

Unit 3 Language & Thought – a Dynamic Structure of Meaning

Objectives

After completing this unit, you will be able to

1. Describe how we learn to *think* ‘human’ through Language
2. Characterise 4 stages of cognitive development
3. Prove that word-meanings are not fixed ‘concrete objects’; that they change and develop on 2 levels of abstraction:
 - a. In individual minds and
 - b. In the collective mind of the community
 - c. Explain the concept of grammaticalization
4. Explain the concept of ‘*meaning as use*’
 - a. Explain why ambiguity is natural to Language

3.0 Introduction

The mystery of how Language relates to our Thoughts (which really make up who we are) has kept us wondering for thousands of years. Dialectic linguistics will help us get to the bottom of this mystery – well, *almost* to the bottom... ☺ Our task this week is to get to understand how language teaches us to think, the different stages of cognitive development we go through in the process, and why **word-meanings** are so **fluid** (not *fixed*). How do we learn them, if they are constantly changing? Is the Language reflected in the way we think? And the other way around, is the way we think reflected in our language? A lot of interesting questions there – let’s get to work!

3.1 Thought & Language: learning to think ‘Human’

If you remember Terence Deacon’s words at the end of Unit 1, the doorway into the virtual world of human thought was opened to us alone by the evolution of language. Language, he wrote, ‘is not merely a mode of communication, it is also the outward expression of an unusual **mode of thought** – symbolic representation.’

So how, then, do we *learn* to think? In *Speaking and Thinking*, Vygotsky outlined the development of verbal thought in the child, for we are born without language. Intelligence and sound production (speech) are not naturally interrelated (Vygotsky: 1934) – a good strong voice is no sign of brainpower! ☺ Contrasting animal intelligence and speech vs. human, Vygotsky noted that

Man and animals have all forms of intellectual activity in common, only the developmental level differs: Animals are able to reason on an elementary level, to analyze (cracking a nut is a beginning of analysis), to experiment when confronted with problems or caught in a difficult situation. Some, e.g. the parrot, not only can learn to speak but can apply words meaningfully in a restricted sense: When begging, he will use words for which he will be rewarded with a tidbit; when teased, he will let loose the choicest invectives in his vocabulary.

It goes without saying that animals do not think and speak on the human level, but there are no good reasons to deny the presence in animals of embryonic thought and language of the same type as man’s, which develop, again as in man, along separate

paths.’ **An animal’s ability to express himself vocally is no indication of his mental development** (Ibid.).

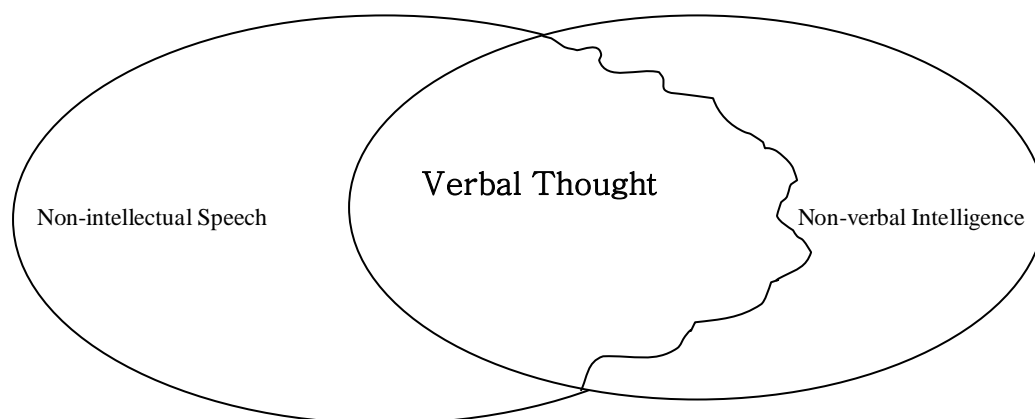
Initially, in babies (as in animals) thought is *nonverbal* and speech/ vocalization – *non-intellectual*: ‘a ‘prelinguistic period in thought and a preintellectual period in speech undoubtedly exist also in the development of the child’ (Ibid.). As a result of social interaction, children ‘discover’ that things have *names*, and begin to ask what they are called. They begin to connect sound patterns with the physical objects they perceive. Their speech becomes increasingly rational and thought – verbal, until the **speech structures they have acquired become the basic structures of their thinking**.

Verbal thought, therefore, is *not* innate: a *connection* between word and thought originates and grows in the human mind in the course of social interaction – in many ways, *shaped* by society:

There is no specific interdependence between the genetic roots of thought and of word: **the inner relationship is not a prerequisite for, but rather a product of, the historical development of human consciousness.**

In animals, even in anthropoids whose speech is phonetically like human speech and whose intellect is akin to man’s, **speech and thinking are not interrelated** (Ibid.).

Vygotsky represented thought and speech in animals and human infants as two **separate circles**. In children, thought and speech begin to intersect in the course of language acquisition. In adults, the overlap, where thought and speech coincide, represents **verbal thought**:



This diagram shows that a lot of our intelligence is non-verbal, just as much of our speech is non-intellectual:

Schematically, we may imagine thought and speech as two intersecting circles. In their overlapping parts, thought and speech coincide to produce what is called verbal thought. Verbal thought, however, does not by any means include all forms of thought or all forms of speech. There is a vast area of thought that has no direct relation to speech. The thinking manifested in the use of tools¹ belongs in this area, as does practical intellect in general (Vygotsky: 1934).

¹ Use of tools / practical intellect includes mechanical skills, such as driving a car, operating a machine, etc.

Humans and animals share feelings /sensations, which we all can express in non-intellectual speech (we all laugh and cry in the same way, same as all dogs bark – no language barriers there!).

Our ‘fellow men and women’ (in Saussure’s words) give us our humanity through language; our mother tongue teaches us to connect ideas, to *generalize* (i.e., make associations based on resemblance, contiguity, and cause/effect) through *analysis* (distinguishing specific sound patterns in the word flow) and *synthesis* (connecting them to specific concepts).

The meaning of a word represents such a close fusion of thought and language that it is hard to tell whether it is speech or thought – it is both in equal measure. A word without meaning is an empty sound; a word, therefore, must have meaning in order to become a *word*.

The vocabulary of the child grows with the grasping of new concepts; if a concept is too abstract for the child’s mind to grasp, that word will not be ‘registered’ in the child’s mind. The same, of course, is true at any age: if the concept is not formed in the brain, the word will not stick in your memory (try and listen to a lecture in quantum mechanics and see how much of it you will remember! ☺)

Activity 3.1

Draw a diagram representing the relationship between thought and speech in animals and human infants. How does it differ from the diagram above?

In order to understand the workings of our brains better, let us now re-trace our mental development from birth to adulthood:

3.2 Four Stages of Cognitive Development²

Some people believe that the only difference between an adult and a child is their size; a child, they say, is just a person ‘who seems small from a distance.’

Jean Piaget (1896-1980), a Swiss psychologist showed that the difference between child and adult thinking is *qualitative* rather than *quantitative*: a child is not a miniature adult and his mind is not the mind of an adult on a small scale.

The human brain continues to develop after birth, and matures only by adolescence. During these formative years, according to Piaget, it goes through 4 major stages of cognitive development:

1. The **Sensorimotor Stage** occurs between birth and age 2. Babies are born with no thinking structures (the so-called schemas) and develop them through ‘soaking up’ language and exploring their environment through their senses.

² **Cognitive development** ~ the development of intelligence, conscious thought, and problem-solving ability that begins in infancy.

Source: <http://medical-dictionary.thefreedictionary.com/Cognitive+development>

At his stage, humans are incapable of coherent logical thought, even though most babies begin to speak their first words long before they are 2.

2. The **Pre-Operational Stage** (approx. 2 to 7 years of age). Children rapidly develop language skills and, concurrently, the underlying thinking structures. They develop personal traits and characters, but are yet incapable of mature reasoning. For example, the concept of *conservation* is above the average toddler (*conservation* implies the understanding that actual amounts of any substance may remain constant, even if the shape or form of it may change). When water is poured from a tall, narrow glass to a short, wide bowl, the preoperational child will think that there is now less water. They are also incapable of de-centering (the ability to see things from another's perspective). When pre-operational children are asked to sit at a table but draw the view from the other end of the table from the perspective of someone looking at them, they cannot do it. Both *conservation* and *de-centering* are basic requirements for logical thinking.
3. The **Concrete Operational Stage**: ages approximately 7 to adolescence. Children begin to grasp *conservation* and *de-centering*. They can now reason logically, but only on a concrete level, not hypothetically or abstractly. When a Concrete Operational child is shown a blue block and asked "Is the block green or not green?" he or she will probably answer "Neither, it's blue!" – that 'blue is not green' is too abstract. They solve problems logically, but not systematically / consistently. As opposed to Preoperational children, children in the concrete operations stage are able to take another's point of view and take into account more than one perspective simultaneously. Although they can understand concrete problems, they cannot yet consider all of the logically possible outcomes.
4. The **Formal Operations Stage**: adolescence or above. The mind is now capable of sophisticated logical thought. It can think abstractly, hypothetically and can solve problems using the logic of combinations. Piaget considered this the ultimate stage of development, and stated that although the children would still have to revise their knowledge base, their way of thinking was as powerful as it would get.

It is now thought that not every child reaches the formal operation stage. In fact, research shows that only about 25% of all adults use formal operations on a regular basis (it requires significant training and cognitive discipline).

The moral of this digression in our discussion of the 'fluid' nature of word-meanings is this: **Language develops before logical thinking**. 'The child's babbling, crying, even his first words, are quite clearly stages of speech development that have nothing to do with the development of thinking' (Vygotsky: 1934). The child's first words are not really words, but rather *expressions of feelings* that are communicated not by the words, but by the child's *whole behaviour* at the time (like pointing, reaching out to something or pushing it away, etc.). The word *mama*, for example, could mean anything from *Mama, give me* or *Mama, come here*, or *Mama, hold me*, etc.

At a point in the pre-operational stage, the child “makes the greatest discovery of his life” – that “each thing has its name”³ and begins to ask “What is this?” about every new thing they come across.

Before this turning point, the child does (like some animals) recognize a small number of words which substitute ... for objects, persons, actions, states, or desires. At that age the child knows only the words supplied to him by other people. Now the situation changes: The child feels the need for words and, through his questions, actively tries to learn the signs attached to objects. He seems to have discovered the symbolic function of words. Speech ... enters the intellectual phase. The lines of speech and thought development have met.

It is difficult for children to separate the name of an object from its attributes; simple experiments have shown that preschool children, in fact, “explain” the names of objects by how they look/ sound/ smell, etc.:

According to them, an animal is called “cow” because it has horns, “calf” because its horns are still small, “dog” because it is small and has no horns; an object is called “car” because it is not an animal. When asked whether one could interchange the names of objects, for instance call a cow “ink,” and ink “cow,” children will answer no, “because ink is used for writing, and the cow gives milk.” An exchange of names would mean an exchange of characteristic features, so inseparable is the connection between them in the child’s mind. In one experiment, the children were told that in a game a dog would be called “cow.” Here is a typical sample of questions and answers:

“Does a cow have horns?”

“Yes.”

“But don’t you remember that the cow is really a dog? Come now, does a dog have horns?”

“Sure, if it is a cow, if it’s called cow, it has horns. That kind of dog has got to have little horns” (Vygotsky: 1934).

So the word-meanings, for a child, are concrete: they are names of concrete things. That is why children cannot understand some abstract thoughts, even if they are familiar with the necessary words – the adequately generalised concept that alone ensures full understanding may still be lacking.

Thought development is determined by language, i.e., by the linguistic tools of thought and by the socio-cultural experience of the child. Essentially, the development of inner speech⁴ depends on outside factors; the development of logic in the child is a direct function of his socialized speech. The child’s intellectual growth is contingent on his mastering the social means of thought⁵, that is, language (Ibid.).

Word-meanings *develop* with the child’s thinking ability – by the end of the pre-operational stage, they have fully learnt the structures of language, and their thinking becomes more abstract. The pre-operational and formal operational stages differ mostly by the degree of abstraction in the way we think and the ‘data base’ of knowledge/ experience on which we draw.

³ Stern, W., *Psychologie der Fruehen Kindhet*, Leipzig, 1914, p. 108.

⁴ *Inner speech = verbal thought – OT*

⁵ This is a beautiful definition of Language! - OT

Activity 3.2

1. Read the text Out of the Mouths of Babes in your Resource Book. Which stage of cognitive development are the ‘babes’ in, would you say? Why?
 2. Conduct a simple experiment, similar to those described by Vygotsky, testing pre-school children’s comprehension.
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3.3 Word-Meanings Develop

The fact that we all go through these major stages of cognitive development shows that, indeed, word-meanings are fluid: they change and develop in our minds, as they mature and our thinking abilities improve. In earlier theories,

... the bond between word and meaning was viewed as an associative bond, established through the repeated simultaneous perception of a certain sound and a certain object. A word calls to mind its content as the overcoat of a friend reminds us of that friend, or a house of its inhabitants. The association between word and meaning may grow stronger or weaker, be enriched by linkage with other objects of a similar kind, spread over a wider field, or become more limited, i.e., it may undergo quantitative and external changes, but it cannot change its psychological nature. To do that, it would have to cease being an association. From that point of view, any development in word meanings is inexplicable and impossible – an implication which handicapped linguistics as well as psychology. Once having committed itself to the association theory, semantics persisted in treating word meaning as an association between a word’s sound and its content. All words, from the most concrete to the most abstract, appeared to be formed in the same manner in regard to meaning, and to contain nothing peculiar to speech as such; a word made us think of its meaning just as any object might remind us of another. It is hardly surprising that semantics did not even pose the larger question of the development of word meanings. Development was reduced to changes in the associative connections between single words and single objects: A word might denote at first one object and then become associated with another, just as an overcoat, having changed owners, might remind us first of one person and later of another. Linguistics did not realize that in the historical evolution of language the very structure of meaning and its psychological nature also change. **From primitive generalisations, verbal thought rises to the most abstract concepts. It is not merely the content of a word that changes, but the way in which reality is generalised and reflected in a word (Ibid.).**

Word-meanings develop not only in our individual minds, but also in the *collective mind of the speech community*. In the next unit, we will trace the history of word-meanings, and discover how concrete ‘content’ words, such as *back, head, cross*, etc., were reanalysed in the collective mind of the entire speech community, forming the grammar structures we study in school (all those ‘function’ words, such as articles, modal / auxiliary verbs, suffixes, prefixes, prepositions, etc.).

Revision: Content Words vs. Function Words

Content words are those that have specific, concrete meanings, i.e., fish, bird, flower, apple, house, etc.

Function words are those that have a more generalised, **grammatical** meaning, such as conjunctions (and, with, but, etc.), prepositions (up, down, in, out, across, behind, etc.), pronouns (I, you, he, she, we, they, etc.), etc.

The process by which some word-meanings in the collective mind of the speakers develop grammatical functions, changing lexical items and phrases into grammatical forms is called **grammaticalization**.

Activity 3.3

Read the text ‘*Some trends in Grammaticalization*’ in your Resource Book.

Tok Pisin is a ‘young’ language, but it has already developed its own rules of grammar. This means that some of its ‘concrete’ word-meanings have acquired more abstract grammatical meanings, such as the adjective-forming suffix *-pla* (from the original ‘concrete’ meaning ‘fellow’), as in *gutpla*, *tripla*, etc. List some other examples of Tok Pisin grammatical structures that have developed from concrete lexical items.

A Re-cap: word-meanings are not fixed concrete entities – they are *fluid*; they grow, develop, evolve (in individual minds, as they mature, as well as in the *collective mind* of the society).

3.4 Meaning as Use

We have now seen that *speaking* comes *before thinking* in children – **speaking does not mean thinking** (logically or otherwise). The divergence between *words* and *meaning* in adults is even more striking – entirely different meanings may lie hidden behind one and the same grammatical structure! This is how it comes to be that people often *mean* different things, even when they use the same words. Examples:

Woman without her man is nothing : *Woman! Without Her, Man Is Nothing*
We saw man eating rats : *We saw man-eating rats*

To cook a nice pot of stew, you have to know not only *what* to put in the pot, but also *how* to do it (the order in which to add all the ingredients and spices, which procedure to use, which temperature to set, etc.). The same holds true for language: a sentence (thought) is a pot of stew (unit of meaning), made up of different ingredients and spices (word-meanings, tone of voice, etc.), all combined together in a particular sequence and manner. If you do it right, you’ll get the taste (meaning) that you want; no guarantee, however, that your stew will taste as good to other people – their taste buds and habits (perceptions, etc.) may be different from yours!

Vygotsky explained this in terms of the difference between the **grammatical** and **psychological subject**⁶ and **predicate**⁷:

For example, in the sentence “The clock fell,” emphasis and meaning may change in different situations. Suppose I notice that the clock has stopped and ask how this happened. The answer is, “The clock fell.” Grammatical and psychological subject coincide: “The clock” is the first idea in my consciousness; “fell” is what is said about the clock. But if I hear a crash in the next room and inquire what happened, and get the same answer, subject and predicate are psychologically reversed. I knew something had fallen – that is what we are talking about. “The clock” completes the idea (Ibid.).

Any part of a sentence may become the psychological predicate, the carrier of the speaker’s emphasis, depending on our individual perspectives, attitudes, feelings, etc., which make us ‘connect’ ideas differently. This is why shortened sentences (like news headlines) frequently cause confusion. Others will usually relate your sentence to a subject foremost in their own minds, not the one you meant:

If the thoughts of two people coincide, perfect understanding can be achieved through the use of mere predicates, but if they are thinking about different things they are bound to misunderstand each other (Vygotsky: 1934).

Ludwig Wittgenstein, an influential philosopher of the 20th century, claimed that the meaning of words is determined by **the way we use them**, and nothing more:

For a large class of cases-though not for all-in which we employ the word "meaning" it can be defined thus: **the meaning of a word is its use in the language.**

And the meaning of a name is sometimes explained by pointing to its bearer.
Wittgenstein: Philosophical Investigations, §43

In his lectures, he told his students, "If we had to name anything which is the **life** of the sign, we should have to say that it was its **use**" (Blue Book 4).

Think about it: is it not **how** we use things that defines them? Take a knife, for example; you can use it to carve works of art, peel potatoes, cut grass, etc.; some also use it to kill!

The *use of words* has many aspects:

1. Purpose, intent of communication
2. The choice of words we use
3. How we string them together
4. The manner of articulation (tone of voice, loudness, speed, etc.)
5. The environment / circumstances of exchange (social, cultural, physical, etc.)

⁶ **Grammatical Subject:** = what the sentence is about; **Psychological Subject:** = what is uppermost in the speaker’s mind – what we are *really* talking about

⁷ **Grammatical Predicate:** = what the sentence says about the Subject; **Psychological Predicate:** = our true meaning; what we really *mean* to say about what we are *really* talking about

Words do, indeed, acquire meaning *in use*, influenced by other word-meanings around them, the tone of voice, attitudes and motives of the speakers, the social and physical context of communication, etc. – the list is never ending. Look, for example, at the following word sequences:

Gadgets go green (= are powered by ‘clean’ energy: an ad on CNN, April 27, 2008)
These buses are as green as you can get! (= they use ‘clean’ energy)
A healthy diet should include a lot of green vegetables (= colour green).
They are so un-green, dumping their waste into the sea (= polluting the environment)
Going green can put you in the red! (= adopting *green* technology can get you broke!)
I am green around the gills (= envious)
He moved on to greener pastures (= to a better economic opportunity)
Green, green grass of home!
I was green, and stupid (= young), etc.
I usually come online about 7 pm (= log on to the Internet)
I come down with malaria every now and again (= get sick)
Utility bills for the month come up to 70% of his salary (= equal)
Come to think of it, politics always come into play, one way or another (= ‘if’; = are a part of)
These little gadgets always come in handy (= prove useful), etc.

The tone of voice you use is very important in creating word-meaning, because it reveals the attitudes and feelings of the speakers, their ‘psychological subject’; look, for example, at this word sequence:

I am a businessman.

I am a business, man!

The circumstances of the exchange also influence the meaning of the utterance. Compare the use of the phrase *I love you, too* in two different situations:

1. Someone whispers tenderly into your ear, ‘*I love you, too!*’
2. Someone calls you a stupid fool; in return, you say: ‘*I love you, too!*’



Activity 3.4

Explain the concept of ‘**meaning as use**’ and give 5 examples of how word-meanings are affected by other word-meanings in the sentence, the speakers’ level of cognitive development, attitudes, feelings, and motivation (intent).

To summarize, then:

1. Word-meanings develop; they ‘grow’ and change, both in individual and in collective consciousness
2. Word-meanings depend on how we use them: the same word (i.e., ‘monster,’ ‘lazoid,’ ‘porcupine,’ etc.) can be used to state facts, make fun of / abuse someone, express love and friendship, etc.

3. When, where, why, how, and to whom we speak all determine the meaning of the words we use
4. Intended meanings may be misunderstood (interpreted differently) by others, because we all see the world through our own eyes.

3.4.1 Ambiguity Is Natural to Language

All of the above and many other factors affect word-meanings in use – that is why ambiguity is so natural to language! Do you see now that words of our language, when we use them, represent (for us) only the meanings that we, individuals, put into them? And that other people, with different personalities, experiences, etc., just *may* perceive them differently from you? Language is bigger than any one of us; it's like the world you see when you open your eyes every morning is different from the world your neighbour sees, not to mention somebody in Mexico, Iraq, or Russia! Even though we all live in one world, we all see it with our own eyes; even when we speak the same language, we 'see' the word-meanings with our own minds!

We live in the 3rd dimension of Language: it is a huge *living* structure, and once we enter it, we become part of the Symbolic Species.



Activity 3.4.1

Please go back to Unit 1 and revise the main points of Section 5.

Define the following concepts:

1. homonyms
2. homophones
3. lexical ambiguity
4. structural ambiguity

Give clear examples of each from the reading *Fluid Meanings* (Re: Resource Book).

Pragmatics, if you remember, is a special branch of the linguistic science that is concerned with meaning *in context*. Because our understanding (analysis & synthesis) of meaning depends on so many factors (i.e., our purpose and intent, age, gender, mental and physical health, psychological make-up, the linguistic, social, cultural, and physical environment, etc.), some philosophers (and linguists) have questioned our ability to determine it, claiming a certain *indeterminacy of meaning*.

Wittgenstein's definition of *meaning as use* manages to include in it most of the influencing factors, except, perhaps, those that are independent of our will, such as the level of our cognitive development... ☺ It provides us with a 'hi-tech' tool for an in-depth analysis of fluid meanings.

Summary

1. Word-meanings develop; they ‘grow’ and change, both in individual and in collective consciousness
2. Grammar is shaped by ‘reanalysis’ of content words in the collective mind of the speech community, whereby lexical words and phrases acquire more abstract grammatical functions (become function words)
3. Grammaticalization is the process whereby concrete words acquire grammatical functions
4. Piaget’s stages of cognitive development are:
 - a. Sensori-motor
 - b. Pre-operational
 - c. Concrete operational
 - d. Formal operational
5. In babies, as in animals, speech is non-intellectual, and intelligence – non-verbal; during the first (sensori-motor) stage of cognitive development, speech and thought begin to overlap
6. Children develop Language before Logic
7. Word-meanings depend on how we use them: when, where, why, how, and to whom we speak all determine the meaning of the words we use
8. Intended meanings may be misunderstood (interpreted differently) by others, because we all see the world through our own eyes (our perceptions may vary, as our attitudes, feelings, assumptions, etc. differ).

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