

The Cultural Origins of Human Cognition by Michael Tomasello.
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The fields of cognitive psychology in general and linguistics in particular underwent revolutionary changes when Noam Chomsky (1957, 1965, 1980) argued convincingly that linguistic structures are cognitive structures and that linguistics is a branch of cognitive psychology. The argument that Chomsky advanced in his 1957 *Syntactic Structures* (and which has been expanded upon by various theorists since) claims that language is a biological endowment and that language acquisition is a maturational process since all children, irrespective of intelligence (and even in the presence of more general cognitive deficiencies, such as autism), invariably acquire at least one language.

A fundamental tenet of Chomsky's "innateness" argument is that language is species specific and that human beings are born with a dedicated cognitive module containing the elements of a "Universal Grammar." Linguistic abilities are thus separate from other cognitive abilities, and a Language Acquisition Device resides within the human brain guaranteeing every newborn human child language. In order to provide support for Chomsky's "genetic" view of language, theorists such as Steven Pinker (1995, 1999) interpret recent findings in cognitive neuroscience to suggest that "grammar" resides in the human brain in the form of "rules" in one area and in the form of more idiosyncratic aspects of language such as "lexicon" in another area.

Chomsky's innatist theories of language, however, have come under attack in recent years from both practitioners of cognitive psychology (particularly the connectionist and information processing approaches to language) and from practitioners of social-cognitive psychology.

In his 1999 book *The Cultural Origins of Human Cognition*, Michael Tomasello, a social-cognitive psychologist, makes the case for a social-cognitive psychological view of language and language acquisition by arguing against many of Chomsky's theoretical premises. Children use their cultural learning skills to acquire linguistic and other communicative symbols, argues Tomasello, and language develops in human beings as a result of their evolving cultural cognition (both as individuals and as a species) and *not* as a result of a dedicated Language Acquisition Device or innate Universal Grammar, as Chomsky claims. In Tomasello's view, human social cognition has a dual role: it determines both individual human language learning on the one hand, and the structural complexity of all of the human species' languages on the other.

Tomasello begins his arguments by claiming that language is a social institution and that linguistic symbols are cultural symbols. His view is that “just as money is a symbolically embodied social institution that arose historically from previously existing economic activities, natural language is a symbolically embodied social institution that arose historically from previously existing social-communicative activities” (p. 94). Moreover, claims Tomasello, language is primarily intersubjective. If it is a cognitive skill, it is then a culturally-based cognitive skill with nothing but a social-collective dimension. In other words, language is the *product* of social or cultural transmission and communication, not the *cause* of it.

Tomasello thus takes great issue with Chomsky’s claim that language is a biological endowment. From an evolutionary standpoint, argues Tomasello, the 250 thousand year history of *Homo sapiens* “is simply not sufficient, under any plausible evolutionary scenario, for genetic variation and natural selection to have created many different and independent, uniquely human cognitive modules” (p. 55). Furthermore, argues Tomasello, the localization of grammatical “rules” in one area of the brain cannot be accepted as evidence for the “innateness” of language, since localization of function in the brain may result from many different developmental processes *not* involving “genetic specification of epistemological content” (p. 203).

Tomasello’s major criticism of Chomsky and his followers is that they tend to focus their attention entirely on the innateness of contemporary adult language use and are not looking at the evolutionary and intermediate processes in between. Their focus, he claims, is an “attempt to skip from the first page of the story, genetics, to the last page of the story, current human cognition, without going through any of the intervening pages. These theorists are thus in many cases leaving out of account formative elements in both historical and ontogenetic time that intervene between the human genotype and phenotype” (p. 204).

Accordingly, Tomasello does not subscribe to the assumption that it is the language faculty that separates human beings from other animals. In his opinion, it is our particular form of *intersubjective social cognition* that distinguishes human cognition from nonhuman cognition. To support this view, Tomasello cites research findings that human children before the age of nine months are very similar to nonhumans in terms of their social cognition in understanding that their actions and the actions of others create changes in the physical environment. Beginning at about nine months, however, human children start experiencing themselves and their conspecifics as intentional/mental agents.

This one cognitive differentiation, claims Tomasello, has many cascading effects. In fact, the sole reason why language emerges in children beginning at around nine months in all cultures, claims Tomasello, is precisely because children of all cultures seem to come to this understanding of others as mental agents at very roughly this age. In making this observation, Tomasello is particularly cautious not to posit the pre-existence of a dedicated language module in human

beings. Rather, he uses this claim to argue that it is the ability to understand each other as intentional mental agents that is species-unique and that which prepares human children to learn and use language.

Thus, what *are* genetic, from Tomasello's standpoint, are the cognitive *abilities* that are necessary for learning language and mathematics—not the linguistic structures or the mathematical notions themselves. Among these cognitive skills, he feels that what led human beings to invent language was “the biologically inherited capacity for living culturally” (p. 53).

Languages, according to Tomasello, share two important characteristics: intersubjectivity and social purpose. As such, Tomasello contends that “natural languages contain cognitive resources for partitioning the world into such things as events and their participants” (p. 9). Human language is perspectival by nature, claims Tomasello, and so is its use. Even grammaticization is a way of looking at the world—a way of “categorizing and schematizing cognitive representations”—and by using linguistic symbols, language users induce others to look at the world in their perspective: “in one way rather than in another” (pp. 127-128).

Thus, Tomasello argues against both the existence of Universal Grammar and the alleged role of a Language Acquisition Device in child language development. According to Tomasello, language development is entirely a cultural transmission process and collaborative learning takes place in the form of what he calls “joint attentional scenes.” These primal experiences are defined by Tomasello as:

social interactions in which the child and the adult are jointly attending to some third thing, and to one another's attention to that third thing, for some reasonably extended time On the one hand, joint attentional scenes are not perceptual events; they include only a subset of things in the child's perceptual world. On the other hand, joint attentional scenes are also not linguistic events; they contain more things than those explicitly indicated in any set of linguistic symbols [instead, these interactions constitute] an essential middle ground of socially shared reality-between the larger perceptual world and smaller linguistic world. (p. 97)

In other words, “there are no other hidden principles, parameters, linguistic categories, or schemas that generate sentences” (p.139). Children progress in their language learning only through the growing complexity of their social relations and through the correspondingly increasing complexity of the social cognition that results; for again, grammaticization is a way of looking at the world.

In this sense, the cognitive development of language in the individual recapitulates the cognitive development of language in the species. Language is a product of cumulative cultural evolution and in this evolutionary process, there is a ratchet-like mechanism that prevents slippage to the past. As such, the state of a language at any given time represents “something resembling the entire collective wisdom of the entire social group throughout its entire cultural history” (p. 7). This collaboration, claims Tomasello, is both simultaneous and historical across genera-

tions, for “modern adult cognition of the human kind is the product not only of genetic events taking place over many millions of years in evolutionary time but also of cultural events taking place over many tens of thousands of years in historical time and personal events taking place over many tens of thousands of hours in ontogenetic time” (p. 216).

Thus, Tomasello’s theory of language is a social-pragmatic one, and his view of language learning can also be called a social-pragmatic model of language learning. The strengths of this elaborate treatise are the painstaking counter-proposals Tomasello offers to virtually every premise of innatism and to Universal Grammar. Yet this is also the book’s major weakness since the arguments seem to lack focus and, at times, it is difficult to discern what the author is striving for.

Moreover, some of his arguments are not convincing enough. For example, Tomasello argues that language is the result of human beings’ ability to socialize and therefore what is innate must be the ability for social cognition and not language. The counterargument can be as follows: Human beings are endowed with an ability to smell, and the nose has the function of smelling. What, then, is “innate” in the biological structure of human beings—the nose or the ability to smell? the form or the function? Perhaps both are innate since one cannot exist without the other.

Overall, *The Cultural Origins of Human Cognition* seems to be more successful as an elaboration of a hypothesis regarding how cultural development in children leads to language acquisition than it is as a treatise on the ontology and the phylogeny of the cultural aspects of human cognition. Tomasello does succeed in establishing his viewpoint that any theory of language or of language learning must have a social-pragmatic-cognitive dimension to it. Without one, indeed, no theory of language would be adequate to explain both what makes our present languages structurally complex systems, and how and why children grow up to have a similar perspective as members of their social groups without even knowing it!

Tomasello’s book is a valuable resource to anyone interested in learning about how culture and language develop hand in hand and how human social cognition has played a significant role in the invention of human language.

REFERENCES

- Chomsky, N. (1957). *Syntactic structures*. The Hague: Mouton.
 Chomsky, N. (1965). *The aspects of the theory of syntax*. Cambridge, MA: MIT Press.
 Chomsky, N. (1980). Rules and representations. *Behavioral and Brain Sciences*, 3, 1-61.
 Pinker, S. (1995). *The language instinct: How the mind creates language*. New York: Morrow.
 Pinker, S. (1999). *Words and rules: The ingredients of language*. New York: Basic Books.