Linguistics

Can we identify necessary features of language? Are they unique to humans? Is there any sense in which we can say other species or lifeforms use language?

LINGUISTICS - I

Some Initial Thoughts on Language

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I FIRST STARTED THINKING about language while reading Wittgenstein as a religious ethics graduate student. At the time, my teacher told me it would take ten years to understand Wittgenstein on language. It has taken at least that long. And then I realized Wittgenstein was just the beginning, and just one beginning.

After writing a book in which I tried to understand American habits of speech regarding time and war, I turned to a book on Foucault's philosophy. It was Foucault's account of human action and agency that turned me full-time to thinking about speech as such, this after a comment Arnold Davidson made about Stanley Cavell taking up action and agency by placing them within "Wittgenstein's vision of language." Since then—about a decade now—my research has centrally focused on language, and specifically the conventions that populate the human form of life.

For example, I recently wrote a book called Asian Americans and the Spirit of Racial Capitalism. While the book has received some small amount of attention for its arguments related to race and racism, I understand the book as primarily the product of thinking long and hard about language. Namely, attention to human speech made me distrustful of accounts of racism that ignore how concepts of race get conventionalized within political economic structures and systems. The implication, which cannot come in our political moment without some controversy, is that much and perhaps most of what our antiracism amounts to barking up the wrong tree: say, fixating on constituent racial identities and their built-in antagonisms rather than the political economies that build in those antagonisms. While controversial, this implication follows from how I think about language.

For the last three years, in service to the John Templeton Foundation grant "Collaborative Inquiries in Christian Anthropology," I have moved on to the scientific study of language. Some might say, "Finally!" and narrate this part of my research agenda as having finally arrived at what studying language really entails, science. There are certainly parts that feel that way. But as I'll say in a second, that's not how I tell the story. Some of what I have encountered in these last years is quite familiar and falls in line with what I've always understood Wittgenstein and folks like Austin or Quine or Davidson to be saying about language: that language is best understood as, according to Michael Tomasello's characterization, "usage-based." Again, familiar territory.

But then there is a large stretch of language study that has come as a shock, both shocking in its claims and implications and shocking in that one could be, as I was for a decade, deeply engaged on issues of language without ever really encountering this approach to language. Here I mean the revolution Chomsky ushered in when he first chalked up Skinner's conventionalism to so much behaviorism, subsequently dismissing much of the analytic tradition informing my work with a mere wave of the hand. By positing language as a basic faculty of the brain and understanding its operations in terms of generativity and computational structuring, Chomsky makes language something that is internal, individual, and intuitive. This has the effect of dissolving any number of philosophical problems that have not so much confounded as comprised the analytic tradition (for example, indeterminacy about translation and inscrutability as to reference). It also pours cold water on much of Cavell's ordinary language philosophy, that comfort zone of mine, by reducing questions of agreement (Cavell's corpus can be summarized as an obsession with community agreement, what makes agreement possible and what happens when agreement comes apart, as it readily does given its conditions of possibility) to tertiary matters of "sociology of group identification." What people like Cavell consider all important, Chomsky the linguist seems to consider not important at all (though Chomsky the justice warrior likely considers these matters important, but since he himself divorces the two Chomsky's, so will I). That is to say, all that has motivated my interest in language finds markedly little love in Chomsky's non-dualist empirical method.

Over the course of circuitously making good on that empiricism, Chomsky's biolinguistics, in trying to think through the biological basis

of language, gets closer to usage-based theories. This is because, following Dobzhansky, "nothing in biology makes sense except in the light of evolution" such that one has to—if one is committed to making sense—try to think about language in terms of its evolutionary development. While Chomsky initially thought that evolutionary biology set itself on a wild goose chase, off after antecedents when antecedents belie the point, bio-linguists increasingly feel compelled to account for language by situating it within the story of human development. This puts them in the company of those usage-based theories that similarly want to think about origins, adaptation, and what Tomasello calls "natural histories." Usage-based theories of language come downstream from thinking that language fundamentally does things, and so aids humans in their practical projects. If so, then examining human usage entails examining natural histories, where "natural" carries both senses: biological and characteristic (involving both efficient and formal causalities). Greater sophistication in how scientists think about everything from genetic endowment to human learning to innateness have made biolinguistics and usage theories strange bedfellows in the joint task of figuring out how in fact evolution helps language make sense.

This leads me to saying something, which I do now in closing, about where God figures in. If biolinguistics and usage-based theories each leave much to be desired, the accomplishments of their newfound integration would seem to leave little room for God, as an explanatory principle or anything else for that matter. We know that Christianity puts a lot of weight on language, claiming not only that language is able to convey things about God, but that God is best understood as a Word, the incarnate Christ portrayed at the opening of John's Gospel. It is hard to imagine greater affirmation that words matter than claiming God as a word. Perhaps it is only an aversion to religion that keeps linguists from hanging over their doors, "In the beginning was the Word and the Word was with God."

Responding to that aversion, theologians might have this to say: explanations come to an end. Internally, this motivates the work of explanation toward further explanation, answering the unanswered, pushing out past what we know and think we know. This Chomsky understands in terms of problems, and science he thinks is in the business of solving problems. And then there is what cannot be explained—explanations coming to external ends—the realm of mystery, the unexplainable according to Chomsky. The

trick is to avoid confusing the two, like trying to solve a mystery which by nature cannot be solved or deciding too early that a problem is an (unsolvable) mystery rather than a (solvable) problem. Chomsky initially thought that the origins of language remained a mystery, and accordingly thought evolutionary biology was off on a wild goose chase. Increasingly he and his followers think it a problem that can be solved in conversation with usage-based theories.

I understand God not only as inhabiting the mysterious, that which both eludes explanation and brings explanations to their final ends, but also as motivating the work of problem-solving and as integrated into the very operations of explanation-giving as a form of perfectionism—returning to Davidson's Foucault on action and agency—that one finds in Emerson and Nietzsche as well as Luther and Gregory of Nyssa. This for me disposes the study of language proximate to all pursuits of knowledge, as a task as unending as the task of knowing God.

LINGUISTICS - II

Learning Language and Becoming Human

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F OR A CLEAR demonstration that we are merely a twig on the vast tree of life, you should get a dog. But to understand why humans still occupy a special place in the world, you should also get a dog.

Evidence is now mounting: humans and other species share a vast repertoire of physical, mental, and social capacities. Pigeons can categorize objects based on color and shape, mice make rational decisions based on the availability of food in the environment, monkeys have abstract concepts of quantity—about the number of random shapes on a computer screen, not just the number of bananas. Like all dog owners, I can vouch for Benji's rich array of emotions and the bonds they form with other members of the family.

But language still truly sets us apart from our biological relatives. Language is what we use to tell stories, transmit knowledge, build social organizations, and ponder the deepest questions in life. Talking animals remain the stuff of fairytales. The most ambitious, and scientifically rigorous, effort to probe the linguistic capacity of non-human species remains Project Nim led by the psychologist Herb Terrace at Columbia University. A chimpanzee was raised in a human household—on the 1970's Upper West Side, no less—and taught American Sign Language (ASL). A few years of intensive training resulted in pale imitation of the teachers, but not in rules that combine signs in novel and creative ways.

The baby chimp was named Nim Chimpsky, after the great linguist Noam Chomsky, who, more than anyone else in modern times, placed language at the center of human nature and the study of language as the forefront of science. The complexity of languages around the world, and the ease

with which children learn them before they could even tie their shoes, help establish the theory of Universal Grammar, which proposes that we have an innate biological capacity for language. In fact, Herb Terrace, a former student of B.F. Skinner, whose behaviorist theory of learning was displaced by Chomsky and his ideas, reasoned that a language-learning chimp would put a quick end to the idea of Universal Grammar. Instead, nativism came to dominate psychology: infants have knowledge about themselves and the world around them much earlier than Skinner or even Piaget expected. Soon enough, the field saw a proliferation of supposedly innate modules of mind: for lie detection, for social exchange, for God.

In the past twenty years or so, however, things changed again. Nativism is alive and well, but there is now a growing realization that what is innate is more likely a *capacity* to acquire knowledge in specific ways, rather than pre-baked knowledge per se. In the case of language, an innate Universal Grammar (probably) does not contain nouns, verbs, adjectives, etc. as pre-existing categories for words to slot in, but rather the ability to create these categories from the linguistic data that children receive. The reasons are threefold. First, whatever universal properties languages share, much of the specific ones must be learned—and in culturally specific ways that cannot all be innately available. For example, some languages classify nouns based on their properties and utilities, and in many cases, they do this in a totally arbitrary way. In Japanese, "an octopus" is described differently as a sea creature from a piece of sushi. In Swedish, a language that marks gender, "tiger" and "chair" belong to one class whereas "lion" and "desk" belong to another. Second (and this mirrors the cross-species continuities noted earlier), other animals come agonizingly close to language. It's almost as if they had all the ingredients of a recipe but just couldn't put them together. Chinchillas can recognize acoustically similar phonemes in human languages, birds can detect sequences of sounds that are analogous to words, and dogs can learn the names of hundreds of objects. Finally, anatomically modern humans went off on their own path a mere five million years ago: a blink of the eye on evolutionary scale, not enough time for all parts of language to develop *de novo*. In recent years, Chomsky himself has suggested that language functions by recycling and tinkering with old parts, and the critical step in its emergence is *Merge*, an operation that combines smaller units into larger ones, as in the nursery rhyme, "this is the cat that chased the rat that ate the cheese that lay in the house that Jack built."

My own foray into the study of language began as a graduate student in computer science at MIT in the 1990s. It was the beginning of big data and machine learning, and sophisticated algorithms were beginning to find applications in language, vision, robotics, and other AI technologies. But the contrast between machines and humans was clear: perhaps even more clear than now, as we at least understood how machine learning worked then whereas no one has a clear sense of what modern deep nets are doing. For one thing, humans learn language from very simple data: the average sentence that young children hear contains only five words. For another, when children make a mistake with their language— "I holded the doll," "he delivered you pizzas"—they are generally not corrected by the caretaker. This mode of learning is very different from machine learning where the data is often labeled as positive or negative (e.g., spam vs. non-spam, which the user supplies every time when they "report" an email to Google).

The research strategy has been to identify explicit computational mechanisms for child language acquisition which are, in principle, applicable to any language in the world. Perhaps the sheer diversity of languages and the highly variable individual learning experiences even in a single language led to the gradual abandonment of learning models specialized for language in favor of much more general processes that may be present in other domains and species. For example, my colleagues and I have found that word learning involves forming associations between the sound ("cat") and potential meanings (the fuzzy animal on the couch) that children actively conjecture: the mathematical model that describes establishing, strengthening, and in some cases abandoning, the associations is the same that governs how mice learn to navigate mazes and how ducks learn to locate food sources. I would imagine that this model works equally well for word-learning dogs.

But words are where other animals stop. The critical component of language is the rules enabled by Merge, which express the combination and relations among concepts represented by words. Rule learning is a formidable challenge. Linguists are fond of saying all grammars leak. As learners of language, children must form rules even though rules almost always have exceptions. For example, all English speakers know that the rule for creating the past tense of a verb is to add "-ed": when *google* became a verb, its past tense was automatically *googled*. The "-ed" rule, however, is established despite some 150 irregular verbs that do their idiosyncratic things for past tense:

go-went, *think-thought*, *sing-sang*, *write-wrote*, *hit-hit*, etc. Researchers have long recognized the tradeoff between rules and their exceptions as a central problem in language. The challenge is especially interesting in the context of language learning: since rules and exceptions are defined in terms of each other, children seem to have a chicken-and-egg problem, compounded by the fact that words don't carry labels that identify them as rule-following items or rule-defying exceptions.

In a long-term project that culminated in the 2016 publication of *The Price of Linguistic Productivity*, I established a surprisingly simple solution to the problem dubbed the *Tolerance Principle* (TP). A rule defined over N items in a set can only generalize if the cardinality of the subset not following the rule—i.e., the exceptions—does not exceed $N/\ln N$. In machine learning terms, the TP specifies the upper bound of exceptions for a rule. The TP has proven surprisingly effective in solving the problem of rules and exceptions. The most striking demonstrations come from experiments in which children, sometimes infants, are exposed to an artificial language that contains words and rules carefully manipulated to test the theory. In one study, fourteen-month-old infants are introduced to sixteen unique linguistic items. For one group, eleven of the sixteen items follow a rule for the other group, only ten. The infants in the former, but not the latter, group formed a rule: while ten is the dominant majority pattern, six counterexamples are just above the threshold for generalization as $16/\ln 16 = 5.8$.

Scientific progress is only marked by the number of new questions it raises. While the TP accurately describes the behavior of learning, how does the brain carry out such neural computations? Indeed, how do infants even process quantities like ten, eleven, and sixteen, such that a very small difference—even a difference of only one—results in qualitatively different behavior? At the same time, we shouldn't be too surprised that they could, albeit unconsciously: even ants have a pedometer for tracking distance. Since much of our conceptual organization of the world can be stated as rules often with exceptions—we take winged animals to be birds despite a few counterexamples like bats and pterosaurs—do we use a similar process of generalization? Regardless, a wide range of studies suggest that the intricate patterns across many languages can be successfully acquired by a simple principle. If so, we need to build even less innate stuff in Universal Grammar: perhaps Merge plus learning is all there is to it.

This view in no way denies the critical biological capacity for language, but it does place a great deal of emphasis on experience: linguistic, cultural, and social. The explicit formulation of a learning mechanism can only advance the understanding of how these factors are integrated into our mental life. I will give only one example. Supported by a Guggenheim Fellowship, I have been investigating the role of language on children's understanding of number. The hypothesis is that when children discover the rules for counting, they will be able to develop a systematic understanding of the number *concepts* that are represented by the numeral *words*. In particular, learning the rules for counting such that one can count indefinitely is necessary for understanding the concept of infinity, the so-called Successor Function at the foundation of mathematics, that every integer has a successor that is greater by one. This transition point can be precisely predicted on the basis of the TP, as the numeral system for counting is just another problem in linguistic rule learning. In collaboration with colleagues in Hong Kong, we have already found evidence that Cantonese-learning children learn to count a lot earlier than English-learning children, all because Cantonese has fewer idiosyncratic/ exception number words such as "eleven", "twenty", and "fifty" in English. As a result, children in Hong Kong understand the Successor Function over a full year ahead of their American peers.

It is often said that language is a window into the human mind. That is undoubtedly true, as language has a valuable source of knowledge and insights about how we work and who we are. But it can also be said that language is a window into the world: fragmentary and in any case only a finite amount of experience is let in, and the rest is done internally, by representing these experiences as words and by constructing rules that combine words so we can go considerably, and indeed infinitely, beyond experience. The philosophers among us will recognize Russell's famous distinction: knowledge by acquaintance, things we learn by having direct cognitive relations with the world, and knowledge by description, things we know by decoding the form of linguistic units that encode things we learn. All animals can develop acquaintance with the world: *description* of the world requires language.

POST-CONFERENCE REFLECTIONS
FROM JONATHAN TRAN AND CHARLES YANG

JONATHAN TRAN

At the conference, I was pleasantly surprised to see questions of formal and final causation coming up, some in my session on language, and also in several other sessions. Once "natural" comes to answer the question "What is life?" (i.e., the conference theme), then we ask what we mean by "natural." In my "Initial Thoughts," I said, "examining human usage entails natural histories, where 'natural' carries both senses: biological and characteristic (involving both efficient and formal causalities)." The rather common reduction of "natural" to "biological" comes with a built-in account of efficient or material causality in which the "natural" indicates a line of biological causes and effects. On this score, to describe something as natural is to narrate its biologically-caused story. In the case of language, one might imagine isolating linguistic faculties to certain chromosomal structures developed over the long course of evolutionary history. One might as well trace a lineage from prelinguistic antecedents and predecessors (singing birds on the one hand and gesticulating apes on the other) to humans. To speak of language as natural in the first sense of "natural," then, is to follow out this line of biological development according to this efficient/material causal account.

Speaking of naturalness through a formal account of causation gets to the second sense of "natural," which denotes the characteristic constitution of a thing. We say something is "natural" in this second sense when we say it betokens something characteristic of the kind of thing it is. To speak of the naturalness of human language in this sense is to say something about how characteristic it is for humans to speak, about them being the kinds of creatures that speak. This second sense need not conflict with the first sense, just as the natural and the characteristic need not

conflict. Regarding language, one can simultaneously think of language as caused (e.g., by genetic determinants passed on through predecessors and antecedents) and characteristic (e.g., of animals living within specific genetic niches). Yet, there are important aspects that come into focus in either the efficient and material causal story or the formal and final story. Let me say something about an important moral aspect that comes with the formal-final story.

Formal causation, especially in its final and teleological (not to mention eschatological) mode, comes with normative weight at a basic level like when we make such a claim as, "it is normal for X to Y." Such claims come with evaluative implications such that to be X is to Y and any X that does not Y is in some serious sense a defective instance of X. A formally causal story about X tells what X should be by offering a story about what X in fact is. A simple (commonsense, or in the technical sense, "ordinary") ontological realism ensues here since we can then speak of things in terms of the kinds of things our speaking about them presumes, allowing us to meaningfully speak about them (e.g., pick out instances of X). Interestingly, while humanists, for reasons I'll discuss in a minute, often balk at the mere mention of natural kinds, biological scientists presume them as a function of categorization. A basic *moral* realism also ensues, since formal causality allows us to speak of instances of X as normal or not normal (hence, the normativity), applying that normative weight to any claimed instance of X based on what we claim X characteristically to be (e.g., "Since X cannot Y, it's not a very good X" or "since X cannot Y it iss not really X"). Accordingly, it makes good sense that a conference focused on what life is should then raise questions about ontology, identity, and normativity, as well as proffer important distinctions between them and investigate them epistemologically (e.g., orders of being and orders of knowing). Our conference did both.

The formal causation story about humans that describes them as characteristically linguistic says not only that humans characteristically *do* speak language (though it might simultaneously rely on the material or efficient story to narrate how they came to do so) but also that they *should* speak language, that speaking is natural to what—rather, *who*—humans

are. Once we expand, as we should, language and speaking to the whole range of utterances and expressions humans are capable of (as well as dividing between various accounts of language, such as the Chomskyan or usage-based theories mentioned above), then speaking formally and normatively about human language does quite a bit of work.

And it raises questions. Any claim that names a thing's nature complicates things for a culture that prizes as highly as ours does individuality, subjectivity, and difference. One ends up asking, "What's the politics here?" My wonderment following the conference has to do with whether we prefer the material and efficient causal story because it lends an air of contingency that permits more room for our cultural-prized individuality, subjectivity, and difference. Following the conference, I need to think more on this.

Lastly, let me say something about working with a scientist—in this case, my conference pairing with renowned computational linguist Professor Charles Yang. A serendipitous set of circumstances allowed me to pair up with Charles Yang, with whom I already work as scientific consultant to my aforementioned Templeton grant (this grant connected me with the Magi Conference folks to begin with, so serendipity abounds). It was such a pleasure to work with him in this capacity, and I really like how it deepened our ongoing work, both by expanding what I've learned from him and expanding our relational context. I appreciated his willingness to participate in a conference with so much focus on theology and philosophy, which are not areas he normally works in, and I really appreciate his efforts in translation and the conference's great interest in all he had to teach us. I would like to think our pairing represents the kind of fruitful engagement scientists and theologians can have, with shared learning, critical questions, productive conversation, public engagement, all in the context of friendship. It is this interdisciplinary engagement that Templeton makes possible and that serves the common good of learning.

CHARLES YANG

No child comes into their own entirely on their own: It takes a village, as they say. For some scholars, linguistic communication with young children in an emotionally supportive and communicatively purposeful setting suggests a social foundation for language, especially in light of findings that other species, including nonhuman primates, also have sophisticated knowledge of groups, hierarchies, and other ways in which individuals relate to each other.

It is undeniable that an engaged and nurturing environment provides a platform for children's growth and well-being. At the same time, the effect of social factors on development should not be overstated, especially when it comes to language.

Language comes through under all sorts of conditions. When there is no language, children will invent one. To wit: sign languages can be spontaneously created by deaf children, and have no discernible similarities with the spoken languages in the same society. The current Western practice of child rearing does give the impression that socialization is a prerequisite for language, but that may well be a historical and geopolitical anomaly. In many cultures, children are expected to be quiet around adults rather than bubbly, and they are even forbidden to participate in verbal exchanges until they are deemed linguistically competent. Even face-to-face interaction, which seems critical for emotional and social bonding, can be rare when children are strapped on the back of caretakers. All the same, the languages in these cultures have been successfully transmitted for generations.

In fact, it is not even clear that middle class parents in industrialized societies are doing their offspring any favors. For example, "motherese," the way many of us talk to young children ("Sweeetie baabie!"), has hyper-articulated phonemes, dragged-out melodies, and exaggerated pitch and intonation. These features turn out to make word recognition harder, not easier, when compared with the plain way adults talk to each other. Still, there is no evidence that "motherese" does any harm or cause language delay. It seems appropriate, as Chomsky suggested, to talk about children *growing* a language rather than learning a language.

Like puberty, language is primarily a biological capacity: it just happens. A sufficient level of nurture—be it caloric or linguistic—is all that's needed, and the rest unfolds in a fairly systematic fashion. To be sure, every child is unique in his or her body, mind, and language, which makes the commonalities all the more remarkable. Johnny has a large vocabulary for animals and Janey prefers construction vehicles, but they learn the same rules for nouns ("add -s" for plurals) at around the same time. They even make the same kind of occasional errors ("foot-foots," for instance) along the way.

Finally, it is obvious that language has important social functions, but it is not obvious that these social functions answer even the most basic questions about language. Does a social foundation of language explain how a child in Tokyo learns to place the verb after the subject and the object while a child in Beijing learns to put the verb in between? How does any social force help a child to learn that "dog" is a noun, "wag" is a verb, but "bark" is both? More likely, language is an autonomous system that develops with its own structures. Social functions are but one way that language is put into use: some people are hermits.

In fact, I suggest that we turn the tables: learning a language is a precondition for the child's growth into a social being. This must be true, at least in part. Given how many social and cultural activities are conducted through language, it is difficult to imagine becoming a full member of a community without being a competent user of its language. (Try fitting in when you have no idea what people are talking about.) But the more exciting, and provocative, possibility concerns how language—words, rules, and structures—directly shapes children's conceptual and social development.

Even the simplest act of naming has a powerful effect on how we view the world. When infants see several novel objects each with its own unique name ("Look at the boff/dov/dax/wug!"), they treat them as distinct entities. But if the objects are called the same thing, infants spontaneously seek the attributes that unify them. Words compel us to group individuals into categories, which in turn facilitate generalization to all members, stereotypes and all. In English, the plural form of a noun immediately invites an overarching conclusion about a group. "Ducks

lay eggs" is understood as a property that holds for the entire species even though, strictly speaking, only female ducks are capable of doing so. When I hand you a strange object and say "a blicker," you will most likely understand it as some kind of tool—for *blicking*—because the *-er* ending in English is used to describe the instrument of purposeful actions (e.g., *peeler*, *smasher*, *sharpener*), which you probably have learned by age three, as recent research suggests.

Many important social and interpersonal relations—kinship, possession, intension, etcetera—are directly expressed by the language we learn. In Korean, for example, nouns and verbs take special endings to mark the social status of the speaker and the addressee. Learning these forms forces children to develop a sophisticated understanding of their place and their relation to others in the community. In English, possession can be expressed in two ways: X's Y ("the boy's mother") and Y of X ("the mother of the boy"). The latter form, Y of X, can only encode what linguists call inalienable possession, a relation between X and Y that is intrinsic and inseparable: hence "the mother of the boy" is natural but "the hat of the boy" sounds odd. By comparison, X's Y has no such restriction: "the boy's hat" and "the boy's head" are both acceptable.

Perhaps the most exciting direction lies in the linguistic origin of the *Theory of the Mind* (ToM), the ability to understand and reason about another's mental state. Simpler forms of ToM may be present in other species although the question is far from settled. Indeed, only by age four do children consistently pass the so-called *False Belief* task, arguably the most stringent test for ToM, that other individuals may have thoughts that are contrary to reality. Intriguingly, children's performance is well predicted by their ability to use the linguistic *forms* that express an individual's beliefs: In English, these involve verbs that take on another sentence as in "They think/said you ate the pizza." This makes sense because understanding such sentences necessarily requires representing propositional knowledge that may not be grounded in reality: I did not eat the pizza but had ramen instead. Having ToM as a derivative of language may be the most parsimonious theory. Everyone agrees that language is special and only humans have it. To ask for another unique gift from evolution may be too greedy, especially during the brief history of *Homo sapiens* on earth.

Nothing I have said so far implies a crude form of linguistic determinism—that if your language does not make use of some concept, you cannot have a thought about that concept. For example, Spanish, like many languages in the world, distinguishes animate and inanimate objects. As can be seen in "Veo esa casa" (I see that house) vs. "Veo a esa persona" (I see that person), the absence and presence of the preposition "a" distinguishing the house as inanimate from the person as animate. By contrast, English makes no use of such grammatical devices—but that is not to say that English speakers cannot distinguish the *living* from the *nonliving*, as there are words for them! As far as we know, all languages have the same expressive power for thought: they find ways with different words, rules, and structures. Beyond gestures, facial expressions, and other physically embodied forms, social knowledge is just another kind of thought. It no doubt has an external dimension: it crystallizes over time through cultural and communal conventions but nevertheless resides in our minds. Barring telepathy, it needs to be transmitted through language.