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THE RELATIONSHIP BETWEEN LANGUAGE AND THOUGHT  
TOWARD A HOLISTIC LINGUISTIC MODEL OF COGNITION

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## ABSTRACT

This work explores the relationship between language and thought. It begins with an introduction of the history of the subject matter, laying out a divide in the schools of thought pertaining to the language-thought interaction. The basic tenets of both sides of the divide are outlined, following the history of various hypotheses and the intersection of advances in cognitive science. An exploration of the theories asserting a cognitive priority follows. The discussion draws upon the utilitarian aspect of language, citing examples of spontaneous pre-linguistic cognition and empirical studies. Theories that assert a linguistic priority over thought (historically characterized by the Sapir-Whorf hypothesis) are also examined, with attention given to distinctions between linguistic determinism and linguistic relativity. Particular attention is given to theories focusing on linguistic relativity, with specific theories being outlined in detail.

Following an exploration of both interpretations of the language-thought relationship, points of contention are raised and accounted for with the articulation of a holistic linguistic model of cognition. A working definition of language is given, and a theory of mind is presented as the backdrop for language-thought interactions. This dynamic model of language, thought, and the mind, attempts to account for and incorporate the wide diversity of linguistic and cognitive capabilities.

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## Introduction

“Cloudless sky, a tendril root, a chord begun  
 as unfolding duration & one’s lost words,  
 a red lexicon, an empty definition

gathering its discourse—the flow from content  
 to perception: language is a translation of grace.  
 Say the body, say the heart, a composition in blue,

the passing energy, cell, motion, inevitability;  
 an impact until meaning wears through  
 the mind’s opulence, its spindle—a white thread.

Tethered to conviction, one says moon, one, emotion  
 —the recurrence of night: a door will open,  
 shifting from anonymity to intellection—a translation

of sight with speech, awoken not by voice  
 but what precedes it: the worldliness, wordless;  
 a measure of sound or movement to song.”

“An Exact Comprehension of the Composer's Intent”, by Noah Eli Gordon, captures the complex pervasiveness of language and its role in the world of our experience. While language provides us with a medium in which to communicate and connect with others, it also grants us a means of interpreting our experiences. In addition, language is intrinsically linked to our identities as human beings. It is not only a means of communication and connectedness but also a basis of our identity. At the heart of our relationship to language, however, is the connection between language and thought. So, finally, it is a means of cognition or thought as much as one of communication. It enables us to communicate with others. It also assists us in thinking, altogether apart from apart (or seemingly apart from them). Language is thus bound up with communication, identity, and thought. Its importance and complexity is in large measure a result of this fact.

There are controversies regarding each of these three facets (communication, identity,

and thought). At the outset, however, let me focus on the main dispute concerning the relationship between language and thought. Especially in the twentieth century when philosophy and other disciplines took what Richard Rorty called the “linguistic turn” (the turn *toward* language and thereby toward shared practices, thus the turn *away from* a certain conception of subjectivity and thereby away from the alleged primacy of a private sphere of individual consciousness or subjectivity), the question of the relationship between the two has been a topic of dispute. But this controversy goes back to ancient Greek philosophy, runs through medieval thought and beyond into the classical modern period (from René Descartes to Immanuel Kant). In the nineteenth century, in particular, in post-Kantian German thought, the controversy becomes even more central.

The controversy is alive and well and living in our own time. Even at present, then, philosophical thought concerning this relationship generally tends toward two poles. On one side of the divide, thought is seen to precede language. Language facilitates the communication of our preexisting thoughts. It is seen as a vessel for communication, and as such, universal similarities of cognition are stressed (in spite of linguistic differences). On the other side of the language-thought discussion, language is seen to be the medium of thought itself. It is a means of cognition as much as one of communication (that is, communication with others). It enables us to think, not simply to converse. From this perspective, thought is often seen as a kind of self-talk which is constituted by language. In keeping with this model of language and thought, the specific language one speaks is seen to fundamentally affect the individual’s cognition. Both stances have clear paths of introspection that provide strong support for both theories.

In several places, Plato depicts thought as the soul’s conversation with itself. C. S. Peirce notes: but whether language is an external, adventitious means of communication or something

more pervasive and primordial (whether language is an intrinsic, necessary instrument of thought) remains, for us today, a fascinating and important question (Colapietro). Clarifying the connection between language and thought cannot help but illuminate also the connection between language and identity. At the outset, however, I will focus on the connection between language and cognition. I will do so by sketching the historical context in which this philosophical dispute must be situated in order to be approached properly.

Philosophy does not take place in a vacuum. It rather takes place – and indeed shape – in history. What we think today, in part, traces its roots to what some of our influential predecessors have thought before we arrived on the scene. Accordingly, even a quick survey of parts of the philosophical history relevant to a contemporary problem helps us to understand what is at stake in that problem, also simply what the question is (in particular, *what the question* in its deeper character and wider implications *is*).

To do philosophy requires us to attend to the drama of history (at least, to several episodes of this affair). This drama is always a contest or *agon* in which opponents are struggling against one another. This is as true of the controversy in which I am interested as any other important philosophical issue. Consequently, it is instructive to turn toward history. As much as a linguistic turn, contemporary philosophy in the last decades of the twentieth century and the opening ones of the twentieth first has taken a *historical* turn (a turn toward the history of thought). Contemporary thought is never simply contemporaneous; it is always historical. This means that, apart from our explicit awareness or understanding, it stretches back to and draws upon what our predecessors have thought and argued. Our thoughts inescapable carry echoes of theirs.

It seems appropriate for an exploration of language to carry echoes of previous inquirers

and also (in effect) to call for a response from our contemporaries and successors. How could the use of language not bear witness to the past and make a claim upon the present and the future?

It also seems fitting that an investigation of language at least touch upon (or hint at) other questions of possibly even greater significance, for example, questions concerning identity and reality in its various forms and disguises. The focus of our concern is, however, the relationship between thought and language, but an investigation of this relationship inevitably must address the deceptively simple questions, “What is thought?” and “What is language?” Of course, it does not matter in the end which end of the stick we pick up (the end identifiable with language or that identifiable with thought), for they ineluctably lead to each other. In clarifying what we mean by language, we cannot help but shedding light on thought. In turn, in explicating what we mean by thought, we cannot avoid illuminating language.

In “Thought and Context” (1930), the American pragmatist John Dewey (1859-1952) suggests: “If language is identified with speech, there is undoubtedly thought without speech [or language]. But if ‘language’ is used to signify all kinds of signs and symbols, then assuredly there is no thought without language [i.e., without signs and symbols]; while signs and symbols depend for their meaning upon the contextual situations in which they appear and are used” (Dewey, 90). In asserting this view, however, Dewey is deliberately trying to avoid becoming enmeshed “in controversy about the relation of thought to language.” Even so, his assertion is suggestive: all thought is symbolic or semiotic (that is, all thought is in symbols or, more generally, in signs, symbols ordinarily being understood simply as one kind or species of sign). Even this claim, however, has been contested. For example, Henri Bergson in *An Introduction to Metaphysics* argues for a mode of thought (he calls it *intuition*) so subtle and dynamic as to



dispense entirely with symbols. In other words, some forms of thought are, from Bergson's perspective, intuitive, not at all linguistic or even symbolic. To address such questions, we must sort out the meaning of our words or (without begging the question) clarify the substance of our thoughts.

Rather than attempting to avoid the "controversy about the relation of thought to language," however, my purpose is to plunge into the deep, swift waters of just this dispute. Will I be able to navigate these currents? Will I be able to resist being swept along now in this direction, now in that, without any ability to guide my own course? I invite my readers to witness this adventure of thought – and language.

### **Historical Background**

Western thought has been examining the implications of speaking different languages for hundreds of years. As far back as the fifth century, various individuals were exploring the role that language plays in our human experience. St. Augustine, for example, posited that language served to communicate pre-existing ideas. As cultures of the globe began to come into greater contact with one another, translational issues began to probe linguistic implications. Differences between languages began to question the possibility of true, complete translation in a way that sowed the seeds of linguistic relativity. Various German thinkers took up this question and began to articulate various tenets of linguistic relativity (which would later be taken up by Sapir and Whorf), among them, Hamann, Herder, and Humboldt (Gumperz & Levinson, 1996).

In the nineteenth and twentieth centuries, theories about linguistic determinism began to circulate, bolstered by anthropological efforts. Study of other cultures and other languages in the realms of linguistics and anthropology began to give rise to theories about language's ability to limit thought. The rise of cognitive science in the twentieth century began to give philosophy of

language (and the relationship between language and thought in particular) another dimension. The culmination of linguistic, psychological, and anthropological knowledge generated by the cognitive science movement provided a wealth of evidence that influenced philosophical linguistic theorizing. Various studies provided evidence both for and against linguistic relativity, which has only added to the language thought discussion.

Work by Edward Sapir and Benjamin Lee Whorf catapulted linguistic relativity into the mainstream discourse of the twentieth century. Sapir, who was a student of anthropologist, Franz Boas, continued the work of his predecessor as his research focused on previously neglected cultures and languages. His work uncovered the various systematic structures present in other languages (specifically Native American languages), with specific focus on the ways in which they differed from English. Whorf, who studied under Sapir, continued this strain of linguistic exploration, synthesizing various theories about language and thought based upon linguistic differences (Pinker, 1994). The culmination of their work resulted in what is now known as the Sapir-Whorf hypothesis. Based upon their studies of other cultures and language, it was hypothesized that there were fundamental, structural differences amongst languages that must necessarily result in a different way of perceiving and thinking about the world. As Whorf articulated in 1956,

Users of markedly different grammars are pointed by their grammars toward different types of observations and different evaluations of externally similar acts of observation, and hence are not equivalent as observers, but must arrive at somewhat different views of the world (Gumperz & Levinson, 1996).

Sapir and Whorf asserted that differences in language resulted in differences in thought, suggesting that language has priority over thought. Following the articulation of the Sapir-Whorf hypothesis, two strains of thought emerged, linguistic determinism and linguistic relativity. While both theories concede that language shapes thought, there exists a variation in severity. Linguistic determinism asserts that various languages determine thought by limiting categories within the mind. In many ways, linguistic determinism equates language with thought. Linguistic determinism maintains that an individual is only capable of thinking about what they can articulate linguistically. Linguistic relativity, however, takes a less harsh approach, by asserting that different languages result in speakers having different thoughts (Pinker, 1994). This model allows for a greater amount of variation. While it asserts that speaking a different language affects how the speaker thinks, it does not specify to what extent cognition is affected.

Many advances in the cognitive sciences have challenged such notions, with linguistic and psychological evidence bolstering a universalist position. Advances in psychology and linguistics have also stressed a universal model of the mind, insisting that human cognition is universal, with little evidence indicating that different languages result in differences in thinking. The rise and primacy of empiricism has contributed to much of this thought, probing the relationship between language and thought from a scientific, observable standpoint. By the very nature of the relationship, language and thought are extremely difficult to empirically study, and much of the evidence that has been found deals with the performative instances of using language to give insight to possible effects on cognition (Pinker, 1994). As such, opponents of linguistic relativity focus on the utilitarian aspects of language. Various thinkers, like Wittgenstein, have focused on linguistic competence and performative word-usages. As Wittgenstein himself said, “English words represent only relative to our intention to use them to

communicate our thoughts,” (Thornton, 1998).

The most recent scientific advances in the realm of linguistic relativity have sought to empirically prove or (more frequently) disprove hypotheses originally posited by Sapir, Whorf, and their predecessors. But as the nature of “thought” is both broad and rather vague, the empirical evidence available has had to settle for examining very specific instances of cognition (like cognition and expression of color, number, and time). Additionally, there are many cognitive and methodological confounding variables that have resulted in conflicting findings. As such, a holistic, complete view of the relationship between language and thought has not been completely realized, and the theoretical and empirical conflict continues to rage.

### **Turning Toward a Holistic Analysis**

This analysis will explore the dominant and compelling theories on both sides of the divide. First, we will examine the theories posited by those that insist upon the priority of thought over language. Within this area of thought, there are those that proceed by examining linguistic particulars of the language-thought interaction, and others who have focused on cognitive particulars of the interaction. Our examination will take into account these distinctions and explore both avenues of analysis in order to provide a comprehensive picture of the language-thought model that portrays language as a communicative tool for pre-existing thoughts. We will then explore theories that assert language’s priority over thought, focusing on language’s powerfully transformative abilities to influence cognition. We will then take into account various point of contention raised by proponents of both sides of the dispute before articulating a more inclusive, holistic model of language, thought, and the mind.

## Chapter 1: Language as Vehicle of Thought

### Linguistic Analysis

In taking up the question of language's relationship to thought, there is a multiplicity of facets calling for our attention and a variety of approaches competing for our advocacy. These approaches typically proceed by examining only a single component or function of language or a component of thought and, then, taking the result of this examination as *the* key to the problem. Piecemeal analyses unquestionably yield important results, but in the end such multifaceted phenomena as human thought and human language demand a comprehensive approach. Even so, it is important to consider the debate as it has actually unfolded in recent years. This means attending carefully to narrowly focused consideration of some salient feature of language or thought. It certainly might be crucial to provide eventually a corrective to such an approach (a corrective in the form of a comprehensive approach to an encompassing or even enveloping phenomenon such as language), but the typical procedures of the influential contributors to the contemporary debate need to be presented, in the first instance, in the form we encounter them.

In this chapter, I will focus on those who approach language not only as a means of communication but also as a vehicle of thought. That is, my focus is on those who take human language to be as much a cognitive as a communication instrument. For such theorists, thought in its distinctively human form is inseparable from language: only a language-using animal such as *Homo sapiens* can *think* in the reflexive, logical, and other unique ways humans actually do.

In effect, this means starting with language rather than thought, with the shared practices of social actors rather than the private ideas of isolated minds. It is for such theorists the case that language makes thought possible, not that thought makes language possible. Amongst the inquirers who take language as their starting point, we find especially those who emphasize

language's communicative function and social utility. This gives rise to many implications. At the heart of language's essence, however, is its ability to allow us to communicate with one another, at least according to the theorists in question. Those who believe in language's purpose as conveying thought and belief prescribe to a communicative conception of language (Carruthers & Boucher, 1998). Language is seen by these theorists as functioning in a fundamentally social realm and, indeed, characterized by its communicative utility. From this perspective, then, the primacy of language means the primacy of communication. Cognition must be understood in reference to communication, not the reverse. What goes on between two or more speakers provides the key to understanding what goes on "inside" the mind of a single person engaged in a process of thinking.

Broadly speaking, Cartesians take thought to be primary and language secondary, while Wittgensteinians take language to be primary and thought to be derivative or secondary. Of course, other labels might be used here, but given the influence of Descartes and Wittgenstein these designations are not inappropriate. As virtually every student of philosophy knows, Descartes turned toward the subject (or *cogito* – the *I think*, the thinking thing or, in Latin, *res cogitans*), while Wittgenstein turned toward language.

One of the most influential contemporary philosophers of language is John Searle, who has written extensively and polemically on a wide range of the central questions concerning human language. Amongst philosophers who prescribe to the communicative function of language is John R. Searle. Searle specifically argues for a more biological, natural conception of language that bolsters a utilitarian view of language. Searle specifically argues for a biologically continuous view of language, focusing on how human communication coincides and differs from animal communication. Searle specifically cites "intentional states" as being continuous with

animal cognition and human thought giving rise to language. “Any intentional state determines its conditions of satisfaction, and a normal animal that has intentional states must be able to recognize when the conditions of satisfaction are in fact satisfied,” (Searle, 21). Included in these intentional states are desires and beliefs including those as rudimentary as basic hunger and thirst. While these intentional states vary in complexity, they are indicative of a kind of cognition that Searle argues is a foundational motivation for human language. As Searle himself articulates, “we should see the biological foundations of language in prelinguistic intentionality,” (Searle, 16). Searle uses this continuous view of language (specifically that language evolved out of prelinguistic cognition) to emphasize the utilitarian function of language. First and foremost, he argues, language is a tool for communication. More specifically, as his analysis indicates, language is a way in which we are able to communicate intentional states.

Taking up language’s communicative function, other individuals have examined the communal, social implications of language use. Insofar as language facilitates the transmission of ideas, it depends on socially agreed upon conventions. Philosophers like Wittgenstein have emphasized the importance of examining the specific usages of language. As Wittgenstein articulated, “every sign *by itself* seems dead. *What* gives it life? – In use it is *alive*. Is life breathed into it there? – Or is the *use* its life?” (Thornton, 30). In this sense, language is only given purpose and meaning through its use, which necessarily happens in social contexts. Our experiences and interactions with others help give shape to our familiarity with linguistic conventions, illuminating a public, communal component of language. “Words... are a universal currency within a community... [a word] is a shared bidirectional symbol,” (Pinker, 151-152). Meaning of words (and linguistic convention, by extension) is contingent upon social and cultural context that draws upon common interpretation. Essentially, words mean what everyone

interprets them to mean. As such, language as a system of symbols incorporates a certain amount of arbitrariness. A linguistic symbol and its meaning often have no relation other than communal agreement, and as such, linguistic communication (and understanding) necessitates the speaker's knowledge of these specific linguistic conventions. In this way, the communal component of language is also normative, indicating correct and incorrect usages (Thornton, 1998).

This social, communicative function of language places an emphasis on intersubjective interpretation. It stresses the importance of making oneself known based upon socially imposed linguistic conventions. A speaker must know the "rules" in place and linguistically articulate in accordance with the rules in order to be understood by the other. This examination of language preferences thought over language, as it asserts the necessity of tailoring linguistic expressions to socially agreed upon conventions in the interests of mutual understanding. This model implies that thought is pre-existing, as their contents must be synthesized in an interpretable fashion.

While speakers within one specific language must keep in mind various linguistic conventions in order to understand one another, the conventions of different languages also provide evidence illuminating the relationship between language and thought. Advances in linguistics and psychology have resulted in more extensive and comprehensive knowledge of different spoken languages. The underlying systematic structures of various languages have become more clearly defined in ways that draw similarities across languages. Noam Chomsky is among the most prolific minds of our time, and his work has largely centered on such work. He has advocated for a kind of universal grammar that includes "super-rules" of languages. Once identified, these linguistic "blue-prints" indicate predictable, consistent patterns. The verb-object order, preposition-noun order, and adjective-complement order remain consistent throughout a language, following a predictable, consistent pattern (Pinker, 1994). The grasping of these basic



guiding principles enables speakers (even young children, just learning a language) to grasp entire portions of the grammar dictating their language. Chomsky terms this phenomenon the “principles and parameters” theory. Taking into account the rapid language proficiency that children enjoy, despite linguistic complexity, Chomsky argues that these reducibly basic linguistic principles are universal and innate. Language learning of children suggests that they need only a few linguistic cues to fill in large gaps in linguistic structures.

Drawing on empirical evidence from the areas of linguistics and psychology, the systematic structures of language are now being uncovered. “Science has begun to crack the beautifully designed code that our brains use to convey complex thoughts as words and their orderings,” (Pinker, 124). These scientific endeavors have unearthed linguistic universals that all languages share, and these universal linguistic mechanisms are also being shown to be innate. Pinker dubs grammar a sort of “mental software” that shows itself in new born-children. The empirical evidence indicates that there must be some sort of innate tendency toward language that allows children to be sensitive to the crucial aspects of their native language.

“Developmental psychologists have demonstrated that... knowledge of the object world, of people, and of language is, if not innately present, then innately constrained in ways that makes development highly predictable and universal under normal conditions,” (Carruthers and Boucher, 10). Such empirical evidence has given credibility to a universal view of language that makes linguistic differences relatively insignificant. The consistent linguistic patterns of universal grammar also indicate a universal way of thinking. Despite (arguably negligible) linguistic differences, linguistic universals emerge, suggesting a cognitive precedence over language. It appears that an innate structuring of cognition may be the source of linguistic similarities.

## Cognitive Analysis

The other side of analysis that preferences thought over language proceeds mainly in ways that examine cognitive implications. In keeping with Chomsky's theory of universal grammar, there are also implications of universal cognition. Philosopher Jerry Fodor introduced a modular, computational theory of mind in the hopes of creating a more complete model of the relationship between thought and language. In keeping with the trends of cognitive science, the Fodorian model views the mind as being broken up into distinct modules specialized for particular inputs and outputs. The mind in its totality is a network of such modules, but in its specific functions or capacities is a set of more or less independent modules. Of most direct relevance to the present investigation, he posits a particular language module that processes and produces linguistic information. But this module cannot be tied to any specific language (e.g., Chinese, Portuguese, English, or French); rather it must be an inherently general capacity making possible the acquisition of the countless human languages which have evolved over the tangled course of a complex history. The module responsible for our acquisition and use of language is in effect the capacity to learn any language, any actual or even merely conceivable or possible human language.

Accordingly, Steven Pinker advocates that this processing does not and cannot take place through the medium of specific languages. The central processing required by this model of mind necessitates a kind of system of representation (for the input and output) but would also have to consistently be able to reason. Pinker asserts that any specific language (English, for instance) contains ambiguities, co-references, and other such challenges that would undermine the reasoning consistency of a linguistic computational processor (Pinker, 1994). Instead, he advocates that there is a language of thought inherent in linguistic processing. "To get these languages of thought to subserve reasoning properly, they would have to look much more like

each other than either one does to its spoken counterpart, and it is likely that they are the same: a universal mentalese. Knowing a language, then, is knowing how to translate mentalese into strings of words and vice versa,” (Pinker, 82). The “language of thought” (or mentalese) is hence ontologically and epistemological prior to language in the sense in which this word refers to such natural languages as Chinese, Portuguese, English, or French.

This suggests that linguistic cognition must perform in a similar way, despite linguistic differences. Cognitive similarities have been examined in other empirically performative ways to indicate its priority over language. Cognition of color, for example, has been a particularly lively area of study. Taking into account different color terminology between languages, psychologists and linguists have found that perception and cognition of color are (for the most part) consistent amongst speakers of different languages. Color terminology within different languages varies in a predictable manner, consistent with the way in which our eyes and neurons perceive color (various cones in the eyes being sensitive to specific colors: red and green, blue and yellow, black and white). Empirical studies have shown that cognition of color tends to be fairly consistent and universal, despite linguistic differences amongst speakers. The commonality in thought processing amongst speakers tends to suggest that linguistic differences are inconsequential in affecting an individual’s cognition (Pinker, 1994).

Another area of focus has been the detection and examination of thought in the absence of language. Language is removed from the equation in the hopes that the nature and implications of thought may come forth, to see what language adds (if at all) to cognition. Many empirical studies have examined specific subjects without access to language. New-born infants, deaf language-less adults, and prelinguistic primates have all been studied to test language-less cognition. In many of these studies, subjects have displayed rather sophisticated forms of

cognition. Five-month old babies, for instance, have displayed a sensitivity to number difference, while monkeys have been shown to have memory of past interactions with particular individuals. A very specific case study of a language-less deaf adult, Ildefonso, illustrated the cognitive capabilities that persist without language. While Ildefonso was completely without language for the first twenty-seven years of his life, once a sign-language teacher finally broke the barrier, he immediately was able to perform mathematic calculations and relay memories. During his time without language, he was still able to conceive of and use money and adhere to rules in order to play games (Pinker, 1994). While these seem as relatively simple tasks, they are quite monumental cognitive achievements, especially with the use of language as a communicative tool.

These approaches from a cognitive standpoint have implications that suggest thought's priority over language. Despite linguistic variation, speakers of different languages have been shown to have similar ways of perceiving and thinking about the world. Additionally, in the absence of language, important aspects of human cognition remain intact, maintaining that thought pre-exists language. However, there are also forms of cognition that are outside the realm of language. Many linguistic individuals insist they think in images or other representational systems. Our senses are not limited by language. Thinking allows for a multitude of sensations that may not be articulated into language. "We have an introspective access to non-propositional, non-linguistic conscious thoughts," (Machery 472). Without using language, you can picture a landscape or an object or a person's face. Without words, you can hear a song in your head. In studies conducted by Hurlburt, subjects were stimulated by sound and were then supposed to report their sensations. Subjects reported emotions, visual images, and wordless thoughts (Machery 473). Creative artists and even physical scientists often describe

their cognitive sensations as existing outside the realm of linguistic expression. Reported sensations of images and geometric representations have also been corroborated by empirical evidence, suggesting that visual thinking is an important part of our cognition (Pinker, 1994).

We not only think about shapes and colors but also think *in* shapes and colors (that is, we use visual phenomena as cognitive instruments, as a means of thinking). While we unquestionably think in words and strings of words, we also think in terms of visual, aural, tactile, and other phenomena. To limit thought to what we can accomplish by means of words thus appears to greatly impoverish the domain of thought. The realm of thought at any rate appears to be wider (arguably much wider) than the realm of language, for touch, smell, sight, hearing, and other modalities are put to work by us to make sense of our experience of the world.

## Chapter 2: Sapir-Whorf Hypothesis and Beyond

On the other side of the philosophical divide, opposite those who assert thought's priority, are those who believe in language's ability to shape – indeed, to constitute – thought. Language is, on this view, a condition for thought, at least in its distinctively human forms (e.g., the form of thought involved the explicit drawing of logical inferences and, even more dramatically, the meta-cognition, thoughts about thinking such as the idea of a fallacious or valid argument).

The strongest form of this approach, however, claims that language not only shapes or even constitutes thoughts but also constitutes reality itself. Of course, debates about the relationship between language and thought inevitably lead to ones about the relationship between language and reality. Epistemological, methodological, and anthropological (in the sense of philosophical anthropology) questions accordingly do not exhaust the field. Cosmological and metaphysical questions inevitably arise in the context of the debate at the center of our concern. This is nowhere more evident than in the debates surrounding a hypothesis regarding the subject of this thesis.

While such lingualist theories (ones insisting upon the primacy of language over thought) can be traced back hundreds of years, this conception of language and thought gained popularity through the work of Edward Sapir and Benjamin Lee Whorf. While both were educated in the fields of linguistics and anthropology, their articulation of the Sapir-Whorf hypothesis had far-reaching influence in a multitude of areas, including philosophy. Much of the evidence underlying their theorizing was the previously unstudied languages of the American Indians. Discovering the expanse of differences between English and these native languages, Sapir and Whorf realized speakers of different languages often displayed sensitivities to different aspects

of reality (Deutscher, 2010). As Whorf himself noted,

We dissect nature along lines laid down by our native languages... the world is presented in a kaleidoscopic flux of impressions which has to be organized by our minds – and this means largely by the linguistic systems in our minds. We cut nature up, organize it into concepts, and ascribe significance as we do, largely because we are parties to an agreement to organize it in this way – an agreement that holds throughout our speech community and is codified in the patterns of our language,” (Pinker, 59-60).

Since the initial articulation of the Sapir-Whorf hypothesis, there have been many variations of this general theme. The basic lingualist idea (that an individual’s language determines how one thinks about the world) has since been extrapolated into two general areas of theorizing. In other words, what might have been framed as a relatively modest thesis has evolved into a radical one. For it is one thing to assert that language shapes thought, quite another to claim that language constitutes reality. In addition, it is one thing to say that language is a factor in conditioning our modes of thinking and, ultimately, our conception of reality, quite another to insist that language determines how we think and what we count as real.

Linguistic determinism has become one of the most influential theories in the twentieth century. And it has become so in large part because of its (alleged) connection with a famous hypothesis concerning the relationship between language and thought. Linguistic determinism asserts that language fully determines thought. Cognition is limited by the specifics of language and, under this view, many assert that language is the medium of thought. Linguistic relativity, on the other hand, tends to take a much milder approach, positing that the differences amongst

languages result in differences in the cognition of speakers. Theorizing about the priority of language over thought, however, often blurs the distinctions between linguistic determinism and linguistic relativity. It is however possible to argue for both linguistic determinism and linguistic relativism. This possibility and other possibilities make the field complex.

Despite differing opinions on the extent to which language determines thought, there are specific implications which hold true. Amongst those are differences in available terms. Indigenous tribes, for instance, may have no concept of the internet built into their language. The confines of their language make such ideas unimaginable! While this may be attributed to cultural differences, there are much more subtle implications of this phenomenon. As any bilingual can tell you, there are nuances of words that are lost in their translation into another language. The word, “saudades” in Portuguese, for instance, has no direct English translation, and includes a sense of longing, yearning, nostalgia, none of which, alone, capture the essence of the word.

Another aspect of language that has marked implications is which details are required by the speaking of a specific language. Both Franz Boas (anthropologist and teacher of Edward Sapir) and linguist Roman Jakobson observed this linguistic demand. As Jakobson remarked, “languages differ essentially in what they *must* convey,” (Deutscher, 2010). The conventions of particular languages require sensitivities to different aspects of reality. A common example of this, for instance, is the use of gendered terms in various romance languages. In English, there is no necessity of denoting (or even needing to take notice of) gender when using terms like cousin or friend, for instance. But in other languages (like French), the gender of these individuals must be noted. Gender denotation may seem like a minor conventional difference, but such conventional differences across languages can be much more complicated. The Matses tribe in



the Amazon, for instance, requires speakers to denote tense (including several distinctions of “past”, depending on how much time has elapsed) and “evidentiality” (how the speaker came to know what they are saying) in the verb that they use. These linguistic conventions necessarily place different cognitive demands on speakers. As linguist, Guy Deutscher posits, “when a language forces its speakers to pay attention to certain aspects of the world each time they open their mouths or prick up their ears, such habits of speech can eventually settle into habits of mind, with consequences for memory, or perception, or associations, or even practical skills,” (Deutscher, 2010).

Linguistic particulars, like different lexicons and gendered terms, force speakers to habitually speak in ways that are sensitive to specific aspects of reality. Empirical evidence has indicated that these habitual ways of speaking have cognitive implications, suggesting language has a decisive impact on thought. As languages differ in ways of indicating direction, for instance, various empirical studies have focused on cognitive implications of spatial relation. There are various languages that require speakers to have an absolute frame of reference. Speakers of these languages speak in a way that is consistent with an absolute, fixed axis (the cardinal directions do not change based upon the speaker’s change of orientation). In contrast, English is much more egocentric. Directions are expressed in relation to the speaker’s perspective. Empirical studies have shown that individuals whose languages differ in this way also perform differently in cognitive tests concerning orientation. These differences in performance are consistent with the ways in which their languages differ (Deutscher, 2010).

Such empirical evidence has been found across linguistic particulars, including gender associations and cognition of color. In many instances, linguistic differences have consistently been correlated with cognitive differences. But while empirical evidence has shown specific

tendencies, there is still a need for a comprehensive theory that accounts for such empirical findings. The theories presented here account for much of the empirical findings, but build on one another in one way or another. Each theory brings forth a new and (as I believe) important component of the language thought relationship. Historically, foundations of linguistic relativity were extensively present in the work of various German Romantics in the eighteenth century.

Herder, for instance, maintained that all thought is essentially dependent upon language as early as the 1760s. While empirical evidence available at the time certainly influenced and helped to inform his opinions, Herder undertook a more conceptual analysis of language and thought to justify his strong claims of linguistic determinism. Evidence provided by language and reasoning development in children as well as the allegedly impoverished sign systems of deaf and dumb individuals (individuals without language, as Herder saw it) bolstered Herder's theory, but he also re-examined conceptual premises to make his claim. First, he asserted that concepts are necessary for all thought. Herder's notion of concepts, however, is dependent upon what he called "merkmale", a system of demarcation or "characteristic marks", as Michael Forster terms them. This system of characteristic marks is taken to be a system of signs, just as language is a system of signs. It is posited that this system is the way in which individuals are able to filter and make sense of their experience in the world. Thus, this system of signs (and its associated characteristic marks) has reference to reality as well as meaning. Taken up in Herder's argument, then, this system of signs (with their characteristic marks) becomes what we know as language. Herder takes the argument further, and asserts that the recognition of these characteristic marks is language (Forster, 2010).

Another component of Herder's conception of the language-thought model concerns a clearer articulation of his notion of concepts. As already established, Herder insisted that thought

consists of meanings and concepts, and so an exploration of the implications of meaning and concepts is necessary to his theory. For Herder, meaning (and the foundation of concepts) is made up of word-usage. Words of language, insofar as they name something, are equated with the concept. Herder's notion of concept comes into being with the linguistic articulation. Much like Wittgenstein, Herder finds the only reliable sense we can have of meaning is through its actual use. The forging of terms brings concepts into being by endowing them with meaning through use. As Herder articulated, "no language expresses things but only names. Also no human reason therefore has cognition of things but it has only characteristic marks of them which it signifies with words," (Forster, 67). His association between concepts and words allows him to escape reducing meaning to only a system of reference or description, and allows an inclusion of language's expressive function.

Herder goes on to theorize about how we become acquainted with the concepts inherent in our word usage. Forster dubs this a "quasi-empiricist theory", with groundings in sensation, but Herder's model is much more reactive and relational. While sensations provide the basis of meaning and concepts, concepts also determine our sensations. "We are able to... achieve concepts which are in a way non-empirical, namely by means of a sort of metaphorical extension from the empirical ones," (Forster, 72). Herder's relational model of concept and sensation has powerful implications when contemplating the multitude of ways in which words can be construed in language. Simple words, like "in", for instance, prove to have many different uses and understandings, some quite metaphorical in sense, being extrapolated from the strictly empirical sense of the word.

Herder's theories surrounding the relationship of thought and language have life in contemporary counterparts. Philosopher Donald Davidson has been an influential mind in the

twentieth century, and among his theories, he asserts that “we see the world through language,” (Davidson, 15). A strong view of language’s determinism is adopted, as Davidson maintains thoughts (specifically including intentional states with beliefs and desires) are only available to beings with language. Necessarily, this excludes animals and pre-linguistic humans from having intentional states (Glock, 2003). His general notion of language and thought echoes Herder’s premises, asserting “that in order to have a belief, it is necessary to have the concept of belief... in order to have the concept of belief one must have language,” (Barth, 55). While Davidson utilizes the term, “concept” in his premises, he also stresses the connection between thought and concept as being essentially one in the same. Concept-formation is not merely a process of discrimination, but a system of classification that denotes a sense of understanding. Concepts in this sense are equated with thoughts having specifically propositional content (Davidson, 1997).

Davidson also makes an important note concerning language acquisition. Similar to that of Herder’s relational notion of sensation and concept, Davidson posits a triangulation theory that stresses the interpersonal component of language. Language is inherently social, allowing us to communicate with others. As such, commonalities in environment and reaction underlie a shared way of generalizing. It is this interpersonal shared experience that enables individuals to acquire language. This system allows subjects to test the validity of their concepts (hence, Davidson’s equating concepts with thoughts with propositional content – they can be proven or disproven true). It is fundamentally through speaking and interpretation as participants in language that individuals are able to clearly elucidate concepts.

The cognitive phenomenon of “self talk” allows for another introspective avenue of analysis. Daniel Dennett uses this phenomenon as a jumping off point, asserting that we do (at times) think to ourselves in “bare propositions”. He also recognizes, however, that often, our

thinking is wordless (but propositional), which is corroborated by what linguists have identified as “tip of the tongue” evidence. On an individual level, we can attest to having a sense of consciousness but being unable to adequately articulate our cognitive sensations into words. Dennett, unsatisfied with the mechanical, computational model of mind (championed by Fodor and Chomsky), suggests another alternative, by examining the intricate workings of thought. He posits that we construct systematic networks in our brains in order to navigate the large amount of information we routinely manipulate. It is a kind of instinctual, meaningful organization that is made possible through language. “ Getting the information into usable form, usable position – that is the task of resource management or resource refinement that faces us and, I want to suggest, we need words for that task,” (Dennett, 223).

Through observing developing human children, we gain insight into how this happens. Young infants are inexhaustibly curious, constantly exploring their environments, touching, tasting, and looking at everything in reach. This process of familiarizing oneself with objects, lays the foundation for an important human ability, tracking and recognition of individual entities. This capability is crucial to the development of language as well as developing cognition that allows one to meaningfully navigate knowledge and associations. Empirical studies of animals and humans have shown that humans have a special sort of cognitive ability, “swift, insightful learning that does not depend on laborious training but is ours as soon as we contemplate a suitable symbolic representation of the knowledge,” (Dennett, 226). In Dennett’s conception of the mind, the continual process of resource refinement embeds knowledge within the structure. The next step, then, is to find a way to make that implicit knowledge explicit (and thus, usable).

The solution presents itself in a system of symbols. “Symbols, unlike the nodes woven

into connectionist networks, are movable; they can be manipulated; they can be composed into larger structures in which their contribution to the meaning of the whole can be a definite and generatable function of the structure,” (Dennett, 227). Language provides this system of symbols that enables the mind to utilize the great amounts of knowledge that have been sorted and organized in meaningful ways. To illustrate how this happens, we again take our cue from human children who are just acquiring language. Dennett speculates that the ways in which children talk to themselves may suggest how this process happens. In various situations, a child hears words that have no significance to them. But with repetition, they learn to forge associations that link specific sounds, situations, and perceptions. While still meaningless, they begin to imitate the sounds of words, building up specific connections, this behavior being indicative of the kind of familiarizing detailed earlier. This sort of behavior organizes sensory and perceptual information into meaningful ways. The accompaniment of the words gives the practice long-term significance. Dennett draws a parallel between this kind of practice and the sort of “self talk” that we often find ourselves engaged in, asserting that children begin this habit of “semi-understood self-commentary”. While initially just imitation, the accompaniment of linguistic “labels” enables language to be embedded in the cognitive system of association. When a child is learning to speak, the meaning of words often follow the words themselves. They learn to imitate the sound as they begin to acquire the language, and only secondarily do they associate meaning with the word as it may then be conceptualized. “Language enters as just one among the many other media by which information about the disposition, among other such things in the environment, of an empirical object, kind, stuff, or property can manifest itself to the senses,” (Millikan 104). The learning and use of a language allows one to experience the world in a meaningful way. Without having a system of representations (language) we would not

be able to make much sense of reality. “A very large portion of our conceiving is done mainly or entirely through the medium of language... each of us has empirical concepts that are entirely dependent on language,” (Millikan 104).

The process of “labeling” and becoming familiar with a system of representations linked to a network of associations creates, in essence, a new level of thinking. “we have created a new class of objects that can themselves become the objects of all the pattern-recognition machinery, association-building machinery, and so forth,” (Dennett, 229). The representations (words) then become the subjects of cognitive refinement and organization. This process is beautifully captured by Andy Clark:

The idea... is that learning to associate concepts with discrete arbitrary labels (words) somehow makes it easier to use those concepts to constrain computational search and hence enables the acquisition of a cascade of more complex and increasingly abstract ideas. The claim... is thus that associating a perceptually simple, stable, external item (such as a word) with an idea, concept or piece of knowledge effectively freezes the concept into a sort of cognitive building-block – an item that can then be treated as a simple baseline feature for future episodes of thought, learning and search. (Dennett, 230)

While we certainly are not mindless entities before learning language, these various theories related to linguistic relativity suggest that language allows for a dizzyingly complex array of thought. Every theory presented here has a different way of proceeding, and different underlying premises, and slight variations in terminology, but each one shows the powerful ways in which language can influence and shape our thoughts.

### Chapter 3: Toward a Holistic Linguistic Model of Cognition

While both sides of this debate have been explored on various levels, no single theory completely captures the pervasive and dynamic interplay of thought and language. Linear representations of the language-thought relationship quickly fall flat, as they fail to incorporate nuances and complexities of language, cognition, and the ways in which they interact. There is a complex and reflexive dynamism connecting language and thought that transcends a two-dimensional representation. In failing to acknowledge the living quality of these terms, we fail to acquire the complete image of thought and language. Language is as much as anything a resource for innovation and creativity. Rules at all levels are broken out of carelessness and design, to good effect as well as ill. The living quality of human language is nowhere more evident than in our linguistically grounded or guided ability to introduce novel ideas, perspectives, and over time even frameworks of interpretation and explanation.

Theories on both sides of the issue we have been examining are correct, in many respects. They illuminate fundamental facets of human cognition, communication and potentially identity. But none is in itself adequate. But they are not nearly as exclusive or contradictory as they initially appear. Indeed, I believe many of these assertions have the ability to coexist even though they appear to be in opposition with one another. The formation of a more comprehensive language-thought model requires not only taking into account the strengths of various theories, but also accounting for important weaknesses. Both sides of the divide provide a wealth of reactive criticism. The main areas of contention, however, must be identified and taken into account before a holistic language-thought model can be articulated.

The important areas of conflict that I intend to address include various cognitive implications. First is the problem of non-linguistic thought. As has been admitted by both



lingualists and mentalists, thoughts that consist of sensations (auditory, visual, etc.) are common and important cognitive phenomena. Secondly, there has been convincing evidence that language-less beings (namely, pre-linguistic infants, animals, and deaf individuals) have sophisticated ways of thought. While lingualists insist that language is essential for thought, these significant instances of thought without language cannot be ignored. Thirdly, the modular, computational theory of mind championed by Fodor and Chomsky contains (arguable) complications, which could fall off into an infinite regress.

The solution to the issue of non-linguistic thought has foundations in several places. From Herder's theorizing in the realm of aesthetics, he articulated the interactions of language, thought, and non-linguistic art. Using this model as a guide, however, I believe will give insight into the nature of non-linguistic thought as well. While non-linguistic art is, it can be argued, its own system of signs and symbols (like language), it also has an important expressive content. Non-linguistic art can be likened to perception of non-linguistic media, a kind of perception that Herder maintains is necessarily shaped by concepts and language. If this relation is taken to be bidirectional, Forster's synthesis of Herder's position then, is as follows: "The thoughts expressed by non-linguistic art must be derivative from and bounded by the artist's capacity for linguistic expression," (Forster, 32). This relation may also shed light on the role that non-linguistic thought (as imagery and sound, for instance) plays in relation to thought and language.

Work by Keller and Keller also bring forth important aspects of visual and sensorimotor representations that may aid us in accounting for non-linguistic thought. Their analysis focusing on the work of a knife-maker examined the interactions of images and language. Throughout the work of the knife-maker, there were many demands that lent themselves to visual and sensorimotor cognition. Important considerations, like weight, and straightness had to be

measured against non-linguistic mental standards. But included in the knife-makers work is also the need to communicate dimensions and specifications, which are made possible through a specifically tailored lexicon (knife referentials). Words allow the knife-maker to convey an image. “Linguistically coded information functions instrumentally to evoke visualizations,” (C. M. Keller and J. D. Keller, 124). The knife-makers work emphasizes the necessary interplay of images and languages that may lead us toward an integration of the two, but Keller and Keller emphasize that the interaction is not mere translation between the two. Instead, “different sorts of information are made available through the distinct representational forms,” (123).

The other points of contention deal with different ways of construing thought and the mind. I hope to incorporate resolutions to these points of contention into a comprehensive language thought model. To begin with, however, I think it would be useful to articulate the defining characteristics of language. Drawing upon distinctions made by Christian Barth, the following traits are shared by all natural languages:

- (1) Natural languages can be used for the *expression* and *communication* of propositional thoughts.
- (2) Natural languages are *productive*; i.e., mastery of a finite set of basic expressions and syntactic rules implies the capacity to produce and understand potentially infinitely many complex expressions.
- (3) Natural languages are *systematic*; i.e., the capacity to produce and understand a subject-predicate sentence of the form “a is B” implies the capacity to produce and understand many variants...

- (4) Natural languages are *compositional*; i.e., (at least in many cases) the meaning of a complex expression results from the meanings of its part expressions and from the way these part expressions are syntactically combined to yield the complex expression.
- (5) Natural languages allow for *situation-independent transmission of information*; i.e., they enable language users to talk about absent things and thus to transmit information about absent things to others. (Barth, 10-11).

For the purposes of this discussion, when the term “language” is used, it will be referring to natural languages with the enumerated characteristics (examples including English, French, Spanish, Chinese, etc.).

After establishing a working definition of language, a theory of mind, the backdrop for the workings of language and thought, must be established. Dennett’s theory of mind as detailed in the previous section resolves the issues surrounding a “central processing unit” theory of mind. This mechanical view of the mind is accompanied by some sort of language of thought theory. A kind of “mentalese” is put forth as being the system of representations that the mind uses to reason and think. But this model has many areas of weakness. First, the introduction of mentalese, or some other system of representations, necessitates yet another layer of interpretation (just as language does) which can lead to an infinite regress. Some proponents of the language of thought theory insist that the cognitive language needs no additional interpretation, that the mind automatically processes the information itself. But this then places thought in a realm beyond the individual’s consciousness, which is not in keeping with our cognitive experiences.

Using Dennett's model of the mind as a guide allows us to not only escape an infinite regress of interpretive layers, but it also allows for the diversity of thought. We are continually sorting and categorizing a huge amount of information. From the day we are born, we instinctually familiarize ourselves with our environment, making meaningful connections and associations amongst sounds, objects, events, and sensations. This process has the effect of creating "a huge structured network of competences". The last part of this model is the necessity of some sort of system of symbols that allows us to access the wealth of knowledge contained within our network of associations. Language (words) serves this purpose perfectly.

Inherent in this model, however, is the potential for greater implication. The symbolic signifiers (words, in Dennett's model) then become the constituents of further associations and connections within the greater network. In this sense, we can continue to "build" on top of signifiers, drawing connections between and amongst terms to formulate the conception of new ones. As we increase the number of "layers", so to speak, we also increase in complexity and abstraction. This model hinges on an ongoing process of organization and refinement that allows for increased understanding of concepts and ideas. The pathways of association may resemble the roots of a plant. At any point in the network, any signifier (word, sound, image, etc.) has access to all of the associations and connected entities preceding it.

While Dennett maintains that language (and words) are the system of symbols that allows us to navigate our cognitive networks, I think a broader construal of thought must be posited. Dennett suggests that, with time, our cognitive sorting and refinement become sophisticated to the point of automatic reliance on language. In many instances, this may be correct. However, asserting language's primacy and automaticity is a hasty generalization. First, as we have established before, images constitute an important form of thought that, in some instances, may

take precedence over linguistic thought (recall the knife-maker of the Keller and Keller analysis). Additionally, “thought” should be construed in a way that encompasses the diversity of cognition associated with it. In keeping with this model of the mind, thought should be taken as chain of reaction attached to any signifier within the cognitive network of associations. This may be as simplistic as a series of images or sensations, or as complicated as a deluge of technical terminology. When attempting to account for the intricacies of the language thought interaction, thought should be seen along a continuous gradient. Surely, there does exist complex as well as rudimentary cognition, but they should equally be counted as “thought”. The distinction between complex and rudimentary necessarily follows as a reality of this theory of mind. More complex and abstract thoughts (in the “upper” echelons of the cognitive network) necessarily have a larger network of associations, and thus have more meaning. Simplistic thoughts (toward the lower reaches of the cognitive network)

This view of thought not only incorporates images and sensory information, but it also helps to reconcile the contention surrounding pre-linguistic and language-less beings. Infants, animals, and language-less humans have all shown important aspects of cognition and problem solving which gives insight into their mental life. While they may not be able to communicate through natural language (yet) as we know it, they are simply at a pre-linguistic position along the thought gradient. Their lack of language does not exclude them from having “thoughts”, but the refinement and sophistication of their thoughts does not approach that of a linguistically competent individual.

Important signifiers within the cognitive network are not always just words. However, there appears that within this network, meaningful signifiers tend to be linguistic in nature. In terms of this disposition toward language, there are some circumstantial particulars that may help

explain this tendency. First and foremost, language's social and communicative function bolsters its primacy in our experience. As social creatures, communication with one another is often a necessity for survival. Our social circumstance immerses us in language which may contribute to the ease with which we use language as signifiers within our mental network of associations. Our cognitive disposition toward language may also be a matter of incidence. Language surrounds us even when we are developing in the womb. In many ways, our primary familiarity with language is the first system of representation that we are presented with. Our contact with language is not only constant, but present from day one.

But language is also very unique in its capabilities. Among its most dazzling traits, is language's generativity, its ability to generate a seemingly infinite number of combinations of linguistic expressions. Despite the sheer number of possible sentences one could utter, the tools necessary to generate and receive language are inherent to each and every individuals. The impressive communicative capabilities of language are made possible by using our bodies (our ears and mouths (and sometimes our eyes and hands, in the case of sign language)). Language also allows for vast amounts of complexity and abstraction through the use of words. Complex systems of ideas are made succinct and conveyable through the use of language. At the same time, however, aspects of language are also subtle and nuanced. Consider, for instance, the earlier discussion of metaphorical construals of words. Some terms may have a direct meaning, but the nuances of language allow for metaphorical understandings as well. This great amount of flexibility allows language to be manipulated in a powerful array of ways that may bolster and help explain why our cognition seems to preference linguistic signifiers.

This dynamic model of language, thought, and the mind, attempts to account for and incorporate the wide diversity of linguistic and cognitive capabilities. A holistic approach

enables for deeper thinking and deeper understanding of language. “Although language's proper function is to communicate our thoughts, the capacity of language to objectify thoughts endows it with a derived function as an aid to reflect, revise, and in general facilitate our access to our thinking,” (Vicente and Martinez-Manrique). It is important to recognize that language and thought continually interact with and influence one another in a dynamic way that endows us with the ability to communicate and contemplate an increasingly complex array of ideas.

## Conclusion

The relationship between language and thought is a cyclical, three-dimensional tangle that continually overlaps. There may be times when we have a feeling that precedes or even goes beyond our ability to articulate it into language. Conversely, we may often think in terms and phrases of our communal language. Thought has the ability to escape language, while language also has the ability to extend beyond thought. Each has the ability to precede and follow the other, but the connections between language and thought are undeniably strong and complex.

As the nature of language and thought finds itself entrenched in psychology, philosophy, and linguistics, there is a multitude of theoretical and empirical implication. While this endeavor has been primarily philosophical, influences from linguistics, psychology, and anthropology have necessarily contributed to the discussion. Each area of expertise lends a unique and important perspective to this area of study, lending a piece of the language-thought puzzle. Through the synthesis of these views, it is my hope that a holistic, comprehensive view of language, thought, and mind may emerge.

An inclusive, holistic model has the ability to capture the relational aspect of language and thought as well as our contextual situation as social beings. We are immersed in interpersonal relationships, which establish our roles as speaker and interpreter, further cementing our immersion in language. It is through language that the pathways and associations in our mind are forged, enabling our thoughts to increase in complexity and abstraction. Thought and language have an endless, continual interaction that builds on itself in a dazzling array of creativity and innovation. By examining the dynamics of this relationship, we not only push the boundaries of knowledge, but we learn more about ourselves and our identities as thinking, speaking individuals.



## Bibliography

- Barth, C. (2011). *Objectivity and the Language-Dependence of Thought: A Transcendental Defence of Universal Linguism*. New York: Routledge.
- Bergson, H. (1912). *An Introduction to Metaphysics*. New York: G. P. Putnam's Sons.
- Bermudez, J. L. (2005). *Philosophy of Psychology: A Contemporary Introduction*. New York: Routledge.
- Boyer, P. (1996). "The Limiting-case of Religious Ontologies". In J. Gumperz & S. C. Levinson (Eds.), *Rethinking Linguistic Relativity* (pp. 203-221). Cambridge: Cambridge University Press.
- Butler, S. (1908). "Thought and Language". In R. A. Streatfield (Ed.), *Essays on Life, Art and Science* (pp. 176-233). London.
- Carruthers, P. (1998). "Thinking in Language? Evolution and a Modularist Possibility". In P. Carruthers & J. Boucher (Eds.), *Language and Thought: Interdisciplinary Themes* (pp. 94-119). Cambridge: Cambridge University Press.
- Carruthers, P., & Boucher, J. (1998). "Introduction: Opening up Options". In P. Carruthers & J. Boucher (Eds.), *Language and Thought: Interdisciplinary Themes* (pp. 1-18). Cambridge: Cambridge University Press.
- Clark, H. H. (1996). "Communities, Commonalities, and Communication". In J. Gumperz & S. C. Levinson (Eds.), *Rethinking Linguistic Relativity* (pp. 324-355). Cambridge: Cambridge University Press.
- Colapietro, V. (1989). *Pierce's Approach to the Self*. Albany, NY: SUNY Press.
- Cottingham, J. (1997). "'The Only Sure Sign...': Thought and Language in Descartes". In J. Preston (Ed.), *Thought and Language: Royal Institute of Philosophy Supplement: 42* (pp. 29-50). Cambridge: Cambridge University Press.

- Davidson, D. (1997). "Seeing through Language". In J. Preston (Ed.), *Thought and Language: Royal Institute of Philosophy Supplement: 421* (pp. 15-27). Cambridge: Cambridge University Press.
- Davies, M. (1998). "Language, Thought and the Language of Thought (Aunty's Own Argument Revisited)". In P. Carruthers & J. Boucher (Eds.), *Language and Thought: Interdisciplinary Themes* (pp. 226-247). Cambridge: Cambridge University Press.
- Dennett, D. (1997). "How to do Other Things with Words". In J. Preston (Ed.), *Thought and Language: Royal Institute of Philosophy Supplement: 42* (pp. 219-235). Cambridge: Cambridge University Press.
- Dennett, D. (1998). "Reflections on Language and Mind". In P. Carruthers & J. Boucher (Eds.), *Language and Thought: Interdisciplinary Themes* (pp. 284-294). Cambridge: Cambridge University Press.
- Deutscher, G. (2010). *Through the Language Glass: Why the World Looks Different in Different Languages*. New York: Metropolitan Books.
- Dewey, J. (1960). "Context and Thought". In R.J. Bernstein (Ed.), *On Experience, Nature, and Freedom: Representative Selections* (pp. 88-110). Indianapolis: Bobbs-Merrill.
- Forster, M. N. (2010). *After Herder: Philosophy of Language in the German Tradition*. New York: Oxford University Press.
- Frankish, K. (1998). "Natural Language and Virtual Belief". In P. Carruthers & J. Boucher (Eds.), *Language and Thought: Interdisciplinary Themes* (pp. 248-269). Cambridge: Cambridge University Press.
- Gauker, C. (2007). "On the Alleged Priority of Thought over Language". In S. L. Tsohatzidis (Ed.), *John Searle's Philosophy of Language* (pp. 125-142). New York: Cambridge University Press.

- George, A. (1997). "Has Dummett Oversalted his Frege? Remarks on the Conveyability of Thought". In R. G. J. Heck (Ed.), *Language, Thought, and Logic: Essays in Honour of Michael Dummett* (pp. 35-69). New York: Oxford University Press.
- Glock, H.-J. (2003). *Quine and Davidson on Language, Thought and Reality*. Cambridge: Cambridge University Press.
- Goldin-Meadow, S., & Zheng, M.-Y. (1998). "Thought Before Language: The Expression of Motion Events prior to the Impact of a Conventional Language Model". In P. Carruthers & J. Boucher (Eds.), *Language and Thought: Interdisciplinary Themes* (pp. 26-54). Cambridge: Cambridge University Press.
- Gumperz, J. (1996). "The Linguistic and Cultural Relativity of Conversational Inference". In J. Gumperz & S. C. Levinson (Eds.), *Rethinking Linguistic Relativity* (pp. 374-406). Cambridge: Cambridge University Press.
- Gumperz, J., & Levinson, S. C. (1996). "Introduction to Part I". In J. Gumperz & S. C. Levinson (Eds.), *Rethinking Linguistic Relativity* (pp. 21-36). Cambridge: Cambridge University Press.
- Gumperz, J., & Levinson, S. C. (1996). "Introduction: Linguistic Relativity Re-examined". In J. Gumperz & S. C. Levinson (Eds.), *Rethinking Linguistic Relativity* (pp. 1-18). Cambridge: Cambridge University Press.
- Hanks, W. F. (1996). "Language Form and Communicative Practices". In J. Gumperz & S. C. Levinson (Eds.), *Rethinking Linguistic Relativity* (pp. 232-270). Cambridge: Cambridge University Press.
- Kay, P. (1996). "Intra-speaker Relativity". In J. Gumperz & S. C. Levinson (Eds.), *Rethinking Linguistic Relativity* (pp. 97-114). Cambridge: Cambridge University Press.
- Keller, C. M., & Keller, J. D. (1996). "Imaging in Iron, or Thought is not Inner Speech". In J. Gumperz & S. C. Levinson (Eds.), *Rethinking Linguistic Relativity* (pp. 115-129). Cambridge: Cambridge University Press.

- Lucy, J. A. (1996). "The Scope of Linguistic Relativity: An Analysis and Review of Empirical Research". In J. Gumperz & S. C. Levinson (Eds.), *Rethinking Linguistic Relativity* (pp. 37-69). Cambridge: Cambridge University Press.
- Machery, E. (2005). "You Don't Know How You Think: Introspection and Language of Thought". *The British Journal for the Philosophy of Science*, 56(3), 469-485.  
doi:10.1093/bjps/axi130
- Peacocke, C. (1997). "Concepts Without Words". In R. G. J. Heck (Ed.), *Language, Thought, and Logic: Essays in Honour of Michael Dummett* (pp. 1-33). New York: Oxford University Press.
- Pinker, S. (1994). *The Language Instinct*. New York: William Morrow and Company, Inc.
- Pinker, S. (2007). *The Stuff of Thought: Language as a Window into Human Nature*. New York: Penguin Group.
- Preston, J. (1997). "Introduction: Thought as Language". In J. Preston (Ed.), *Thought and Language: Royal Institute of Philosophy Supplement: 42* (pp. 1-14). Cambridge: Cambridge University Press.
- Searle, J. R. (2007). "What is Language: Some Preliminary Remarks". In S. L. Tsohatzidis (Ed.), *John Searle's Philosophy of Language* (pp. 15-45). New York: Cambridge University Press.
- Slobin, D. I. (1996). "From 'Thought and Language' to 'Thinking for Speaking'". In J. Gumperz & S. C. Levinson (Eds.), *Rethinking Linguistic Relativity* (pp. 70-96). Cambridge: Cambridge University Press.
- Stainton, R. J. (2006). *Words and Thoughts: Subsentences, Ellipsis, and the Philosophy of Language*. New York: Oxford University Press.
- Thornton, T. (1998). *Wittgenstein on Language and Thought: The Philosophy of Content*. Edinburgh: Edinburgh University Press.

Tsohatzidis, S. L. (2007). "Introduction". In S. L. Tsohatzidis (Ed.), *John Searle's Philosophy of Language* (pp. 1-14). New York: Cambridge University Press.

Vicente, A., & Martínez-Manrique, F. (2008). "Thought, Language, and the Argument from Explicitness". *Metaphilosophy*, 39(3), 381-401.

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**Education**

*Sept 2008 - present*

The Pennsylvania State University, University Park, PA  
Schreyer Honors College  
B.A. in Philosophy, Minor: Psychology  
Expected Graduation: December 2011

**Honors**

Dean's List - *each semester*  
Outstanding Academic Achievement Award - *each semester*  
Schreyers Honors College Scholarship

**Activities**

*Sept 2008 - present*

Captain of Penn State Mock Trial Association teams  
*Captained two teams, member of team that placed fourth at the Middle Atlantic Conference.*

*Sept 2008 - present*

Business Manager & Asst Music Director for NOTA  
*Coordinated performance logistics, including facility rentals, contracts for sounds and light production, and payments for services for a 20-member ensemble.*

**Volunteer Experience**

*Feb 2010 - present*

Director of Informational Affairs – Love Songs for Haiti  
*Initiated and coordinated all event advertising, including relations with newspapers, community publications, and radio stations.*

*May 2010 - present*

Child Care Volunteer at the Bennett Family Center