

Chomsky on innateness

One major factor that sets humans apart from other species is our ability to use language. All children manage to learn the main language they grow up being exposed to, assuming they are developmentally “normal” (Jackendoff, 1994). Before Chomsky, behavioral psychologist B.F. Skinner attributed this phenomenon to humans having a set of behavioral dispositions that enabled us to react to the environment and utterances we hear (Skinner, 1957).

After reading Skinner, Chomsky wrote a review in which he refuted most of Skinner’s theories (Chomsky, 1959). The first point of disagreement was that language is stimulus independent and historically unbound (Cowie, 2008). This means that any sentence could be uttered in any situation depending on the speaker’s state of mind, and as such depend on more than just behavioral dispositions and conditioning. Skinner thought that reinforcement was a big part in how children learn a language. Chomsky argues that such a statement is absurd, since for example parents can only teach their children a small subset of all linguistic information.

The second point of disagreement includes what Chomsky calls primary linguistic data (pld). To understand this, we must first discuss what. The pld is the data children are exposed to while they are learning their native language. The argument Chomsky makes is that this data will not be sufficient to cover all aspects of how sentences could be constructed, and that humans therefore have some other form of aid in their process of acquiring their native language. This introduces the ‘poverty of the stimulus’ argument.

An example of how this is relevant would be how to use the word “book”. In order to have native knowledge of a language, one has to know most (if not all) ways “book” can be used. In a given sentence “book” can be an object or the subject. It can also be modified using adjectives or prepositions, among other. In most cases, the pld will not contain all this information. The fact that we are able to learn languages despite incomplete pld convinced Chomsky to believe that we have some part of our brain that is specialized in handling language (Cowie, 2008).

This ‘language organ’ is what enables us to learn the abstract theories of a language without even thinking actively about it. Since the pld will not be a complete representation of a language and children will after a number of years learn the grammar of that language, there must be something preventing them from making incorrect generalizations based on the pld.

When considering two sentences, where one is grammatical and the other is not, Chomsky means that we do not learn that one is incorrect and the other is correct. Instead we are born with an ability to realize the structure behind sentences we see or hear, and through that we are able to discern which of the two sentences is correct based on experience of structure. This is what Chomsky calls Universal Grammar (UG).

References

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