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CONSCIOUSNESS, THOUGHT AND LANGUAGE

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1. Introduction

There are many areas of contact between consciousness and language. They can be found in such diverse disciplines as linguistics, communication studies, psychology, anthropology and intellectual history. In this overview, we will briefly cover the following areas:

- Semantic analysis of terms and concepts related to "consciousness"
- Dynamic or genetic approaches to language and consciousness
- Individual and collective consciousness
- How is language related to thought?
- Fundamentals of semiotics and consciousness

In the section on semantic analysis, we briefly discuss four kinds of analysis of the term "consciousness". The section on dynamic / generic approaches considers how various types of change relate to language and consciousness. The third section treats how language on the one hand can be related to individual consciousness and on the other hand also to collective consciousness and collective thought. The fourth section presents an overview of the discussion concerning the relationship between language and thought and in the fifth section, we will take a look at how certain fundamental semiotic concepts can be related to language and consciousness.

2. Semantic analysis of terms and concepts related to "consciousness"

Many of us probably feel that we have intuitions about the nature of consciousness, but that we really don't now what it is and that we would be hard put if we were asked to collect our intuitions into a definition of the concept of consciousness. All the same, one of the contact points between language and consciousness is to try to use semantic and conceptual analysis of language to try to come to grips with the phenomenon of consciousness. There are several ways to do this. Below we will briefly consider three of these

1. The etymology of "consciousness"
2. Investigating the "meaning potential" of the term "consciousness"
3. Investigating the "semantic field" of the term "consciousness"
4. Attempting to find a definition and an operationalization of the concept of consciousness.

In the discussion below, we will not systematically distinguish between words or terms and concepts. The reason is that the words and terms involved will normally be taken to express concepts and that the concepts involved will normally be taken to be expressed by words or terms. Thus, we will mostly assume a one-to-one mapping between concepts and words/terms.

2.1 Etymology

The first approach to meaning is historical, giving us a brief history of the term and concept of "consciousness". Etymologically, "conscious" comes from Latin "con" (– with) and "scious" (– know). From the point of view of etymology, "conscious" and "consciousness" thus come close to "conscience", which, in fact, has the same origin. In some languages, like French or Spanish, the two concepts, in fact, are expressed by the same word "conscience".

2.2 Meaning potential of consciousness

The second type of semantic analysis is an analysis of the "meaning potential" of the term "consciousness". This basically involves taking a look at what meanings a word can take on in different contexts and collecting all of these as potential meanings of the word. The analysis starts by finding the root of the word, in this case "conscious". The next step is to determine which expressions that can be derived from the root. The derivations constitute a sort of minimal (morphological) context for the word.

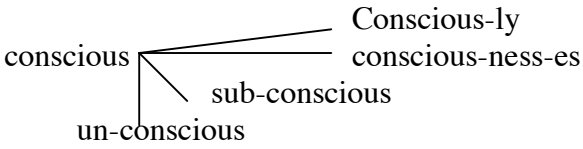


Figure 1. Expressions derived from "conscious"

Conceptually, the figure could be interpreted the following way. The root "conscious" denotes a property or a state. This state or property can by adding the ending "-ness", conceptually be made into an abstract entity "conscious -ness". By further adding "-es" to this, we get a set of such entities "conscious-ness-es". It can also, by adding "-ly" be made into a second order property "conscious -ly", as in the sentence *He consciously talks too much* where "consciously" is a second order property of the first order property "talking". The root "conscious" thus, over and above expressing a property or a state, has the potential of expressing an abstract entity or a second order property, given addition of the right endings.

The state or property of being conscious can also be negated in several ways *not conscious, subconscious, unconscious.* If we investigate the effects of adding (*sub-*) or (*un-*), we find that the difference between the terms "un-conscious" and "sub-conscious" point to "consciousness" as being a matter of degree. "Sub-conscious" processes are perhaps closer to consciousness (they are in some sense potentially conscious being just "under" (*sub*) conconsciousness) than "un-conscious processes". One reason to believe that "unconscious processes" exist is that we can be in a state of "unconsciousness", while yet being alive (i.e. being kept alive by unconscious processes). Unconscious processes might be vital processes that are not, or only with great difficulty, accessible to consciousness. Continuing the argument, we get a picture where there is a basis of vital unconscious processes connected to subconscious processes which are only potentially conscious, ending up with processes that are actually conscious. It is tempting to relate this picture to the Aristotelian view of consciousness (cf. Ross 1961, Aristotle, De Anima) as being composed of three types, i.e., "plant consciousness", "animal consciousness" and "human consciousness", where "human consciousness" also includes "plant consciousness" and "animal consciousness", but

according to many writers in the field is distinguished from the latter two, by its connection to language.

Carrying on the analysis from a morphological to a syntactical context, we may note that "conscious" can be both a property and a relation. Compare the following examples:

1. He is conscious now (rather than unconscious)
2. He is conscious of the rain
3. He is conscious that it is raining
4. He is conscious that steam engines are no longer very popular

The four examples show that the term "conscious" can denote a property (example 1) and that it with the addition of the preposition *of* (conscious of) and the conjunction *that* (conscious that) can denote a relation to an object of consciousness (examples 2 – 4). The examples further show that this object can be an entity (or process viewed as an entity). They also show that it can be a fact (example 3) or a more indirectly concluded state of affairs (example 4). The linguistic evidence used to analyze the meaning potential of the term *conscious*, thus, seems to point to consciousness as being a fairly complex mental property.

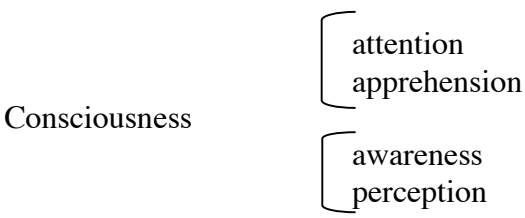
2.3 The semantic field of consciousness

The third kind of analysis involves the notion of a "semantic field" (or in German "Bedeutungsfeld") which originates in German 19:th century philology. One of the clearest formulations of the notion was given by Jost Trier (1934). The basic idea in studying a semantic field is to collect words which are similar in meaning and then try to analyze the relationship between them or try to compare a semantic field in one language with a semantic field in another language. In this way for example the color terms of different languages have been compared to each other, cf. Berlin and Kay (1969). If nothing else, putting a word in relation to other words that have a similar meaning is often useful, since comparison with the other words by contrast can help to highlight the properties of a particular word.

One of the main ways to carry out an investigation of this sort is to inquire if a given concept is a necessary or sufficient condition of another given concept or to give same question a different formulation, to ask if concept X requires concept Y or vice versa. Below, we will exemplify this type of inquiry in relation to the concept of "consciousness".

What is presented here is not a full scale analysis of the semantic field of the term "consciousness", rather only examples hinting at what would be involved in carrying out an analysis of this kind. Some of the terms that should be included in an analysis of this kind are presented below.

Figure 2. Parts of the semantic field of consciousness



mind
thinking
cognition

feeling
soul
spirit
psyche
culture

life
existence in some sense

2.4 Definition of "consciousness"?

The fourth attempt at analyzing "consciousness" semantically is to try to give a definition of the term/concept. Given the linguistically based analysis, discussed in 2.1 – 2.3, one suggestion for a definition of "consciousness" or rather its root "conscious" is the following:

X is conscious of Y if and only if

X is causally reactive to Y
X can discriminate Y
X can recognize Y
X can identify Y
X can communicate Y
X is self aware

Since it might be the case that some of these conditions are met without all of them being met, this definition has the consequence of making "conscious into a gradable property, where any person or other agent X might be more or less "fully" conscious of Y.

3. Dynamic and genetic approaches to consciousness, thought and language

The relationship between consciousness, thought and language is not static but has changed over time. We might distinguish four different perspectives on the nature of these changes.

1. Phylogensis
2. Ontogenesis
3. Macrogenesis
4. Microgenesis

Given a phylogenetic perspective, we are interested in how homo-sapiens as a species has evolved consciousness, thought and language. Have the three phenomena evolved together simultaneously and been preconditions of each other, as the German philosopher and philologist Johann Herder (cf. Herder 1772) held in the 18th century, or have they evolved separately, in some way sequentially?

If we adopt an ontogenetic perspective, we instead focus on the development of consciousness, thought and language in single human beings. How do the three phenomena develop through life, from childhood through youth, adulthood and old age. Two of the main questions here will be to what extent each of the phenomena are innately (genetically) conditioned and also whether the relationship between them is innate. These questions will be accompanied a third complementary question of to what extent they are the product of experiential learning and culture.

A macrogenetic perspective means that we are interested in the historical development of consciousness, thought and language. Is our presently experienced quality of consciousness essentially different from that of stoneage man. Do we think and use language in ways which are very different from stone age ways. The answers here are strongly related to the questions concerning the role of innate knowledge in ontogenetic (and phylogenetic) development. If we believe strongly in the role of genetic, innate factors, we are likely to think that we are fairly similar to stone age people, since genetic changes are mostly believed to be slow. Conversely, we might say that the less we believe in the role of genetic endowment, the more we will believe in the role of culture and historical development and the more we will probably be willing to accept that there are radical differences between ourselves, higher primates and stone age man.

The fourth perspective is the microgenetic perspective. In this perspective, we are focusing on the act of communication moving from an internal impulse to communicate to a verbally articulated utterance. As in the case of phylogenesis, we may again ask: Do consciousness, thought and language develop simultaneously in the act of communication, being dependent on one another, or are they sequential, e.g. first there is consciousness of what is to be communicated, then there is the thought to be communicated, and finally there is its verbal expression in an utterance? Are the three to be seen as aspects of one complex process or as separate processes? We may also ask if dialog, with interactive acts involving consciousness, thought and language result in some form of interactive and collective consciousness.

3. Individual and collective consciousness

The properties of consciousness are dependent on many factors, the most obvious one being the structure of the brain of the organism that is supposed to have consciousness. However, more generally, other factors might also be important. Beside the brain, other parts of the body, the immune system and the nerves might be important. But consciousness might also be dependent on the behavior of the organism. In particular, it might be dependent on the interaction an organism has with its environment. Different types of consciousness might be the result of different types of interaction with the environment. Of particular interest in this connection are the effects on consciousness of linguistic interaction and language.

This leads to the question of how consciousness is dependent on human coordinated and cooperative activities and their stabilization in social institutions and culture. More specifically, we can raise the question if beside individual consciousness, there is also interactive and collective consciousness. Individual consciousness might then be conditioned by the interaction of single individuals in isolation with their environment, while interactive consciousness arises in interaction between individuals, and collective consciousness arises as a special case of interactive consciousness, when interactively shared consciousness can be maintained and preserved by external factors. Such factors might be tools, houses, objects of art, spoken language and, even more, written documents.

Focusing on language, we might say that language adds interactive, collective information processing to individual information processing and, in this way, it adds increased possibilities of collective coordination of thought and actions. It adds a kind of fine tuning of states of consciousness through the information structuring power of different kinds of linguistic operators. It also adds fine tuning of interaction through the interaction structuring power of other linguistic operators. Finally, it also adds a kind of collective memory, through the conceptual classifications that are codified in the language. It is to this collective memory and more generally to the question of how language is related to thought that we turn in the next section.

4. How is language related to thought?

4.1 Are language and thought independent or dependent of each other?

The debate about language's relationship to thought has deep roots in both western and eastern thought (see Allwood 1983). Quite schematically, one can say that there is a continuum of notions stretching out between two poles, one of which is made up of the notion that "language and thought are independent of each other", and the other of the notion that "language and thought are dependent on each other".

(i) Language and thought are independent of each other.

The oldest notion is probably that language and thought are independent of each other. In classical philosophy, one often finds a sort of unreflecting universalistic philosophy which takes as unproblematic the assumption that humans around the world think in largely the same way (which also happens to be one's own way of thinking and speaking). The tradition was robust during the Enlightenment, where it found expression in notions of universal human reason. In our time, it is enjoying renewed popularity. An important manifestation of this view is, for example, to take as unproblematic the assumption that what can be expressed and thought with the help of one language, e.g. Greek, Latin, or English, must also be expressible and thinkable with the help of all other languages. Another possible manifestation is to render language invisible by discussing thoughts, action, and social organization without reference to the role of language in these phenomena. A third possibility is to ascribe to language a relatively limited role in human life. This is the case, for example, with the theories of the American linguist Noam Chomsky, where language's essence consists of its syntactic organization rather than of something having to do with the organization of concepts or content (cf. Chomsky 1986).

(ii) Language and thought are dependent on each other.

The notion that language and thought are highly dependent on each other was articulated for the first time in western civilization during the medieval debate on universals, where the so-called nominalists believed that language and thought could be equated with each other. In order to understand thoughts and concepts, nothing more than language is actually needed. Another variant of the notion that language and thought are highly dependent on each other found grand expression in the medieval "modistic speculative grammar", where the categories of language, thoughts, and the world are described as mirroring (lat. *speculum* = mirror) each other.

The strong connection between language and thought was taken up again in the 18th and 19th centuries' romantic theorizing about ethnical and national differences. Different languages now become something like easily accessed windows to the "soul of a nation". Language and thought are seen as mutually dependent. The German philosopher Johann Herder wrote, for example, that the origins of language and thought among humankind were inseparable both phylogenetically and ontogenetically; no thought without language and no language without thought.

4.2 Are languages different in content?

One of the questions which have played a major role in the debate about language and thought (world view) is the question of how great the differences are between languages from a semantic point of view. This question has not yet been answered in any conclusive way, but rather there are a number of more or less reliable examples and analyses. One major challenge is that there are between 4000 and 8000 languages in the world, while it is virtually impossible for a person (even a linguist) to master more than 10-30 languages. This entails that one must rely on paraphrases and translations. Let us look at some of the kinds of differences which exist between languages' vocabularies.

If we look more closely at the debate about semantic differences between languages, it has often revolved around two main themes:

1) The first main theme is that languages can differ from each other with regard to which linguistic means are employed in order to represent a certain phenomenon. The following are the principle means which are employed.

(i) where words are concerned, one can distinguish between compound and simple words, between root morphemes, inflectional morphemes, derivational morphemes, or prosodic patterns as well as word tones.

(ii) where combinations of words are concerned, one can study what different phrase and clause types express.

In general, content which is represented grammatically, i.e. with the help of inflection, derivation, or phrase and clause types, tends to be regarded as more integral to language and culture than that which is expressed with single words or descriptions. If one ignores differences of this kind, one can claim that all content can be expressed in all languages. It is just a matter of taking in enough good descriptions or paraphrases, or of coining new words.

2) The second main theme concerns which content is expressed by those words, syntactic patterns, and inflectional/derivational morphemes which are present in the language. Here it is established that at least the following content differences can exist between languages.

(i) A language has words for something another language lacks words for.

(ii) Languages differ with regard to how specific their vocabularies for a certain area of reality are.

(iii) Languages can also differ in where they draw the boundary for a given level of specificity.

(iv) Languages can differ with regard to which phenomena they express with the same words (the words' polysemy structure differs).

(v) Languages can differ in basic conceptualizations?

More speculatively than is the case for the differences discussed thus far, it has been claimed (see Whorf 1956) that languages can maintain different basic conceptualizations of reality.

While in western languages things (entities) are perceived as fundamental (they bear traits and relationships and participate in processes), it has been claimed that there are cultures where processes are more fundamental, e.g. certain Indian languages in the southwestern United States where one might encounter utterances of the type "the running is buffaloing". What we would normally regard as a process is reified "the running" and portrayed as being individuated into buffaloes "is buffaloing".

(vi) Languages can also differ pragmatically, i.e. with regard to which speech acts and interactional relationships they support. For example, can one promise, swear, congratulate, condole in all languages? This question can be understood on two levels. The most basic question has to do with whether one can use the language at all to achieve the effects one usually achieves by promising, swearing, congratulating, and condoling, and the less basic question has to do with whether there are words in the languages to describe these phenomena.

4.3 Universals

The above examples have shown that languages' content can vary in numerous ways. However, languages are also similar to each other, and research has produced a long list of candidates as to similarities between languages. To some degree, any acceptance of similarities or differences between languages depends on how abstract one permits oneself to be. For example, at a relatively high level of abstraction, one can say that all languages can indicate temporal anchoring without going further into the way in which time is divided up, with which linguistic means it is divided up, or whether it must be expressed in an implied manner. On a lower level of abstraction, one can be more concrete and specific and say that not all languages have tense endings on verbs.

As possible examples of semantic universals, perhaps all languages can express:

(i) statements, questions, requests, and exclamations
(ii) negation
(iii) quantification (all, many, few)
(iv) temporal and spatial anchoring
(v) speaker and listener anchoring
(vi) things, qualities, processes, relationships, states, occurrences, and courses of events

4.4 Do semantic differences between languages lead to differences in modes of thought/behavior between the languages' speakers?

Do people with semantically different languages think and behave in different ways? The answer to this question depends, inter alia, on how different languages manifest themselves semantically, and on how strong the link between language and thought is considered to be. In the table below I juxtapose these two dimensions with each other.

Table 1. Semantic differences between languages and language/thought interdependence

Language/thought Interdependence	Semantic differences: small	Semantic differences: large
Large	1	2
Small	3	4

A moment's contemplation of the table reveals that it is actually only square 2 that is connected with "linguistic relativism" in its strong formulation, i.e. the position in which it is assumed that there are large semantic differences between languages, and further that language and thought are strongly dependent on each other and that these two relationships lead speakers of semantically different languages to think and behave differently.

Similarly, the assumption of small semantic differences between languages and a minor interdependence between language and thought leads fairly directly to the conclusion that linguistic differences are inessential to understanding differences in thought and behavior between people in different parts of the world. Squares 1 and 4 are more problematic. One who believes that the semantic differences between languages are small, but that the dependence between language and thought is large, will not expect large differences in thought and behavior between speakers of different languages either. On the contrary, by studying the semantic similarities between languages, one could presumably facilitate communication between people from different parts of the world quite effectively.

Square 4 offers a further variation. Here one assumes that the semantic differences between languages are large, but that the dependence between language and thought is minor. The semantic differences do not play any considerable role in this case, since they do not affect thought and behavior anyway. Conceivably this view could easily lead one to regard human languages as an anachronistic, irrational holdover from an earlier stage in the history of humankind–a linguistic diversity which humankind would do well to rid itself of, in favor of a single language. On practical political grounds, this language would be English.

5. Fundamentals of semiotics and consciousness

5.1 Levels of intentionality and awareness in human communication

Finally, we will consider some requirements on consciousness raised by some very basic semiotic properties of communication. Table 1 below gives an impression of the levels of intentionality, awareness and processing which are involved in human communication. Human communication normally involves at least two participants. Each participant is simultaneously a sender and a recipient of information, although one or the other function is normally allowed to predominate in a turntaking fashion. The point of the table is that information is both sent and received at several levels of intentionality, awareness and processing simultaneously (cf. Allwood 2002).

Table 1. Levels of intentionality, awareness and processing in human communication

Sender	**Recipient**
Indicate	Be influenced
Display	Perceive
Signal	Understand

If we start with the processes that characterize the sending of information, the table suggests that we, for analytical purposes, can subdivide what in reality is a continuous scale into three stages.

As a sender, a speaker "indicates" information, if a recipient in virtue of his/her experience can pick up the information. Indicated information depends only on causality and/or proximity (red spots indicating the measles) and does not involve the sender intending to communicate anything.

The information is "displayed" if the sender intends that the recipient should perceive and understand the information.

It is "signaled" iff (if and only if) the sender intends that the recipient should perceive and understand that he is displaying the information. "Displaying" is like "showing" and signaling is like "showing that you are showing". Signaling is the mode normally associated with spoken vocal verbal communication.

In normal human communication, a sender is simultaneously indicating, displaying and signaling information. For example, he/she might be "indicating" geographical origin by accent without being aware of this or intending to do so. Simultaneously he/she could be displaying friendliness by smiling and signaling by speaking. Producing information thus involves a complex simultaneous interaction between several levels of intentionality and awareness.

Similarly, on the recipient side, information is being activated with varying degrees of processing and awareness. Some information is subconsciously influencing the recipient, while other information is being consciously perceived and in some cases further processed and understood. On the sender side, several modalities of production, words, prosody,

gestures etc., are involved and on the recipient side several modalities of perception (sight, hearing, touch etc) are being integrated. On both sides, factual information is being continuously embedded and integrated with attitudinal and emotional information. Table. 2 below gives a picture of the situation in normal communication in relation to the three basic types of representation "index", "icon" and "symbol".

The terms come from C.S. Peirce, who introduced them for three basic ways of representing information (cf. Peirce 1931). "Indices" carry information in virtue of contiguity and causality. Black clouds are an index of rain. "Icons" carry information in virtue of similarity. A portrait is an icon of a person. Symbols carry information in virtue of convention. Words are symbols of the information they represent. The three types are not always distinct, rather a sign can often carry information in virtue of all three types of semiotic relation.

Table 2. Simultaneous levels of intentionality and awareness and types of representation

	"happy voice"	"caricature"	"Jag är här"	
	Index	Icon	Symbol	
Indicate	XX	X	X	Be influenced
Display	X	XX	X	Perceive
Signal	X	X	XX	Understand

In the table, all squares are possible but there is perhaps a preferential relationship between

1. Indicating - index - being influenced
2. Displaying - icons - perception
3 . Signaling - symbols - understanding

This relationship is somewhat weaker on the recipient side, so that symbols and icons are normally both perceived and understood, while indices do not only influence but are often perceived and sometimes understood.

5.2 Content of consciousness and "intentionality"

One of the puzzles concerning consciousness is related to the content of consciousness. Can consciousness exist without content or must it, like the phenomenological tradition with Brentano and Husserl claimed, be "intentional", i.e., that is directed toward an object (cf. Spiegelberg 1982). Being conscious means being conscious of perspectivally selected aspects of some phenomenon.

Emotions are sometimes brought up as a counter example to the thesis that consciousness must be intentional. It is claimed that it is possible to be happy cf. Segelberg 1999) without being happy about something, so that there could be a conscious state of happiness which is not directed to an object. Turning to language, it does however, seem reasonable to adopt the intentionality thesis. Language and communication seem to always involve at least a 3-part relation between a sender, a recipient and an information carrying sign and thus indicates that “consciousness” is consciousness of at least a sign and its content.

5.3 Some conditions of consciousness

Many discussions of consciousness assume that the preconditions of consciousness are merely physical or biophysical/biochemical. Even if this might be so for consciousness it is not a plausible view in relation to what must be assumed as preconditions for language. As preconditions for communication and language we must probably assume a group of organisms capable of memory (probably consciousness) actions and interactions. For many types of language we must also assume organized social activities and social institutions as well as some sort of collective thinking which we might call culture. The question is whether or not, some of the same preconditions are necessary for the development of consciousness, i.e. are not many kinds of consciousness connected with there being action and interaction of several organisms in a group. This question is, in turn, strongly related to the question of whether consciousness is assumed to be merely an individual phenomenon or whether it can also be a collective phenomenon. If we admit collective consciousness as a kind of consciousness, it seems very likely that language and groups of organisms have to be assumed to be necessary preconditions for the development of this type of consciousness.

5.4 Some implications of linguistic communication for consciousness

In discussing the relationship between language and consciousness, one of the problems that needs to be addressed is the fact that consciousness, to a greater extent than language, is a heterogeneous phenomenon. There seem to be many varieties/types of consciousness. Part of this variation is connected with what has often been called levels of consciousness.

It has often been assumed that organic life besides being capable of consciousness can exist at an unconscious, subconscious or preconscious level. Just as we have seen in the semantic analysis in section 2, this raises the question of whether the development of consciousness and consciousness itself is a gradual scalar phenomenon. Since it is possible to hold that much of our linguistic processing is not conscious but rather unconscious, subconscious or preconscious, it also raises the question of whether language besides being related to consciousness is also related to a more fundamental level of organic life and to several levels of consciousness.

Linguistic communication, however, also points to another feature of consciousness namely modal integration. Much of conscious processing takes place in the sensory modalities: sight, hearing, touch, smell and taste. Language, however, requires an integration of modalities, Given a word like "horse" we can potentially activate and integrate information from all modalities. A horse is not just a visual horse, but a creature with sounds and smells. Thus, linguistic communication requires that consciousness is capable of modal integration. Perhaps language has in fact been a contributing factor in giving consciousness this capability.

Linguistic communication further strongly suggests that consciousness is connected with abstraction. The word "horse" has a content which is independent of any particular horse (regarding, for example, color, shape or smell). We are conscious of something more abstract. Powers of abstraction are also necessary to understand the function and meaning of such words as *or, and, not* or *if.*

Thirdly, as hinted at above, language probably makes it necessary to assume the existence of a sort of "collective consciousness". Without some sort of collective consciousness, it would

be hard to explain how the extremely finely tuned joint processing of information that we see in dialog (cf. Allwood 1997) could take place.

Thus, so far, I have pointed at five properties of consciousness which seem to be necessary to assume, if we are going to relate consciousness to language and communication, i.e., consciousness should be capable of:

(i) multilevel organization
(ii) "intentionality"
(iii) modal integration
(iv) abstraction
(v) collective sharing

Given the discussion above, one possible picture of the relationship between consciousness, thought and language is that of a gradual development involving a continuous interaction, where developments in one of the three phenomena leads to developments in the others as well.

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