

A Review of the Language-Thought Debate: Multivariant Perspectives

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Abstract

In recent times, there has been a growing interest in analyzing the relationship between language and thought from a variety of points of view to explore whether language comes before thought or thought precedes language. Accordingly, the present paper attempts at mulling over the current debates on this issue, including Chomsky's (1975, 1983) Independent Theory, the Sapir-Whorf hypothesis (1956), Piaget's Cognitive Determinism (1952, as cited in, Chaput, 2001), Vygotsky's (1978, 1986) Theory of Interchanging Roles, O'Brien and Opie's (2002) Radical Connectionism, and Slobin's (1987, 1991, 2003) Thinking for Speaking Hypothesis, which recently have received a great amount of attention, among other positions. Then the pedagogical implications of the Thinking for Speaking Hypothesis for Second Language Acquisition (SLA) are presented.

Keywords: Language and Thought, Mould and Cloak Theories, Independent Theory, Sapir-Whorf Hypothesis, Cognitive Determinism, Theory of Interchanging Roles, Connectionism, Radical Connectionism, and Thinking for Speaking Hypothesis.

1. Introduction

To be precise, Dewey (1910) holds that no words are more often on lips than *thinking* and *thought*. However, human beings' use of these words is so abundant and diverse that it is not unproblematic to define just what one means by them. As Gleitman and Papafragou (2005) put it, possessing a language is one of the fundamental characteristics, which is said to differentiate humans from other species. A lot of people share the intuition that they think in language; as a result, the lack of language would, in its own right, be the nonexistence of thought. The subsequent lines of debate are meant to provide an overview regarding different perspectives offered for the language-thought debate.

2. Review of literature

To put it in plain words, Chandler (1994) proffers the debate that of enormous significance is the exact nature of the bond between language and thought. In the realm of linguistic theory, the majority of theories can be categorized amid two general and binary contrasting types at the opposite ends of the continuum. Bruner, Goodnow, and Austin (1956, as cited in, Chandler, 1994) muse that they are in the main classified as mould theories and cloak theories. Mould theories, such as the Sapir-Whorf theory, take for granted that language is a mould in terms of which categories of thought are cast whereas cloak theories adopted by the extreme universalism presume that language is a cloak or the dress of thought meeting the requirements of the customary thought categories of its speakers, namely the same thought can be expressed in various ways. Universalists discuss that one can say whatever one desires to say in any languages, and that whatever one articulates in one language can always be translated into another. Chandler (1994) also argues that, additionally, there

exists a related view held by, say, Behaviorists, to mention among others, on the basis of which language and thought are deemed as identical. In line with this stance, thinking is regarded to be wholly and entirely linguistic; that is to say, there is no non-verbal thought, and no translation from thought to language takes place. Putting it this way, thought is viewed as absolutely determined by language. What follows is meant to explicate these binary categories together with other theories that fall in between them.

2.1. Sapir-Whorf hypothesis

According to Whorf (1956), the starting point of all research concerning language and social representations is Saussure's idea that the language system segments the reality into conceptual chunks, thereby imposing categories by which people perceive and understand the world. In this view, two different languages are regarded to structure reality in different ways. These segments have been taken a step forward by Whorf through his studies of Amerindian languages, which demonstrate how worldviews emerge as the aggregation of conceptualizations tied to specific linguistic forms. The basic principles of the Sapir-Whorf hypothesis can be summarized in the following quotation by Whorf (1956, p. 214):

... No individual is free to describe nature with absolute impartiality but is constrained to certain modes of interpretation even while he thinks himself most free. The person most nearly free in such respects would be a linguist familiar with very many widely different linguistic systems. As yet no linguist is in any such position. We are thus introduced to a new principle of relativity, which holds that all observers are not led by the same physical evidence to the same picture of the universe, unless their linguistic backgrounds are similar, or can in some way be calibrated.

As Carroll (1994) puts it, the view that language shapes thought has been first put forward by the American linguist Sapir and then taken by Whorf over one hundred years ago. However, it is most often associated with Whorf. He debates that the Whorfian hypothesis consists of two parts, i.e., the linguistic determinism and the linguistic relativity. He further remarks that the linguistic determinism refers to the notion that each language determines certain non-linguistic, cognitive processes. In other words, learning a language changes the way a person thinks. The linguistic relativity refers to the claim that the cognitive processes that are determined are different for different languages. Thus, speakers of different languages are said to think in different ways. From Carroll's perspective, there are several notions posed in this area of debate. One is that languages carve up reality in different ways. Another is that these language differences are covert or unconscious. To be more precise, it is asserted that people are not consciously aware of the way in which they classify objects. Third, these language differences influence their worldviews. Although Whorf provides many lexical and grammatical examples of how language may influence cognition, he does not present convincing evidence for his hypothesis. These are profound ideas which are not easily amendable to the experimental test. The status of the Whorfian hypothesis depends on how everyone takes it to mean. For instance, if the claim is that the presence of a language feature determines a specific mode of thought that cannot be attained in any other languages, then the hypothesis needs to be revised.

In the late 1960s and early 1970s, new scholarship on language universals and linguistic typology are said to undercut Whorfian hypothesis. Whorf's own best-known descriptive claims on language and thought are challenged by other field workers. By the early 1990s, scholars like Pinker (1994) can confidently claim that Whorfianism is "wrong, all wrong" (p. 57), "outlandish" (p. 63), and "bunk" (p. 65). However, at the very moment when Pinker must have been word-processing his entertaining caricature of the linguistic relativity, a neo-Whorfian revival is already under way. Stimulated partly by the careful rereadings of Whorf (Silverstein, 1979; Slobin, 1987, 1991, 2003; Lucy, 1992) and partly by the increased methodological precision made possible by new findings in universals and typology, scholars begin anew to undertake certain works that pose Whorfian questions or to advance Whorfian interpretations of their findings (Kay & Kempton,

1994). Neo-Whorfian scholarship seems to be more nuanced, probably more rigorous linguistically, and certainly less romantic and sweeping than the original.

Following this line of argument, Chandler (1994) holds that even as few linguists admit the Sapir-Whorf hypothesis in its strong, radical, extreme, or deterministic form, many currently agree to a weak, further modest, or limited Whorfianism, namely that the ways in which one observes the world may be influenced by the kind of language she or he makes use of. Moderate Whorfianism differs from extreme Whorfianism in these ways:

- The emphasis is placed on the potential for thinking to be affected rather than inevitably determined by language.
- It is regarded as a two-way process; therefore, the kind of language one brings into play is also impinged upon by the way she or he observes the world.
- Any impact is attributed not to language as such or to one language in relation to another; rather, it is assigned to the use within a language of one variety rather than another, say, typically the sociolects or the language used primarily by members of a particular social group.
- The emphasis is given to the social context of language use more willingly than to purely linguistic accounts, such as the social pressure in specific situations to utilize language in one way rather than another.

To Chandler (1994), a number of polemicists still prefer to make use of the notion of language as a strait-jacket or prison; however, there is a wide-ranging academic consensus having a preference for the moderate Whorfianism. Any linguistic influence is currently thought to be associated not primarily with the formal systemic structures of a language, or to draw on Saussurean (1974) terminology, langue, but to the cultural conventions and individual styles of use, i.e., or parole. In other words, meaning does not inhabit in a text; rather, it comes to pass in its interpretation, and interpretation is wrought by the sociocultural contexts.

Gleitman and Papafragou (2005) present the debate that Chomsky's Universalist position is quite a different position based on which language, while being the fundamental human conduit for thought in communication, memory, and planning, neither generates nor substantially disfigures the conceptual life; that is, thought is first, and language serves as its expression. This different view of causality leaves the connection between language and mind as strong as ever and just as relevant for making sense of the mental life. From Chomsky's standpoint, for example, the forms and contents of all natural languages originate, for the most part, from an antecedently predetermined cognitive substance and architecture, and, therefore, provide a rich diagnostic account of human conceptual commonalities. Accordingly, the linguistic relativity, in the sense of Whorf and numerous current commentators, is rather new and, in its strongest interpretations, revolutionary that stands in opposition to the independent theory. It is a proposal for how new thoughts can happen in the mind due to experience with language rather than in consequence of experience with the world of objects and events.

2.2 Chomsky's independent theory

Chomsky (1983) considers language as one aspect of cognition and takes account of its development as one aspect of the development of cognition. Chomsky holds that there exist a number of cognitive systems, which appear to possess distinct and specific properties. These systems lay the groundwork for certain cognitive capacities, and the language faculty is one of these cognitive systems. Chomsky, for example, makes reference to the capacity to organize the visual space, to deal with the abstract properties of the number system, to comprehend and appreciate certain kinds of musical creation, the ability to make sense of the social structures in which one plays a role, which definitely is a sign of the conceptual structures that have developed in the mind together with any number of other mental capacities. Chomsky's (1975, p. 4) viewpoint on thought and language is reflected in the following quotation:

Language is a mirror of mind in a deep and significant sense. It is a product of human intelligence ... By studying the properties of natural languages, their structure, organization, and use, we may hope to learn something about human nature; something significant, if it is true that human cognitive capacity is the truly distinctive and most remarkable characteristic of the species.

Elaborating on the Chomskian Mentalist paradigm, Smith (1999) presents the debate that thinking is concerned with the utilization of either of language or of a system with enormous resemblance to language. In this respect, language is considered as the mirror of the mind. What is more, the pieces of evidence for the compartmentalization of the mind are said to be devastatingly linguistic. The knowledge of numerous dimensions of the mental structure, from the theory of mind to the moral judgment, from the recognition of visual illusions to the identification of faces, is picked up from the verbal output. It is not the case, however, that the language faculty is a model for the other compartments of mind. The vocabulary and principles of visual perception or of smell have nothing necessarily in common with those of language. That is to say, language is the mirror of the mind; it is not a model of the mind.

2.3 Piaget's cognitive determinism

The most influential cognitive Constructivist theory has been developed by Piaget (1952, as cited in, Chaput, 2001) that puts forward a mechanism by which infants integrate experience into progressively higher-level representations, which he calls Constructivism. According to Chaput (2001), Constructivism entails that infants progress from simple to sophisticated models of the world by means of a change mechanism that allocates the infant to build higher-level representations from lower-level ones.

Technically, Piaget's (1970, as cited in, Gabillon, 2007) theory holds that individuals construct their cognitive abilities and create their own sense of the world. This view opposes Nativist theories, which regard cognition as the innate knowledge and abilities, e.g., Chomsky and Krashen. The major theme in the theoretical framework of Piaget is that the individual acts accordingly to conceptual categories, namely schemata that are developed in the interaction with the environment.

Piaget (1970, as cited in, Gabillon, 2007) proposes that the individual's cognitive development comprises certain continuous efforts to adapt to the environment, and that the individual's schemata consisting of cognitive structures, cognitive rules, or scripts are constructed through the processes of adaptation. For Piaget, this process of adaptation encompasses assimilation, namely the interpretation of events in terms of existing cognitive structures and accommodation, i.e., changing the cognitive structure to understand the environment.

Ji-xian (2001) presents the debate that cognitive determinism is primarily represented in Piaget's ideas. In this sense, cognition is conceived as a kind of biological endowment. Biology and cognition intrinsically interact as the individual organism changes its behavior in response to its changing experiences and maturation. Thus, a person's language development is primarily determined by the development of her or his cognition. In other words, language is considered to be secondary to thought and thereby serves to express thought.

As Kozulin and Presseisen (1995) put it, despite its revolutionary innovations, the Piagetian Constructivism has left numerous questions unanswered in ways that are not entirely adequate. One may make a distinction between two major problems with the Piagetian cognitive approach. In the first place, the sociocultural remains largely beyond the scope of his theory. Second, the learning process proposed by Piaget appears as the direct interaction of the child with the environment. According to this perspective, the human mediators are practically excluded from the exchange.

2.4. Vygotsky's theory of interchanging roles

Analyzing the Vygotskian legacy regarding the cognitive development, Liu and Matthews (2005) muse that to Vygotsky, the relationship between the social and the individual in the

historical processes of the social and individual development is one of dialectical interaction and functional unification. In the first place, Vygotsky's perspective towards individuals in society entails that the mind is not seen as autonomous from the social and cultural group. The process of individual development may probably be summarized as the social, i.e., the internalization all the way through the sign mediation, restructuring the conceptual system, and the new understanding/consciousness. In this sense, individual's mastery and development must be anchored in both history and culture. What is more, the individual should be enabled to stand above the social collective because of the ability of the mind to generate personal understandings. Vygotsky's account of thought and language relationship, which is explicated below, seems to explicate his Social Constructivism.

From Vygotsky's (1978, 1986) perspective, before two years of age, both thought and speech develop differently and have separate functions. Vygotsky comes to the conclusion that both thought and speech have different genetic roots. Thought and word are not linked by a primary bond; rather, they develop autonomously, and there is no constant connection between them. However, in human beings there is a close union between them. Since the relationship between thought and speech is ever-changing, their progress does not run parallel. A pre-linguistic phase in the development of thought and a pre-intellectual phase in the development of speech can be observed. Then they melt and join at the age of two to initiate a new form. Thought turns out to be verbal, and speech happens to rational. Speech serves the intellect as thoughts are spoken. The social environment is significant to children's development as it can accelerate or decelerate development.

Vygotsky (1978) presents the argument that there are two separate roots to what he calls the intellectual speech by which he may be taken to mean speech that is recognizably based on the adult language. Both a phylogenetic analysis (development in the evolution of human species) of the behavior of anthropoids and an ontogenetic analysis (development over the life of an individual) of the behavior of human infants lead Vygotsky (1978, p. 112) to draw the subsequent conclusions:

- As we found in our analysis of the phylogenetic development of thinking and speech, we find that these two processes have different roots in ontogenesis.
- Just as we can identify a pre-speech stage in the development of the child's thinking, we can identify a pre-intellectual stage in the development of the child's speech.
- Up to a certain point, speech and thinking develop along different lines and independently of one another.
- At a certain point, the two lines cross, i.e., thinking becomes verbal and speech becomes intellectual.

Vygotsky (1986) formulates the stages of cognitive development in terms of the transitions from three phases, namely social speech addressed to another person; egocentric speech, private speech, or self-directed speech; and inner speech. To him, private speech is the crucial bridge between the social (inter-psychological) world and the intrapsychological plane. Gradually, the child turns the social speech toward the self. Private speech is seen as a transition between the child's learning language in a social communicative context and attempting to internalize it the later inner speech, i.e., thoughts or silent, conscious dialogues that one carries on with oneself while thinking or acting. There is a quote by Vygotsky (1986, p. 249) that says:

Inner speech is not the interior aspect of external speech—it is a function in itself. It still remains speech, i.e. thought connected with words. But while in external speech thought is embodied in words, in inner speech words die as they bring forth thought. Inner speech is to a large extent thinking in pure meanings.

What is attention-grabbing in Vygotsky's (1978) account of cognitive development is that he considers affective tools as psychological tools that are seen to be of social rather than organic or individual origin. Vygotsky argues that since the auxiliary stimulus possesses the precise function of the reverse action, it transports the psychological operation to the higher-level mental and

qualitatively novel forms and authorizes the human beings to regulate and control their behavior from the outside by means of the extrinsic stimuli. Vygotsky's dialogic notion that learning is first and foremost a situated, inter-psychological phenomenon suggests that one needs to go beyond a predominantly cognitive theory of learning in general. Exploring the dialectical relationship between thought, affect, language, and consciousness, Vygotsky (1987, p. 282) postulates that:

[Thought] is not born of other thoughts. Thought has its origins in the motivating sphere of consciousness, a sphere that includes our inclinations and needs, our interests and impulses, and our affect and emotions. The affective and volitional tendency stands behind thought. Only here do we find the answer to the final "why" in the analysis of thinking.

2.4.1 Piaget and Vygotsky on egocentric speech: Decontextualization and functional differentiation

According to Hickman (1985), the notion of egocentricity has recurrently been called upon to give an explanation for exceedingly miscellaneous phenomena, not only in child language but also in other non-verbal behaviors observed in children. It has been employed in various ways, often in conjunction with the notion that young children do not take into account others' perspectives, but not always with a precise description of what the phenomenon might be.

Hickman (1985) argues that within the Piagetian paradigm, where the term as it is currently utilized has originated, the child's egocentricity is a common phenomenon, stemming from her or his lack of decentering; and it typifies a good number of her or his behaviors, which are not adapted to specific contexts of situations. With regard to the process of language acquisition particularly, the general progression postulated within this model to take account of the egocentric speech is that children's language, possessing private characteristics, is initially not adapted to social communicative situations. It becomes socialized at a later phase in development as decentering in the child's cognitive organization permits her or him to engage genuinely in social interactions. In his early writings on child language, based on observations of spontaneous conversations, Piaget (1923, as cited in, Hickman, 1985) gives a picture of the private, comparatively asocial nature of the early speech in terms of the child's inclination to talk about what she or he is doing, without any concern for being understood or even heard by others. It is as if she or he cannot stop her/himself from commenting on her or his actions vociferously, and her or his speech does not appear to enclose a real function.

In contrast, as Hickman (1985) says, Vygotsky construes the egocentric speech in terms of a different progression, according to which speech is, first and foremost, and from the very beginning, social quintessentially; however, it is at the outset undifferentiated in line with a functional viewpoint. That is to say, speech in the beginning merely accompanies ongoing actions and perceptions in the context of utterance, also serving as a means of social contact with others. At a later point, when speech has been differentiated, it forms a system which is multifunctional for the adult. Once it is utilized externally, it possesses a distinct communicative and social function. When it is drawn on internally, it mediates higher-level mental functions, say, in problem-solving situations wherein no addressee is present. For Vygotsky, the egocentric speech is a transitional phase between the initial undifferentiated point and the later differentiated one. The child's deployment of speech at this point mirrors her or his discovery of a novel function of speech, namely an organizing function that is at the service of regulating her or his non-verbal activities. These uses of speech do not yet have a distinct social communicative function for the child, i.e., they are not distinctly addressed to others.

From an empirical standpoint, as Hickman (1985) puts it, though little is known concerning the egocentric speech, certain empirical findings pursue predictions that can be inferred from Vygotsky's interpretation. For example, children's use of more egocentric speech in the company of others than alone, and the point that they bring into play more egocentric speech as they are engaged in a somewhat difficult task than when the task is simple may provide pieces of evidence that argue for Vygotsky's analysis. Additionally, empirical studies of adult-child interactions in

problem-solving situations have recommended that there is a remarkable formal resemblance between adults' regulative (verbal and nonverbal) actions that draw children's attention to pertinent dimensions of the problem and certain children's self-regulatory actions during the task. Within a Vygotskian perspective, these formal resemblances supply preliminary evidence for the mechanisms postulated for development, suggesting similarity between adults' speech to children and children's egocentric speech, i.e., children are drawing on the communicative patterns of interaction established in child-adult dyads to focus their own attention to relevant aspects of the situation and to keep up the social contact. Within this system, self-regulatory uses of speech have, at least in part, a social origin which cannot be ignored.

It is particularly interesting to consider this piece of evidence in the light of other results previously mentioned. It is significant that Keenan and Klein's (1975, as cited in, Hickman, 1985) conclusion is on the basis of evidence concerning chiefly the functions of speech in the nonlinguistic context. In this case, referent-introductions are typically deictic, e.g., nouns with or without determiners in predicative constructions and/or in successive repetitions. Such uses indicate that children are indeed concerned with directing the attention of their listener to an object which then becomes mutually shared. However, in situations wherein such deictic forms of introduction are not possible, either for the reason that no relevant objects are present or since their addressee cannot observe them, children must fall back tightly on the linguistic context, making use of the speech to generate the very context for speech, which is seemingly egocentric as primitive deictic uses cannot suffice for adequate referent-introductions. Hickman (1985) states that in these situations egocentricity and decentering can be defined, at least partly, in terms of the child's functional-pragmatic repertoire. When the child discovers new functions of the signs she or he deals with in the course of interacting with others, such a development in his repertoire allows him to rely strictly on a new, distinctly linguistic context.

2.5. Connectionism

According to Gasser (1990), in the past ten years the cognitive science has witnessed the rapid rise of interest in the Connectionist models, namely the theories of the mind based on the interaction of large numbers of simple neuron-like processing units. The Connectionist approach has already reshaped the way many cognitive scientists muse about mental representations and processing.

As Gasser (1990) puts it, Connectionism proffers a challenge to the traditional Symbolic models of cognition. Despite the powerful appeal of symbols, rules, and logic, the traditional view suffers from a very inhuman-like brittleness as the linguistic and conceptual entities are by and large assigned in an all-or-none fashion to categories, rules typically apply in a fixed order, and deviations from the expected patterns are not handled well, if at all. In Connectionist models, the brittleness is avoided because there are no discrete symbols and rules as such; the entities that a Connectionist system uses to characterize the world are fluid patterns of activation across portions of a network.

Technically, Gasser (1990) discusses that Connectionism puts the emphasis back on learning in the cognitive science. In Symbolic models it is often assumed that it is enough to characterize a particular point in the process of acquisition, a claim with which most Connectionists do not agree. On the contrary, they believe that it is how the system progresses from one state to another that is mainly remarkable. Thus, Connectionists have developed a variety of new network learning algorithms to be studied and applied to particular problem domains.

According to Poersch (2005), Chomskian Mentalist paradigm places emphasis on the role of the mind in the cognitive processes. From such a Cartesian perspective, mind and brain are two realities of different substances. Mind is spiritual, and brain one is physical. The higher-order cognitive processes happen in the mind wherein the long-term memory is found. This paradigm assumes the existence of certain innate ideas and rules. Cognition is processed through the representation of the world in the mind through a serial processing of abstract and fixed symbols.

Poersch discusses that Connectionism is a cognitive paradigm rooted in the findings of neuroscience and not on explanatory hypotheses. All cognitive processes take place in the brain; the mind is nothing more than the grouping of these processes. The mind is not an *ens in se*; it is a phenomenon that actually occurs, it is an *ens in altero*.

2.5.1.Radical Connectionism

As O'Brien and Opie (2002) put it, it is unquestionable that the cognitive dividing wall between human beings and other animals is closely associated with the human beings' capability to comprehend and produce natural languages; however, what this connection exactly comprises of is a controversial issue. It is a matter of debate whether the natural language lays the groundwork for this divide due to the ability to use a natural language that makes possible a form of thought and cognition which is not available to the infra-verbal animals, or it is only its consequence since such an ability is a result of the difference between cognition in human beings and other animals. O'Brien and Opie argue that the Classical Computational Theory, which entails that cognition is the disciplined manipulation of symbols in an innate Language of Thought, decides on the second rejoinder. Based on this standpoint, all thought, regardless of where it happens in the animal world, is accomplished in a linguiform representational medium, and, therefore, the evolution of the natural language does not signify the development of a new form of cognition. Alternatively, that evolution is in its own right to be somehow explicated with respect to the amplifications of the core functional architecture of the human brain that account, for the most part, for the augmented cognitive capacities. Hence, from the classical perspective, the natural language is conceived of as a by-product of the representational medium of the human thought rather than being in part constitutive of it.

O'Brien and Opie (2002) discuss that the viewpoint put forward by Connectionism, the currently trendy alternative to Classicism in cognitive science, is further intricate. Connectionist networks do not compute by means of manipulating symbols, and, thus, do not install a linguiform representational medium. Consequently, Connectionists can look upon the role of natural language in human cognition in two very different ways. The first way, called Ecumenical Connectionism, puts forwards that the evolution of natural language amounts to a new-fangled form of cognition as it allows connectionist networks to put into operation the classical-style computation. On this account, the cognitive divide between human beings and other animals is definitely a computational one. Even though much of the human cognition particularly perceptual cognition leads to a non-symbolic representational medium, rendering it continuous with cognition in other animals, the brains somehow bootstrap their way to genuine symbol-processing by means of the natural language, and are consequently computationally unique in certain respects. The second way, Radical Connectionism, discards this hybridization. It shares with Classicism the view that all of the human cognition, including the capacity to deploy a natural language, depends on the computational resources much like those that underpin the cognitive achievements of infra-verbal animals. Nonetheless, Radical Connectionism is different from Classicism given that it eliminates any functions for a linguiform representational medium. Not only do not human beings think in their natural language, but also they do not think in language whatsoever.

In view of the foregoing lines of argument, O'Brien and Opie (2002) take on board the position entailed by the Radical Connectionism on the basis of which cognition in no way alludes to an internal symbolic system even when the natural language comes to play a role in the human beings' thought processes. Such a stance adheres to an analog formation of the neural computation for which the representation of the abstract thought is considered to be no longer problematic as compared with a symbolic system. Based on the Connectionist position, the natural language is said to function as a kind of catalyst for the abstract cognition. To be precise, it systematizes, regulates, and controls the computational activities of the cognitive modules across a brain. Vygotsky's impressive insight implicates that after children acquire a natural language as a tool at the service of communication and internalize it; that is to say, they appropriate it in terms of a cognitive tool. In this sense, the internalization of the natural language is a process through which a conventionally

ground set of communicative signals is put to work inside a brain. Nevertheless, Vygotsky together with a lot of other theorists including the Ecumenical Connectionists accept as true that this is a process wherein an external communicative scheme turns out to be an internalized representational medium, namely children learn to communicate with the natural language, and they subsequently learn to think in it. In accordance with the Radical Connectionism, it is taken for granted that although language plays a significant role in cognition, the part that the natural language plays internally resembles the role that it plays externally. In other words, one thinks with language not in language.

2.6. Thinking for speaking hypothesis

In research on narrative productions on expression of motion across languages, it has become obvious to Slobin (1979, p. 6, as cited in, Clark, 2009, p. 130) that “language evokes ideas; it does not represent them. Linguistic expression is thus not a straightforward map of consciousness or thought. It is a highly selective and conventionally schematic map.” For Slobin (1987, p. 435), “we encounter the contents of the mind in a special way when they are being accessed for use.” That is to say, there is a process of thinking for speaking wherein cognition plays a dynamic role within the framework of linguistic expression, a point formulated by Slobin (1987, p. 435) as follows:

The activity of thinking takes on a particular quality when it is employed in the activity of speaking. In the evanescent time frame of constructing utterances in discourse, one fits one’s thoughts into available linguistic forms. A particular utterance is never a direct reflection of “objective” or perceived reality or of an inevitable and universal mental representation of a situation. This is evident within any given language, because the same situation can be described in different ways; and it is evident across languages, because each language provides a limited set of options for the grammatical encoding of characteristics of objects and events. “Thinking for speaking” involves picking those characteristics that (a) fit some conceptualization of the event, and (b) are readily encodable in the language.

In Slobin’s (1991, p. 12) formulation, “the expression of experience in linguistic terms constitutes “thinking for speaking”-a special form of thought that is mobilized for communication.” Slobin (1991) holds that apart from the impacts grammar may or may not have outside of the act of speaking, the kind of the mental activity that continues at the same time as formulating utterances is neither trivial nor obvious and appears to be worth pondering on. For him, one comes across the contents of the mind in a special way once they are being accessed for deployment. That is to say, the activity of thinking engages a specific quality when it is exploited in the course of the activity of speaking. In the transitory time frame of making utterances in discourse one incorporates one’s thoughts into the accessible linguistic frames. Thinking for speaking is concerned with selecting those characteristics of objects and events that (a) are commensurate with some conceptualization of the event, and (b) are readily encodable in the language. Putting it this way, he puts forward the idea that that, during the process of the acquisition of a first or native language (L1), the child learns certain particular ways of thinking speaking.

Taking account of certain thought experiments, Slobin (2003) pinpoints that one can put forward the debate that it is slightly evident that a speaker or listener needs to deal with the semantic features that are encoded in the grammatical and lexical elements of a particular language with the purpose of learning and deploying that language. In view of this, Slobin suggests that further scrupulous demonstrations are possible, indicating pervasive “ripple effects” of habitual attention to linguistically-encoded event characteristics. Several criteria are required for the thinking-for-speaking research. Although Slobin makes use of the label thinking for speaking, the framework is meant to take account of every forms of linguistic production (e.g., speaking, writing, signing) and reception (e.g., listening, reading, viewing), as well as a variety of mental processes (e.g., understanding, imaging, remembering, etc.). Accordingly, there exist also instances of

thinking for translating, listening for understanding, reading for imaging, and so on and so forth. The thinking-for-speaking research possesses the subsequent features, including:

- a selection of languages along with a semantic domain that is encoded with some frequency in all of the languages;
- the semantic domain is encoded by particular grammatical constructions or obligatory lexical choices in no less than a number of the languages under comparison;
- 1. the domain is comparatively more codable in some of the languages to be compared; and
- a selection of discourse contexts of situations wherein the semantic domain is recurrently accessed.

Slobin's (2003) parade case of thinking for speaking is embodied in the encoding of motion events, which, as he puts it, presents a semantic domain that is significant in all languages and exhibits distinctive types of lexicalization patterns crosslinguistically. The essence of a motion event is the change of location, or, to draw on Talmy's terminology for referring to the matter, path. To Slobin (1997, p. 439), the term path is meant to refer to the translational motion, which enjoys its fullest expression in terms of moving from "a *source* to a *goal*, along or through some *medium*, passing one or more *milestones* — for example "He went from station [source], along the avenue [medium], and through the crowds [medium], past the monument [milestone], to his office [goal]." Following Talmy (1991, 2000, as cited in, Slobin, 2003), Slobin (2003) argues that languages are inclined to encode the path of motion in one of two ways, namely either in a verb (e.g., enter, exit, etc.) or in a connected particle or satellite (e.g., in, out, etc.). A simple example is provided by English and French:

- (1) a. The dog went **into** the house.
b. Le chien est **entré** dans la maison.
The dog **entered** the house.

For Slobin (2003), English frames path by way of a satellite (in), whereas French frames path via a verb (entrer). English is called a satellite-framed language (S-language); French is known as a verb-framed language (V-language). Path is highly codable in both languages; nevertheless, the languages vary in terms of codability in connection with another aspect of motion events, i.e., the manner of motion:

- (2) a. The dog **ran** into the house.
b. Le chien est entré dans la maison **en courant**.
The dog entered the house **by running**.

According to Slobin (2003), manner is greatly codable in English for the reason that it is accomplished by the main verb. Every clause requires a verb, and it is as easy to say go in as run in. English-speakers get manner for free, and make widespread communicative and cognitive use of this dimension. Conversely, in French manner is an adjunct; that is, an optional addition to a clause that is already complete. French-speakers point to manner when it is under debate; however, they otherwise do not refer to it. Consequently, they are less sensitive to this dimension in general.

Commenting on the thinking for speaking perspective towards language and thought, de Villiers and de Villiers (2003) maintain that this view takes for granted that the learning of language is the development of a cultural skill developed within the framework of social discourse and nurtured by others. Language is intricately intermingled with the meanings and concepts transmitted by it, and the emphasis is placed on learning-by-doing. On this account, the thought of a conceptual theory of mind before or without a particular language makes little sense. This position echoes the hot debates posed in the philosophy of science on the subject of the radical incommensurability of the theoretical paradigms (Kuhn, 1963; Scheffler, 1975, as cited in, de Villiers & de Villiers, 2003). That is to say, there is always a language, a series of categories, and a symbolic theory via which one comes to divide and understand the world, and spokespersons of different languages, similar to the owners of various scientific theories, cannot come across a neutral ground for the reason that there exists no such thing.

For Ekiert (2007), Slobin's research demonstrates how speakers of different languages are predisposed to tackle certain dimensions of experience owing to obligatory categories in grammar;

however, the hypothesis does not deal with the problem of the cognitive implications arising from the utilization of particular languages. His intention is the inspection of linguistic cognition, namely the process of thinking for speaking wherein cognition plays a dynamic role within the framework of the linguistic expression. Slobin has established that speakers need to think about language itself in order to speak. This thinking turns out to be systematized to a certain degree in the process of language acquisition and use, and shows a discrepancy crosslinguistically in keeping with specific grammars. Relevant to this line of argument is the debate posed by Stam (2010) that children learn grammatical constructions and lexicon that not only afford them with a framework at the service of the expression of thought, events, and feelings but also direct their expression when they participate in the on-line process of thinking for speaking.

2.6.1. The implications of thinking for speaking hypothesis for SLA

With regard to the implications of the thinking for speaking hypothesis for the process of Second Language Acquisition (SLA), Rivers (1983, as cited in, Ekiert, 2007) holds that the categories of thinking for speaking that have received much attention in research have been identified as interlingual conceptual contrasts, chief amongst which are Anderson's (1983, p. 182, as cited in, Alonso, 2002, p. 234) "transfer to somewhere" based on which the compatibility of L1 elements with the "natural acquisitional principles" and the L2 input to some extent amount to generalization from the L1 and Kellerman's (1995, p. 137, as cited in, Alonso, 2002, p. 234) "transfer to nowhere" that states "there can be transfer which is not licensed by similarity to the L2 and where the way the L2 works may very largely go unheeded." In this respect, Alonso (2002) has recourse to Slobin's (1996, as cited in, Alonso, 2002) argument that language works as a filter, and, hence, it does not give form to thoughts. Putting it this way, Alonso argues that the differences between languages in terms of the way the learners express the conceptualization of experience can serve as a source of difficulty in the realm of SLA.

Thus, as Slobin (2003) puts it, the attempt en route for uncovering the thinking for speaking impacts of particular linguistic forms is hence part of a much larger framework of online communication, negotiation, and action. Nevertheless, what each and every one of these processes share is that they are processes; that is to say, they unfold in time and are shaped in use. Ekiert (2007) recommends that Slobin's thinking for speaking should be critically taken into account by the SLA research in order to document the processes that disclose within time and are wrought in terms of use.

3. Conclusion

To make a long story short, the debates over the relationship between thought and language is said to have raised a hot question which resonated, and still resonates, with significant contemporary controversial concerns. The relationship between language and thought is not generally posed in the hope that someone will come up with a definite answer. Reviewing the history of the language-thought debate, Gleitman and Papafragou (2005) argue that it appears to us that much argument concerning the bond between language and thought has been colored by an underlying incongruity and incommensurability regarding the nature of language itself. Many commentators, struck by the observed cross-linguistic diversity in semantic and syntactic categories, have taken account of this diversity in terms of a possible source of more profound cognitive discontinuities among speakers of different languages. However, other commentators observe this crosslinguistic diversity as much more restricted and superficial than the flourishing, bustling perplexity emerging from the tower of Babel.

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