is the one dissolves one Situation and introduces another. But a situation not necessarily is dissolved in every episodization. There can be more than one episode under one situation. Only global intention as a complete 'horizon' of an agent can enact and causally relate the continuity, order and the direction of all the local intentions by episodization. Termination-initiation (T/I) marker is called rupture which is a sort of connectedness that can be intuited as in prototypical adjacency pairs. Initiators (openings) are an inceptor of episodes or new local goals. Terminators (closures) are dissolver of the episodes as well as the directedness that constituted the situation or local goal. Terminators are essentially evaluative. As part of the act of evaluating, the gaze is no more futuristic but rather turns towards the past. Absence of futureness indicates coincidence between the projected the present Being and the attainment of the projected END in the openings through the various ontopretive processes.

The MT layer will help to establish meta link of episodization for the local intentions between surface structure and deep structure. Meta links will produce meta-text which will be controlled and coordinated by MT layer.

Meta-text is details about collection of formation of intention embedded episodization links, episodes generated events links and situations. Meta-text as a whole is being used for an indirect assessment of the onto-pretations can rightly be said to be valid or not so. It is make claims about validity (or TRUTH) of an onto-pretations and thereby invite judgments on the part of other agents in the community. Valid meta-text, in other words add to the repertoire of TRUTHS that is knowledge representation as a whole possesses and thereby become knowledge repository.

"Knowledge representation" is a surrogate. Physical objects, events, and relationships, are represented by symbols that serve as surrogates for the external things.

The symbols and the links between them form a model of the external system. By manipulating the internal surrogates, a computer program can simulate the external system or reason about it" (Sivakumar et al., 2008).

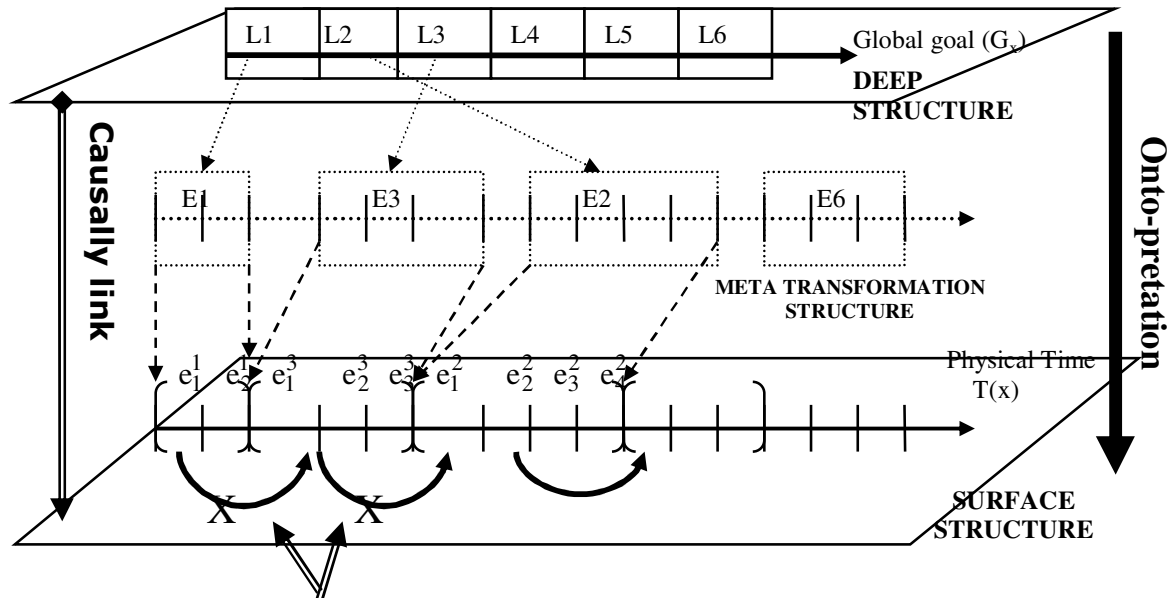
"Knowledge repository" is neither a database nor a knowledge base in the strictest sense of terms. Capturing knowledge is the objective of the knowledge repository. The structure of the repository is highly dependent upon the types of knowledge stored" (Turban et al., 2005). Meta-text helps the agent to recognize it's impediments in local intention and expand its knowledge horizon by giving alternatives using global intention.

The episodes are not necessarily causally linked and linearly ordered among themselves in meta transformation structure but hierarchically or functionally link with global intention. Therefore elements in the DS agentively cause the formation of episodes in the meta transformation structure and that will be simultaneous existence between an intention and an episode. In another term episodes in meta transformation structure are not necessarily consecutive or successive in the order.

The presents of an episode in a situation, automatically will cause the local intention at that moment to be embedded as a component of that situation. Therefore the horizon of a situation only can be seen from a particular vantage point with an embedded local intention or a collection of local intentions under the supervision or direction of global intention. Horizon of the present cannot be formed without the past (Gadamer, 1975). The projecting of the historical horizon, is only a phase in the process of episodization, and does not become solidified into the self-alienation of the past intention, but is overtaken by the present horizon. In the process of episodization there takes place a real fusing of horizons the term given by Gadamer (1975), which means that as the historical horizon is projected, it is simultaneously removed. The local intention under a particular situation will create an episode to progress and reach local goal (or sub goal). Every local goal achievement of an episode will be guided by local intention. The local intention under the unidirectional of global intention will generate order of various events and actions for an episode under a situation. There will be a linear progression of events in every episode. The global intention will narrate the episodes according to its local intentions by agglutination. The global intention helps to agglutinate the previous episodes according to its needs.

Planning is a process of episodization where the sequences of various acts are unified and executed under the identity and the one purpose of agent(s) over continuous period of time. The global planning will be done by the global intention. Local intention will determine the progression of events and the end of local goal.

The local intention will be over ruled by the global intention and make further planning to progress towards



All the events in an episode are causally link but the episodes and the episode events are not necessarily causally link on the Surface structure

Figure 2. Causally link: Vertical and horizontal interaction.

global END. The temporal of global intention's ordinal time will be extended to the episodes in the meta transformation structure. The linearization and accumulation of episodes by the global intention will produce progressive history. This process has been termed as 'progressive-history' or 'effective history' by Gadamer (1975).

Agglutination of each episode to the previous progressive history will lead to a new accumulated progressive history. All new episodes proceed from what is progressive history historically pre-given. The selective or the whole substance of progressive history that has been used as a prior determinant with new episode to progress towards the global END is called presupposition. This progressive history can evolve in total order form once new episodes are agglutinated into it and become the feeder for presupposition. This agglutination process, for the old presupposition with new episodes continually grow together to form a new progressive history.

**Ontopretive surface structure (OSS)**

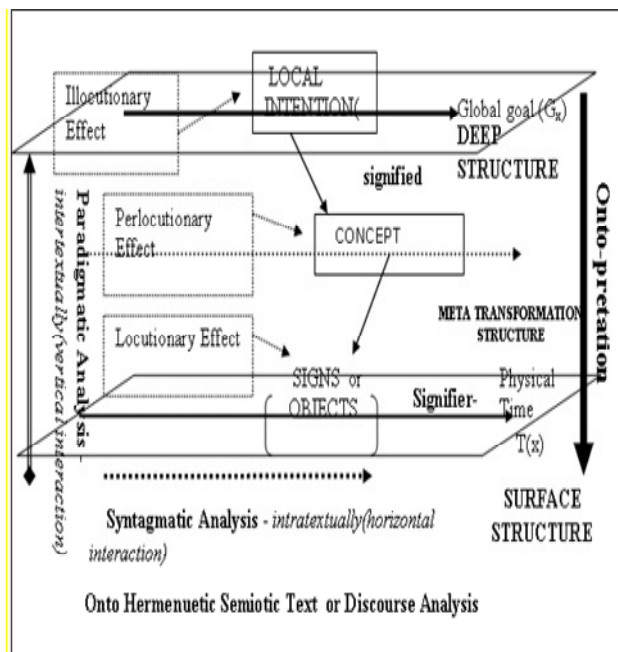
The notion of linear causality is unavailable in the hermeneutic sciences. The causes are elements in the DS which cause agentively the observable in the SS and they are simultaneously present (Loganathan, 1992). Hermeneutic sciences investigate texts (which in our case is a discourse) and all discourses are dual in structure having a SS and DS simultaneously. The Ontopretation is not movement from events to events but

rather from DS elements that are causally link to SS called vertical interaction. All the events in an episode are causally link but the episodes and the episode events are not necessarily causally link on the SS. The interactions between episodes or events within episodes are called horizontal interaction. Thus the ontological seeking begins with casting the axiomatization as multilayered or polylevelic seeking with at least two levels of structure for every phenomena: SS and DS which interact and continue to be present simultaneously. The temporal of global intention's ordinal time will be extended to the episodes in the meta transformation structure and then mapped into cardinal or physical time (Figure 2).

All the episodic events will physically take place in surface structure under the present of cardinal or physical time. Each episodic event will be destined to achieve local intention for a situation. In each episode there will be causally link local events. The local events of episodes will be instituted on cardinal time or physical time. The contextual aspect of implementation of an episode for a local intention will be determined by the constraints of a situation as an episode resource provider and physical time in the SS.

**SEMIOTIC ONTOPRETIVE MODEL IN LINGUISTIC**

Chomsky (1957), a well known linguistics at the M.I.T., developed the idea that each sentence in a language has two levels of representation - a DS and a SS. The DS was (more-or-less) a direct representation of the basic



**Figure 3.** Linguistic and onto hermeneutic semiotic text or discourse analysis.

semantic relations underlying a sentence, and was mapped onto the SS (which followed the phonological form of the sentence very closely) through transformations. Chomsky believed that there would be considerable similarities between the DS of different languages, and that these structures would reveal properties, common to all languages, which were concealed by their SS. Ricoeur (1981) sees the effect of a sentence offered in a social situation as having three levels:

- The illocutionary effect in ontopretive DS (the intentional action implicit in the statement, for example, "I define...", "I add...", "I offer...").
- The perlocutionary effect, in Ontopretive meta transformation structure (the action actually effected by the sentence).
- The locutionary effect in ontopretive SS (the literal meaning).

Ricoeur (1981) suggests that these levels form a hierarchy according to the degree of interpretation needed. The locutionary meaning can be checked in a dictionary. To describe the perlocutionary meaning, however, requires the subject to have experience of living in an appropriate language using community and to be accustomed to using words in given situations in a conventional way. This implies a (hermeneutic) process where the subject voluntarily acts in the world he supposes it to be, but this in turn gives rise to (involuntary) resistances which are always at some

distance from those anticipated.

By incorporating the pertinent observations and derivations of Noam Chomsky, Austin and Ricoeur, onto hermeneutic semiotic of ontopretive model is providing a comprehensive, holistic integration of discourse schematic representation.

It is not clear at the moment given the accuracy of Figure 3 schema, what sort of structure the meaning of sentences will have. But considering the socio-semantic analysis of presupposition, it is clear that it will be a better logical form of linguistic and semiotic representation in a discourse.

## CONCLUSION

Hermeneutic sciences investigate all the discourses as dual in structure having a SS and DS simultaneously. Ontopretive model has made new approach into every axiomatization activity and exercises of onto-pretation by attending to ontopretive duality structure. This onto-pretation is not a linear movement from events to events but rather from DS elements that are causally link to SS. Onto hermeneutic semiotic of ontopretive model is providing a comprehensive, holistic integration of discourse schematic representation. This linguistically structured onto hermeneutic semiotic can be a better logical form and representation of a discourse.

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