
Article

Chomsky's Implicit Assumption

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(Received Oct. 31, 2019)

Abstract

Noam Chomsky insists that we are born with Universal Grammar and acquire a language after its parameters are set, depending on the language spoken around us. When he explains his theory of language, he always says that children understand meanings of sentences without considering extra-linguistic factors. If children comprehend meanings of sentences only with words, his insistence will be plausible. But if children understand meanings of sentences using extra-linguistic factors, his claim will be dubious. In this paper, we shall examine and consider whether children interpret sentences without taking into account any other factors than words.

Key Words: Universal Grammar, extra-linguistic factors, meaning

Introduction

Chomsky's theory of language has an implicit assumption. It is that we can interpret written language, excluding extra-linguistic factors without paying any attention to its context. Chomsky insists that children can understand written language without being taught anything because they have innate structure for doing so. To be exact, Chomsky argues that children are born with Universal Grammar and acquire a particular language after setting parameters of Universal Grammar. But utterances are understood when they are interrelated with extra-linguistic factors. Written language is rarely interpreted only by printed letters. So it is impossible to assume that innate structures enable children to understand written language that excludes extra-linguistic factors. As Roy Harris (1998) says, communication by language can be achieved only when language is intertwined with extra-linguistic factors. His theory of language

is called integrational linguistics. It is integrational linguistics but not biolinguistics that explains the true picture of language.

1. Chomsky's Interpretation of Meanings Without Extra-Linguistic Factors

Chomsky is always explaining what written sentences mean without referring to extra-linguistic factors such as situations where they are used and so on:

When we turn to more complex expressions, the gap between what the speaker/hearer knows and the evidence available becomes a chasm, and the richness of innate endowment is still more evident. Take simple sentences, say, the following:

- 1 John is eating an apple.
- 2 John is eating.

In 2, the grammatical object of 'eat' is missing,

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and we understand the sentence on the analogy of 1, to mean (more or less) that John is eating something-or-other. The mind fills the gap, postulating an unspecified object of the verb.

Actually, that is not quite true. Consider the following brief discourse:

3 John is eating his shoe. He must have lost his mind.

But the sentence 2 does not include the case of eating one's shoe. If I say that John is eating, I mean that he is eating in a normal way; having dinner, perhaps, but not eating his shoe. What the mind fills in is not an unspecified grammatical object, but something normal; that's part of the meaning of the constructions (though what counts as normal is not).

(Chomsky 1996: 24-25)

Next, Chomsky takes up much more complex sentences based on the observations above:

Let's suppose that this is roughly correct, and turn to a slightly more complex case. Consider the sentence 4:

4 John is too stubborn to talk to Bill.

What it means is that John is too stubborn for him (John) to talk to Bill—he is so stubborn that he refuses to talk to Bill. Suppose we drop 'Bill' from 4, yielding 5:

5 John is too stubborn to talk to.

Following the principle illustrated by 1 and 2, we expect 5 to be understood on the analogy of 4, with the mind filling the gap with some (normal) object of 'talk to'. The sentence 5, then, should mean that John is too stubborn for him (John) to talk to someone or other. But it doesn't mean that at all. Rather, it means that John is too stubborn for anyone (maybe us) to talk to him, John.

For some reason, the semantic relations invert when the object of 'talk to' in 4 is deleted, unlike 1, where they remain unchanged. The same holds for

more complex cases, as in 6:

6 John is too stubborn to expect the teacher to talk to.

The meaning is that John is too stubborn for anyone (maybe us) to expect the teacher to talk to him (John). In this case, parsing difficulties may make the facts harder to detect, though the sentence is still a very simple one, well below average sentence length in normal discourse.

(Chomsky 1996: 25-26)

The meaning of the sentence 2 (John is eating) is not derived from on the analogy of the sentence 1 (John is eating an apple). The sentence 2 is uttered on a specific situation, so what John is eating can be interpreted as something to eat, not his shoe. In other words, the meaning of the sentence 2 is interpreted using extra-linguistic factors, not using only printed letters. The same is true of the sentence 5. The meaning of the sentence 5 is not interpreted, as Chomsky thinks, on the analogy of the sentence 4. The sentence 5 is uttered in a particular circumstance, so it is interpreted with extra-linguistic factors such as knowledge of John's character and so forth. Utterances are never interpreted only using printed characters. Needless to say, the same is true of the more complex sentence 6.

Various factors other than linguistic ones are involved in understanding what is written or spoken in our daily life. So, if these extra-linguistic factors are excluded, as Chomsky thinks, we must interpret utterances only by printed characters. But this is not the case. After all, what Chomsky insists on is not plausible at all. We do not need to postulate anything which underlies and prescribes real sentences (utterances). So Chomsky's somewhat mysterious explanation of these sentences 5 and 6, is not necessary:

We know all of these things, though without awareness. The reasons lie beyond even possible consciousness. None of this could have been learned. The facts are known to people who have had no

relevant experience with such constructions. Parents and peers who impart knowledge of language (to the limited extent that they do), have no awareness of such facts. If a child made errors using such expressions, it would be virtually impossible to correct them, even if the errors were noticed (which is most unlikely, and surely rare to the point of nonexistence). We expect that interpretations will be similar in every language, and so far as is known, that is indeed true. (Chomsky 1996: 26)

Despite Chomsky's insistence, we do not need to know the mechanism which determines the meanings of the sentences 5 and 6. There is no mechanism beyond consciousness. We do not need to learn the mechanism because it does not exist at all. Parents and peers do not need to know the mechanism. The same is true of other languages than English because extra-linguistic factors are involved in interpretation of utterances.

So it is no wonder that dictionaries and traditional grammars do not mention anything about this matter because it is not related to a linguistic matter but an extra-linguistic one. Universal Grammar is a fiction that generative grammar has created but not the fact which is hidden in language. Gravity may be discovered by observation, which shows that apples fall to the ground, but assuming implicit linguistic structures only creates an illusion:

Just as dictionaries do not even begin to provide the meanings of words, so the most elaborate multi-volume traditional grammars do not recognise, let alone try to explain, even elementary phenomena of the kind just illustrated. It is only in very recent years, in the course of attempts to construct explicit generative procedures, that such properties have come to light. Correspondingly, it has become clear how little is known of the elementary phenomena of language. That's not a surprising discovery. As long as people were satisfied that an apple falls to the ground because that is its natural place, even the basic properties of motion remained hidden. A willingness to be puzzled by the simplest phenomena is the very beginning of science. The attempt to formulate questions about simple phenomena has led

to remarkable discoveries about elementary aspects of nature, previously unsuspected. (Chomsky 1996: 26)

Next, we examine Chomsky's explanation given in his Binding Theory. Is his line of reasoning correct?

2. Binding Theory in GB Theory

As is well known, Chomsky develops Binding Theory in his Government and Binding Theory, but is it possible to explain the behavior of pronouns using his theory?

For example, it is thought that the following sentences 7 and 8 are grammatical because they do not violate the "Binding Theory (B)". But the sentences 5 and 6 are not grammatical because they do:

Binding Theory (B): A pronominal is free in its governing category.

5. *The men like them. (The men ≠ them)
6. *The men believe them to be intelligent.
(The men ≠ them)
7. The men believe that they are intelligent.
(The men = they)
8. The men believe me to like them.
(The men = them)

Furthermore, it is thought that the sentence 9 is not grammatical because it violates "Binding Theory (C)":

Binding Theory (C): An R-expression is free.

- 9 *He said that Mary kissed John. (He ≠ John)

Various problems are hidden in the explanation above. First it is not considered what pronouns are. According to Tsutomu Miura, Motoki Tokieda makes it clear what pronouns are:

The first person pronoun is used only when a speaker expresses himself or herself in terms of a speaker. The second person pronoun is used only when a speaker describes other persons in terms

of a listener. The third person pronoun is used only when a speaker depicts other persons in terms of a topic. If pronouns can be expressions explained in relation to a speaker, it does not matter whether persons or things are expressed by pronouns.

(Tokieda 1950: 73-74; Miura 1967: 514)

Here Miura appreciates Tokieda's explanation that pronouns grasp the objective relation as a concept between a speaker and persons or things.

If, then, Tokieda is right, is Chomsky's theory for pronouns plausible?

3. Criticism of Binding Theory

First the sentences 5 and 6, which are treated in explaining Binding Theory (B): A pronominal is free in its governing category, must be examined:

5. *The men like them. (The men ≠ them)
 6. *The men believe them to be intelligent.
 (The men ≠ them)

The sentences 5 and 6 are thought to be ungrammatical because the pronouns "them" cannot be interpreted to refer to "the men". In other words, they are ungrammatical because the pronominal "them" is not free (is bound) in its governing category. But the sentences are grammatical unless "them" refers to "the men". This means that it depends on context whether the sentences are grammatical or not. We usually interpret the sentences to mean that "them" does not refer to "the men". We usually say:

- 5'. The men like themselves.
 (The men = themselves)
 6'. The men believe themselves to be intelligent.
 (The men = themselves)

Here "themselves" refers to "the men". This is just a matter of convention of English. In short, "Binding Theory (B)" just tries to explain phenomena related to pronouns without asking what pronouns are.

On the other hand, the sentences 7 and 8 are thought to be grammatical whether "they" or "them" refers to "the men" or not:

7. The men believe that they are intelligent.
 (The men = they) or (The men ≠ they)
 8. The men believe me to like them.
 (The men = them) or (The men ≠ them)

Needless to say, it does not matter whether "they" or "them" refers to "the men" or not if the pronouns express a concept of relation between a speaker and persons or things.

Furthermore, the sentence 9 is thought to be ungrammatical using Binding Theory (C): An R-expression is free:

9. *He said that Mary kissed John. (He ≠ John)

Here it is thought that "He" does not refer to "John". But we interpret the sentence 9 based on a concept of a pronoun but not on "Binding Theory (C)". The speaker of the sentence 9 expresses a person using a pronoun "He" and then describes another person using a proper noun "John". This means that "He" does not refer to "John". Generally speaking, pronouns are used for a person or a thing that is understood between persons involved. If so, the proper noun "John" is not usually employed for a person who has been already expressed (referred to) by the pronoun "He".

In any case, there are a lot of problems concerning "Binding Theory", which deals with pronouns as phenomena without asking what pronouns are.

After all, we may make mistakes if we interpret only written sentences by completely eliminating extra-linguistic factors like context or situations where they are used.

By the way, in relation to Chomsky's Binding Theory, Sadao Ando refers to the following condition that reflexive pronouns are appropriately used if:

A reflexive pronoun and its antecedent are in the same simple sentence. (Ando 2005: 441)

Needless to say, Ando's condition above is based on Chomsky's Binding Theory. But Ando takes up the following sentences and says that reflexive pronouns in them violate his condition:

(i) 'Nobody goes there but **myself**,' she thought quickly. (Burnett, *A Little Princess*)

(ii) 'None mount here but **herself**, Sahib,' he said. (Ibid.) (Ando 2005: 442)

b. Draw it away *from you* / **yourself**.

c. I tied the rope *around me* / **myself**.

d. I drove the flies away *from me* / **myself**.

(Spangler 1970)

(Ando 2005: 444)

Here Ando explains that the antecedent of **myself** in (i) is 'I in the speaker's brain' and the antecedent of **herself** in (ii) is 'a person already referred to.'

If we consider these examples above carefully, Chomsky's Binding Theory cannot prove that either sentence is grammatical because the antecedent is not in the same simple sentence as the reflexive pronoun. As Ando explains, there is no doubt that the antecedent of the reflexive pronoun is not in the sentence but exists! This means that we cannot interpret sentences only by written letters. Only these two sentences are enough to make Chomsky's Binding Theory collapse. But similar examples are found elsewhere and in every case, the antecedent of the reflexive pronoun is not in the same sentence where it is used:

some other boy knew less than *myself*.

(J.S. Mill, *Autobiography*)

Other youths as poor as *himself* had married girls as rich as Sondra. (Dreiser, *Sister Carrie*)

What was Shakespeare may, after all, have been Hamlet; or *yourself*; or poetry. (V. Woolf, *The Moment*)

Myself when young did eagerly frequent Doctors and Saints. (E. Fitzgerald, *The Rubáiyát of Omar Khayyám*)

John and *myself* brought the Yule log home.

No one knew this as well as (*or* better than) *myself*.

To *myself*, mountains are the beginning and the end of all natural scenery. (Ruskin)

They invited my friends and *myself* to visit them for a day or two.

(*English Grammar Series*, Vol. 1 1959: 353-354)

Also we have other examples of reflexive pronouns as follows:

a. I pulled the covers *over me* / **myself**.

Here in some cases a reflexive pronoun is used and in others a simple pronoun is also used. According to Ando, a simple pronoun is used when a speaker feels a prepositional phrase denoting a place but a reflexive pronoun is used when a speaker thinks that a pronoun is an object of a dynamic compound verb (e.g. pulled the covers over = covered; tied the rope around = tied). In other words, the use of a reflexive pronoun depends on how a speaker feels. It has nothing to do with written letters how a speaker feels. This means that written letters cannot explain why a reflexive pronoun is used. In this respect, we cannot help saying that Chomsky's Binding Theory collapses. In the sentence b above, there is not an antecedent of *yourself* there. It may be possible to say that the sentence b has *you* as the subject on the basic level but this means that we cannot interpret a sentence using only written letters as in the previous cases of (i) and (ii). Only written letters cannot explain why a reflexive pronoun appears or not because extra-linguistic factors are involved in interpreting a sentence.

In the following sentences a simple pronoun or a reflexive pronoun is used in colloquial English:

I bought *me* (or *myself*) a new hat.

Did you buy *you* (or *yourself*) a new hat?

I'd get *me* a good strong mule whip and start swinging it. (Caldwell, *Tragic Ground*)

(*English Grammar Series*, Vol. 1 1959: 349)

Here there are no differences between a simple pronoun and a reflexive pronoun. If Chomsky's Binding Theory cannot explain why a simple pronoun or a reflexive pronoun is used in these cases, it will collapse.

Next, we examine reflexive pronouns in terms of their history.

4. Reflexive Pronouns from a Historical Perspective

Historically speaking, English did not originally have reflexive pronouns. So in Old English simple pronouns are used as both simple pronouns and reflexive pronouns:

Hē oftsticode *hine*. (Old English)
 = He stabbed *him* (someone else).
 = He stabbed *himself*.
 (*English Grammar Series*, Vol.1 1959: 349)

Even after an early form of a reflexive pronoun appeared, the situation did not change only to emphasize a simple pronoun:

Hē ofsticode *hine selfne*. (Old English)
 = He stabbed *that very man*.
 = He stabbed *himself*.
 (*English Grammar Series*, Vol. 1 1959: 349)

But in the early Middle English reflexive pronouns came to be used only in the reflexive sense as in the present-day English. This is how reflexive pronouns have been established in English.

So as in Old English simple pronouns are often used in the reflexive sense in Chaucer, Shakespeare, and an archaic style now:

he rydeth *him* ful right (= he rides himself full right)
 (Chaucer, *The Canterbury Tales*,
The Kniht's Tale 1233)

he wente *him* hoom ful sone
 (Ibid. *The Knight's Tale* 1412)

I'll get *me* to a place more void.
 (Shakespeare, *Julius Caesar* II. iv. 37)

And thence retire *me* to my Millan
 (Shakespeare, *Tempest* v. i. 310)

on the wall he sat *him* down.
 (Galsworthy, *The Freelanders*)

He must have at last bethought *him* that even rats deserve more kindness. (Powys, *Mr. Weston's Good Wine*)
 (*English Grammar Series*, Vol. 1 1959: 349)

Considering the historical development of reflexive pronouns above, Chomsky's Binding Theory, which is based on Universal Grammar that is determined on the genetic level, has difficulty in explaining the behavior of reflexive pronouns in modern usage. The reason is that genes do not usually change over thousands of years although it is not logically impossible to insist that historical changes in language can be explained by a different parameter-setting of Universal Grammar.

Next, we examine Chomsky's explanation on how interrogative sentences are formed in English.

5. Interrogative Sentences of English

Chomsky also refers to how interrogative sentences are generated. For example, interrogative sentences of 1 and 3 are the sentences 2 and 4 respectively:

1. The man is tall.
2. Is the man tall?
3. The book is on the table.
4. Is the book on the table?

(Chomsky 1975: 30)

This phenomenon can be explained by saying that 'is' is moved to the beginning of a sentence to generate an interrogative sentence. But in some cases like the following, interrogative sentences cannot be generated in the same way as above:

5. The man who is tall is in the room.
6. *Is the man who tall is in the room?

(Chomsky 1975: 31)

As in the sentences 2 and 4, even if the first 'is' is moved to the beginning of the sentence, the sentence 6 generated is ungrammatical. The correct interrogative sentence of 5 is as follows:

7. Is the man who is tall in the room?

(Chomsky 1975: 31)

Furthermore, according to Chomsky, children never generate the sentence 6. Why, then, do children generate the sentence 7 instead of the sentence 6? Children are never trained or never

learn to generate the sentence 7. So Chomsky insists that if so, then we have only one answer. The answer is that children are born with genetic endowments (properties) to generate the interrogative sentence 7.

As we have already seen, Chomsky's way of explaining is always the same. He discards extra-linguistic factors when he explains grammatical phenomena. He tries to explain grammatical phenomena by analyzing the relationship among written letters. If children generate sentences by discarding extra-linguistic factors, Chomsky may be right. But if children generate sentences based on extra-linguistic factors as well as written letters, then what will happen?

Probably children, who generate the sentence 5, should recognize 'the man who is tall' as one unit of meaning. For example, they may grasp a man dressed in black as 'the man who is tall'. This image of theirs is recognition gained from their sight. So children can treat 'the man who is tall' just as they do 'the man' in the sentence 1 and 'the book' in the sentence 3. So they move the second 'is' in the sentence 5 to the beginning of it and generate the interrogative sentence 7. Chomsky does not understand that children grasp a person they recognize, for example, by sight as 'the man who is tall'. He overlooks the fact that children comprehend a situation by not only written words but also other extra-linguistic factors. It is not necessary to propose genetically determined properties in generating the interrogative sentence 7. Children make use of extra-linguistic factors when they treat words. If you do not understand this mechanism, you will explain grammatical phenomena only by written letters and be unable to construct a correct theory of language.

Also there is another argument concerning generation of interrogative sentences by children. The sentences 10 and 11 are generated as the interrogative sentences of 8 and 9 respectively:

8. The steam is hot.
9. That was Anna.
10. *Is* the steam *is* hot?
11. *Was* that *was* Anna?

(Radford 2009: 149)

According to Andrew Radford, in the sentences 10 and 11, after moving 'is' or 'was' to the beginning of the sentence, 'is' or 'was' is retained in the original position. Radford explains this phenomenon by saying that children have not yet acquired a rule to delete 'is' or 'was' after moving it to the beginning of the sentence.

If the rule that Radford supposes really exists, the explanation may be true. But the reason why 'is' or 'was' is retained in the original position may be that children thinks interrogative sentences are generated by adding 'is' or 'was' at the beginning of the sentence. This is similar to the phenomenon that Japanese interrogative sentences are generated by adding the interrogative particle 'ka' at the end of the affirmative sentences. If this is true, Radford's explanation may be an explanation for explanation's sake.

In any case, we cannot help saying that it is controversial to explain how English interrogative sentences are generated by analyzing only written letters. The reason is that children can be thought to treat words using extra-linguistic factors as well as written letters.

By the way, Moore and Carling point out effects written language has on the study of language:

[...] the analysis of written language has tended to take precedence over spoken language. [...] it has been tacitly assumed that written language is the proper object for study. As a result it has seemed quite natural to isolate language, that is written language, from the overall process of communication in which other factors, gestures, postures, vocal noises other than spoken sound, play a part. This is all the more understandable since, as these other factors are not present in written language, ignoring them seems justified.

(Moore and Carling 1982: 165-166)

In any case, there is no doubt that Chomsky's theory of language is based on written language, ignoring extra-linguistic factors.

Conclusion

Chomsky's assumption is that we can understand written language without taking into account extra-linguistic factors. If we can comprehend, as Chomsky assumes, printed language without considering extra-linguistic factors, then we may be born with a biological endowment like Universal Grammar. But if we can grasp written language using extra-linguistic factors, then we will not need a biological endowment like Universal Grammar the existence of which Chomsky insists on. Can we understand, as Chomsky says, written language without considering extra-linguistic factors?

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