

Culture and Language

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Abstract

Culture requires regularities. Culture is something we do together, over and over again. Cultural conventions accumulate into practices, meanings, and values. We can view language as a ubiquitous tool for generating massive, intricate, distributed systems of conventions. We then use these linguistic conventions to coordinate our behavior, to work together, to engage with one another, and to create much larger and more encompassing cultural worlds than we could otherwise. Looking at language as a system of cultural conventions provides an opportunity to integrate research from multiple disciplines and levels of analysis. Looking at the breadth of linguistic conventions indicates how pervasively language gives shape to cultures. And looking at how ensconced in culture language is serves as a reminder that language does not stand apart but rather is created and used, messily, by vast numbers of people, constantly, within cultural communities.

Culture and Language

Languages, like all other aspects of culture, involve cooperation, require learning, and are made of systems of collective conventions (Clark, 1996). As a result, understanding how language works requires attending to how culture works. Given how pervasive language is in human culture, the reverse is true as well. At the center of both culture and language are conventions.

The humble beginnings of isolated conventions can seem arbitrary or simply silly. Many groups celebrate with rituals such as ringing bells or sharing pizza; some groups pass bananas or gift spray-painted beer bottles. These are collective, intentional acts that generate mutually understood meanings through collaborative agreements. In stating that ringing the bell marks an outcome as a victory for our group, we make it so (Searle, 2010). Simple conventions are most apparent when joining a new group or when engaged in pretend play with a preschool child, agreeing that some stick, plastic fork, or rubber band is a microphone, hairbrush, or crown (Tomasello, 2014). As more conventions are added, the isolated ritual becomes part of a system. The convention might initially have been arbitrary, local, and simply a convenience, but then we build a collection of other conventions around it, bolstered by artifacts. We travel on the right or left side of the path and eventually accumulate signs, lights, laws, and police actions. Initial choices, once collectively established and elaborated into larger systems of conventions, become powerful. The contexts in which conventions apply can grow to be so encompassing and the influence of conventions for enabling and constraining behavior so great that we

forget that these are conventions at all. They just feel like worlds. Languages are systems of conventions like that.

Systems of language conventions range in coherence and complexity. We have a fair amount of leeway in forming naming conventions, for example, deciding to call this person Jaclyn or that place Chicago. We have somewhat less leeway in generating conventions about words for types—these kinds of things are chocolates, those kinds of things are smiles. We have much less leeway, and usually take for granted, a host of other, more pervasive and interdependent conventions such as those regarding how to pronounce words, the order in which to say words when using more than one of them, the direction in which to write words, and the need to mark aspects of meaning such as when something happened or what kind of entity is being described. Considering conventions of various kinds will be the focus of most of what follows.

Before considering conventions further though, it is helpful to clarify that using languages, like everything else people do, rests on more than conventions. Humans appear to be prepared for language, with bodies specialized for it and inclinations for it that seem internally driven (Dediu et al., 2013; Goldin-Meadow, 2005). Yet as with other discussions of nature and nurture, of individuals and collectives, and of structure and agency, it is more fruitful to explore the interactions than it is to crown one cause king.

For example, color words have long been of interest to scholars of culture and language (Berlin & Kay, 1969; Kay & Regier, 2006). Part of an analysis of color must be the mechanisms for how our eyes and brains process light. Human physiology is likely responsible for differences in discrimination across the electromagnetic spectrum. Another part of an analysis of color must be the mechanisms for how people agree on

how to use words to refer to something. Combining the effects of color perception with the effects of forming conventions goes a long way towards explaining color categorization patterns in cultures around the world (Baronchelli, Gong, Puglisi & Loreto, 2010). Cultural evolution and biological evolution, even if they are theoretically separable, seem better studied together (Boyd & Richerson, 2005).

The same value from studying concerns together rather than separately holds for language and thought (Enfield, 2015; Wolff & Holmes, 2011). Language, like most of culture, is enmeshed in our thinking (Vygotsky, 1986) by habit, by need, and because it is so useful. Languages differ in how easy and difficult they make it to express some notions, which must have some effects on thinking, including what we think about habitually (Hunt & Agnoli, 1991). Languages force us to express notions using particular words, put together in particular ways, and with particular sounds. This must have some effects on thinking, including what we regularly need to think about (Slobin, 1996). Languages provide tools for thinking, which also must have some effects of thinking, including helping us to develop and apply expert knowledge (Gentner, 2016). Consequently, in studying language and human culture, cognition is necessarily involved.

To keep the focus on language and culture, we will simply rely on several assumptions. We will assume that there are regularities, consistencies, symmetries—structures—in the world. We will assume that people, like other living organisms, have perceptual and cognitive capacities to sense and respond to at least some of those structures, as well as motor capacities (including those needed to use languages) to act and create new structures. We will assume that people can form an unlimited number of interpretations of those structures. We will assume that people, like other living

organisms, have limited and directed cognitive capacities and so select and use just some of those interpretations. We will assume that groups of people—cultural communities—can form conventions. We will assume that languages offer one symbolic system with which cultural communities form conventions. We will assume that conventions are structures that individuals might perceive, interpret, remember, and use to guide their own thinking and action. With that, we can turn to examining linguistic conventions.

Linguistic conventions

Arthur C. Clarke (1973) proposed that “any sufficiently advanced technology is indistinguishable from magic.” Language is in a sense an advanced cultural technology and so examining linguistic conventions is a bit like venturing behind the curtain to study how the magic is made. Linguistic conventions, such as how formal to be when speaking in different social contexts (Halliday, 1978), might seem obvious as cultural products, as well as interesting and important ones. Yet these risk failing to convey how fundamental conventions are to language. Conventions about words are perhaps more indicative.

We rely on words, like *dog*, *under*, *organization*, *stakeholder*, *creativity*, and *cooperation*, to mean something. It is natural to talk about word meanings. We are aware that words mean something to speakers of a language and not to those who do not speak the language. We are aware that there are words, usually technical terms, we do not know even in a language we speak. Physicians talk about *plasmapheresis* as being important, a *writ of mandamus* is important in the legal community, and *false gills* are important in the mycological community. The words seem, by some sort of magic, to mean something on their own, apart from us and our individual understandings of them.

To make sense of the intuition that words have meanings, we need to bring in the idea of a cultural community. A word is meaningful because people within some cultural community use the word, by convention, in particular ways (Clark, 1998; Wittgenstein, 1953). For example, any look in a newspaper shows that we talk quite a bit about organizations: a school is an organization, a church is an organization, and we have business organizations and government organizations. *Organization* is a superordinate term for a social collective with some formal structure that can act and make commitments as a unitary entity. At least, we can say that this is approximately how the word organization is being used in roughly the past 100 years in English speaking societies, but not before (Starbuck, 2007). This corrective due to taking a historical perspective is one indication that word meanings are bound to cultural communities located in particular historical eras.

Another common word, *stakeholder*, provides a second corrective. It is a parody of corporate executives at this point that they seem constantly engaged in strategic planning sessions on how to engage their stakeholders with visions of innovative futures. The term *stakeholder* appears to refer to something central and important. For example, in a speech at the United Nations in 2005, the United States Deputy Secretary of State at the time, Robert Zoellick, gave a speech whose central message was that “We need to urge China to become a responsible stakeholder” in global society. Yet apparently the term *stakeholder* was so taken for granted by US State Department diplomats that they failed to consider that the word had no ready translation into Chinese (King & Dean, 2005). It is hard to argue that Chinese has an underdeveloped terminology for social

relationships. However, this was no guarantee of a ready match to contemporary American social jargon.

Words like *organization* and *stakeholder* are common enough that we can forget that they are cultural inventions and complex enough that we can imagine having converged on somewhat different meanings. We might have converged on another way of grouping social collectives than organizations. We might have considered the network of related entities in another way apart from stakeholder. These words, *organization* and *stakeholder*, are in routine use. They do not even have the richly layered meanings of words such as the American use of *liberty*, the Yiddish *chutzpah* or the Viennese *schmäh* (Agar, 1994). Still, *organization* and *stakeholder* are words used according to particular conventions within particular cultural communities at particular points in time. Words do not mean something on their own, now and forever and for everyone.

With words like *dog* and *under*, it can be difficult to appreciate the role of a cultural community in shaping their meanings. It is easy to wonder whether we arrive at some more basic notion of dogness that is somehow a product of nature and we are merely labeling it. In examining reviews on this question (e.g., ojalanto & Medin, 2015; Wolff & Holmes, 2011), it becomes clear that most of the discussion of how structures in the world influence word meanings centers on meanings for concrete types of things in the world (Gentner & Boroditsky, 2001). We can discuss the physical properties of *bottles* (Malt, 2010), the spatial arrays considered *under* or *above* (Coventry, Prat-Sala, & Richards, 2001; Carlson-Radvansky & Irwin, 1994), the physical properties of movements considered to be *jumping* (Malt et al, 2008), or the chemical properties of the smell of *chocolate* (Doty, Shaman, Kimmelman, & Dann, 1984; Majid & Burenholt,

2014). In contrast, for meanings like *organization* or *stakeholder*, there is much less discussion of structures in the world shaping meanings. Yet we use these less concrete kinds of words frequently and find them every bit as meaningful.

Even for words for concrete kinds, like *dog*, as with color words, there is still an important role for conventions. The prior objects that have been called bottles, for example, guide what future items are called bottles (Xu, Regier & Malt, 2016). Further, there is still a cultural aspect to the meanings of these words that goes beyond any observable physical properties. For example, there are culturally shaped frequencies of dogs, culturally shaped typical kinds of dogs, and culturally shaped ways of treating dogs, among other aspects of meaning. These cultural conventions in turn shape the physical properties of dogs, as dogs themselves have been shaped through selective breeding. The general point is that there is a feedback loop between understandings and actions on the one hand and structures in the world on the other hand. It is probably meaningless to try to define the point at which we are no longer talking about the physical nature of specific entities and talking about a culturally specified and shaped set, with culturally emphasized properties and tendencies. It is also probably meaningless to try to say at what point we are no longer talking about the meaning of the word *dog* and instead talking about the cultural beliefs related to the word *dog*. Many meanings that we form are understood with respect to their relationships with other items (e.g., Bowerman & Choi, 2003; Collins & Loftus, 1975; Goldstone 1996). The larger point is that word meanings reflect not just some minimal properties or physical descriptions, but also cultural elements, such as histories and typical social concerns (Loken, Joiner, & Peck,

2002), such as attitudes, values, motives, and contexts of use. The meaning of *dog* and the meaning of *cockroach* are not simply concerned with anatomical observations.

A different challenge arises with words like *creativity* and *cooperation*. These words, despite not being concrete, are so commonplace and seem so natural that, like *dog*, they seem to have meanings that mark out fundamental structure in our world. We talk of people cooperating, nations cooperating, chimpanzees cooperating, and plants cooperating (Wu, Diggle & Friedman, 2013). We can think of the examples labeled by these words as forming a grouping that would seem to exist even apart from our labeling of it. Yet cross-cultural analyses show substantial differences in lay beliefs about the meanings of *cooperation* and *creativity*. For example, in a study of cooperation, most Chinese respondents reported that competing within one's team was cooperative, whereas most US respondents reported that competing within one's team was not cooperative (Keller & Loewenstein, 2011).

Creativity shows similarly striking differences. In a study of creativity, most Chinese respondents reported that a product being targeted for a mass market was indicative of creativity, and most Chinese respondents, when given an item described as being for a mass market, rated it as being creative. In contrast, for most US respondents, being for a mass market was indicative of non-creativity and items described as being for a mass market were rated as being non-creative (Loewenstein & Mueller, 2016). Perhaps the biggest challenge in appreciating the role of culture for words like cooperation and creativity is simply stopping to consider the possibility. The research communities studying cooperation and creativity tend to start with researcher-generated definitions and do not consider the cultural beliefs about cooperation and creativity that are the starting

point for most lay people. The same tendencies pervade social science research well beyond those studying cooperation and creativity.

Cooperation is a culturally-shaped social process and it is also a word. Words have meanings because cultural communities establish those meanings. Individuals form understandings of those culturally-generated word meanings and use their understandings to guide their uses of the words and their interpretations of what others say and do. Examiners measure whether children know the meanings of words in schools and scholars examine children's understandings of words in developmental research. We treat word meanings as facts, but often leave implicit that these are cultural facts. A word's meaning is a collective product. As Putnam (1973) put it, "meanings just ain't in the head."

Putnam (1973) goes still further, because as is clear from the examples of plasmapheresis, writ of mandamus, and false gills, meanings are not in many of our heads. We have divisions of labor—some of us are teachers, some are mechanics, some are actors (Durkheim, 2014 / 1893). We have divisions of cognitive labor—some of us know about bicycles and others of us know about bisons (Keil, Stein, Webb, Billings & Rozenblit, 2008). We also have divisions of linguistic labor—some of us get to decide what gets called red snapper and the rest of us just take their word for it (Putnam, 1973). One sign of the power of the division of linguistic labor is that, according to Oceana.org, most people purchasing red snapper in the United States between 2010 and 2012 were not actually getting red snapper. The level of understanding a typical individual needs to use a word is less than what we probably want to call the word's meaning. After all, the level of understanding a typical individual needs to use a car is less than what we probably

want to call a complete understanding of cars. The cultural community's meaning is not some simple average or aggregate, but rather is disproportionately shaped by linguistic experts (Loewenstein, 2014; see also Romney, Weller & Batchelder, 1986). Those linguistic experts are shaping conventions that others can follow.

To generate meanings for words, whether *dog*, *organization*, *cooperation*, or *red snapper*, we produce and maintain a range of cultural conventions. We rely on conventions about pronunciation and about spelling to maintain the consistency needed across instantiations to know that we are using the same word. We rely on conventions about what examples we can and cannot label with the word as well as conventions about what words go together with other words to know if we are using the word in the same way as others (Loewenstein, Ocasio & Jones, 2012). These are conventions built up and maintained over time as large collections of individuals engage in a host of distributed and often asynchronous interactions that, typically as a side effect of coordinating their behavior (Garrod & Pickering, 2009), encourage them to align their understandings (Goldstone, 2015). Following the division of linguistic labor, some members of our cultural communities have disproportionate influence to use particular words and so disproportionately shape the conventions about what those words mean for the community. Some media outlets gain disproportionate influence through the scale of attention they capture (Fusaroli, Mislove, Paxton, Matlock & Dale, 2015). Some communications—stories, videos, songs—have disproportionate impact (Loewenstein & Heath, 2009; Salganik, Dodds & Watts, 2006). Word meanings are complex products of systems of conventions within cultural communities. A word is only meaningful in the context of some cultural community, and many people can use a word despite having

only a modest understanding of its full cultural meaning by following conventions that others set.

Linguistic conventions are cultural obligations

Cultural conventions yield not just word meanings but also social force in the form of evaluations and obligations. Cultural conventions about words, and many other aspects of language use, are norms (Morris, Hong, Chiu & Liu, 2015). They are not just focal points or indications of what is typical to do but also prescriptions about what one ought to do (Searle, 1995). Linguistic conventions, like norms generally, “exist in the objective social environment in the form of behavioral regularities, patterns of sanctioning, and institutionalized practices and rules. They exist subjectively in perceived descriptive norms, perceived injunctive norms, and personal norms” (Morris et al., 2015: 1). For example, due to US cultural conventions about what counts as proper pronunciation in news broadcasting, a single word pronounced as –in’ instead of –ing (e.g., *puttin’* instead of *putting*) led observers to an average of a 2.5-point drop on a 7-point scale in mean ratings of professionalism (Labov et al, 2011). This effect was weaker for younger, lower-socioeconomic status, and minority participants, consistent with the possibility that the harshest judgments and so the most vigorous policing of dominant cultural norms is done by those most committed to the dominant cultural norms.

Our willingness to judge others based on their adherence to linguistic conventions indicates the power of those conventions. That power extends inwards as well. For example, US and Polish individuals’ assessments of their own thoughts and behavior showed no difference in collectivism, but Polish individuals perceived higher

collectivism as their cultural convention (Zou et al, 2009). It was perceived cultural collectivism, not their own inclinations, that then shaped participants' responses. The normative power of conventions can override our personal leanings to shape our behavior, as countless studies of social influence tell us.

Also showing the power of cultural conventions, naming practices can override deductive logic. For example, Indonesian linguistic conventions are to refrain from calling humans *animals*. Upon being asked if humans are animals, no more than 15% of Indonesian 6-year-olds, 9-year-olds, or adults, agreed, while most agreed that humans are mammals and that mammals are animals. After engaging in a logic task illustrating the transitivity of class inclusion, over 80% of the children then agreed that humans could be called animals, but over 60% of the adults continued to refuse that naming pattern (Anggoro, 2014). When asked for justifications, most adults simply reiterated that humans are not animals, while some explicitly refused the logical deduction or noted distinctive properties of humans (perhaps ironically, one was “humans have reason”). These findings speak to the obligations to follow linguistic conventions.

Obligations not only shape current thinking and behavior but also work to maintain systems of linguistic conventions. For example, individuals are often able to learn cultural practices simply by being given instructions, rather than endure an elaborate trial and error shaping of their behavior (Lupyan & Bergen, 2015). Instructions yield practices and behaviors that are then more likely to be passed on and stably maintained by cultural newcomers than are observations without instructions (Kashima et al, 2015; Zucker, 1977). The instructions provide indications of the applicable categories, roles, and rules, which can then channel perception and action. Newcomers typically look

to oldtimers for what to do, and use oldtimers' language and behavior to understand situations and select appropriate actions. Oldtimers also sanction newcomers if they do not follow conventions, and so enforce norms (Tomasello, 2014). Patterns in the language use we experience provide expectations about descriptive norms (Kwan, Yap & Chiu, 2015). Today's descriptive norms can become tomorrow's injunctive norms (i.e., obligations) as illustrated in confusions over what dictionaries are (Pinker, 2012). Injunctive norms can then become institutionalized to shape behavior still more broadly and stably (Morris et al., 2015). Such norms might hold at the level of particular groups, organizations, or professions, as well as at the level of societies such that simply using a particular natural language (e.g., English or Chinese) can encourage individuals to adopt particular mindsets and their attendant obligations (Chiu, Leung & Kwan, 2007). For example, Hong Kong students showed a greater tendency to self-enhance when asked about themselves in English than in Chinese (Lee, Oyserman, & Bond, 2010). Thus, while linguistic conventions are surely informational focal points for coordinating behavior (Clark, 1996), they are also obligations that indicate attitudes, motivations, and values (Mills, 1940).

There are many kinds of linguistic conventions

Many kinds of cultural conventions can influence behavior, but language plays a distinct role. We are socialized into linguistic conventions from an early age and treat language as a distinct set of conventions. Infants appear to tune to human speech sounds, distinct from other kinds of sounds, by about three months (Vouloumanos & Waxman, 2014). By about nine months, infants expect that the words a speaker uses to label objects will be used by other speakers, whereas they do not expect a speaker's preferences for

one object over another to generalize to other people (Henderson & Woodward, 2012). Accordingly, by about a year, infants seem to assume that language use indicates an attempt to communicate information. For example, in one set of studies, infants tended to look longer (i.e., show surprise) when a speaker using nonsense speech, as opposed to coughing, led a listener to pick up a non-focal object rather than a focal object, indicating a failure to communicate (Martin, Onishi & Vouloumanos, 2012). Then, by their second year, young children tend to accept language more readily than gestures or non-human noises as having a symbolic role for marking meanings (Namy & Waxman, 1998; Woodward & Hoyne, 1999). Further, in their second year, young children who speak one language are surprised by adults who understand more than one language, whereas bilingual children are not (Pitts, Onishi & Vouloumanos, 2015). The larger pattern across these studies is that young children rapidly learn that we use natural languages as privileged symbolic systems for communicating information within social communities.

The question then becomes what kinds of conventions we generate and use as a result of relying on language as a privileged symbolic system for communicating information within a social community. The following sampling of conventions is intended to illustrate their variety and influence.

Script direction. Once we enter into a particular community, we learn and then become subject to following that particular community's linguistic conventions. And as language is pervasive, the effects of linguistic conventions are too (Slobin, 1996). For example, some languages are written left to right (e.g., English, Greek), but other choices are available, such as right to left (e.g., Hebrew, Arabic) or top to bottom (Mongolian, and sometimes Chinese and Japanese). This seems about as arbitrary as the side of the

road on which we drive. Yet the direction in which we read and write does seem to have consequences.

For example, German and Israeli preschool children—who are not yet competent writers and readers—showed no preference in ordering pictures of an agent, action, and the object that was acted upon (Dobel, Diesendruck & Bölte, 2007). In contrast, German and Israeli adults showed a tendency to follow standard script directions in typical declarative sentences (the agent acted on the object): the Germans put the agent on the left and the Israelis put the agent on the right. Similarly, Italian adults tend to draw actions happening left to right whereas Iraqi (Arabic-speaking) adults tend to draw actions occurring right to left, again consistent with script direction (Maass & Russo, 2003). Script direction is not the only influence on ordering actions. The conventional grammatical structure of a sentence, such as agent-action-object (as in English) or action-object-agent (as in Malagasy, a language spoken in Madagascar) can also be the convention governing how individuals match language to scenes (Maass, Suitner & Nadhmi, 2014). We can be influenced by multiple linguistic conventions, after all. Yet script direction does seem to be a reliable influence on how adults map time onto space (Fuhrman & Boroditsky, 2010).

The effect of script direction on mapping time to space is just a beginning, as it leads to further inferences and judgments. For example, videos of soccer goals were shown to adults with the action occurring either left-to-right or right-to-left. When the videos followed conventional script direction, Italian-speaking and Arabic-speaking adults found them to show greater strength, speed, and beauty than when the videos showed the actions as occurring in the opposite direction as the conventional script

direction in their language (Maass, Pagani & Berta, 2007). Similarly, Italian-speaking adults tend to place pictures of more agentic actors on the left of less agentic actors, whereas Arabic-speaking adults tend to place them on the right of less agentic actors (Maass, Suitner, Favaretto & Cignacchi, 2009). Thus, linguistic conventions about script direction provide defaults that then set up fluency and fit effects that guide perceptions.

Pronunciation. We speak languages, and in speaking we have choices about pronunciation. Sociolinguistic studies of variation (Eckert, 2012) have been particularly effective in mapping out how pronunciation is strongly shaped by and for the purposes of cultural communities. For example, increases in Chinese development and globalization led to the rise of young urban professionals in Beijing. This is a group of relatively wealthy, often single, working adults employed not in state owned enterprises but global firms. This group developed distinct pronunciation patterns, minimizing some of the strong local tendencies towards smoother speech (rhotacization) that at the time served as a marker of a distinctive, stereotypical “Beijing Smooth Operator” (Zhang, 2008), and adding pronunciation patterns from cosmopolitan Chinese speakers (e.g., in Hong Kong and Taiwan; Zhang, 2005). The result is a system of linguistic conventions about pronunciation that help mark a distinct social community.

In a similar fashion, pronunciation patterns were part of social group identities and distinctions among Latina youth gangs and other young women in Northern California (Mendoza-Denton, 2008). Particular pronunciation features, such as creaky voice, can signal membership in a social community, particularly when several distinctive features are combined into distinctive ways of speaking. Individual features can also be isolated and transferred to other social groups in a form of borrowing, as

groups influence other groups (Mendoza-Denton, 2011). There is a wealth of sociolinguistics research using pronunciation as a marker of social group identification and interaction; these examples are just a small sampling of that exciting literature.

A different aspect of pronunciation lies with a variety of work on accents. For example, one claim is that accents serve as a readily observable tag that someone is (or is not) a member of the same community (Kinzler, Dupoux & Spelke, 2007). Accents are not particularly easy to fake. They generally require a fair amount of socialization and close contact to master. Consequently, there is a proposal that cooperating with someone with the same accent is a reasonable bet (Cohen, 2012). Kindergarten children appear to prefer those who speak with their own accent rather than a foreign accent, including when they have to cross racial categories to do so (Kinzler, Shutts, DeJesus & Spelke, 2009). Some even believe language is more enduring than race (Kinzler & Dautel, 2012).

As further support of the idea that accents indicate cultural group membership, accents do appear to indicate specific cultural beliefs. For example, hearing accents shifts bicultural individuals to apply cultural frames from the culture indicated by the accent (Dehghani et al, 2014). Although both appearances and accents can indicate ethnic categories, when the two diverge, observers tend to rely more heavily on accents (Rakic et al., JPSP 2010). And when individuals are perceived to have behaved in culturally inappropriate ways, people form less negative attributions when the individuals have a foreign accent than a local accent (Molinsky & Perunovic, JLSP 2008). It is not that an accent allows people to forgive poor intentions, but rather that accents are a signal to forgive cultural unfamiliarity, as a study of emails with both impolite statements and grammatical errors revealed (Vignovic & Thompson, 2010). Accents, like other patterns

in pronunciation, are social indicators because they are community-generated conventions that are a necessary part of spoken communication.

Metaphor choice. Cultural conventions are also concerned with content, such as conventions about what metaphoric bases to use to understand the world. There are longstanding observations about the role of metaphor in understanding space, time, number, and other fundamental concerns (e.g., Lakoff & Johnson, 1980). As there are many possible matches, conventions have a role in selecting collective defaults. For example, sweet tastes may seem to map onto positive attributions to a person (“he was so sweet”), but Israeli culture seems to map sweetness onto inauthenticity and so to negative attributions (Gilead et al SocPsy 2015). Cultures can choose metaphoric bases and how to map them.

As a further example of selecting metaphors, while “kiki” might seem as if it applies to angled shapes and bitter tastes and “bouba” might seem as if it applies to rounded shapes and milder tastes, that too seems subject to cultural convention, as indicated by differences between Himba and American participants’ tendencies in matching tasks (Bremner et al Cognition 2013). Or, musical pitch can readily be mapped to verticality (high or low, as done in English) or thickness (thin or thick, as done in Farsi), and which metaphor is used in a language is subject to convention (Dolscheid et al Psy Sci 2014). These examples, and the many more like them by these scholars and many others, indicate that the mappings we make from one domain to another rest on some meaningful similarities, but that the particular basis in use is a matter of what a particular community selects as its convention.

Abstraction. Another aspect of conventions are conventions about what kinds of words to use when communicating. For example, two streams of research seem to be converging on the importance of cultural conventions that emphasize tendencies to rely on abstractions or specific concrete events: research on the linguistic category model (Semin & Fiedler 1988) and research on generics (Gelman, 2003).

The core claim from the first stream of work following from the linguistic category model is that descriptions vary in attributing effects to situations or people (Maass, Montalcini & Biciotti, 1998). We might describe an event by using a verb to describe the action, such as “Shiyu instructed the class on the material.” We might describe it using an adjective, such as “Shiyu is instructive.” We might also use a noun, such as “Shiyu is an instructor.” The progression from describing a specific action to describing the actor indicates a progressively more abstract and general claim (Carnaghi et al., 2008). Descriptions using nouns as opposed to adjectives tend to be taken as more indicative of the essence of the actor, are stronger predictors of other traits about the actor, and tend to be used in communications when speakers believe the descriptions are indicative of the actor’s essence (Carnaghi et al, 2008; Maass, Cadinu, Boni & Borini, 2005). It is of interest then that linguistic conventions vary in their tendencies towards abstractness. For example, Italian speakers tend to use more adjectives and fewer verbs to describe people than Japanese speakers, and Italian speakers also tend to jump from behavior to traits more readily (Maass, Karasawa, Politi & Suga, 2006).

The work on the linguistic category model has tended to focus on the contrast between verbs and adjectives, with newer work focusing on nouns. Work on generics has focused on ways of using nouns. For example, we might say “the horse was eating a

carrot” or we might say “horses eat carrots.” In the second case, we are not describing any particular horse but making a more abstract claim about horses in general (Gelman & Ware, 2012). People tend to interpret generic claims as expressing central, underlying concerns about the category (Cimpian & Markman, 2009), the kind of information that many people would know about a category (Cimpian & Scott, 2012), and an indication that the category is not simply a temporary social construction but perhaps a natural kind (Gelman, 2003). Accordingly, it is important that communicating can foster the formation of essentialist views of social categories (Kashima et al Soc Cog 2010), and that adults who believe a category has an underlying essence tend to use generic language when talking to children (Rhodes et al PNAS 2012). Thus, there is likely a self-reinforcing pattern of cultural transmission, through generic language use, regarding essentialist beliefs.

Combining the work on generics with the work on the linguistic category model, the implication is that cultural conventions about using abstract language can inculcate essentialist beliefs about categories, thereby increasing community commitments to those categories and the inferences that follow regarding members of those categories. For example, people tend to perceive female marked words (chairwoman, waitress) as connoting less status than male (chairman, waiter) or neutral (chair, waitstaff) words (Merkel et al., 2012). Using nouns in communication to refer to people by female marked words for roles then could well lead to believing in the lower status of the individuals within those roles, due to inferring that there must be something lesser that is intrinsic to the holders of those roles (Salomon & Cimpian, 2014). Conventions about the kinds of words we choose to use are clearly consequential.

Category relations. As a final example of the breadth of the conventions that cultures instantiate in language, work on paradox is showing remarkably broad tendencies for how to handle relations between opposing categories. Specifically, there appears to be a general contrast in integrating paradoxes and tolerating oppositions between East Asian cultures and Western cultures (Peng & Nisbett, 1999; Spencer-Rodgers, Williams & Peng, 2010). This seems to have far-ranging consequences. For example, a longitudinal study found that when bicultural and bilingual individuals have recently spoken an East Asian language, their experience of positive and negative affect were positively correlated, whereas when they had recently spoken a Western language, their experience of positive and negative affect tended to be negatively correlated (Perunovic, Heller & Rafaeli, 2007). The relationship between the two categories shifted with cultural conventions about how to handle paradoxes.

A similar difference in integrating or separating opposing categories is also appearing in work on cooperation and competition. While both US and Chinese dictionaries list cooperation and competition as antonyms, Chinese individuals tend to report adopting cooperative and competitive orientations simultaneously (Chen, Xie & Chang, 2011). Further, Chinese individuals tend to report that competing within a team is cooperative, and if someone on their team competes with them they share knowledge (i.e., take cooperative actions) with them. In contrast, US individuals tend to report that competing with a team is non-cooperative, and if someone on their team competes with them they tend not to share knowledge with them (Keller & Loewenstein, 2011; Keller, Loewenstein & Yan, 2017). What cooperation means and how it relates to competition

appear to be shaped by general cultural stances towards handling paradoxes and spreads as part of the semantics of the words and conventions for using those words.

Taken together, the work on category relations, abstraction, metaphor choice, pronunciation, and script direction provide an indication of the breadth of the types of conventions that cultural communities generate and integrate into their language use. They also provide a few hints about the consequences of those conventions. Conventions about category relations, for example, end up influencing cooperative group behavior. Linguistic conventions generated by cultural communities are not just resolving ambiguities over reference or providing defaults for coordination. They are also guides for thought and, hence, action.

Linguistic conventions are tools for thinking

The idea that language provides a tool kit for thinking is an old and useful one (Gentner, 2016). The logic is that linguistic conventions provide ways to augment or facilitate reasoning. Obviously, writing something down so that we no longer have to remember it, is a kind of cognitive tool. There are many ways in which linguistic conventions might foster reasoning, and cultural and linguistic differences in conventions provides one means for identifying them. It is possible to consider some of the conventions just discussed as instances of linguistic conventions serving as tools for thinking. For example, metaphor choice implies making a metaphor conventional, which can then serve to guide reasoning. But if we step back to consider what a tool for thinking might do, we have two main options. Information processing systems can be described at a high level as consisting of information and processes acting on that information.

Accordingly, linguistic conventions can serve as tools by fostering the ease of processing or by fostering the development of information.

Processing ease. Some tools are easier to wield than others. Accordingly, conventions have consequences because they might foster ease of processing and thereby foster thinking. The classic example here is the case of words for numbers. Shorter words provide an advantage in maintaining content in short term memory, and because Chinese words for numbers tend to be shorter than English words for numbers, Chinese speakers tend to have longer digit spans than English speakers (Stigler, Lee, & Stevenson 1986). Digit span, in turn, is associated with arithmetic performance (Geary, Bow-Thomas, Liu & Siegler, 1996; see also Imbo & LeFevre 2009). The suggestion is that conventions that economize or otherwise fit with our processing tendencies are going to provide support for thinking.

That notion of fit with our processing tendencies is central to the underlying logic of studying culturally prevalent information to look for recurring qualities. For example, studying traditional oral narratives shows a wide array of conventions, many of which address challenges to remembering large amounts of information, such as repetition, meter, rhyme, motifs, and so forth (Rubin, 1995). Schematic plot structures can also become conventional because they map onto typical causal patterns or because they foster learning. For example, the three little pigs story, MasterCard's "Priceless" advertisements, the main motif in Beethoven's fifth symphony, and many common jokes all rely on repeating highly similar elements to encourage comparisons. This leads to forming an expectation that can then be violated to generate surprise. It is a plot structure that is a recipe for surprise, and as a result seems to be widespread in cultural narratives

around the world (Loewenstein & Heath, 2009; Loewenstein, Raghunathan & Heath, 2011). Conventions can form with a range of fits to processing ease. While it might seem that those that fit are more likely to survive and spread, there are plenty of examples of enduring misfits.

To pick just one example, while in English “42” is said forty-two, in German the convention is inverted; one says, in effect, “two and forty.” As a result, German speaking children tend to make inversion errors (e.g., mixing up 42 and 24; Zuber, Pixner, Moeller & Nuerk, 2009). These kinds of effects hold for speakers even when they just have to select which of two numbers (e.g., 42 / 15) is larger, and cross-linguistic differences in errors are notable only when the inversion matters (42 / 15, but not 21 / 45; Pixner, Moeller, Hermanova, Nuerk & Kaufmann, 2011). Consequently, conventions can support or hinder the ease of processing information.

Tagging and the development of information. Linguistic conventions can serve as tags. Some kinds of items in the world are fairly well individuated by our perceptual systems (Spelke, 1990). We can pick up and throw a ball, which we can then observe moving. But perceiving them is not enough, as we need to refer to them when communicating with others and we need to coordinate with others about them. It helps if we can tag them in some way and thereby mark out something in the world. Tagging provides the basis for individuating items, for making distinctions between items, and so for forming dimensions and categories.

The particular term, tag, is drawn from an argument about the fundamental role of making marks for individuating and aggregating items in complex adaptive systems (Holland, 1995). There are related arguments in work on the nature of symbol systems

(Peirce, 1974). To these, language acquisition research added the social imperative aspect (Brown, 1958): that one person tagging something had implications for others because it is a social communication with its attendant pragmatics (Grice, 1989). Words can mark out proper names for individuals (Rips, Block & Newman, 2006), their use can serve as directives to form categories (Waxman & Markow, 1995), they can identify non-obvious patterns (Gentner, 2010). But to do any of these things, they first have to be present as a marker or tag.

This idea of words as tags is a somewhat different approach to thinking about word use than is often taken. For example, a robust theme in language acquisition research is to identify the heuristics and assumptions that language learners appear to make about what new words mean (e.g., Markman, 1989) and to identify ways in which learners differ due to differing conventions coming from their languages (e.g., Imai & Gentner, 1997). But there is also an ongoing debate about whether words are special or whether they are just another feature (e.g., Mayor & Plunkett, 2010; Sloutsky, 2015; Westermann & Mareschal, 2014). One possible resolution is that words are context general discrete tags that can take on particular importance for being part of a system (cf., Dotan & Dehaene, 2016; Edmiston & Lupyan, 2015; Loewenstein et al., 2012). Once there is a semiotic system for marking out individuals and aggregates, specific examples and categories, and that system is conventionally used, then the community can develop information collectively.

For example, learning to make and use distinctions in how we encode what we perceive leads to becoming more sensitive to the dimensions that are key to defining and segmenting examples with different tags (Goldstone, 1994). Put another way, using

language requires learning and applying conventionally distinguished categories and so requires acquiring sensitivity to necessary distinctions (Majid, Jordan & Dunn, 2015). To take a specific case, Japanese speakers often follow conventions requiring them to distinguish the relative ages of the people with whom they are speaking, whereas Italian speakers do not have such conventions. When presented with information that was purportedly said by someone just older versus just younger than themselves, Japanese speakers were more accurate than Italian speakers at recalling who said what (Karasawa et al JCCP 2014). No such differences were found when the speakers were described as both being older or both being younger, or when the numbers representing age were instead described as favorite numbers. This pattern is consistent with the idea that Japanese conventions to attend to relative age led to attending to and using that information to bolster memory.

There are countless distinctions around which languages generate conventions, and so many ways in which this informational aspect of conventions can be a tool for thinking. As a different kind of example, Turkish is one of a number of languages that require speakers to use a grammatical marker to distinguish whether they perceived something directly or learned of it indirectly. There is some evidence that Turkish preschoolers tend to be developmentally advanced on false belief and selective trust tasks, relative to Chinese and English preschoolers (Lucas, Lewis, Pala, Wong & Berridge, 2013), and the linguistic conventions could account for that trend.

A further set of findings highlights the role of language in generating coarser and finer grained distinctions in an entire domain of meaning. For example, Dutch distinguishes support from below (“op”), vertical attachment (“aan”), and containment

(“in”), whereas in English the first two are called “on” and the last one is called “in” and in Spanish all of them are called “en” (Bowerman, 1996). The particular conventions for encoding spatial relations seem to guide spatial reasoning. For example, preschool children who watched a toy being hidden under one of several items on a table and then moved to a different position around the table before retrieving the toy were more likely to accurately retrieve the toy when given a verbal description with spatial terms than no verbal description or just pointing (Miller, Patterson & Simmering, 2016). As a further example, after being shown three different toys in a line, and then turned 90 degrees and asked to set up the same three toys so they matched, Dutch children put the toys together in the same orientation relative to themselves, whereas Namibian children put the toys together in the same orientation relative to cardinal directions (Haun et al, 2011).

Languages that conventionally use cardinal directions (north, south...) rather than relative directions (left, right...) can even use this spatial relations framework as a metaphor to structure their views of time and how they conceptualize orderings of events (Boroditsky & Gaby, 2010). Conventions instantiated in language that mark spatial relations distinctions, and distinctions more generally, are a way of developing particular perspective and particular expertise.

A similar sort of system of distinctions instantiated by convention in language can be found in the domain of smell. Although English and many major Western languages have quite modest vocabularies for odors and rely predominantly on metaphor to describe odors, there are languages with much richer vocabularies. The rough idea can be captured with an analogy to color: that rather than describing colors with metaphors (“like the sky on a sunny day”), we can describe colors with specific color words (“blue”). So it can go

with odors as well. For example, the language Maniq has a lexicon of about 15 odor words that appear to be organized around two main dimensions, pleasantness and dangerousness (Wnuk & Majid, 2014). This might indicate a coherent semantic system for odor. Having a coherent odor vocabulary makes describing examples efficient. Whereas American speakers of English can efficiently code color in examples, they are unable to do so for odors; speakers of Jahai can efficiently code both color and odors in examples (Majid & Burenhult, 2014). Thus, language conventions can make entire domains of meaning more or less tractable by offering or not offering systems of distinctions.

Systems of distinctions matter over and above making any one particular distinction. As suggested in the work on spatial prepositions, multiple distinctions often work together to segment a domain of meaning. They can then be used together to interpret situations. For example, while independent spatial terms provided some support to preschool children in performing a spatial mapping task, a system of spatial terms led to still higher performance (Loewenstein & Gentner, 2005). Or, adults taught quilting vocabulary, as opposed to quilt histories, were more likely to infer additional distinctions and use both the explicitly trained and the inferred distinctions to form preferences, and do so more quickly and stably (West, Brown & Hoch, 1996).

In sum, there are three main implications of tagging. The first is that conventions can foster learning and using particular tags that make particular distinctions, as with the example of Turkish just noted. The second is that languages can form tagging conventions with different degrees of complexity and detail, as with the examples of space and smell. The third is that languages can form systems of tagging conventions that

can then be used together to guide thinking and behavior, as with the example of quilting terms and spatial relations systems. Taken together, tagging conventions are a form of collectively generated information that is then available to, if not mandatory for, guiding thinking and behavior.

Linguistic conventions for social influence

The discussion of linguistic conventions as tools for thinking emphasized the effects on individuals, but looked at from the other direction, nearly every study is also a study of social influence. For example, nearly every category learning study is described as a test of individual cognitive processing, but could also be described as social entrainment: can individuals be guided to respond in such-and-so way? Language, as Lupyan and Bergen (2015) emphasize, is not just a communication system, but a control system. There are first-order controls of direct observation and feedback, second-order controls of routines and standard operating procedures, and third-order controls of premises and taken for granted beliefs (Perrow, 1986). Culture relies on language as a primary deliverer of second- and third-order controls. We instruct others, and so we program others.

Language as a form of social influence is foundational to thinking about how culture shapes behavior. Learning from others is foundational because it is a low-cost, high value means for identifying how to navigate a complex world (Boyd, Richerson & Heinrich, 2011). Cultural learning is most powerful when it offers integrated systems of knowledge that can accumulate and develop over time and across generations (Boyd & Richerson, 2005), as language so clearly fosters. And the induction problem of learning language for coordination with others (we try to all do the same thing) is arguably easier

than the induction problem of learning language to model the world (we try to do the right thing based on understanding the world accurately; Chater & Christiansen 2010). Consequently, linguistic conventions are integral to foundational aspects of cultural accounts.

Accounts of culture that do not explicitly make linguistic conventions central nonetheless seem to rely on them implicitly for a good deal of their power and reach. For example, the dynamic constructivist approach to culture (Hong, Morris, Chiu & Benet-Martinez, 2000; Hong & Chiu 2001; see also Leung & Cohen, 2011 for a related approach) characterizes culture as providing bundles of knowledge and styles, which people are prompted to apply based on cues in situations. Language has long been noted to be one such cue (Bond & Yang, 1982). Language is also important to generating and disseminating the knowledge and styles. And language is important for distinguishing kinds of situations.

These are large-scale kinds of social influence. The reason linguistic conventions are a widespread form of social influence is because language is not just a tool for individual thinking. As Putnam (1973) argued, language is a tool less in the sense of a hammer or a saw and more in the sense of a steamship or an airplane. It is a collective tool. We do not generate, use, or change these tools by ourselves. We can use them, indeed organize important aspects of our lives around them, even play a critical niche role in their use, without much understanding of them. The mechanic who fixes the plane need not be able to fly the plane. The passenger need have no ability to do either. Similarly, we can use words like heart attack, pinot noir, and so forth without any ability to identify what is and is not a member of the category or to know what makes something

a member of the category. Consequently, linguistic conventions are a particularly powerful form of social influence because people rely so heavily on them, take that reliance for granted, and generally abide by a host of conventions with little awareness of doing so. And as the prior discussions indicate, relying and using conventions has consequences.

Linguistic conventions are an opportunity for connecting individual psychology to large-scale social and cultural patterns. For example, using first person plural pronouns (e.g., “we” or “us”) tends to foster a collectivist orientation, whereas using first person singular pronouns (e.g., “I” or “me”) tends to foster an individualist orientation (e.g., Brewer & Gardner, 1996). The reverse is also the case; the orientation leads to the pronoun pattern (Na & Choi, 2009). It is therefore of interest that American books (Twenge, Campbell & Gentile, 2012) and Chinese books (Hamamura & Xu, 2015) in the past 40 years show substantial increases in first person singular pronoun use, suggesting a rise in societal individualism. Matching micro-patterns with macro-trends indicates that linguistic conventions may provide a mechanism by which large scale social tendencies can be instantiated in specific situations and so influence specific individuals.

There is an opportunity to push on that connection far more than has been done thus far. For example, the earlier work on abstraction found different conventions among Italian and Japanese speakers in their use of abstract descriptors for people (Maass et al., 2006). There is also a cultural difference in attribution patterns towards people versus situations. It is possible that the linguistic conventions around level of abstraction play a role in maintaining those attribution patterns. One result would be linguistic conventions that reinforce stereotypes—not just particular stereotypes, but the tendency to rely more

versus less heavily on stereotypes generally. There are many more patterns that we can only speculate about. For example, polite language appears to encourage adopting a distant construal, and adopting a distant construal appears to encourage using polite language (Stephan, Liberman & Trope, 2010). Perhaps cultural conventions about how often to use polite language might help engender chronic construal levels at a societal level.

On the flip side, there are intriguing macro level patterns that merit more micro level support. For example, product names can signal hard to observe properties, or even add such properties, and so be instrumental in guiding or generating appeal. In a study of reviews of over 18,000 beers made in the United States, those with names with anti-mass-production references (e.g., “Morgantown Brewing Company’s *Small Batch*-Honey Raspberry Amber Ale”) tended to attain greater ratings, although no such advantage was found for beers with these names in blind taste tests (Verhaal, Khessina & Dobrev, 2015). Or, there are debated cross-linguistic macro-level data suggesting a link between linguistic conventions around marking future actions and behavior patterns around saving (Chen, 2013) that are in need of testing at the micro level. It is possible that there is a link between how a language encodes time and how people make decisions about the future, but the number of possible artifacts is sufficiently large that direct micro-level testing is more likely to be fruitful.

There are also important macro patterns to study for their own sake. For example, tracing linguistic conventions can reveal community level influence. A study of business jargon revealed that academics pick up more practitioner terminology than the other way around (Barley, Meyer & Gash, 1988). A similar logic is behind looking at translation

patterns from one language to another to identify that some languages are hubs from which many other languages borrow words, ideas, cultural products, and more. Names of famous people in hub languages, for instance, tend to become known in other languages more than the reverse, indicating what are likely pervasive effects of hub cultures on other cultures (Ronen et al., 2014). One question along these lines is whether to be concerned about the dominance of the English language in global business, science, and other fields. For example, it is increasingly difficult in some areas of science to engage in informed inquiry in languages other than English, because all the technical terminology is in English.

Far more research is needed on the role of linguistic conventions in large-scale social influence, because it is likely central to understanding political power. Mass media make linguistic conventions easier to establish than ever, as communications now have such broad reach (e.g., Fusaroli et al, 2015). The impact of linguistic conventions is effectively global.

The stakes for understanding the role of conventions on large-scale social outcomes could not be higher. Media can make social classifications with an unappealing identity conventional, allowing for later dehumanizing classifications and in turn providing a basis for popular support of conflict and genocide (Donohue JLSP 2012). As noted earlier in the work on essentialism, establishing negative attributions with generic language and so indicating that negative aspects are part of the very identity of a social community sets the stage for social conflicts. Even simple exposure to biased labels in media communications has been linked to increased ingroup favoritism (Fasoli, Maass & Carnaghi, 2015). It gets worse. Leaders' communications of contempt, disgust,

inferiority, and intolerability have been associated with followers' later acts of aggression (Matsumoto, Hwang & Frank, 2013). Disease fears stoke anti-outgroup action, laying the groundwork for social conflict (Dutta & Rao, 2015). Understanding how to establish and change linguistic conventions, given their potential for influence on action within and across cultural communities, is more pressing than ever.

Discussion

Understanding culture involves understanding how we form collective meanings, practices, or values. For such things to be collective requires consistencies in thought and behavior. To generate such consistencies, language plays a prominent role because it is a widespread system for coordination. It is for this reason that linguistic conventions, rather than words, syntax, pragmatics, categories, cognition or a host of other possibilities provides a useful (but under-used) starting point for examining language and culture.

Starting with linguistic conventions solves a few problems and raises a few new avenues for exploration relative to most prior work on language and culture. Rather than invoking mysterious versions of collective minds, we can examine the social processes of forming conventions that individuals observe, draw inferences from, coordinate around, teach, sanction others for violating, and so on. Cultural research can benefit from being sensitized to various types of local community cultures. In addition to societal cultures, we also have regional cultures, urban cultures, professional cultures, organizational cultures, and more. Linguistic conventions are pointers to identifying them and to understanding them. Similarly, language-wide conventions are not the only conventions of interest. Localized conventions to particular semantic domains, situations, or speakers are also of importance.

Focusing on linguistic conventions provides a different view of some longstanding proposals. For example, if language is a collectively generated, constantly changing, system of cultural conventions, then it does not make sense to ask if language determines thought. That proposal relies on reifying and essentializing language and on confusing different levels of analysis. Instead, it might be stimulating to remember the ways in which language is like deciding that in this game, the stick is a microphone and the rubber band is a crown, tomorrow forgetting that it was not always so, and the next day teaching it to someone else who never knew it was otherwise. Then we can consider assessing consistencies and differences in how and when individuals understand and abide by conventions, and in what assumptions they take for granted. We have to rely on what we know, and it is easy to forget that part of what we know is stuff we just made up.

Focusing on linguistic conventions provides new reasons to examine variability. Collective meanings, practices and values are ideal types, with idealized essences and definitions. Who believes, does, and feels what will vary. People will vary because of the degree to which they are familiar with and a part of their communities. They will vary because of the degree to which they abide by or assimilate their community's conventions. They will vary because of their memberships in multiple communities. Mass communications, events that are widely attended, opportunities to interact repeatedly, large-scale cultural logics about conformity and other such forces will presumably foster consistency and so likely yield larger, more detailed, and more systematic collections of conventions (Gelfand, Nishii & Raver, 2006). The opposites, as well as inevitable changes in technologies, products, and the historical events people experience will presumably foster inconsistencies and fragmentation. Rather than

essentializing collective meanings, practices and values, we could estimate their variability in adoption and interpretation.

In studying variability, we could do more to study differences in depths of understanding and degrees of power over linguistic conventions. Beyond examining behavior in specific situations and language-wide conventions, it is also useful to examine different roles within cultural communities. What are the means by which conventions can be generated, changed, and discarded? What are the means by which systems of conventions can be made more coherent, merged with other systems, or broken and re-fashioned? There are starting points for addressing such questions (e.g., work on vocabulary structure and communication types; Ocasio, Loewenstein & Nigam, 2015), but there is less on the particular kinds of roles individuals can play in these processes. If linguistic conventions are collective tools, like steamships and airplanes, then understanding what it means to be passengers, pilots, or maintenance workers becomes opportunities for study.

To do those studies, we will need to be as inventive as the studies reviewed. Linguistic conventions are not just what is written on the page, but also about how language links to socially coordinated experiences. The rise in sophistication of text analyses is exciting, but it has come along with a strong focus on written text to the exclusion of all other aspects of language. The histories of perceptual, motivational, affective, physical experiences are missing. Raising attention to linguistic conventions is not an invitation to isolate language from the rest of cultural activity.

In conclusion, we can view language as a tagging system that members of cultural communities use to generate and distribute information so as to coordinate their behavior.

Or even, language is a tagging system that allows people to coordinate their behavior, allowing for the formation of stable, cumulative, widely dispersed cultural communities. Regardless of whether language or culture is seen as primary though, systems of linguistic conventions generate information from which we derive the meanings that we use to make sense of our experiences and so our lives. But even more than that, we use language and develop language and refashion language as we engage with others and with the world. As a result, we can view language as a ubiquitous tool for generating massive, intricate, distributed systems of conventions. We then use these linguistic conventions to coordinate our behavior, to work together, to engage with one another, and to create much larger and more encompassing cultural worlds than we could otherwise. As Toni Morrison put it in her Nobel lecture in 1993 upon receiving the prize for literature: “We die. That may be the meaning of life. But we do language. That may be the measure of our lives.”

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