"*Every act of communication is an act of translation."*

-Gregory Rabassa, *If This Be Treason*[1]

I don't speak Hebrew. I can't read or write it either. It took my ten-year-old self a long time to realize that. Wanting to connect with the community at my temple, I had studied the Hebrew alefbet and committed all twenty two of its letters to memory. I thought this was the same thing as knowing a language. At the time, I didn't think of my spoken communication as language--it was just talking. It was such a basic part of my existence that I didn't think about it much. So I thought that learning a new language was nothing more than learning a new way to translate my spoken language into writing. It wasn't until I got to Hebrew school in sixth grade that I realized how little I knew. I heard these sounds that seemed to mean something to someone, but they weren't words. Well, of course they were words, but I couldn't see or hear them as words. They were sounds. And they didn't represent things that were familiar to me. They only existed in the context of Torah readings and songs, which mostly had English verses anyway. They were magical and beautiful and soothing, but they weren't words. I connect to the Hebrew language only through the sounds. At first, I thought I was doing something wrong because I was singing words without knowing what they meant. Looking back, my experience has actually taught me something about my relationship to English. My experience with Hebrew is not linguistic. It enters my brain through a completely different pathway from the one I use to communicate. I learned about this pathway when I started learning to read, speak, write, and understand Italian. The way I learned Italian was the opposite of how I learned Hebrew. With only a couple exceptions, Italian uses the same alphabet as English. So I jumped right into learning the meaning of the sounds, because the letters were already linked to sounds I was familiar with. For the first few years, my relationship with Italian wasn't much different from how I first started to learn Hebrew. It was one level deeper because I was dealing with the meaning of words, but I was still learning surface translations. I learned that Italians call pencils "le matite" and books "i libri". I loved learning these words because I found them all much more beautiful than their English counterparts, but I wasn't learning much about the nature of language itself. That changed when I got to high school and started learning words that couldn't be translated directly. I started learning words like "il bar," "uffa," "boh," and "ti voglio bene," which my teacher couldn't define for us simply by telling us which English word they're identical to--because they aren't identical to any words in English. They represent a concept or feeling which English speakers haven't needed a word for often enough to make one. As Lev Vygotsky wrote, "It is not merely the content of a word that changes, but the way in which reality is generalised and reflected in a word"(2).[2] That led me to think that language limits our thoughts--if we don't have that word, we can't have that feeling. But that's not the case. I know that because in order for me to understand the meaning of "uffa", which can't be translated into English directly, all my teacher had to do was use the word in context with the right body language and facial expression. That connected the word to experiences that I'd had before which I'd had to express with a grunt or a look and didn't have a word for. When I learned what "il bar" was, it reminded me of places that I'd been to before which I knew weren't exactly cafes,

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[1]Bliss, Chris. "Comedy Is Translation." TEDXRainier. Rainier, WA. Dec. 2011. *TED*. Web. Apr. 2015.

[2]Vygotsky, Lev. "Thought and Word." *Thought and Language*. Trans. Eugenia Hanfmann. Cambridge: MIT, 1962. *Gordon Wells Language, Learning and Teaching*. University of California Santa Cruz, 3 Apr. 2011. Web. Apr. 2015.

but which also didn't have another word. Learning that Italians distinguished between the two solidified their differences, but it didn't create them. Using words categorizes our experiences. Learning new words creates a new category, and we understand the meaning of the word by adding experiences to that category. We use it for internally processing experiences, and it is our primary tool for negotiating with others. Without language, we would be overwhelmed by the complexity of the world. With language, we can simplify our memory of experiences into something that can be translated and convince ourselves that they can be understood.

Around 200,000 years ago, our species faced a crisis. We began to develop a trait called social learning, which had the potential to set our species apart from all other animals. Up until that point, our ancestors Homo erectus, like chimpanzees, were only able to learn from their own experiences. They hadn't developed the ability to learn from each other. Unable to build off each other's ideas, they kept using the same primitive tools for forty thousand generations. The development of social learning meant that each generation could learn from the previous one, as well as from each other, and individuals could be exposed to different ideas and techniques before experiencing them first hand. They could learn the consequence of a decision without having to make the commitment. This was a major turning point for the evolution of humans, but it presented a problem. The people who came up with new ideas were no longer the ones benefitting. Someone could see your creative design for an arrow, copy it, and catch food before you could get to it. Presented with this dilemma, humans had to choose between breaking off into family groups to keep their ideas protected, or finding some way to negotiate the exchange of ideas. They chose the second option, which led them to develop the beginnings of spoken language. Adding verbal exchange to the visual exchange of social learning allowed people to communicate about their intentions.[3] Social learning and spoken language marked a new branch of early humans: the Homo sapien, which evolved into modern humans. With these new "tools", we could learn from and negotiate with one another. But being able to make sounds to communicate our intentions was just the beginning.

About fifty thousand years ago, 150,000 years after the beginning of spoken language, "there was a sudden explosion of diverse cultural artifacts including instruments for making music, new tools, and other forms of creative expression. Humans developed the ability to externalize their inner thoughts."[4] At first, there was no clear distinction between language and art. Writing was a way for people to externalize inner experiences and "create pictorial representations of their reality."[5] These representations began as pictograms and soon evolved to include ideograms. With pictograms, "There was no connection between the spoken word and the object pictured; a Pictogram recalled the object... itself to mind, not its name."[6] Like pictograms, ideograms were also directly connected to their meaning and disconnected from speech. Ideograms represent abstract concepts like "middle," "far," "behind," or "quiet". As written language evolved, it began to intertwine with spoken language. People wanted to be able to write proper nouns. They needed symbols that would represent sounds instead of just meanings, so that each individual person wouldn't need to have a separate individual symbol to

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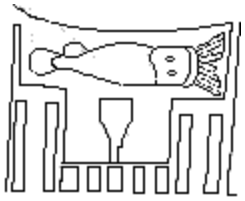
[3] Pagel, Mark. "How Language Transformed Humanity." TEDGlobal 2011. 2011. *TED*. Web. Apr. 2015.
[4] Cruise, Brit. "Origins of Written Language." *Khan Academy*. Khan Academy, 2015. Web. Apr. 2015.
[5] ibid.
[6] "Pictograms, Ideograms and Phonograms." *Dr. DiMarco Graphic Design*. California State University Northridge, Web. Apr. 2015.

represent their name.[7] In Egypt, the transition from meaning-symbols to sound-symbols began when a simple connection was made; the sound of any word will be associated with the visual symbol that represents the word's meaning, even out of context. This means that the written symbol of an idea could be used to represent the sound that also represents the same idea. The earliest known example of this phenomenon was on the Narmer Palette, which was carved from a single piece of slate around 3200 BCE. King Narmer's name is written at the top of the palette. It looks like this:

 [8]

The fish is the hieroglyphic symbol for catfish, which Egyptians pronounced "nar". The symbol right below that is the hieroglyphic symbol for chisel, which they pronounced "mr". Any Egyptian looking at those two symbols together, as long as they could both speak and read the language, would recognize that the combination of the sounds had more meaning than the combination of their individual meanings. By using familiar symbols instead of creating a new one, Narmer made his name more easily recognizable. As the practice of using familiar symbols to represent sounds that would connect to new meanings became more and more popular, some people started letting go of pictograms and ideograms altogether. Around 1000 BC, the Phoenicians simplified hieroglyphics into a 22-character alphabet, each representing a unique consonant sound.[9] "With modest adjustments, these miraculous letters would be fitted to diverse tongues of Europe, India, and Southeast Asia, carrying literacy around the globe."[10] The Aramaeans adopted the Phoenician alphabet in the ninth century BCE, adding symbols for long vowels. Over time, the Aramaic alphabet evolved into the modern Arabic alphabet. The Greeks also adopted the Phoenician alphabet and added their own symbols for vowels to create the alphabet upon which our Latin alphabet is based.[11]

What links a word or symbol to its meaning? This is one of the core questions asked by many linguists and philosophers. Their answers generally fall into two categories: externalist and internalist. Externalism is the belief that meaning comes from "something outside of the individual," while internalists believe that meaning the psychological state associated with a word or phrase.[12] Each of these philosophies seem to apply to different situations; externalism holds true when discussing physical objects and internalism applies to memories and feelings. But trying to draw a line dividing those two groups isn't easy. In fact, Rudolf Arnheim would say that line doesn't even exist. In *Visual Thinking,* Arnheim writes that "the distinction is between extracerebral percepts, which are due to events located outside the brain (table, solar eclipse, stomach ache) and intracerebral percepts, caused by processes within the brain itself

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[7]Cruise, Brit. "History of the Alphabet." *Khan Academy*. Khan Academy, 2015. Web. Apr. 2015.
[8]Serekh. Digital image. The Narmer Palette. N.p., 2000. Web. 1 May 2015. http://www.reshafim.org.il/ad/egypt/narmer/serekh.gif.
[9]Mark, Joshua J. "The Phoenician Alphabet and Language." *Ancient History Encyclopedia*. Ancient History Encyclopedia Limited, 18 Jan. 2012. Web. 1 May 2015.
[10]Cruise, Brit. "History of the Alphabet." *Khan Academy*. Khan Academy, 2015. Web. Apr. 2015.
[11]Mark, Joshua J. "The Phoenician Alphabet and Language."
[12]Ritchie, Kate. "Language: Meaning and Language." *Khan Academy*. Wi-Phi, 2015. Web. Apr. 2015.

(memory images, thoughts, concepts, sentiments)... it is necessary to realize that the latter is as concrete as the former. The experience of seeing a table or sensing pain somewhere in one's body is no more or no less concrete than that of having an image or idea of something. Any of these experiences may be precise or imprecise, sharp or vague, but they are all invariably concrete" (155).[13] A line cannot be drawn between extracerebral percepts and intracerebral percepts because identifying something requires some type of experience with it, and that experience can only take place in the mind. According to the theory of verificationism, the meaning of a word is the set of experiences that are linked to the word.

The first type of meaning, known as conventional or linguistic meaning, is that which is directly linked to the meanings of its parts. This is the literal meaning of a sentence as a sum of the dictionary definitions of the words that make it up. But this is not the only type of meaning. The other type is the nonconventional, or implied, meaning. To describe this type of meaning, H.P. Grice, an internalist philosopher, coined the term "implicature" to mean whatever is meant but not literally said.[14] Here's an example from William Salmon's *Conventional Implicature and Conversational Implicature:* imagine that someone has just invited you to dinner. You don't want to go, but you also don't want to be rude, so you respond: "I'm tired". What is the meaning of your sentence? The conventional meaning is that you are tired--maybe you didn't get enough sleep or you've been working hard and that has made you tired. But if that were the meaning that your listener understood, they might suggest staying in and watching a movie. That would show that they did not understand your intention. Hopefully, they would understand that you don't want to go. That meaning, the one you intended and your listener understood but which you didn't actually have to say out loud, is the implicature. It is also the meaning of the sentence. Where does the meaning of a sentence come from if not the dictionary? It comes from your thoughts (intentions), your listener's thoughts, and the words that link the two together. If your words weren't able to connect your intentions to the listener's thoughts, then they didn't have meaning. As Lev Vygotsky writes in *Thought and Language*, "Word meaning is a phenomenon of thought only in so far as thought is embodied by speech, and of speech only in so far as speech is connected with thought and illuminated by it. It is a phenomenon of verbal thought, or meaningful speech--a union of word and thought"(2).[15]

What part of the brain processes, understands, and produces language? For 90% of right-handed people and 70% of left-handed and ambidextrous people, language functions are centralized in the left hemisphere.[16] As Daniel H. Pink writes in his book, *A Whole New Mind*, "The right hemisphere is the picture; the left hemisphere is the thousand words."[17] The left side of the brain is the part that would sit down and read through those thousand words from beginning to end. It's also the part of my brain that is turning the ideas I have about what to write into the words that you are reading. But before I translate them into words, I had to create them in my mind. And that process takes place in the right hemisphere. As Dr. Dan Siegel, clinical

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[13]Arnheim, Rudolf. *Visual Thinking*. Berkeley: U of California, 1969. Print.

[14]Salmon, William. "Linguistic Meaning: Conventional Implicature and Conversational Implicature." *Khan Academy*. Wi-Phi, 2015. Web. Apr. 2015.

[15]Vygotsky, Lev. "Thought and Word." *Thought and Language*. Trans. Eugenia Hanfmann. Cambridge: MIT, 1962. *Gordon Wells Language, Learning and Teaching*. University of California Santa Cruz, 3 Apr. 2011. Web. Apr. 2015.

[16]Yue, Carol. "Language and the Brain: Aphasia and Split-Brain Patients." *Khan Academy*. American Association of Medical Colleges, Khan Academy, 2015. Web. Apr. 2015.

[17]Pink, David H. *A Whole New Mind*. New York, NY: Penguin, 2006. Print.

professor of psychiatry at the UCLA School of Medicine, writes in his book, *Brainstorm,* "the left side of the brain is thought to be the drive for telling our story. But the autobiographical goods are on the right."[18] The right hemisphere processes images and generalizations about experiences, while the left side attempts to file those snippets of our reality so they can be "contained, predicted, understood, taken apart and dissected, analyzed, and, ultimately, logically understood"[19]. The left hemisphere is also responsible for "our 'social display rules', the culturally sanctioned ways we are supposed to communicate with one another"(173).[20] Our thoughts are translated into words in the same way our words are edited so they make sense to other people and communicate the message we want them to. As Vygotsky explains in *Thought and Language*, "every thought creates a connection fulfils a function, solves a problem. The flow of thought is not accompanied by a simultaneous unfolding of speech… Thought, unlike speech, does not consist of separate units"[21]. The question here is, does speech consist of separate units? Vygotsky says yes, but it's not that simple. The words that make up speech certainly exist as separate units, but speech is not an entirely left-brain function. During a conversation, "the right side also communicates… eye contact, facial expressions, tone of voice, posture, gesture and touch, timing of signals, intensity of signals"(173).[22] Communication is a combination of left-brain functions and right-brain functions taking place in in both the speaker's and the listener's mind with the goal of both people seeing the same meaning.

Do we need language to think? To answer this question, we need to start by discussing how and why we communicate with ourselves, or think, at all. Merriam Webster defines "think" as: "to form or have in the mind... to have as an intention… to form a mental picture of."[23] The process of thinking, specifically the processes of having an intention and of forming a mental image, are, as I discussed earlier, direct precursors to the development of language. This coincides with Vygotsky's claim that language is "not a prerequisite for, but rather a product of, the historical development of human consciousness"(1).[24] As Rudolf Arnheim wrote in *Visual Thinking,* "Detached, theoretical thinking can function without words, and the ability to think about a remote question while sitting at a desk or walking through the woods concerns the organism's use of its cognitive functions, not the nature of these functions themselves"(229).[25] What Arnheim is saying here is that the ability to detach oneself from one's surroundings in order to process ideas, experiences, plans, or images inwardly is not a trait that needs to exist separately from the ability to respond to one's surroundings. If thought is just a different way of using our most primitive, reactionary cognitive functions, there is no doubt that it could exist before something as complex as language. To test this idea, scientists have conducted experiments with animals who do not use any language: "animals solve problems that… have the

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[18]Siegel, Daniel J. *Brainstorm: The Power and Purpose of The Teenage Brain*. New York, NY: Penguin Group, 2013. Print.

[19]ibid.

[20] ibid.

[21] Vygotsky, Lev. "Thought and Word." *Thought and Language*. Trans. Eugenia Hanfmann. Cambridge: MIT, 1962. *Gordon Wells Language, Learning and Teaching*. University of California Santa Cruz, 3 Apr. 2011. Web. Apr. 2015.

[22] Siegel, Daniel J. *Brainstorm: The Power and Purpose of The Teenage Brain*. New York, NY: Penguin Group, 2013. Print.

[23] "Think." Def. 1, 2, 8b. *Merriam Webster*. Merriam Webster, Inc., 2015. Web. Apr. 2015.

[24] Vygotsky, Lev. "Thought and Word." *Thought and Language*. Trans. Eugenia Hanfmann. Cambridge: MIT, 1962. *Gordon Wells Language, Learning and Teaching*. University of California Santa Cruz, 3 Apr. 2011. Web. Apr. 2015.

[25]Arnheim, Rudolf. *Visual Thinking*. Berkeley: U of California, 1969. Print.

striking characteristics of genuine productive thinking. Animals can connect items of their environment by relations that lead to the solution of a given problem; they can suitably restructure a situation facing them; they can transfer a solution to different, but structurally similar instances. And they do all this without the help of words"(228).[26]

So, thought can exist without language. But what happens when those two overlap? Those of us who use language cannot escape its impact on our thoughts. The vast majority of our interactions involve language at some level, so our brains have gotten used to using language as a processing tool even for internal communication. However, when we speak to ourselves, we take shortcuts. "We know what we are thinking about--i.e., we always know the subject and the situation. Psychological contact between partners in a conversation may establish a mutual perception leading to the understanding of abbreviated speech. In inner speech, the mutual perception is always there, in absolute form; therefore, a practically wordless communisation of even the most complicated thoughts is the rule"(19).[27] The mind abbreviates words when you're using them to communicate with yourself. You are able to leave out most language from your thoughts because you spend enough time with yourself to know what you mean. A similar phenomenon can occur between people in close relationships, especially emotionally intimate couples and twins. Here's an example of an interaction between lovers Levin and Kitty in Leo Tolstoy's *Anna Karenina:* "She wrote: I c n a o t. His face brightened suddenly: he had understood. It meant: 'I could not answer otherwise then'"[28]. Although this is a fictional example, it represents a very real phenomenon: we don't need to use language if we understand each other well enough without it. Once two people have shared enough experience to be able to skip the "middle-man" of language, their communication can look more and more like the thoughts did before they were translated at all. But most of us want to be able to communicate and empathize with people outside of our intimate relationships.

Does language help us understand people with different experiences than our own? Biologist Mark Pagel argues that it does: "Just as you use the remote control device to alter the internal settings of your TV to suit your mood, you use your language to alter the settings inside someone else's brain to suit your interests."[29] But you're not the only one with a remote. That person encounters millions of other external percepts, not to mention all of their internal percepts, which also play a role in altering their settings. So when you speak, what you're really doing is suggesting that your listener connect your words to their own web of ideas. A speaker is generally aware of three major things when speaking: their meaning or intention, the actual words they are saying, and the reaction of their listener. If verbal communication were flawless, the listener would be able to hear the words being spoken, understand the meaning and intention behind them, and consciously respond. But, typically, the listener only does one of those things--hearing the words. This doesn't mean the listener isn't trying to understand. The disconnect between intended meaning and understanding isn't really the fault of the speaker or the listener. "Suppose… that every community of traits would induce us to group the corresponding things under a concept… Each individual thing would be explicitly assigned to as

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[26]Arnheim, Rudolf. *Visual Thinking*. Berkeley: U of California, 1969. Print.

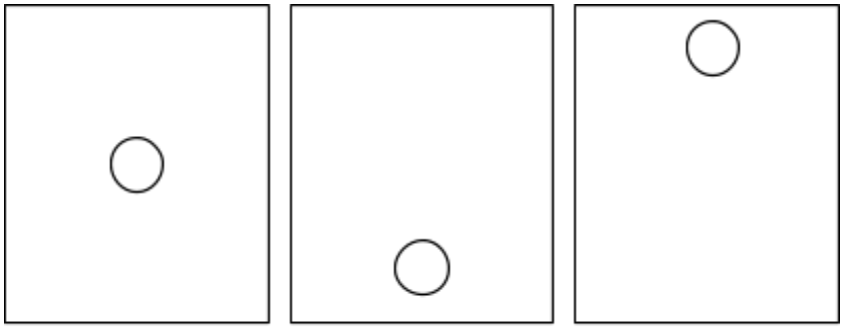
[27] Vygotsky, Lev. "Thought and Word." *Thought and Language*. Trans. Eugenia Hanfmann. Cambridge: MIT, 1962. N. pag. *Gordon Wells Language, Learning and Teaching*. University of California Santa Cruz, 3 Apr. 2011. Web. Apr. 2015.

[28] ibid.

[29] Pagel, Mark. "How Language Transformed Humanity." TEDGlobal 2011. 2011. *TED*. Web. Apr. 2015.

many groups as there are possible combinations of its attributes… all these memberships are in fact constantly present when the word… comes up, but the actual consummation of all this infinity of groupings… would not contribute to sensible orientation"(158).[30] This seemingly hypothetical idea that Arnheim presents is actually an accurate description of our understanding of the world. In order to even begin to understand a concept, it has to be linked to something you already understand. So that means that everything you know is somehow linked to everything else you know. That's why metaphors work. As James Geary says in his TED talk, "Metaphorically Speaking," "whenever we give a thing a name that belongs to something else, we give it a whole network of analogies too"[31]. If you think about it, that's what you're doing when you define any word. You're fitting a new label into a web of connections and analogies that already exist. And when you translate that into another language, you connect it to a whole new web. A fascinating example of this is trilingual novelist Vladimir Nabokov, who was fluent in Russian, French, and English. He "wrote three memoirs: He published [the first] in English, and [when he] started translating it into Russian, he recalled a lot of things that he did not remember when he was writing it in English, and so in essence it became a somewhat different book… It came out in Russian and he felt that in order to represent his childhood properly to his American readership, he had to produce a new version"[32] This happens because, just like the images or smells or sounds that you hear every day, your language becomes tied up in your memories. Using a word that you haven't used in ten years will likely spark memories that you wouldn't have thought of otherwise.

How does our language impact our thoughts? Words do more than help us communicate our thoughts. They can actually shape how we think about things and drastically improve our memory. Take this example: Below are three images of a ball dropping from the top of a box to the bottom. Arrange them in chronological order.



If you're like most native English speakers, your answer is CAB. If you were raised speaking Hebrew, or any other language that reads from right to left, you probably said BAC. But either way, you know that a ball drops from the top to the bottom, and that C is the first image chronologically. The way you speak and write language affects the way you think about time and space. A similar experiment included three test groups: English speakers, Hebrew speakers, and speakers of Kuuk Thaayore, the language of the Thaayore people of the Cape York

[30] Arnheim, Rudolf. *Visual Thinking*. Berkeley: U of California, 1969. Print.
[31] Geary, James. "Metaphorically Speaking." TEDGlobal 2009. July 2009. *TED*. Web. Apr. 2015.
[32] Yu, Alan. "How Language Seems To Shape One's View Of The World." *NPR*. NPR, 2015. Web. Apr. 2015.

Peninsula in Queensland, Australia. They were all presented with a group of photos. “Asked to arrange photos into temporal order, English speakers arranged them from left to right, while Hebrew speakers arranged them from right to left. The Kuuk Thaayore, who don’t have words like “left” and “right”, arranged the photos from East to West.”[33]

Another similar experiment compared Mandarin speakers and English speakers, again testing the relationship between time and spatial language. “English speakers tend to talk about time using horizontal spatial metaphors (e.g., "The best is ahead of us," "The worst is behind us"), whereas Mandarin speakers have a vertical metaphor for time (e.g., the next month is the "down month" and the last month is the "up month")... Imagine this simple experiment. I stand next to you, point to a spot in space directly in front of you, and tell you, "This spot, here, is today. Where would you put yesterday? And where would you put tomorrow?" When English speakers are asked to do this, they nearly always point horizontally. But Mandarin speakers often point vertically, about seven or eight times more often than do English speakers.”[34] Just like it does with spatial perception, the use of language simplifies our understanding of the things around us. “When an infant is as young as six months, words guide categorization of animals and objects by directing the infant to focus on the obvious and inferred similarities shared by animals or objects with the same name.”[35] For example, look at this picture of two pets. They have quite a few features in common. But when we look at them, we call the left one “dog” and the right one “cat”. By doing this, we associate them each with different ideas that exist in our minds. If the two had the same name, we would see this image differently.

Another example of language categorizing our thoughts is in the difference between these:

and these:

We call the ones on the left cups and the ones on the right glasses. Looking at the left image, I imagine myself in my kitchen filling up a cup of water from the sink. But when I look at the right

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[33] Boroditsky, Lera. "How Does Our Language Shape the Way We Think?" *Edge*. Edge Foundation, Inc., 11 June 2009. Web. Apr. 2015.Boroditsky, Lera. "How Does Our Language Shape the Way We Think?" Edge. Edge Foundation, Inc., 11 June 2009. Web. Apr. 2015.

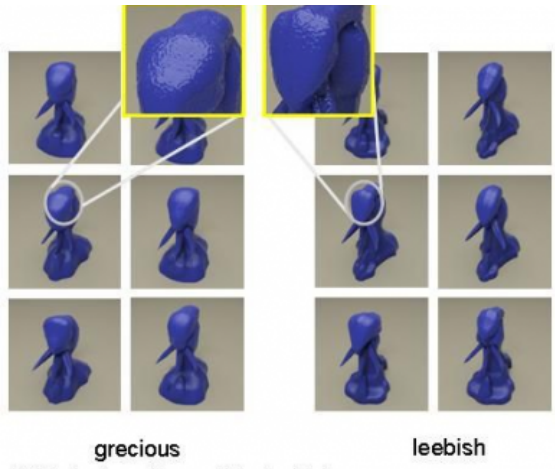
[34] ibid.

[35] Fulkerson, Anne L., Sandra R. Waxman, and Jennifer M. Seymour. *Linking Object Names and Object Categories: Words (but Not Tones) Facilitate Object Categorization in 6- and 12-Month-Olds*. Tech. National Institutes of Health, Web. Apr. 2015.

image, I imagine a formal event. But other languages don't divide their beverage containers in the same way English does. For example, Russian speakers differentiate between *chaska* (cup) and *stakan* (glass) based on their shape rather than their material. As Alan Yu writes for NPR, "If you want to learn another language and become fluent, you may have to change the way you behave in small but sometimes significant ways, specifically how you sort things into categories and what you notice."[36] By looking for new ways to categorize experiences, you actually build new pathways in your brain and make it easier for you to understand and communicate.

One way this can work is when dealing with difficult experiences and emotions. "In the brain, naming an emotion can help calm it. Here is where finding words to label an internal experience becomes really helpful. Sharing your experience with others can often make even terrifying moments understood and not traumatizing"(61).[37] Choosing names for emotions can be counterproductive if you try to oversimplify them, but it can also be useful when emotions become too overwhelming. Naming experiences also helps us remember them. Dr. Dedre Gentner of Northwestern University tested this hypothesis in an experiment. She had each child watch her place a card into one of three spots in a box, then showed them an identical box later on and asked them where the card was. "If the experimenter used spatial terms when speaking to a child, saying, 'I'm putting the card in the top' (or 'middle' or 'bottom'), as opposed to 'I'm putting the card here', the children were much likelier to find the correct spot in the second box."[38]

Naming and categorizing our experiences can be helpful. It helps the left hemisphere process our reality so we can talk about it. But, it can also be harmful. As Saul Bellow said in a discussion with a group of college students in 1973, "People don't realize how much they are in the grip of ideas. We live among ideas much more than we live in nature… People's lives are… filled with mental design of one sort or another"(95).[39] Using language allows us to distance ourselves from our personal realities enough to see them from a new perspective. But distancing yourself too much, as Bellow warned, can get in the way of your perception and keep you from really looking at the world.



[40] Dr. Gary Lupyan conducted a series of experiments that tested the harmful effects of letting language take over our understanding of the world. In one experiment, he "showed subjects a series of chairs and tables using pictures from the Ikea catalog. Some subjects were asked to

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[36]Yu, Alan. "How Language Seems To Shape One's View Of The World." *NPR*. NPR, 2015. Web. Apr. 2015.
[37]Siegel, Daniel J. *Brainstorm: The Power and Purpose of The Teenage Brain*. New York, NY: Penguin Group, 2013. Print.
[38]Kenneally, Christine. "When Language Can Hold the Answer." *The New York Times*. The New York Times, 21 Apr. 2008. Web. Apr. 2015.
[39]Cronin, Gloria L., and Ben Siegel, eds. *Conversations with Saul Bellow*. N.p.: U of Mississippi, 1994. Print.
[40] Grecious (hostile) and leebish (friendly) aliens from Dr. Lupyan's experiment. Digital image. De Nomine. 19 Sept. 2010. Web. 1 May 2015. http://www.denomine.com/wp-content/uploads/2010/09/Picture-1-400x344.png.

press a button indicating that the picture was of a table or a chair. Other subjects pressed a button to make a nonverbal judgment about the pictures, for example, to indicate whether they liked them or not. Dr. Lupyan found that the subjects who used words to label the objects had more trouble remembering whether they'd seen a specific chair before than subjects who had only pressed a button in a nonverbal task."[41] Following this experiment, Dr. Lupyan concluded that "after a category has been learned, it can distort the memory of specific objects, getting between us and the rest of the nonabstract world"[42]

In another experiment, Dr. Lupyan asked Carnegie Mellon students to categorize a group of aliens with two slightly different head shapes into "friendly" and "not friendly". "A quarter of the participants were told in advance that the friendly aliens were called "leebish" and the hostile ones "grecious," while another quarter were told the opposite. For the rest, the aliens remained nameless." Although over 80% of participants both groups eventually separated the aliens correctly, the group using labels came to the conclusion much more quickly and was 10% more likely to accurately divide the aliens.[43] At first it seems like a good thing that labels helped the participants get the right answer, but a closer look shows how dangerous this is. None of these aliens were actually doing anything at all. They were all just pictures. The conclusions made by the students were based only on the link between the aliens' appearance and the description given by the experimenter. This experiment shows that labels help us make assumptions based outside of reality more quickly.

Those of us who use language cannot escape its effect on our thoughts. Describing anything with language, whether it's an object, a place, a person, an action, an action, or a point in time, will change the way you see it by connecting it to other experiences you've had. Sometimes that's good. It can help us remember experiences. It can help us deal with emotions that would otherwise be overwhelming. It can help us empathize, negotiate, and understand other people. But it's not perfect. Sometimes giving things names simplifies them too much and creates categories that don't fully represent their meaning. Getting stuck in a world of ideas can mean that we aren't appreciating how complex and interesting our world is. Our communication is what makes us human, and we need to do more of it. But language is just the beginning.

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