Lesson Four

Our most basic assumptions are embedded in the basic elements of our everyday lives.

THE POWER OF LANGUAGE

On her first day as a sign-language interpreter for a local community college, Susan Schaller spotted a deaf man sitting alone and intensively studying the people around him in a Reading Skills class. She introduced herself with a greeting gesture and her name sign, as if to say, "Hi, my name is Susan." He copied her, as if to say back, "Hi, my name is Susan. "What's your name?" she asked. "What's your name? he responded. He studied her carefully, copying her every move, and asking for her approval with his eyes. She soon realized that this 27 year old man, named Ildefonso, had no concept of language. "We were only inches apart, but we might as well have been from different planets; it seemed impossible to meet."

She could not help but recognize his desire to learn, and felt called to teach him. It was long, arduous and frustrating work. Nothing she did seemed to break through.

Eventually she settled on the idea of doing an "imaginary Ildefonso skit" in which she would talk to an empty chair as if Ildefonso was sitting there, then pop over to the other chair to respond, thereby modeling a conversation between herself and an imaginary Ildefonso. It was a bizarre scene, and felt strange. Week after week she had these imaginary conversations. "I began to worry about my sanity," she writes.

After a grueling mind-numbing and apparently hopeless session, Ildefonso suddenly perked up. "The whites of his eyes expanded as if in terror," Schaller writes. He was having a breakthrough. He sat still as if pondering the revelation and then excitedly started looking around the room, "slowly at first, then hungrily, he took in everything as though he had never seen anything before." He started slapping his hands down on objects and looking for Susan to respond. "Table," she signed as he slapped his hand on the table. "Book," she signed as he touched a book, and then "door" "clock" "chair" in rapid succession has he pointed around the room. Then he stopped, collapsed his head into his arms folded on the table, and wept.

> *"He had entered the universe of humanity, discovered the communion of minds. He now knew that he and a cat and the table all had names ... and he could see the prison where he had existed alone, shut out of the human race for twenty-seven years."*

LANGUAGE LEARNING IN NEW GUINEA

When I first arrived in the rainforests of New Guinea I saw three things: trees, bushes, and grass. Of course, there were a wide range of different types of trees, bushes, and grasses, but having no language for them they disappeared into a large mass of stimuli that I simply knew as "the forest." I had no language to make sense of what I was seeing - no web of meanings to create the background upon which what I saw could take on some significant definition. I could not tell food from foul, or medicine from poison, and I was completely mystified by the meanings my friends could glean from the forest as we walked. With their eyes always scanning their surroundings, they were constantly reacting to the messages they could see and hear, variously lighting up with delight and sighing with disappointment, laughing, groaning, shaking their head this way and that as they went.

Anxious to explore their world of meanings, I set about learning the language. The first phrase I could identify seemed to be a common greeting, as I heard it over and over again every morning as we watched people stroll by the house on their way down the mountain toward their gardens. "*Neliyongbipkatopbant*!" they would sing out as they passed. I wrote it down and repeated it to my brother Lazarus, asking him what it means.

"It means, *I am going to the garden*." he said. "Great!" I thought to myself, a subject, verb, and an object. I could use this to start unlocking the language using a technique we call frame substitution. With frame substitution, the researcher uses a known phrase as a "frame" and just tweaks ("substitutes") one part of it to see what changes.

"How do you say, *He is going to the garden*?" I asked. "Eliyongbipkatopbana." The words were too fast for me to decipher where one word stopped and another began, so I ran them all together in my notebook.

A pattern was emerging. The change in subject from "he" to "I" had changed the beginning and end of the phrase (***Ne***liyongbipkatopban***i*** vs. ***E***liyongbipkatopban***a***).

I sat still and pondered the revelation for a moment and then excitedly started asking for more words. I felt like Ildifonso awakening to a new world. I was having a breakthrough. I excitedly started scribbling notes into my notebook. Other bits of language I had recorded suddenly made sense. It was is if a code had been broken and a world of mystery was revealing itself to me. Like Ildifonso pointing in rapid succession to tables, books, doors, clocks, and chairs I also started gathering new terms using the framework of this sentence as a starting point. I asked how one would say "she is going to the garden" and found the beginning and end changed again. I started rattling off different subjects, from he and she and on to they and we.

Then I was ready to discover the pronoun and verb ending for "you."

"How would you say, '*You are going to the garden*?'" I asked.

"Neliyongbipkatopbani," he answered, which was already established as "*I* am going to the garden." "No, no." I corrected, "*You* are going to the garden."

"Neliyongbipkatopbani," he responded again.

"No, no!" I responded in frustration. "*You! You* are going to the garden."

"No, no," he said. "I'm staying right here. You are still very confused."

WHAT IS A WORD?

One of the biggest challenges of learning a language among people who do not read and write is that they do not necessarily think about their language as a collection of discrete words in the same way that we do.

Likewise, one of the biggest challenges of learning a language among people who do read and write is that they do not always talk like they write. Learning the written form maybe entirely different from learning how to speak. One of comedian George Carlin's favorite English words was "ommina," as in "Ommina go catch the bus and head home."

Humans can make about 4,000 different sounds. About 400 of these are used in languages around the world with most languages using about 40 different sounds. The sounds a language uses are called phonemes. These sounds include consonants and vowels, and in some languages there are also clicks and tones.

If you do not learn a phoneme when you are young it can be difficult to speak and understand later in life. English speakers struggle to understand the tones in a tonal language. Japanese speakers often struggle to pronounce the "r" sound used in many languages. And the plethora of unique "clicks" used in Bushmen languages of southern Africa are difficult for everyone except the Bushmen. English-speakers learning Korean often struggle not only to say certain words but also to distinguish words like pul and p^hul, which both simply sound like "pull" to an English speaker, but p^hul uses an aspirated 'p' thereby distinguishing the word as "grass" rather than "fire."

Sometimes these phonemic differences create unique abilities in the cultures and speakers that use them. The Piraha of the Amazon use just 11 sounds, including three tones. The

heavy use of these tones allow the Piraha to whistle messages to one another through the rainforest across great distances. In West Africa, speakers of tonal languages can use "talking drums" that allow the drummer to vary the pitch to mimic speech and send messages up to 5 miles. Tonal languages might also have an effect on human abilities. In one study, Diana Deutsch found that Mandarin speakers were nine times more likely than English speakers to have perfect pitch, the remarkable ability to precisely name any pitch, whether it comes from a piano or the hum of an air conditioner.

Though the local language contained a few new phonemes that made it difficult for me to learn, I was fortunate that many of the people in the village spoke Tok Pisin, a creole that had developed over the past few centuries of contact with Europeans. The language is a mix made up of mostly English-derived words along with some German and local words. I had no trouble saying "You are going to the garden" in Tok Pisin (you simply say "*yu go long gaden*.") Tok Pisin has become a national lingua franca facilitating communication for speakers of over 800 different languages in Papua New Guinea. With a relatively small vocabulary made up of many familiar words, I was able to converse in the language in a month and became fluent soon after that.

But it was the local language that enchanted me. As psychologist Lera Boroditsky notes, "If people learn another language, they inadvertently also learn a new way of looking at the world." I sensed that I was on the verge of a new way of seeing the world.

I changed tactics and returned to the foundations of frame substitution to build on what I already knew. "How would you say, '*he is going to the house*'" I asked. "Emi***am***katopbani." Now the code was breaking again. I noticed that the only change

between that phrase and the phrase for going to the garden was *am* vs. *yongbip*, and could conclude that these were the words for house and garden, respectively. I excitedly asked for more and started filling my notebook.

I reveled in my new language abilities. Mastering a common greeting like this gave me something to hold on to in what was otherwise a sea of unfamiliar sounds. But then a new mystery emerged the next morning. A man walked by my house as I was sitting on the veranda and said, "Neli yongbip ka*met*bani." By the time I unraveled what he meant by the statement, I was forced to realize that they were not just speaking differently. They were thinking differently too.

TRANSCENDING SPACE AND TIME

Vivian: Have you ever transcended space and time?
Edward: Yes. ... No. Uh, time not space. ... No, I don't know what you're talking about.
- I Heart Huckabees

The man was passing from the other direction, heading uphill, and that turned out to be the key difference. Ka***met***bani indicated that he was going uphill, while ka***top***bani indicated going downhill. Using frame substitution I found a vast collection of words indicating specific directions. This does not seem particularly different from English, in which we might say "I'm heading down there / up there / over there / etc." The key difference is not that we *can* say these things. It is that they *have* to. The direction indicator is built right into their grammar, so they have to say which direction they are facing or going every time they say hello. In this way, it is

similar to Pormpuraaw, spoken by Australian Aborigines on the northern tip of Queensland, Australia. As Lera Boroditsky says, "If you don't know which way is which, you literally can't get past hello."

In some languages these directional orientations take the place of left and right, so a speaker might say, "your north shoe is untied" or even "your north-northwest shoe is untied." As a result, people who speak languages like this exhibit the uncanny capacity for dead reckoning. They know exactly which direction is which at every moment of the day. Even small children know exactly what direction they are facing, even in unfamiliar territory after long travels. Stephen Levinson recounts that one Tzeltal speaker (a Mayan language in the Mexican state of Chiapas) was blindfolded and spun around over 20 times in a dark house, yet he still knew which way was which.

I knew very little about this at the time. I only knew that my friends in New Guinea were experiencing the world differently than I was. I felt much like Wilhelm von Humboldt must have felt when in the early 1800s he started to realize that American Indian languages had radically different grammatical structures from European languages. "The difference between languages is not only in sounds and signs but in worldview," he proclaimed. While he recognized that any thought could be expressed in any language, he became keenly aware of the fact that a language shapes thought by "what it encourages and stimulates its speakers to do from its own inner force." In other words, if you have to figure out what direction you are facing every time you greet someone, you get pretty good at telling direction.

Enchanted by the possibilities of new ways of thinking, linguists and anthropologists set about documenting

undocumented grammars in earnest. By the early 1900s, Edward Sapir emerged as one of their most prominent leaders. "What fetters the mind and benumbs the spirit is ever the dogged acceptance of absolutes," Sapir wrote in his Introduction to the Study of Speech. Like Humboldt, Sapir saw a path toward new ways of seeing and thinking about the world through the documentation of languages. Sapir championed the idea as the "principle of linguistic relativity. Much as Einstein's Theory of Relativity, Sapir thought linguistic relativity could disrupt our ways of seeing and understanding the world.

Sapir's most famous student and colleague was Benjamin Whorf, a genius fire inspector with a degree in chemical engineering who was fascinated by languages. While working as a fire inspector he noticed that several tragic fires were caused by people carelessly smoking next to "empty" gas barrels. Of course, the "empty" barrels were actually full of highly flammable gas vapor.

Most famously, Whorf became interested in Hopi concepts of time. He noted that in English we talk about time as a "thing" and objectify it as seconds, minutes, hours, days, etc. It was a brilliant analysis starting from the insight that time is not really a "thing" but is simply the experience of duration, of a "getting later." The Hopi, he argued, have "no words, grammatical forms, constructions or expressions that refer directly to what we call 'time.'" He tied this into a broader observations of how our grammar shapes how we talk and think. For example, our grammar obliges us to provide a subject for every verb, so we say "it rains" or "the light flashes" when in fact neither the rain nor the light even exist without the action itself. When a light flashes the Hopi simply say *rehpi*. Whorf would go on to claim that our grammar made it difficult

for us to understand Einstein's Theory of Relativity which merge time and space, matter and energy, but make it easy to understand Newton, in which objects do specific actions. He suggested that if science had emerged within an Amerindian language, the Theory of Relativity might have been discovered much sooner.

Unfortunately, his claims about Hopi time may have gone too far. The idea that the Hopi have no concepts of time was discounted in the opening quote of Ekkehart Malotki's comprehensive book on Hopi Time:

> *Then indeed, the following day, quite early in the morning at the hour when people pray to the sun, around that time then, he woke up the girl again.*

Whorf fell into disrepute among many linguists after this, but nobody expressed the core insight that language can shape thought more eloquently or forcefully. His works revealed what Stephen Levinson called a "seductive, revolutionary set of ideas." Levinson goes on to note that "many eminent researchers in the language sciences will confess that they were first drawn into the study of language through the ideas associated with Benjamin Lee Whorf."

As linguists have turned away from Whorf, what was once known as the "Sapir-Whorf Hypothesis" or as Sapir dubbed it "the Principle of Linguistic Relativity," is being re-shaped as what Guy Deutscher has called the Boas-Jakobsen principle. Deutscher points out that unlike Whorf who pushed the notion that language shapes thought too far, Boas and Jakobsen championed a more tempered approach that, as Jakobsen summarized, "languages differ essentially in what they *must* convey and not in what they *may* convey." In this

way, language shapes how we think by forcing us to think about certain things over and over again – like direction for my friends in New Guinea.

Over the past 30 years careful controlled experiments have shown that language does indeed shape how we think. For example, in one task researchers asked participants to look at three different toy animals in a row setting on a table. The animals might be placed from left to right, facing "downhill" for example. Participants have to memorize the order of the animals and then turn around and place the animals in the same order on another table behind them. This forces the participant to make a decision about which answer is "right." One right answer would be to place the animals from left to right, but now left to right is not "downhill," it is "uphill." In such experiments, almost all speakers of Tzeltal (a language that requires speakers to know which direction they are facing) chose to orient the animals from right to left in a "downhill" orientation, while almost all Dutch speakers did the opposite.

Though this may seem like a minor difference, Lera Boroditsky points out that how we think about space can affect how we think about other things as well. "People rely on their spatial knowledge to build other, more complex, more abstract representations," she notes, "such as time, number, musical pitch, kinship relations, and emotions." For example, the Kuuk Thaayore of northern Queensland in Australia arrange time from east to west rather than left to right. When they were asked to arrange cards that indicated a clear temporal sequence such as a man aging or a banana being eaten, they arranged the cards from east to west, regardless of which direction they were facing. Mandarin speakers think of time as moving downward so next month is the "down month" and last month is the "up month."

Beyond time and space there are other interesting grammatical differences across languages that may shape how we think, but these domains have not been investigated thoroughly. For example, the Matses of the Amazon rainforest have the most complex system of berb forms that linguists call "evidentials." They operate much like tenses, but require speakers to indicate precisely how they know what they know. In Matses, if you want to say, "he is going to the garden" you have to indicate whether you know this by direct experience, you are inferring it from clear evidence, you are conjecturing based on previous patterns, or you know it from hearsay. In the West we have a vast complicated philosophical field that called Epistemology to explore how we know what we know. The Matses may be master epistemologists just by virtue of how they are required to speak.

WHERE THE SKY IS NOT BLUE

That our grammar affects how we think is now well-established, but what about our words? In one famous example, often mistakenly attributed to Whorf, the Eskimo are said to have hundreds of words for snow. This is not exactly true on a number of counts. First, there is no single Eskimo language, and many languages spoken in the region use polysynthetic word structures that allow them to make an infinite number of words from any root. For example, a complex phrase like "Would you like to go window shopping with me" can be expressed in just one word. In such a system, there are endless possibilities building from the root words for snow (of which there are only two). However, linguist David Harrison notes that the Yupik identify at least 99 distinct sea

ice formations including several that are essential to life and death on the ice such as *Nuyileq*, which indicates crushed ice that is beginning to spread out and is dangerous to walk on. It should not be surprising that the Yupik would have so many words for sea ice formations. Of course, an avid skier also has several words for snow and ice that are unknown to most English speakers, such as chunder, powder, moguls, zipper bumps and sastrugi. Just as we learned in the previous section, our language does not limit us from perceiving new things and inventing words for them, but once we have a word for something and start habitually using that word it is much easier to see it.

I experienced this myself in New Guinea. As I learned the language the forest came alive for me in the same way that the whole world came alive for Ildefonso as he discovered language. The more words I learned, the more I came to see and understand the significance of the world around me. The monotonous diet, which had consisted of little more than taro, sweet potato, and bananas, was greatly enhanced as I came to recognize over thirty types of taro and sweet potato, and over fifty types of banana, each with its own distinct texture and flavor.

Sometimes, the words people use to describe the world clearly reflect and support the social structure and core values of their culture. One particularly well-documented example is in the domain of kinship terms. For example, Hawaiians use same word (*makuahine*) for mother as they do for aunt, a reflection of the importance they place on family and their tendency to live in extended families. If you were born into a culture where wealth is passed through the father's line (patrilineal systems) you might refer to your father's sister as "mother-in-law," indicating that her children (your "cousins"

in our system) are suitable marriage partners. This form of cousin marriage can be advantageous because it keeps the wealth within the patrilineage. If you marry outside the patrilineage, the family wealth would need to be divided. Our own system which distinguishes one's closest blood relatives (mother, father, brother, sister) from more distant relatives (aunts, uncles and cousins) reflects and supports a social structure and core values emphasizing independent nuclear families.

The core idea here is that we use our words to divide and categorize the world in certain ways which then influence how we see and act in the world. But how far does this go? For example, if we imagined a culture that had no word for blue, would the people of that culture experience "blueness"? Could they see it? Would they see it just as you or I see it?

This is the question that struck William Gladstone in 1858 when he noticed something peculiar about Homer's epic classics, the Illiad and the Odyssey. There were very few color terms throughout both texts, and the few times that colors were mentioned they seemed a little off. Honey is described as green. The daytime sky is black. And the sea is described as the color of wine. And there seemed to be no word for what we would normally call "blue." After careful study, Gladstone came to the conclusion that the Greeks might have seen the world very differently from us, perhaps mostly in black and white with the occasional shade of red.

Nine years later, Lazarus Geiger found that the color blue was also missing from the texts of ancient India, and from biblical Hebrew. He attempted to unveil the deep history of numerous languages and found that the word for blue was a relatively recent invention in each one. Furthermore, he noticed that the order in which colors were added to a language

seemed to follow a universal pattern. First a language would have words for black and white, then red, then yellow or green, then yellow and green, and finally blue. Over the next twenty years, anthropologists and missionaries gathered color terms from all over the world and the universal pattern was confirmed.

Geiger wondered whether or not people without words for such colors could see the colors or not. "Can the difference between them and us be only in the naming," he wondered, "or in the perception itself?" Do they really not see the color blue? Thus opened up to science one of our favorite old philosophical nuts. *Is the "blue" you see the same "blue" that I see?* Is it possible to know?

Ten years later the question was one of the hottest topics of the age. Anatomist Frithiof Holmgren suspected that a deadly train crash in 1875 was caused when the conductor failed to see and obey a red stop light. He set about testing other conductors for color-blindness and promoted the importance of color perception for international safety. In this environment, Hugo Magnus suggested that color-blindness was a vestige of relatively recent human abilities. The ability of our retina to see colors had been evolving, he argued, and it would continue to evolve. Red was the first color we saw because it was the most intense, followed by yellow and green. He proposed that the ability to see blue was a relatively recent human ability, and suggested that so-called "primitive" tribes saw the world of color much as we see it at twilight, with muted gradations and only the most intense colors easily distinguished.

But color tests around the world failed to confirm that people of different cultures varied in their ability to perceive

color differences. Nubians, Namibians, and Pacific Islanders had no trouble sorting and matching color samples.

But there was still the mystery of why Homer would describe the sea as "wine-dark" or honey as green, and why the word for blue would be so late in coming in the evolution of languages.

Sometimes we have some basic assumptions built into our questions that lead us astray. If you ask, "how did humankind's sense of color evolve over the past 3,000 years since Homer?" then you are already assuming that our sense of color has evolved. It is easy enough to discard that assumption, but harder to see and discard a much deeper assumption about the nature of color itself. We think of colors in terms of hue, which is dependent on the color's wavelength and is independent of its intensity or lightness. What is apparent now is that many languages, including that of Homer's, were not describing "color" as we think of it at all, but were instead describing intensity. The Greeks did not classify colors by hue, but by darkness and lightness. Kyaneos referred to darker colors such as dark blue, dark green, violet, brown, and black while glaukos referred to lighter colors such as light blue, light green, grey or yellow.

So why does "red" come first in the history of languages, followed by yellow, green, and finally blue? We do not know for sure, but there may be a mix of reasons both natural and cultural. Our closest primate relatives show increased excitement around the color red, which may signal danger (blood) or sex, and experiments with humans also show physiological effects. Red is of great importance symbolically in most cultures, and red dyes are the easiest to find and manufacture, with most cultures having some source for red dye that is often used in art and skin decoration. Yellow and

green are important in identifying the health and ripeness of many plants, and yellow dyes are also fairly easy to find and manufacture. Blue is not especially important or easy to find and manufacture. Indeed, blue dyes do not appear until about three thousand years ago and its rarity conferred it a special status in early civilizations.

More importantly, some color words in other languages carry other important meanings that can change how they are used. For example, anthropologist Harold Conklin notes that the Hanunoo of the Philippines say that the brown-colored section of freshly cut bamboo is "green" since green is not exclusively a color term but a label of freshness.

While it is now well-established that people of different cultures can see all the same colors, there is some evidence that our color words shape how we see them. For example, neuropsychologist Jules Davidoff worked with the Hemba in Africa who do not have a word for blue. When he showed them 12 color samples, 11 that we would call "green" and 1 that we would call "blue" they could not determine that the "blue" one was the odd one out. But, they have many words for different shades of green, and when shown a pallet of 12 green squares with one slightly different they immediately saw the difference. English speakers cannot do this. (You can try at http://languagelog.ldc.upenn.edu/nll/?p=17970). His work suggests that once we name a color it is easier to notice it, and we often collapse color differences toward our modal version of a color, making it difficult to distinguish between different shades that match the same category. In other words, when people who have no word for blue look out at a sky that they categorize in the same color category as black, the sky probably appears a bit darker than it does to us.

METAPHORS BE WITH YOU

Though grammar and words can be shown to shape how we see and think about the world, linguists George Lakoff and Mark Johnson have proposed that the most profound influence on our thought is at the level of metaphor. They point out that metaphors are pervasive throughout our language and often unnoticed. For example, we often unconsciously use the metaphor ARGUMENT IS WAR to describe an argument. We say that claims are *defended* or *indefensible*. We *attack* and *demolish* our *opponents*, *shooting down* their points, hoping that we can *win*. To drive home the significance of this metaphor, they ask us to consider what it would be like if we lived in a culture that instead used an ARGUMENT IS A DANCE metaphor in which the participants try to dance together, find the beauty in each other's moves, and ultimately create something beautiful together.

The key point of Lakoff and Johnson is not just that we use metaphors in how we talk. It is that "human thought processes are largely metaphorical." As Neil Postman notes, "A metaphor is not an ornament. It is an organ of perception ... *Is light a wave or a particle? Are molecules like billiard balls or force fields? Is history unfolding according to some instructions of nature or a divine plan?"* In virtually every domain of our lives and worldview metaphors are operating, shaping how our perception.

Most of the metaphors we use in our thought are what they call "dead" metaphors, that is, that we do not see them as metaphors at all. Take for example the metaphorical concept that Michael Reddy has called the "conduit metaphor" in which we think of ideas as objects and words as containers for

those ideas. We put ideas into the containers (words) and send them (along a conduit) to other people. After careful analysis, Reddy notes that about 70% of all expressions we use about language are based on this metaphor. We say that we *have* ideas, that sometimes they are *hard to capture* in words, and that sometimes it is hard to *get an idea across*.

This metaphor lies at the heart of many "common sense" notions of education, which, as it turns out, are incomplete and misguided. The common sense notion is that a teacher's job is to put ideas into words and send them to the students who then will have the ideas. Massive lecture halls on college campuses have these assumptions built right into them, with fixed stadium seating facing the front of the room where the professor takes control of over a million points of light on giant screens, all specifically designed to help the professor "convey" the ideas into the heads of the students.

But this is not a complete picture of how learning works. Ideas do not just flow into people's heads and fill them up. When a new idea enters the mind of another it enters a complex system with its own structure of interests, biases, and assumptions. The learner does not just absorb ideas whole. But precisely what is going on when learning happens is difficult to describe, and so we must rely on other metaphors.

There are a wide range of possibilities beyond the "Mind is a container" metaphor that can open us up to new possibilities. For example, Reddy suggests that we might think of the mind as a toolmaker. When new ideas come to us that we think might be useful we use the idea to make a tool. But because my experience, interests, problems, and biases are different than yours I make a different tool.

This, like the "mind is a container" metaphor, strikes us as partially true though also incomplete. But by expanding our

metaphor vocabulary we constantly open ourselves up to new possibilities for how we think about the most important aspects of our lives.

Consider some of those really big questions that are constantly on our minds in the modern world: *Who am I? What am I going to do? Am I going to make it?* All of them are propped up on unexamined dead metaphors. Understanding what these metaphors are and how they shape our thoughts and actions might help us find answers to these questions, or perhaps lead us to new questions.

For example, when asking the question "Who am I?" we will often say that we are trying to "find ourselves." This is a metaphor, and it can shape your thoughts and actions. The attempt to find the self assumes that there is a solid core self to be found. To find it we might try on different career paths, bounce between relationships, or travel from place to place looking for it. And each time we fail to find it we feel a little more "lost." The experiences seem wasted. But if we change the metaphor and instead see our task as one of "creating ourselves" those same experiences can be seen as part of the creative process, each one becoming a part of who we are as we go about creating the self. Of course, neither of these is precisely right. They are both incomplete, but each fills in gaps the other missed. The notion of creating yourself overlooks the fact that we are all inherently different, that we all have different tendencies, capacities, and limits. While the notion finding yourself can overlook our capacities to change and create new tendencies, develop new capacities, and overcome limits.

And then there is the possibility that both of these metaphors put too much emphasis on the self altogether and perhaps we should be considering a different metaphor. As

the great poet Marshall Mathers once noted, "You better *lose* yourself, in the moment, you own it, you better never let it go." Of course, losing yourself may mean moving beyond language altogether. This is what happened to neuroscientist Jill Bolte Taylor during a stroke. The language center of her brain shut down. She says, "I lost all definition of myself in relation to the external world." "Language is the constant reminder 'I am.'" And how did she feel in this state? "I had joy. I just had joy," she told Radiolab in an interview.

> *I found a peace inside of myself that I had not known before ... pure silence ... you know that little voice that says "ah man the sun is shining" imagine you don't hear that little voice ... you just experience, the sun and the shining. ...*
> *It was all of the present moment.*

Though we are not likely to be willing to give up our language we can try to take control of it, and doing so requires that we recognize that even simple verbs such as *is* or *does* are, in the words of Neil Postman, "powerful metaphors that express some our most fundamental conceptions of the way things are." We *are* hungry. The Spanish "*have* hunger." This distinction is perhaps not very interesting or meaningful until we put it into other domains. We might *have* the flu but we do not *have* criminality. People *do* crimes and we have large systems in place to find out exactly who did a crime and why. Of course, these ideas can change. Not long ago one could *be* angry but could not *have* anger. Now, new ideas about how anger works allow people to recognize how anger can be seen as a treatable condition for which people can receive much needed help.

The key idea is that metaphors permeate our thoughts and deeply shape how we make sense of the world. They do not necessarily reflect the unchanging and absolute nature of reality. Metaphors are the primary lens through which we make meaning of the world. So long as our metaphors are dead and unexamined, they control us and our thought patterns. When we examine the metaphors that guide us we gain the freedom to create new ones and become meaning-makers. As Neil Postman once famously noted, "word weavers are world-makers."

WORD-WEAVERS ARE WORLD-MAKERS

Ellen Langer, professor of psychology at Harvard University, ran a simple experiment in which she gave two groups of students an object. One group was told "This is a dog chew toy" while the other group was told "This might be a dog chew toy." Later, when an eraser was needed, only the group that was told that the object "might be" a dog chew toy thought that it might also be used as an eraser.

The key difference is in how our minds pay attention to things and ideas we consider pliable and conditional vs. those we consider fixed and absolute. When we think of things and ideas as pliable and conditional we play with them, and by playing with them we become more likely to find new creative uses for them as well as remember them later on.

If I knocked on your door and offered you $10,000 for a 3' x 7' slab of wood, what would you do? Most people become frustrated that they do not have a pile of wood nearby, but they are holding a 3' x 7' slab of wood in their hand, the door itself! When we name something ("door"), it tends to become fixed

and absolute as that thing in our mind, and disappears as all the other things it might become. We fall into the trap of categories. As nobel physicist Niehls Bohr says, "Our thoughts have us rather than us having them."

To pay attention to these alternatives and to be aware of the pliable and conditional aspects of our world is to be mindful. The power of mindfulness is wonderfully summarized by Ken Bain who notes that "all of us possess enormous power to change the world and ourselves by shifting the language and categories we employ. *Maybe I'm thinking about this wrong. Is there a different way of seeing my problem? Are there different words I might use?* The brain becomes more creative. Life becomes more exciting and fun."

This power to change the self by changing our words is well-documented. In one experiment, Langer and her team ran a short seminar for maids at large hotels designed to inform them that their jobs were good exercise. "Although actual behavior did not change," Langer reports, they "perceived themselves to be getting significantly more exercise then before." Remarkably, their bodies actually reflected this change. Over the next month they lost an average of two pounds over the control group. They lost ½% body fat and their blood pressure dropped 10 points.

Langer points out that such results are largely the result of the Placebo effect. And what is the Placebo effect? It is the power of your mind to actually change your body and heal itself. When you change your beliefs in a way that is thoroughly convincing to your mind, your brain chemistry actually changes. In fact, every drug in the world is actually already present in the brain. That's why they work. Our brain has receptors for them. "Every pharmacological agent or drug that there is," Tor Wager told Radiolab's Jad Abumrod, "there is a

chemical produced by your brain that does that thing." http://www.radiolab.org/story/91539-placebo/ But the power to change the self by changing your language does not stop with the physical self. It runs deep into the very essence of how you understand yourself as well.

FINDING YOUR "STRENGTHNESS"

Most of us have deep unconscious understandings of ourselves that are not always flattering. We tend to push away these dark parts of ourselves and rarely examine them. In doing so, we might also be pushing away the parts of ourselves that make us who we are.

When we adopt a mindful approach to the world we see can ourselves as pliable and conditional rather than fixed and absolute. We can see our capacity for growth and change. This helps us see those darker parts of ourselves because we recognize that they might not always be so dark. In fact, we might even see these dark aspects of ourselves as the source of our greatest gifts.

When Gillian Lynne was a little girl her teacher was often frustrated with her. She would not sit still in the classroom, constantly dancing around the room. The teacher asked her mother to have her examined. After looking her over, the doctor turned on the radio and left the room to retrieve her mother. The doctor brought her mom to the door and asked her to look inside. Gillian was being Gillian, dancing around the room to the music. "Your daughter is not sick," the doctor said. "She's a dancer."

Gillian's mom promptly removed her from school and enrolled her in dance school. She went on to be one of the

greatest dancers and choreographers of modern times, best known for her work in *Cats* and *Phantom of the Opera*.

What appeared as a weakness in one context (dancing around the classroom) has become a great strength and widely celebrated in another (dancing across the stage). In this way, our weaknesses may in fact be strengths. Perhaps we are mistaken in separating them. As word weavers making new meanings, perhaps a new word can help us see parts of ourselves that otherwise remain hidden, *strengthness*.

A strengthness can be any apparent weakness that is a strength in another context or generates strength over time. For example, one former student struggled greatly with anxiety and panic attacks. Over her years of struggle with this weakness she developed a remarkable capacity to calm herself in times of stress. Years later when her boyfriend was struggling with the stress of graduate school, she was able to pass on some of her wisdom to help him calm himself. He went on to finish his PhD thanks to her remarkable abilities, and so did she. Now a practicing PhD in Clinical Psychology, she has helped hundreds of patients overcome the same debilitating anxiety and panic attacks that once plagued her.

New words like "strengthness" can help us see ourselves and the world in new ways. They shape how we see. We act based on what we "see." As Neil Postman sums it up:

> *If we "see things" one way, we act accordingly. If we see them in another, we act differently. The ability to learn turns out to be a function of the extent to which one is capable of perception change. If a student goes through four years of school and comes out "seeing" things in the way he did when he started, he will act the same.*
>
> *Which means he learned nothing.*

Challenge Four:
Word Weaving

Your challenge is to invent a word, phrase, or metaphor that you think would make the world a better place and then try to spread it among your friends.

Step One: Invent a word, phrase, or new metaphor. Examples in this lesson included "strengthness" and new metaphors about arguments, education, and the self. What about love? Maybe we could use a different word to describe our complex feelings. Or maybe we could re-imagine metaphors like "falling in love." Anything goes.

Step Two: Introduce the word, phrase or metaphor in basic conversation as if the word has always existed and see if your friends catch on and start using it themselves.

Step Three: If they ask about it, give them a strong pitch as to why it should exist.

Step Four: Show us or tell us about your adventure. Post a video or share your story at anth101.com/challenge4