

Another Look at the Sapir-Whorf Hypothesis

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This essay will attempt to reconsider the so-called Sapir-Whorf hypothesis from the combined views of the educator, the linguistic, the general semanticist, the anthropologist and the social-psychologist. Language particular to these disciplines has been avoided. This essay suggests that many of the characterizations of the ideas of Whorf and Sapir are inaccurate and that it is important for students of language, of human thought, and of culture, but most importantly for educators, to reassess the writings of these two men.

Introduction

The writings of Benjamin Lee Whorf and Edward Sapir have inspired considerable debated in the linguistics community for well over fifty years. Their views on the relationship between thought and language set in motion hundreds of studies which set out to either prove or disprove the so-called “Sapir-Whorf hypothesis.” This hypothesis, however, was a restatement of their writings by later authors (Lee, 1997). It is the purpose of the present article to reintroduce the main principles of Sapir and Whorf in the context of what is known about thought and language today.

The Dual Nature of Communication

In every communication there are at least two messages. There is, of course, the information message. This is the message that tells us information about a person, a place, a thing, an idea or an event. For example,

Eating candy can cause tooth problems.

Most people would agree with this sentence. We all know that eating candy is bad for our teeth. However, when parents talk to their children they probably will not say this

idea with these words. They will add some words. For example,

Dentists say that eating candy can cause tooth problems.

Is there a difference in the meaning of these two sentences? Yes, there is. The second message has added, "Dentists say that..." If a parent is talking to a child and says the first statement, the child might say, "You always say that!" If the parent says the second statement, the child is reminded of experiences, usually unpleasant, with the dentist, so the seriousness of the message is increased. Also, the parent is no longer speaking alone in the second sentence -- the authority of the dentist is added to make the parent's message unquestionable. Finally, the image of the parent is enhanced in the second message. It is saying, "I am like important people, such as a dentist. My opinion is like theirs."

As you can see, the second message has the same informational meaning, but also has a meaning about the relationship between the parent and the child. We call this second type of message the *interpersonal* message.

If we change the situation, the meaning of the sentence may also change. Let's say that the child later meets some friends and they share some candy. The child might imitate what the parent said, to make his friends laugh. If the friends meet everyday for candy, the child repeating the message, "Eating candy can cause tooth problems," may actually have the meaning of, "we are friends having fun together, and parents don't understand." If the children have bad relationships with their parents, the meaning might be, "parents just want to stop our having fun." Here, the friends are seen as belonging together, and the parents as outsiders. The situation has changed the meaning of what has been said. We call the study of how situational factors affect meaning *pragmatics*. Notice also, that the child's saying the sentence has taken on a social meaning as well -- the child is communicating his identity with his friends and his separateness with his parents. We call this type of message a *social-psychological* message.

To review, there are two types of message in every communication. These messages are (1) references to information and (2) pragmatics. Pragmatics, then, is the study of interpersonal messages and social-psychological messages.

Why Do People Communicate?

People communicate for many reasons, not just to give information. In fact, most of what people talk about they have not experienced directly. We talk about ideas, we talk about questions we have. We talk a lot about our feelings on issues. We communicate to learn, but we also communicate as a social activity. We enjoy communicating with family and friends.

When we communicate through speech we are doing three things: 1. We are *expressing* intentions; 2. We are *interpreting* what we are hearing and seeing; 3. We are *negotiating* with another person the meaning of what is being said.

Expressing intentions means trying to say what we want to say. This involves a lot more than giving information. We want to say things in a way so that the listener will understand what we mean. First, we must choose what information we want to say, and what information we don't want to say. If we say too much or too little, the listener may be confused. We have to think about who we are talking to. We will speak very differently to a child than to a friend, or our boss. If the person we are talking with has a different opinion, then we have to choose language which will help to make that person understand our point of view. Also, we will have to choose the most important ideas we want to say so that the listener will know what we feel is more important. When we express ourselves, then, we must do so in the right way. What we say and how we say it must be acceptable to our listener and must be understandable to our listener, too. Additionally, we want the listener to enjoy what we are saying and to feel friendly toward us, so we will choose language that will make the listener feel that way. Thus, a big part of expressing intentions is *appropriate* language -- choosing the right words can be as important as the information you wish to express.

When we are listening to someone speak we are processing many things at one time. We are looking at their body language, their tone of voice, the speed of their speech, their eyes, their clothes, what has happened before, what we know of this person, how far away they are and many other things. We are listening to what they are saying, but we are at the same time evaluating what they are saying. In just listening to their words, we are using both a bottom-up and top-down processing of the information. Finally, we are listening for implications, added or other meanings, in what they are saying. From early childhood, we have learned to judge how a person communicates. We do all these things at once when we listen, and that is what is meant by saying that we "interpret" messages. As you can see, this is hard work for the listener and it would

seem likely that any two listeners might understand the message slightly differently. Given the complexity and difficulty of the listening task there is great potential for miscommunication.

Because there is so much potential for miscommunication, the people talking must *negotiate* with each other to make sure that they have understood each other. We ask questions, we repeat statements, we say the same ideas using different words, all in an effort to understand better.

Expressing, interpreting and negotiating are actions which, if you think about, are deeply affected by culture. People from one culture will have very different rules for doing these three communication activities. For example, in many languages important information is stated first, but in other languages the important information may be let to the end of a statement or series of statements. In some cultures, people are expected to interrupt a speaker to negotiate meaning, but in other cultures this would be very rude. Some cultures expect speakers to stay only on a particular subject, while in other cultures staying on a subject with no variation is considered uninteresting. In other words, the pragmatics of language will be different from one language to another.

If we think about it, all communication is deeply affected by culture. Language, more than more than customs or arts, is the ultimate vehicle of culture. It is through language that we communicate our culture. Many experts also think that the reverse is true: that it is through language that we create and maintain our cultures. How we think about the world, how we think about problems and how we make decisions, are based on our language. The connection between how we think and our language in this sense is what Benjamin Lee Whorf and Edward Sapir were talking about. Whorf (1956) wrote that

“...no individual is free to describe nature with absolute impartiality but is constrained to certain modes of interpretation even when 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... 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.” (p. 214)

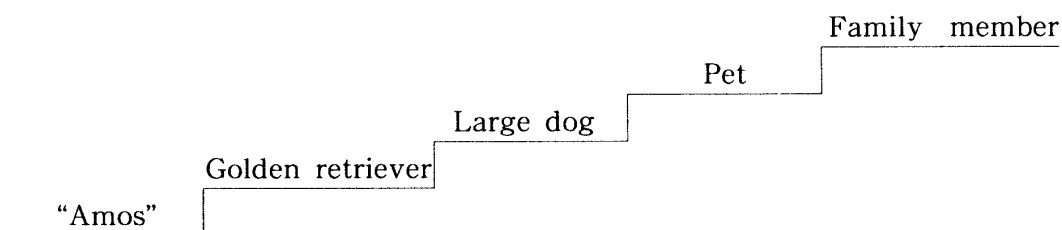
The Nature of Language

Many people think that language is just words. That is, if you could learn the vocabulary of another language, then you would be able to speak in that language. This, of course, is impossible. Words are not language. Words must be organized in some way to show a relationship -- and this is usually what we refer to as grammar or syntax.

But that is only one problem with thinking that language is only words. Words are many things. What is a word? In the simplest terms, a word is a sign for a thing, an idea, an action or an event. In the early 20th century, Korzibsky gave the following rule,

The map is not the territory; the word is not the thing.

This is the most basic rule of Semantics, the study of meaning in language. Just as a map is merely a sign for the territory it describes, so too a word is merely a sign for the thing and should not be confused with the thing itself. In life, however, we often confuse words with things and this results in misunderstanding. Because a word is a sign, it can only refer to a part of the meaning of the thing itself. In the case of the verb *run*, both a human and a horse run, but the event itself is very different. In the case of the noun *dog*, we are talking about a type of animal that has certain features different from other animals and is useful in a different way than other animals, but the word *dog* cannot tell us about a particular dog. Words, because they are signs, are always referring to an abstraction of the thing they are signifying. Consider the following progression abstraction :



In the process of abstraction each of these labels refers to *dog*. Amos is the name given to a particular dog. The owners, in looking at Amos, see "Amos" ; but a person who has never met Amos will only see a Golden retriever. Children seeing a golden retriever will only see a dog. If we add some syntax, we can say "large dog" in English, or "oki inu" in Japanese, or "chien grand" in French. At best, this is only a helpful comparison between small dogs and big dogs. That Amos is a pet is even more abstract -- the dog has now become a relationship to people rather than a *dog*. When thought of as a

“family member” the dog has become human, or at least human-like, in the sense of belonging. Notice that none of the words in the abstraction, except for “large dog,” could be used for a wild dog. The concept of *dog*, unless explicitly stated, is assumed to be a domesticated dog. When we think of *dog*, we do not think of wild dogs. The word *dog* has come to mean only the concept of dog in a particular language that has a particular cultural experience. In some cultures a dog is a good thing, but in other cultures a dog is a food or a dangerous animal.

But the same word, *dog*, can also have a socially constructed meaning. Just as the pet “Amos” can be abstracted to be human-like as a family member, so can a human be described as dog-like by calling a human a dog. In a situation where a common name is used for a different meaning we can see how the process of abstraction takes place. In this case, one aspect of *dog* is used to talk about a person. Dogs in English speaking countries are considered lovable, but some people describe the sexual behavior of dogs as bad and describe some human behavior with terms for dogs. In general, these words are very offensive. Another example is when males describe a woman as a “dog” they are saying that she is ugly; that is, her face is dog-like in some undesirable way. Think what a surprise it is for people from English speaking countries to see young women in Japan wearing shirts with “dog dept.” on them!

Words take on the meaning that people give to them. At the same time, as people use words and they understand the various meanings they begin to think of the world in a particular way. To communicate, a group of people may begin using a word to describe their world, but before long the use of that word is affecting how they think about the world.

The Sapir-Whorf Hypothesis

Two American linguists, Edward Sapir and Benjamin Whorf, challenged the traditional view that language was a product of culture and argued instead that it was culture, and even thought, which was the product of language. They observed that natural languages are so different that “they cannot represent reality in the same way” (Sapir, 1949). Whorf further argued that our understanding of the world is organized through our language. Said another way, the language used affects the way that a person understands the world. Do people really think differently in different languages?

Following the writings of Whorf and Sapir, there developed a “Sapir-Whorf hypothesis” which had two parts: linguistic relativity and linguistic determinism. *Linguistic relativity*

was stated as “structural differences between languages will have parallel differences in cognition between speakers of those languages.” Linguistic determinism was stated as “people who speak different languages have different world views.” Subsequent research based on the hypothesis in this form has not found conclusive support for the hypothesis (Au, 1992).

While many researchers do not believe that differences in language cause a measurable difference in how people think, it is accepted that language use does influence the way in which people perceive the world. It now appears from research that how we think actually affects our use of language, something which Chomsky claimed years ago. In a great over-simplification we could say the following :

Sapir-Whorf : Language affects cognition

Chomsky : Language reflects cognition.

It is, for me, this characterization of Sapir-Whorf which is misleading. Underlying the Chomskian view of cognition is the concept of universal grammar -- that is, there is an innate language processing ability in humans which includes a knowledge of all possible grammars. It should be stressed here, that the concept of universal grammar itself is highly controversial within the linguistics community. For many in education and cognitive study, the writings of Sapir-Whorf are embedded in a period of scholarship intoxicated with “relativism.” With the development of Noam Chomsky’s views on grammar we entered into an intellectual period of search for “universals.” Thus, there is an immediate association in the minds of many academics between the ideas of Sapir and Whorf and an unfashionable world view.

Actually, Sapir and Whorf also thought that language reflects cognition. If you read their ideas closely, you will find that they saw language and cognition as a two-way process. It is true that our language does reflect the way we think about things, and, at a deeper level, how we process thought. However, it also seems to be a two-way interaction -- our perceptions of the world are affected by language and from these perceptions we think about the world in particular ways. In fact, at the end of his life, Whorf wrote that the relationship of language and thought was not a direct one, or at least an obvious one. It seems that people of any language background are capable of thinking about the world in the same ways that people from other language backgrounds do, but often they don’t.

Why don’t they? One explanation is the interaction between social-psychology and

language. It has been found, for example, that the way that people order certain word pairs is very regular, but in some cases the ordering will change to reflect changes in the attitudes in the society (McGuire and McGuire, 1992). For a very long time it was believed that word-order habits in languages were based on the length of the words, according to Panini's law. Panini was a Sanskrit grammarian who lived in the 5th century BC. Thus in English, "grandson" would come before "granddaughter," "hot" before "cold," "peas" before "carrots," "aunts" before "uncles," "Fords" before "Chevys," "pens" before "pencils," etc. In these examples, the word with fewer syllables comes first, as predicted by Panini's law. However, by using modern research methods, McGuire and McGuire (1992) found that word-order was most often determined by social values for certain classes of words. For example, "husband and wife" is five times more frequent than "wife and husband." This example suggests that male dominance in society maybe reflected in the language (and, conversely, that male dominance is reinforced by this type of language). When authors from the 1700-1800s were compared with those from the 1800-1900s there was a clear decline in the male dominance in word-orders, something which corresponds the change in social values. It was also found that age-seniority was also a factor in ordered pairs, such as "father and son." Some words that are refer to social values, were most ordered with the socially desirable on first; for example, "good and evil," "rich and poor," "life and death." The study further found that written pairs were different from oral pairs, suggesting that the degree of formality affects pairing. Thus it appears that some language habits reflect social values in at least a general way. What is less clear is the extent to which these language habits affect the way that we think. This research was performed on English word-pairs in England and the US only. It would be interesting to learn how different pair-word ordering would be in other languages and cultures. Presumably, the theories of Sapir and Whorf would predict that in different cultures the word-ordering habits would be different.

It has often been noted that people tend to perceive such orders as the "natural way" of the world, a process often referred to as *reification* (Aho, 1994). In this sense, we might argue that language may act to reinforce the *default* organization of values; that is, language may maintain social values by affecting the automatic associations that people use when communicating and rarely pay much attention to. These automatic associations do affect how we think. A *paradigm* is often defined as model or conceptual basis for understanding. Paradigm is often used in the model sense as a process metaphor; e.g. The computer is a paradigm for the brain. If we think of how we process information, we selectively attend to what we perceive as important information and in this sense a paradigm is a conceptual way of determining what is important and what is not. Paradigms allow us to efficiently process information -- they make life easier. But they

can also cause problems. For example, people who have never eaten rice may find it difficult to enjoy it because it is so different than what they are used to. For such people, rice is not part of the “natural way” that they have come to know. When asked, most Americans would say that “people in Japan eat sushi,” and as a generalization it is true; but in fact a sizable number of Japanese do not eat sushi with raw fish, only other kinds of sushi. Thus, the American paradigm of everyone in Japan eating sushi with raw fish is incorrect.

A very dramatic version of the problem with paradigms occurred some twenty years ago. At that time Swiss-made watches accounted for around 90% of the watches sold in the world. Around that time a Swiss watchmaker developed an electronic watch with an LED display. However, the Swiss watchmaking industry could not see the value of such an electronic watch. To them a “real watch” had to have hands and a dial. So the entire Swiss watchmaking industry ignored the new development. Some Japanese watchmakers did see the promise of such a watch and put the digital watch into production. Today, Japanese watchmakers control most of the watchmaking market, largely because of the sales of digital watches.

The word-pair study of McGuire and McGuire (1992) did find that mental organization of adjective series showed frequency preferences for certain series. Thus, “A dirty old man” was more common than “An old dirty man.” There is a very different meaning between these two phrases. “An old dirty man” means “the dirty man is old”; whereas, the phrase “A dirty old man” means “the old man is dirty,” with dirty implying “sexually oriented” or “wanting or doing inappropriate sexual activities.” Thus, it was found that idiomatic expressions were more frequent than the alternative grammatical descriptions. It is worth noting that idiomatic expressions are structurally different from other types of expression in the they are not grammatically constructed expressions.

The word-order studies have shown that the Sapir-Whorf Hypothesis has meaning within a given language if we consider the social affect on thinking. As we saw, language habits were related to social values. But could social values be maintained by language use?

Recall that earlier we discussed pragmatics; that is how meaning is affected by situations in which the language is used. Pragmatics included interpersonal messages and social-psychological messages. There is some recent research which seems to suggest that the same use of language in interpersonal messages is used to maintain social groupings. Some social psychologists have suggested that interpersonal relations, that is the

relationships and the exchanges between people, are represented by the types of verbs that are used by members of a group about members of the same group or members of other groups. (Semin and Fiedler, 1992) These investigators suggest that a class of verbs can be identified as “interpersonal verbs” and that a taxonomy of inferences are made by them. This is a reasonable claim, because the verb carries more than just the state of activity -- the verb also carries subtle levels of specificity / generalization and some evaluative meaning. For example, a person might say of a co-worker, “She called me today.” This message refers to a particular act and is very specific. Notice that if the “She” is an ingroup member, to the informed listener (interlocutor) there is a slightly positive implication in the message; whereas, if the “She” is an outgroup member, there is a slightly negative implication in the message. In this example, the verb “called” is relatively value free; but other verbs of this type may describe actions which would carry a strong value, such “kicked” or “kissed.”

If, in describing a co-worker, someone said, “She helped me today,” the “helped” refers to an evaluation of the action that “She” took. The speaker is no longer describing, but is interpreting behavior. It is still one event, but the information is abstracted to a less concrete level by describing the person not the action taken. If someone said, “She pleased me today,” the verb “pleased” represents a further abstraction, eliminating all description of action and referring to emotional reaction of the speaker, or whoever the interaction partner was. Nevertheless, there remains a sense of time frame, that the action causing this reaction was related to an event or set of events. The final level of abstraction comes when the description becomes an attribute of the person, rather than an action. For example, “She is helpful.” Notice that the sense of time has been eliminated and that there is only a general sense of the person, not the person’s actions per se.

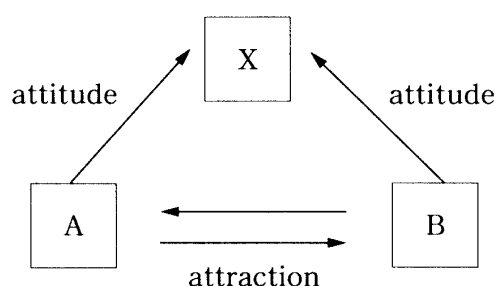
In the foregoing examples, the shift in verbs represents a generalizing progression from concrete actions to a focus on the person. The time-life of the implication is extended from a mere moment of action in the first case, up to a permanent trait of the person in the last case. Being “helpful” could last forever, but “pleased” might not last so long. Still, “pleased” will be a state that lives longer than “helped,” which in turn will last longer than the highly temporal “called.”

Such abstraction of meaning through verb choice may at first seem to be only a reflection of a speaker’s perspective on an event or about a person. However, there is also a function of this kind of language usage -- the choice of words serve to establish or maintain ingroup/outgroup relationships, and serve as interpersonal image management strategies. From a functional perspective, these choices act as portrayals of persons and

events. This can be more clearly seen by reversing the level of abstraction. A speaker may choose “helpful” to establish that the person talked about is worthy of the interpersonal relationship. A speaker might choose “pleased” in order to elevate him or herself over the person being talked about. Saying that the person “helped” confines the interpersonal relationship to a type of behavior and time, while “called” is concretely confined to a specific act and precise time. Notice that objectivication is related to the level of abstraction -- the more general, the more the description is of the person; the more specific, the more the person is treated as an object.

From studies in social-psychology we have learned that people who belong to a particular group tend to see those who do not belong to the same group as inferior. This tendency results in favorable speech about ingroup members and negative speech about outgroup members. A feature of this ingroup-outgroup speech is that there is a tendency to describe outgroup members in general and more abstract terms. This results in a portrayal of members of an outgroup being all the same, or all members having the same qualities. Fiedler and Semin (1992) asked a group of women and a group of men to describe the other gender, and then analyzed the responses by measuring the use of interpersonal verbs. This study found that ingroup favoritism and outgroup derogation was strongly present even though gender is not considered a conflict grouping. The study also confirmed that descriptions of outgroup members were not only negative, they were more abstract as well. Thus we have experimental evidence of how stereotypical language affects the perception of social groups.

The evidence found in Fiedler and Semin (1992) fits well with a model of communication interaction by Newcomb (1953). Newcomb suggested an ABX model shown below.

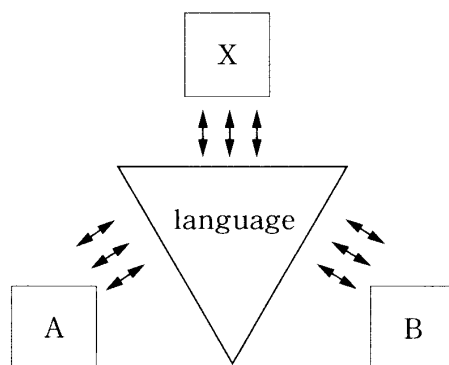


T.M. Newcomb's model represents how interpersonal communication takes place. A and B are communicating about X. The model suggests that A and B's interaction is affected by X (the thing they are talking about). Conversely, A's perception of X is affected by B, and B's perception of X is affected by A. Newcomb gave two corollaries :

1. that communication is almost never in a social vacuum. Thus interpersonal interaction is always included in a communicative act, and is affected by an object which is being communicated about.
2. There are few, if any, objects that one's orientation toward them are not influenced by other's orientation (1962, p 57)

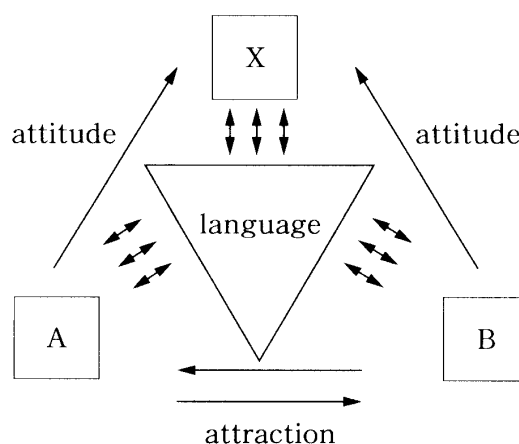
Notice, however, that the Newcomb model emphasizes communication, but does not say much about the effect of language on the communication.

Karl Buhler's (1933) model of language interaction offers a slightly different view from the ABX model. Buhler, like Plato, thought of language as an "organum" for communicating. Thus, language acts as an imperfect lens which affects both perception and understanding.



In the Buhler model language is emphasized, but communication is not addressed. For a model of the dual nature of communication we need to combine these models.

A combined model.



In the combined model, communication is affected by both interpersonal interaction and the interaction with language.

Rich Points

In 1985 Michael Agar wrote *Language Shock*. This book discussed both theory and ethnographic research into how people use language to show group identity. Like the authors cited before, Agar also sees language as differentiated by groups. Agar, however, introduces a concept which is most important to the present discussion -- the concept of *rich points*. A rich point occurs when you are in a situation where you know the words that are being spoken, but the message is different than you would have expected. A rich point is a sudden realization of a understanding outside of one's cultural references. The frame of reference that the person previously had cannot account for the rich point and the person realizes that the previously accepted frame is no longer valid. When a rich point is encountered, the person's understanding of culture undergoes a change -- in effect the person's personal "culture" is expanded. That person can now understand more about the world than before, and has more freedom to move within that greater world.

The word "culture" in this sense is quite different from what we are used to thinking of. We often think of culture as the products of a social group—the literature, the art, the dance, the customs, of a people. Culture in the original sense of the word meant "to cultivate"; that is, to grow, to develop. If by culture it is meant that we are only the customs, arts and language of our native people, then we are trapped. But if we move beyond those boundaries and encounter rich points, then we cultivate new perspectives and new knowledge of the world—we gain culture with each rich point encounter.

Edward Sapir, in his 1921 book *Language*, demonstrated that the concepts of race, culture and language are, in fact, unrelated. He showed that racial distributions and language were very different and independent. He also showed that cultural distributions were also very different and independent. People of the same race may use different languages, and people of a particular culture may also use different languages. But he claimed that it was language which most affects the thought of people,

We see this complex process of the interaction of language and thought actually taking place under our eyes. The instrument makes possible the product, the product refines the instrumental. The birth of a new concept is invariably foreshadowed by a more or less strained or extended use of old linguistic material; the concept does not attain to individual and independent life until it has found a distinctive linguistic embodiment... As soon as the word is at hand, we instinctively feel, with something of a sigh of relief, that the concept is ours for the handling. Not until we own the symbol do

we feel that we hold the key to the immediate knowledge or understanding of the concept. Would we be so ready to die for “liberty,” to struggle for “ideals,” if the words themselves were not ringing within us? And the word, as we know, is not only a key; it may also be a fetter.”(p 17)

This last point, that language may also serve to enslave us, was also taken up by Agar. He felt, and so do I, that encounters with rich points serve to free us from our language habits and the socially contracted view of the world. Although language serves to enslave us by molding our thoughts, it is knowledge about language and the appropriate use of language which gives us freedom.

If you think about it, this is what education is really about. When we are learning subjects, to a large extent we are learning the language of that subject, just as Sapir had pointed out. As we learn these new subject-based languages we encounter rich points--we learn that our ideas about the world were wrong or did not include some ideas. This “learning experience” lets us learn more and we understand the world better. People who have had a lot of these learning experiences are often called “cultured.” And if you think about it, in learning a foreign language you will encounter more rich points than in almost any study you can have, especially if you have social encounters in that foreign language. In other words, the interaction with other cultures and other languages will, in effect, give us more culture. In a contrary manner, our inability as educators to negotiate meaning, or as Whorf described as “calibration of agreement” (Whorf, 1956), with our students can potentially result in an impoverished learning experience (Lee, 1997). As Lee (1997) stated,

If Whorf was right, it is *metalinguistic* awareness that provides essential (although not sole) access to that metacognitive awareness and its associated potential for cognitive self-direction and growth that is the most fascinating and challenging dimension of what it is to be a human learner.(p.468)

In sum, as educators we must be sure that we are aware of the issues raised by Whorf and Sapir. We must clearly see the role that language itself can play in miscommunication and in the molding of our thoughts.

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