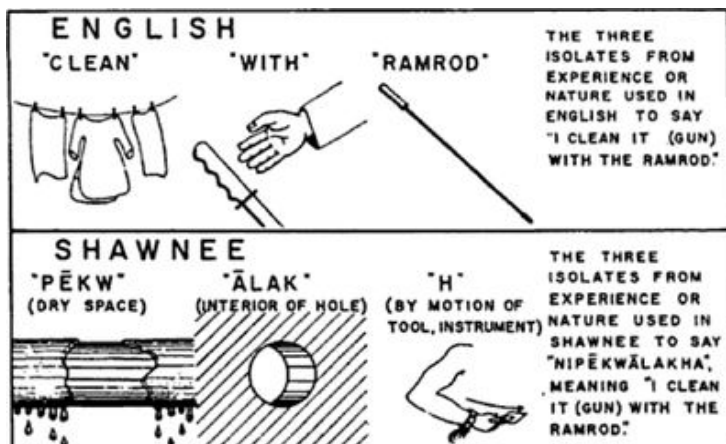


An artist who only paints on canvas, only knows how to paint within those confines. If you are only given an 8x11 canvas to work on, you will not know how to execute a mural, or paint miniatures. Is language the same? If you only know one language, are your thoughts confined to that language? How does language influence our perceptions of the world? What is the relationship between language and culture? Written and spoken language dominates communication, and has been present in some form for the past 200,000 years as a series of symbols and sounds. I have recently developed an interest in this universal practice, within my fascination for world building and differences in perception.

These questions fall under the study of Cognitive Linguistics, an interdisciplinary branch of linguistics that combines linguistics and psychology. The thinking behind it is that language is deeply implanted in our conscious intellectual behavior such as thinking, reasoning and remembering. This study considers the structural characteristics of natural language categorization, for instance a cognitive linguist would study in the fields prototypicality, systematic polysemy, cognitive models, mental imagery, and conceptual metaphor. Cognitive linguistics is looking at the world through a “language looking glass” of sorts.

Linguistic Relativity, also known as the Sapir Whorf Theory, states that the way a language is structured affects the world view of its speakers. This explanation of linguistics concludes that every language creates similar but separate cognitive realities. There are two forms of this theory: linguistic determination and linguistic influence. Linguistic determination argues that the language you speak entirely determines cognitive process, whereas linguistic influence suggests that language could create some boundaries in perception. This concept is built from the combination of Language Diversity - the idea that languages from different language families differ in important ways - and Linguistic Influence on Thought, which states that syntax (structure) is a factor in systematically changing the way people of different language backgrounds think. This could be evident in remembering situations and in categorization. This theory was introduced by Edward Sapir and his student Benjamin Lee Whorf in 1929. Born in Winthrop Massachusetts, Benjamin Whorf was a student studying linguistics at Yale University under Edward Sapir, who worked as an Anthropology professor. Although Whorf was an amateur linguist, he popularized the concept in his writings, stating, “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. ...The relativity of all conceptual systems, ours included, and

their dependence upon language stand revealed.”(Language and Science, p. 214) Whorf’s writing, especially in the article "Language and Science" from 1956, argues we can not assume that there is a universal perception of the physical world. Whorf’s belief is that speakers of vastly differentiating languages, carry different cognitive abilities. Whorf also popularized the term SAE (standard average european), when writing about the linguistic similarity in European



languages. Whorf discussed his research done with the Native American languages such as Shawnee. The illustration to the left, also from Whorf's article *Language and Science*, displays the difference in sentence structure in the context of cleaning a gun with a ramrod. This difference highlights the way different languages categorize events.

Many aspects of language have been analyzed in the discussion of relativism. A language's syntax is a primary way that could affect cognition. For example, sentence structure varies often from language to language. In English, the order is subject, verb, object (*"You (sub) hit (verb) the ball (obj)."*) In Japanese, the translation would be subject, object, verb, (*You the ball hit*) and in Welsh it would be verb, subject, object (*Hit you the ball*). In this sense, the syntax of a language can create a set of rules inside a speaker's mind. The way you think reflects the language you speak, meaning you think in the same syntax that you speak. Another important aspect of language is Lexicon. Each language holds its own lexicon (vocabulary), and separate lexicons classify things differently. For example in English, we have the singular word "blue" to cover all shades of blue, and in Russian there is a word for all light blues and a word for all dark blues. This simple difference creates a divide not present in English, separating what I perceive as "blue" into two succinctly defined colors. These differences build, create, and change in aspects of one's thought. This again creates rules in the way you categorize things, that you follow in language and in thought. It is important to remember that linguistic relativity is claiming that different aspects of languages affects aspects of cognitive ability, creating different perceptions. Otherwise, we risk finding that one aspect of language influences a different aspect of language, like syntax influencing lexicon. Most of the empirical data collected has been related to perceptual discrimination, availability in memory, and classification. Language background can fundamentally change the way you perceive an interaction, the weight of which you remember certain events, and the response in your thoughts when you encounter objects and words.

A contemporary scientist contributing to the theory of linguistic relativity is Lera Boroditsky, Associate Professor of Cognitive Science at the University of California San Diego (UCSD) and Editor in Chief of *Frontiers in Cultural Psychology*, a peer reviewed open access journal addressing all aspects of psychology. Boroditsky's research focuses on how people of different language backgrounds experience situations. In a TedTalk from 2018, Brodsky proposed many examples of empirical evidence suggesting this relationship. One of these examples comes from work she did with the aboriginal Thaayorre people on the western part of Cape York Peninsula in Australia. The Thaayorre people speak the language Kuuk Thaayorre, which doesn't include the concepts right and left. Instead, they use the four cardinal directions to communicate place, and time. In many languages including English, we read from left to right, and would order things chronologically from left to right. However, when Kuuk Thaayorre people organize things in order of events, they go from East to West like the sun. Their language changes the way that they communicate in a much less egocentric way. Not only are they much more oriented, but time for speakers of Kuuk Thaayorre is locked on the landscape. This example can also be shown in a lesser way in languages that read from right to left such as Arabic, Hebrew and Persian. As English speakers, time for us subconsciously became a system working from left to right, and as we move, so does our perception of time. This way of viewing time is much more egocentric and subject dependent. It also simply changes the mind of an individual to have the concept of time portrayed in different ways. Kuuk Thaayorre people experience time moving from left to right, right to left, towards the body and away.

In the 1960s, the American linguist and philosopher Noam Chomsky, often cited as the “modern father of linguistics,” began discussion around a linguistic theory based in biolinguistics. Working in the areas of linguistics, philosophy and cognitive science, Chomsky’s argument was that all humans have an innate ability to learn language; that humans have language hardwired into us. This theory of language suggests that learning and using language is a native trait to our species. Chomsky proposed that humans have what is called a Language Acquisition Device (LAD) that allows us to universally be able to learn language. This theory plays a slight variance to the Linguistic Relativity theory. In the strongest version of linguistic relativity proposed by Sapir and Whorf, there was more of an argument built from linguistic determinism, and the LAD was a counter argument. Linguistic relativism suggests the learning of language as building thought, while Chomsky argued that humans universally will always learn and create language based off thought.

The work of Chomsky also discusses the difference between written and spoken language, differentiating the literary language to one’s personal language. In an interview on the concept of language in 1998, Chomsky states that proper language is purely artificial, and the literary standard taught to children in America isn’t a natural or native instinct. Each individual creates their own language, based on their experience with that language. English is spoken in way so slightly different, though we can still understand each other, and it adapts and shifts in personal slang. Slang pushes past the conformity of language, changing the level of informality. Often, the extremes between formality and informality make people uncomfortable or unsure. Slang also identifies members of a group, creating a feeling of belonging. This plays as an opposition to authority, and is commonly cultivated and used among people who have little political power. In this way, subsets of languages are created with the use of slang. Within each slightly varying versions of a language, a more small scale version of linguistic relativity is born.

The intentional and unintentional use of slang is something I think is extremely related to this concept of linguistic relativity. Slang has permeated everyday speech, and it’s ephemeral quality causes it to frequently regenerate. Slang is this opportunity for creativity within a given language, as each generation, subculture, and counterculture has an opportunity to build their own lexicon. The primary reason slang is so commonly created is the sense of communion and belonging. When slang is used, there is a hidden message within the primary text. You are communicating that you are part of the “tribe.” The use of slang is extremely dominant in youth culture, partly because younger generations have the urge to distinguish them from their parents, and a fight against the lack of power in society. It can be used as a tool of reclamation for marginalized groups. I would be one to argue that linguistic relativity is relevant in the discussion of slang. A subgroup that speaks slang has, also writes slang and uses it in most modern communication. A change in our lexicon is bound to change our cognitive ability.

I find it intriguing to think of us all in our own universe. Wandering around with certain perceptions that we can’t help but have. Language is a tool we use to best navigate interactions, but it also changes our subconscious thinking process. I find this so hopeful, and quite beautiful. To investigate the theory of language makes every day language speaking something to think about. Language is part of culture, and it shapes our individual experience.

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