# CHOMSKY'S LINGUISTIC ASSUMPTIONS REVISITED

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*Don't throw the baby out with the bathwater*, says an old proverb. But from my perspective as a philosopher of science, it seems that this is exactly what linguists and cognitive scientists have done with certain ideas associated with the famous linguist Noam Chomsky (b. 1928). As I understand it, none of Chomsky's original ideas are today highly regarded at the research frontiers of linguistics and cognitive science. Of course, this does not prevent Chomsky from being attributed a great historical significance in both disciplines, nor does it completely prevent ongoing discussions about his ideas. But nonetheless I find today's relative silence about all his ideas scientifically strange and unfortunate. The bathwater, of course, is the justified criticism that Chomsky has had to face, and which also on a few occasions has led him to modify his original hypotheses. But some of them (H1–H3 below), look to me almost irrefutable in the light of today's empirical evidence, and one of them (H4) is to me worth further research. His fundamental thesis is that the primate homo sapiens has an *innate* universal language ability. In one of his early books he says:

> In fact, as Descartes himself quite correctly observed, language is a speciesspecific human possession, and even at low levels of intelligence, at pathological levels, we find a command of language that is totally unattainable by an ape that may, in other respects, surpass a human imbecile in problem-solving ability and other adaptive behavior. (Chomsky 1968, lecture 1)

This thesis or hypothesis, I will, for the sake of pedagogy, divide it into two hypotheses. H1: The primate homo sapiens has a type of innate language learning ability or language faculty that other primates lack. And H2: This ability/faculty is universal in relation to all the different human languages. Together, these two hypotheses lead Chomsky to embrace also the following implied hypothesis, H3: There is a difference between an innate and a learned language ability, where the learned one is dependent on the innate. For a long time, he calls the innate *deep structure*, and the learned ones *surface structures*. About the relationship between them, he writes:

> The deep structure is related to the surface structure by certain mental operations – in modern terminology, by grammatical transformations. (Chomsky 1968, lecture 1)

Here, Chomsky is more specific than in the general hypothesis H3 that I have presented. In the last quotation, he gives an early expression of his generative transformational grammar, which he later modifies in various ways. For a summary of these Chomsky's modifications and the associated changes in terminology, see, for example, C.A. Enos's article on Chomsky in the *Internet Encyclopedia of Philosophy* (2025). Enos distinguishes five different developmental stages in Chomsky: "logical constructivism," "the standard model," "the extended standard model," "principles and parameters," and "the minimalist program." And he says about them: "Each stage builds on the previous ones, it has been argued; earlier versions should not be considered incorrect but rather replaced by a more complete explanation" (Enos 2025).[1]

Here I will lump together these five stages and see them as variants of a hypothesis that I will call *Chomsky's universal grammar*. I phrase it like this, H4: All human languages presuppose a certain innate transformational grammar.

[1] The same five-part division is made by G. Rey, who, by the way, is listed in Enos' reference list. However, Rey argues a bit more strongly that "the later stages of development do not so much *replace* but rather *include* earlier ones" (Rey 2020, p. 47). Chapters one and two of Rey's book also contain an excellent general introduction to Chomsky's linguistic theorizing.

H4 implies H3, but H3 does not imply H4. In other words, hypothesis H4 is not a logical consequence of hypothesis H3, but only one possible *specification* of it. The situation is analogous to that between the properties of being red and being colored. That something is red implies that it is colored, but that it is colored does not imply that it is red; being red is just one specific way of being colored. Of course, hypothesis H3 can also be specified in other ways than those proposed by Chomsky.

Next, I will, one by one, comment on and evaluate the four hypotheses H1–H4 mentioned above.

Regarding H1. When Chomsky formulated the hypothesis, there were good reasons to doubt its correctness. But not today. That human languages are somehow innate is evident from the enormous amount of time and energy that numerous ethologists have spent on trying to teach various primates a human language – and clearly failed. The hypothesis that, with time and appropriate pedagogical means, other primates could also learn a human language must today be considered falsified. Of course, however, with the caveat that falsifications often in an important way can contribute to the development of a science. The ethologists who tried to teach another primate a human language should be praised for their efforts, not ridiculed for mistakenly believing that one or a few other primates from a genetic point of view could be linguistically equated with humans.

Regarding H2. Already in Chomsky's time, there was much evidence supporting this hypothesis. But today, the large number of trans-linguistic adoptions that have followed in the wake of the globalization conclusively shows that what is innate cannot be the grammar of the language into which a child is born. This means that the assumption of innateness must be supplemented with a distinction between an innate language ability/faculty (the early Chomsky's deep structure) and learned language abilities (early Chomsky's surface structures).

Regarding H3. Since the hypotheses H1 and H2 can now be considered indisputably true, and since they together imply the general hypothesis H3 – that there is a difference between an innate and a learned language ability, where the learned is dependent on the innate – we must today also consider H3 to be true. But, as previously mentioned, it does not follow from this fact that hypothesis H4 in any of its variants is true, too. Nor does it follow from what has been said that there is no reason to distinguish between an innate and a learned ability in other primates than homo sapiens. Among primatologists, it seems to be an established opinion that certain behaviors in certain chimpanzees are not innately instinctive but learned through imitation, for instance, picking termites from termite mounds with a stick and cracking nuts with the help of a stone. Therefore, human beings are not the only primates for whom there is reason to differentiate between "nature" (innate abilities) and "culture" (learned abilities).

Regarding H4, I have three comments, A, B, and C.

A. Chomsky often writes as if the human language faculty constitutes a special module in the brain, if not a strict anatomical module, then at least a functional one. Today's neuroscience seems to show that this is incorrect, and that our language ability is part of a neural network. But be this as it may, it does not affect hypothesis H4 as I have formulated it. H4 can very well be detached from the modularity assumption and instead be linked to a neuroscientific network hypothesis.

B. Chomsky's universal grammar does in all its five variants include the assumption that human languages contain what is called *recursion*. This means that a clause can reappear as part of another and longer clause. Example: 'The ball is broken' is part of 'He thinks that the ball is broken,' which in turn is part of 'I think that he has been fooled, so that he thinks the ball is broken.' Chomsky claims that hypothesis H4, the universal grammar, applies to all existing human languages. However, it has been claimed that the small Pirahã people in the Amazon in Brazil actually have a language that does not contain recursion. However, if this is true, it only means that the hypothesis has so far made a too far-reaching claim of universality; a phenomenon not uncommon in the history of many sciences. Chomsky can still claim to have identified the grammatical structure of most human languages, and thereby also be able to say something about the fundamental difference between the human languages and the languages of the other primates. Since some people in the Pirahã culture have learned Portuguese, the possible fact that the Pirahã people's language lacks recursion does not affect Chomsky's innateness assumption, hypothesis H1.

C. Initially, Chomsky's universal grammar was purely syntactic, and he kept all semantic considerations out, but he later assigned semantics a certain role. Although some linguists and cognitive scientists want to include even more semantics, it would take a lot of semantics before the need for syntactic structures is rendered completely superfluous. At least, this seems to be the case for me as a philosopher of science and as a layperson in linguistics and cognitive science; it seems strange to me to

believe that the difference between human languages and the languages of other primates has nothing at all to do with the grammar of the human languages.

Summary regarding H4. Assume that hypothesis H4, the universal grammar, needs to be revised in at least one of the three ways just described. That is: (A) remove the assumption that Chomsky´s universal grammar is based in a special module in the brain, (B) remove the assumption that there are no human languages without recursion, and (C) add that the universal grammar must give a larger role to semantics. Does any of the revisions mean that H4 should be rejected? A revision according to A does not change anything essential in hypothesis H4, but a revision according to B involves a limitation of H4's general validity. However, such a limitation should not be equated with a rejection of H4. To completely reject H4, it is not enough, as in (C), to make clear that semantics must be given a larger role than that Chomsky has so far assigned it. To imply a rejection, it must be given a dominant role. Central to Chomsky's universal grammar is that the syntax of language plays a dominant role. Here, as I see it, more research is desirable. If future research comes to assign semantics, rather than syntax, a dominant role, then it is time to entirely abandon hypothesis H4. But – important to note – this does not change anything in H3, the hypothesis that there is a difference in humans between an innate and a learned language ability, where the learned is dependent on the innate.

Conclusion: Regardless of Chomsky's various versions of his universal grammar, and regardless of its possible future development or rejection, today we have good empirical reasons to believe, just like Chomsky, that human beings have an innate language faculty that the other primates lack.[2]

**Reference list**

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[2] I would like to thank Olle Risberg for comments that helped me improve a couple of earlier versions.