

Thinking in tongues

An interview with John A. Lucy

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How does the language we speak affect the way we think? John A. Lucy's unique answers to this question derive from his finding a middle ground between the opposing nativist universalist point of view and empiricist relativist stand.

Linguistic relativity has evolved from a much debated issue – often based on a naive approach to exotic linguistic structures – to a vast area of research involving cognitive scientists from various fields (e.g., linguists, anthropologists, psycholinguists, experimental psychologists, neurologists). An important landmark in the development of this new paradigm is the 1991 symposium aimed at *Rethinking linguistic relativity*, and the ensuing collective volume edited by sociolinguist John J. Gumperz and anthropological linguist Stephen C. Levinson (1996). They defined linguistic relativity as “the idea that culture, *through* language, affects the way we think, especially perhaps our classification of the experienced world” (Gumperz & Levinson, 1996:1). However, the definition could not capture the diversity of conceptions gathered in the volume. Professor John A. Lucy's contribution to the evolution of the paradigm is more thorough and original than any other, in that it brings together an impressive amount of experimental data, while questioning the impact of differing definitions and methods. His work is therefore crucial to understanding current approaches to linguistic relativity.

Linguistic relativity

Linguistic relativity is the idea that the language we speak influences the way we think, or more precisely: “The linguistic relativity hypothesis, the proposal that the particular language we speak influences the way we think about reality, forms one part of the broader question of how language influences thought.” John, A. Lucy (1997a: 291)

It has been around for a long time. Its modern phrasing probably dates back to Humboldt's work in the 19th century, stating that: “Man lives in the world about him principally, indeed exclusively, as language presents it to him.” (Humboldt, 1836)

In the 20th century, new claims emerge within American anthropology: “We see and hear and otherwise experience very largely as we do because the language habits of our community predispose certain choices of interpretation.” (Sapir, 1929)

“We dissect nature along lines laid down by our native languages. The categories and types that we isolate from the world of phenomena we do not find there because they stare every observer in the face; on the contrary, the world is presented in a kaleidoscopic flux of impressions which has to be organized by our minds—and this means largely by the linguistic systems in our minds.” (Benjamin L. Whorf, 1956)

And if linguists might have tried to avert extreme relativism for the limits it imposes on freedom of thought, the fear has only come true in science fiction: “The purpose of Newspeak was not only to provide a medium of expression for the world-view and mental habits proper to the devotees of Ingsoc [English Socialism], but to make all other modes of thought impossible. It was intended that when Newspeak had been adopted once and for all and Oldspeak forgotten, a heretical thought – that is, a thought diverging from the principles of Ingsoc – should be literally unthinkable, at least as far as thought is dependent on words.” (From George Orwell’s *1984*). But we do not seem to have come to terms with the debates it stirs.

Books and Ideas: Linguistic relativity is an extremely popular subject, yet the notion encompasses so many distinct phenomena that it could be misleading. Are there one or many linguistic relativity hypotheses?

John A. Lucy: The basic proposal is that language differences influence thought. But there are differences in (1) what aspect of language matter, (2) how strong the influences are and in what way they work, and (3) what aspects of thought are affected.

(1) The usual focus in the language realm is on lexicon (e.g., color terms) or on grammatical categories (e.g., number marking) – the aspects of language that code meaning values. Sometimes the lexical and grammatical are mixed together into a single functional category (e.g., space). Although some interpret language as part of culture, and therefore see language effects as cultural (see Gumperz & Levinson above), others would argue that there are effects of language type that are independent of culture.

(2) When a writer talks about ‘strong’ and ‘weak’ forms of the hypothesis, it usually means they don’t want to accept the proposal. They say there is no evidence for the ‘strong’ form (usually a kind of strong determinism) and place all the favorable evidence into the ‘weak’ category (i.e., conceding that there is some kind of ‘influence’, but implying by the word ‘weak’ that somehow that it is not an important influence – but without any supporting scientific argument). Although there is a lot of evidence now for language influences on thought, at present we can’t really say how strong they are. Various mechanisms of influence include habit, saliency, analogical projection, structural logic, etc. The mechanisms have not been all that much explored.

(3) Although some researchers still count language-internal effects (e.g., patterns of word extension within a language), most researchers want to see effects on nonverbal tasks involving classification, memory, reasoning, etc. We are a long way still from showing large-scale effects on everyday behavior.

Books and Ideas: In your book on the “linguistic relativity hypothesis” (1992) you insist that it is actually a three-way relation, between language, thought, and reality. The suggestion, then, is that we should cast a fresh look on the relation between language and reality. Does it imply that ever since ancient philosophy, thinkers of the objectivist tradition have been on the wrong track? And where does culture stand?

John A. Lucy: I would indeed say it is a three-way relation between language, thought, and reality. It is true that historically, people have tended to look at dyads: language-thought or language-reality or thought-reality –rather than all three– but they have all produced important insights. Discovering the limits of previous theories has helped science moving forward. As for the objectivists, they’ve often focused on an imaginary lone individual, failing to understand the importance of the social mediation of an individual’s objective experience.

It is difficult to place culture into this triad because you can regard language as a part of culture, culture as a part of reality, and thought as either one. My own view is that language is deeply cultural, but has its own communicative logic not shared with other aspects of culture, giving it a semi-autonomous quality.

Books and Ideas: In your 1997 paper, you distinguish three types or levels of linguistic relativity that are often confused. “The first, or semiotic, level concerns how speaking any natural language at all may influence thinking [...] The second, or structural, level concerns how speaking one or more particular natural languages (e.g. Hopi versus English) may influence thinking [...] The third, or functional, level concerns whether using language in a particular way (e.g. schooled) may influence thinking” (Lucy, 1997a: 292). Could you explain why the distinction helps?

John A. Lucy: Making the distinction explicit helps people not confuse them! For example, some will argue that because we *can* sometimes think without involving language (a problem at level 1) therefore language differences can’t matter at all (a problem at level 2). To take an analogy: it is true that people can drive cars without *having* to attend to which side of the road they drive on, but the fact is that differences in national customs about which side to drive on do lead people to drive on one side rather than the other and, crucially, that it requires cognitive effort to change to the other convention. The ability to do some activity outside of conventions does not mean the conventions don’t matter.

Books and Ideas: Linguistic relativity defines the proposal that language (whether at the semiotic, the structural, and/or functional level) may influence thinking. Hopefully the definition is now clear, but it does not state when the influence might

be observed: with or without speech? You have, for instance, shown effects of Yucatec speakers' preference for material over shape (see below) in an experimental setting, but also in ordinary conversation where they revealed habits and testified to "the vitality of an orientation to the world that transcends [the] experimental tasks" (Lucy 2004:18). Your words here are reminiscent of Slobin's 'thinking for speaking' hypothesis, or the idea that "Each [language] is a subjective orientation to the world of human experience, and this orientation affects the ways in which we think while we are speaking," (Slobin, 1996:91) but I suspect you actually disagree with Slobin's proposal, don't you?

John A. Lucy: To me, the central question is this: does this subjective verbal orientation to the world become an orientation *in general*, not just for language use? Slobin's 'thinking for speaking' remains agnostic about this. It is not, strictly speaking, a linguistic relativity proposal in the traditional sense. The traditional claim is that language categories have an influence on how you think about reality, usually taken to mean something other than the activity of language use itself. Slobin's claim really amounts to saying that in order to speak you have to learn to speak. This has become an enormously popular way to formulate the problem both because it eliminates any need to go outside of language to show effects on thought more generally and because it safely quarantines the potential effects of language differences inside language. Everyone can agree on it because it is totally innocuous. It is interesting that the strongest proponents and opponents of linguistic relativity both agree on this: thinking for speaking is not linguistic relativity in the traditional sense.

Language may be used to help with thinking more broadly, that is, with memory, categorization, etc., or it may not, but evidence from language alone is not sufficient to decide. When it comes to showing effects of language on thought more generally (linguistic relativity in the traditional sense), I think researchers have found some real effects in controlled experiments, but there is not yet much evidence about how pervasive and important they are in everyday life. My suspicion is that some effects are very important and others less so.

Books and Ideas: If we now look at how modern linguistic relativity proposals came about. Research on color terms and color processing, initiated by Lenneberg and colleagues' experiments in the 1950s, was developed in the 1970s by anthropologists looking at several languages in a comparative perspective (e.g. Berlin and Kay's 1969 paper). The results originally pointed to the impact of linguistic categories on perceptual discrimination, but were then considered evidence for the existence of universals in color naming. Why the paradox?

John A. Lucy: Both Lenneberg and Berlin & Kay start with 'color' as a domain of reality, not as a formal language category. The problems with this approach are outlined in my 1997 *Annual Review* paper and in my 1997 paper on the linguistics of "color." Basically the approach does not attend to language structure and tends to *concede* the existence of the same reality for everyone – that is, it concedes the very point at issue. The work of Levinson and colleagues looks at the category of "space" (Levinson, 2003)

rather than “color”, but uses a more sophisticated version of this same approach, to better effect. They started from the spatial domain of experience and went on to analyze differences in “spatial language”. But spatial language as a domain arises from the researchers’ own prior interest, rather than from a structural analysis of languages. It amounts to reading language productions through a spatial lens, picking out the categories that one is interested in regardless of their structural importance in the language.

My concern in developing my approach was to make thinking on the issue more precise and to open it to empirical research in a systematic, rather than ad hoc way. I therefore started by looking at the language structure more carefully. For instance, when looking at Mayan languages (see Lucy, 1992), I first analyzed the grammatical structure and then assessed the language in a number of experimental conditions, to get a measure of language use. Yucatec Maya, an indigenous language of southeastern Mexico, notably differs from American English in how it expresses number with nouns: plural number marking is optional and there are an extensive range of obligatory numeral classifiers. Starting from this language contrast we could start making predictions and designing experiments that derive their relevance from the language, rather than from our own pre-existing concerns.

Books and Ideas: Would you agree that universalist assumptions, and more precisely nativism – i.e. the view that syntax and/or semantics are universal and innate – “has blocked sensible and informed discussion of the relation between language and thought for decades.” (Levinson, 2009:28)? Would you say that current approaches to linguistic relativity reconciled nativists and empiricists?

John A. Lucy: If holding a nativist view means that you will only accept that view, then it does tend to block research, because you will simply ignore or discount inconvenient empirical findings. But if one is open to the empirical evidence, then there is room for a more balanced view. I believe elements of my own approach allow such a reconciliation, but I find it still makes people on both sides uncomfortable to consider a middle ground.

Books and Ideas: Developmental findings suggest that children gradually tune-in to their language. You have evidenced one turning point in language acquisition and development more broadly, and it occurs rather late. Is there a contradiction between your results and other studies showing an impact of input language from the very first words a child utters (e.g. Choi & Bowerman, 1991)?

John A. Lucy: Work on early acquisition shows that children are sensitive to the input of the surrounding language(s) – apparently starting even before birth and continuing through their development. I’m not sure how it could be otherwise. But in itself, that has nothing to do with linguistic relativity, which has to do with the influences of language on *thinking* more generally. I suspect there are some early influences on nonverbal cognition, but to date in my own research, I find children speaking differently but performing similarly cognitively until age 7. Then their cognitive patterns begin to diverge in line with their language structures, suggesting that they are now drawing on

language-specific categories for tasks other than speaking or language acquisition per se. A number of studies on early acquisition have taken spatial language as a starting point for cross-linguistic comparison. Choi and Bowerman's pioneering work, which you mention, has shown that by the time children start to use spatial words proficiently, they have already grasped language-specific distinctions, so that Korean speakers will talk about "tight fit" (*kkita*) when English speakers simply mention location "in" a box. English-speaking children have also been shown to use particles like "in", "on", or "up" rather than verbs (as is the case in Korean). But the difficulty is showing that these language-learning patterns have some broader effect on cognition beyond language. Part of the difficulty is that these forms have been analyzed out of structural context. So, for example, these English spatial prepositions also signal aspectual meaning (e.g. "he turned up late"), and usage norms vary across contexts. What English-speaking children do with particles like 'up' cannot be reduced to spatial language. And without taking these other uses into account, it is hard to know what to predict in cognition.

And even when you have a solid linguistic contrast, testing for cognitive patterns is not easy. In order to show language effects, we need a narrower focus than the description of a whole complex scene. In my own work I have used very simple object sorting tasks. For example, when shown triads of objects (e.g., two plastic combs of different shape and a wooden comb matching one of the shapes) all children under the age of seven favored shape as a basis for classification. But after age 7 the Maya children begin to favor material – in line with the underlying structure of number marking in the language (with classifiers hinting at the objects' material). These effects on cognition then are arising many years after the basic linguistic distinctions have been drawn, raising important developmental questions as to why.

Books and Ideas: Yes, your results have certainly raised crucial developmental questions, but you have also come to strong conclusions –and here is one of them: "the emerging picture is that each child can achieve the fully developed humanity implicit in the inherent capacity for language, culture, and mind, only by committing to becoming a particular sort of human, that is, one that is imbued with a historically specific language, culture and mind." (Lucy, 2004: 21). This would account for a strong bias, which according to you may be temporarily overcome but will inevitably come back. Could you explain what this conclusion implies?

John A. Lucy: There are two claims here. One claim is that drawing on language-specific categories for other kinds of thought probably imparts some advantages. If you don't draw on the language categories effectively, you don't get the advantages. So, in that sense, normal development seems to presuppose doing this. The second claim is that making this commitment can create problems for engagement with a second language afterwards if it requires substantially different commitments. And this means that modes of thought that rely on these other commitments may also prove difficult. The degree of effect will, of course, depend on the age of exposure, amount of exposure, similarity of the languages, etc. In the case of late, limited exposure to a very different L2, that L2 will likely be construed in terms of the categories of the L1, that is, that L2 will not contribute to cognition in the usual way, and there will be a preference for continuing to draw on the

L1 for certain tasks. How this plays out under different developmental scenarios is all very much in the forefront of current research on bilingual cognition.

Books and Ideas: Ultimately, can we really distinguish language from cultural factors?

John A. Lucy: Well, language is a part of culture. But as I mentioned above, it does have some semi-autonomy. We have several methods at our disposal for trying to assess to what extent language is influencing thought independently of other cultural factors that co-occur with it. One method is to produce a prediction that is so tightly tied to language, that alternative accounts become very unlikely. A second is to use comparative populations so as to compare similar languages in different cultures, and vice versa. A third is to use developmental research, which gives us a sense of which influences operate earlier. And a final strategy is to use special populations – the deaf, late L1 learners, L2 learners, etc. – who share the same culture but have differing degrees of language exposure. There is currently a lot of new research on the impact of having a second language in relation to cognitive abilities.

We are still in the early stages of research and linguistic relativity proposals are still in need of empirical verification. At present, well-controlled assessments using concrete referential tasks (e.g., with number, space, etc.), are still necessary to test correspondences between language forms and the world. But while these domains of cognition are tractable to experimentation, others are less so. It remains unclear how we can assess the impact of language structure on more abstract notions such as love or honor, counterfactuality or stance, etc.. Assessments in these areas tend to be more vulnerable to experimenters' own cultural and linguistic expectations. Finally, even when we have well-controlled data, we still have to discover how generalizable they are. How pervasive are these linguistic effects out there in the everyday world? Surely there are other conditioning factors on behavior that will have an impact in non-experimental contexts. In short, we have made a good beginning but still have much to learn.

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See also <http://home.uchicago.edu/~johnlucy/vitae.htm#Books> for extensive bibliography and downloads.

Published in booksandideas.net 8 October 2012.

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