

# A Comparison of “A-Over-A” and the Psychological Momentum Theory

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Received: April 10, 2018 Accepted: May 12, 2018 Online Published: May 14, 2018

doi: 10.5539/elt.v11n6p

URL: <http://doi.org/10.5539/elt.v11n6p86>

## Abstract

Chomsky put forth his “A-over-A” theory in his book “Language and Mind”, which means if a sentence contains (S... (A...) A...) S (A-over-A) structure, then this sentence can only be transformed on the basis of the larger phrase. In this paper the author puts forth the “Psychological Momentum” theory to analyze the sentences which are ambiguous in meaning according to Chomsky’s “A-over-A” theory. In the author’s opinion, explaining sentences from the viewpoint of pure grammatical stratum will lead the researchers into a blind alley. As compared with Chomsky’s “A-over-A” theory, the “Psychological Momentum” theory is very useful to language researchers, so long as a sentence enters into communication, no matter how ambiguous its meaning may be, it will soon become clear without any ambiguity.

**Keywords:** psychological momentum, psychological trend of communication, grammar stratum, psychological stratum, ambiguity

## 1. Introduction

Recently the author came across a booklet “Language and Mind” written by Chomsky, which discusses the relation between language and mind. Here he explicated the future and past of linguistics from the viewpoint of psychology. In this book “Language and Mind” Chomsky put forth his “A-over-A”, which means if a sentence contains (S... (A...) A...) S (A-over-A) structure, then this sentence can only be transformed on the basis of the larger phrase. Chomsky’s theory has almost swept the whole world in the field of linguistics, or rather, in the fields of philosophy over the past decades. Nearly everyone who has some knowledge of linguistics knows the name of Chomsky. It is quite natural that this is because Chomsky has indeed done much contribution to the science of linguistics, or to philosophy. In this book the author saw such a sentence: “I disapprove of John’s drinking.” According to Chomsky’s theory this is an ambiguous sentence, for it can be explained as both “I disapprove of John’s drinking beer” and “I disapprove of John’s drinking too much”. Chomsky explained this phenomenon from the angle of sentence grammar. Chomsky further discussed that this sentence can not be expanded to “I disapprove of John’s drinking beer”, because this sentence has something to do with both the deep structure of the sentence and its surface meaning. Chomsky explained that this sentence can only be explained from the deep-structure of the sentence. Upon thinking carefully, the author found that this sentence deals with the theory of Psychological Trend of Communication. In other words, this sentence can be clearly explained in concrete situation. As language (no matter what kind of language it may be) is a kind of social phenomenon, any phenomenon concerning communication must be explained from the viewpoint of both social-linguistics and psycho-linguistics as well. Any theory concerning language communication can not be explained in one way only. Therefore the author found that from the viewpoint of language communication this phenomenon can be very clearly explained. As language communication must take place in concrete situation, without situation communication would be impossible. In this paper, the author will give a comparison of “A-over-A” and the Psychological Momentum Theory. The author will manage to give a thorough explanation of this phenomenon and put forth the author’s own opinion. In order to explain this phenomenon clearly the author uses the following two terms “Psychological Momentum” theory and “Indefinite Sentence” to support the author’s theory.

## 2. A Comparison of “A-over-A” and the Psychological Momentum Theory

Language exists in communication. If there is no communication language would lose its value and will

eventually be extinguished. Similarly, the research of a certain language can only be done from the viewpoint of communication in combination with the knowledge of psychology. Mere linguistic study without any concern of communication-the chief function of language-any study of language would hold no water. Thinking along this line, the author found that the reason why such phenomenon occurs is just because in Chomsky's theory communication momentum has been overlooked. The reason why this sentence "I disapprove of John's drinking" can be explained in both ways is just because this is an Indefinite Sentence. In practical communication, people often use such Indefinite Sentences. In this book Chomsky put forward another example: "I know a taller man than Bill." He thinks this sentence is also a sentence with ambiguous meaning. He thinks that this sentence can be explained as "I know a taller man than Bill does" and "I know a taller man than Bill is." In the author's opinion this is also an "Indefinite Sentence". In concrete situation it can be explained in one way only. Just as the word "tea" can be explained both as a word and as a sentence according to where it is used. If it enters into communication, "Tea!" is a perfect sentence with complete meaning, not just a word. In this paper, the author manages to give a thorough explanation of this phenomenon and put forth the author's own opinion.

### 2.1 Chomsky's "A-over-A" Theory About This Problem

Chomsky put forth his "A-over-A" theory in his book "Language and Mind", which means if a sentence contains (S... (A...) A...) S (A-over-A) structure, then this sentence can only be transformed on the basis of the larger phrase. For example, in the following two sentence:

- 1) Ben kept the car in the garage.
- 2) Justin saw the man walking towards the railroad station.

Both these sentence are ambiguous in meaning. According to Chomsky's "A-over-A" theory, as "the garage" in sentence 1 is just part of the phrase "the car in the garage", it means: "The car in the garage is kept by Ben." However if "the garage" is not considered as part of the phrase "the car in the garage" then this sentence would mean quite differently. It would mean: "The car is kept in the garage by Ben". Similarly, according to Chomsky's "A-over-A" theory, above sentence 2 means "The man walking towards the railroad station was seen by Justin." And if "the walking man towards the railroad station" is not considered as part of the phrase "the man walking towards the railroad station", then this sentence would mean "While Justin was walking towards the railroad station, he saw the man." Therefore the above sentence 1 and 2 can be diagramed in the following ways:

- 1a.(Ben (kept (the car in the garage))).
- 1b. (Ben (kept (the car X in the garage))).
- 2a. (Justin (saw (the man (walking towards the railroad station))))).
- 2b. (Justin (saw (the man ) (walking towards the railroad station))).

Because in sentence 2a the phrase "walking towards the railroad station" emphases "the man", while in sentence 2b the phrase "walking towards the railroad station" is regarded as part of the large phrase "the man walking towards the railroad station", therefore it is regarded as equal to "the man" in the sentence grammatically. In other words, "walking towards the railroad station" is regarded as the post modifier of "the man". There is no doubt that this explanation is absolutely right from the grammatical point of view. However, this is just a pure linguistic explanation, separating the language from its situation. However, if the sentence "Ben kept the car in the garage." occurs in the following situation: A car is in the garage and a man, pointing to the garage, is saying to another man: "Ben kept the car in the garage", then the sentence can be explained in the following way:

(Ben (kept (the car in the garage))).

Here the situation functions. If there is no communication language would lose its value and will eventually be extinguished. Similarly, the research of a certain language can only be done from the view point of communication in combination with the knowledge of psychology.

### 2.2 Psychological Momentum Theory in Language Communication

In language communication, the trend of communication can be explained in two strata: grammar stratum and psychological stratum.

#### 2.2.1 Grammar Stratum

By grammar stratum of a sentence refers to that kind of a sentence, whose surface structure (grammar) is in strict conformity with language communication. In any language, most sentences belong to this group. For examples:

- 1). The Qinghai Lake is in the People's Republic of China.

- 2). Japan is an island country.
- 3). Tiger is an animal belonging to cat family.
- 4). Grammar is the law about the use and arrangement of words.

In all the above sentences the addresser's intention is clearly seen according to the grammatical structure of the sentences. In other words, the psychological stratum of these sentences and their grammatical stratum are unified. According to Chomsky's theory, these sentences are not ambiguous in their meanings. For they all have only one way to explain. Similarly, the sentence "I disapprove John's drinking" can only be explained in one way under concrete situation. For example, when three men were at a table and John was drinking bottle after bottle of beer. At this time a man said to another man beside him "I disapprove of John's drinking..." Clearly this sentence means "I do not approve of John's drinking too much beer!" It can not be explained in other ways. It can never be explained as "I do not approve John's drinking beer", because it is not in conformity with the concrete situation. Therefore, it is quite clear that the only way to have a clear understanding of a sentence is to explain it in situation. Just like an actor, it is only when he is put in the plot of the play can he display his talent in playing a certain role. Without situation, no sentence can be correctly explained. Even a word "tea", if put in situation, will become a complete sentence. A word "fire" appearing in different situations can be explained differently. It can mean "Please give me a fire!", "Open fire at the enemy!", "Look, the house is on fire!" etc. However, if it appears in dictionary it is nothing but a word.

As Chomsky gets too far away from language communication in the study of deep structure of language, he finds that many sentences can not be correctly explained from the viewpoint of psychology. For example:

- 1). Mary helped John write the book.
- 2). Bill helped the cat have kittens.

In the above sentences, sentence 1 obviously means that the book was written by Mary and John together. However, above sentence 2 can never mean that "The kittens were born by Bill and the cat together", because it runs against the natural law. It is just like digging a well. While the digger knows nothing of the run of underground water-bearing bed, can he know how deep the underground water lies and where the well should be dug? It is only when the digger has a thorough knowledge of distribution of the underground water-bearing bed and its general run can the digger be of some hope to touch the water. Or else no matter how hard the well digger may, try he will most likely be impossible to dig out water. Language exists in communication. If there is no communication language would lose its value and will eventually be extinguished. Similarly, the research of a certain language can only be done from the viewpoint of communication in combination with the knowledge of psychology. Mere linguistic study without any concern of communication-the chief function of language-any study of language would hold no water. This is why the author puts forth "the Psychological Trend of Communication" theory.

From the psychological point of view, momentum means that in concrete communication the addresser and the addressee have established a kind of communicative impetus and have had some kind of psychological momentum towards each other in communication. For example, when two men are talking about a newly-bought car, the sentence "John kept the car in the garage" would mean "The newly bought car is kept by John in the garage". And it can not be explained in other way. However, in the sentence below their psychological stratum and their grammatical stratum are in different levels. In other words, their communicational strata are concealed within their grammatical structure. For example:

- 1). Max saw the dog on the table.
- 2). I did not approve John's drinking.
- 3). John kept the car in the garage.
- 4). Justin is eager to please.
- 5). Fire!
- 6). Tea!

In all the above examples the psychological strata are deeply concealed within their grammatical structure. Let's explain them one by one.

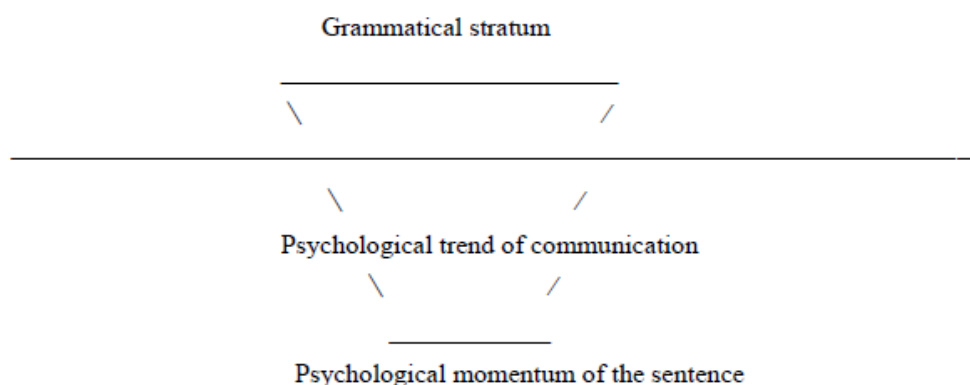
- 1). Max saw the dog on the table (meaning: "Max saw the dog that was standing on the table eating the meal.")
- 2). I did not approve John's drinking (meaning: "I did not approve John's drinking too much beer". Actually this is an indefinite sentence.)

- 3). John kept the car in the garage (meaning: “The new car is kept by John in the garage.”)
- 4). Justin is eager to please (meaning: “Justin is eager to please others.”)
- 5). Fire! (meaning: “Open the fire at the enemy!” or “Look the house is on fire!”)
- 6). Tea! (meaning: “Please give me a cup of tea!”)

Of course, some of the above sentences can be explained on other ways. But in concrete conversation their meanings are quite clear without any explanations.

### 2.2.2 Psychological Stratum

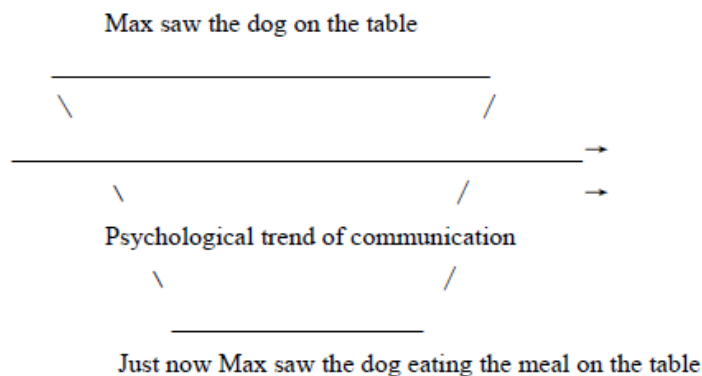
According to the general trend of the conversation, there are always psychological strata (or psychological momentum) below the surface structure of these sentences. In communication in a certain situation, or in quick conversation, the sentences are mostly not in strict conformity with the grammar rules of sentence structure. The sentences used here may be “incomplete”, “broken”, or even “ambiguous”. This psychological momentum of the sentence can be diagrammed in the following way:



From the above diagram it can be seen that the psychological momentum of the speaker in the sentence is just like the “bed” of a river. Sometimes it is shallow and sometimes it is concealed deeply within. Therefore once a sentence with ambiguous meaning is met, its real meaning can be known from the general trend of the conversation course (the conversationalist’s intention or the psychological momentum). Even if the sentence is an incomplete one or even a mere word, once it enters into communication, its meaning can be clearly known without any difficulties. Take the above sentence 1 for example. Let’s explain it with the author’s psychological momentum theory:

Scene: A rich meal is laid on the table, and the hostess is waiting for some guests to come. A little distance away a hungry dog was sitting there with watery mouth. Having waited for the guests for more than half an hour, but nobody came. While the hostess was away the dog suddenly rushed onto the table and satisfied its hungry stomach with the delicious meal. At this time Max saw the dog on the table.

It means “Just now Max saw the dog eating the meal on the table”. As the communicative psychological momentum of the boy is clear to everyone in the home, this sentence can never be explained as “Just now Max saw the dog eating the meal on the table”. For this explanation is not in conformity with the practical situation. Thus this sentence can be diagrammed in the following way:

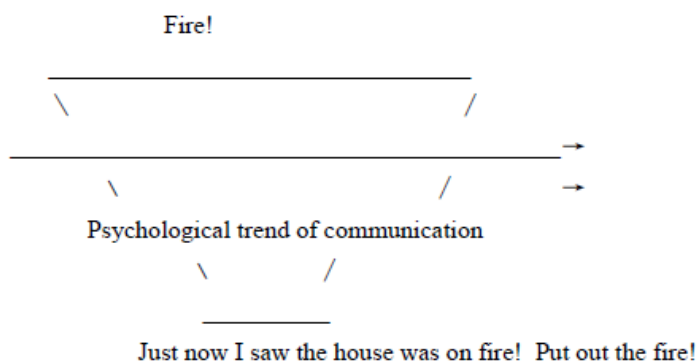


It can be seen from here that the grammatical structure of the sentence “Max saw the dog on the table” is obviously used to express the deep meaning of “Just now Max saw the dog eating the meal on the table”. Here the “deep meaning” of the sentence is just the psychological momentum of the sentence. Seen from appearance this sentence can be explained in two ways, but from the deep meaning of the conversational trend, its meaning is quite obvious. In order to show the author’s psychological momentum theory, let’s take another example:

Fire!

Scene: About one hundred meters away, a beautiful house is on fire. The fire is burning furiously and the house is going to collapse. Just at this moment a gust of wind blows across the burning house, and the fire burns still more furiously! At this time a man saw the scene and shouted out: “Fire!”

It means that “The house is on fire! Put out the fire quickly!” It can never be explained in other ways. Thus this sentence can be diagrammed like this:



As the “Fire!” is urgent and there is no time for the delay. So the man can only say: “Fire!” to express his meaning. It is just like the commander’s order “Charge!” At the moment when the enemy is coming near, the commander has no time to say “The enemy is near, please charge at them!” This is grammatically right but logically wrong! Its diagram is the same as “Fire!” Therefore the relation between the two strata is quite clear. Nearly any sentence with ambiguous meaning can be thus explained. No exceptions!

### 2.3 A Comparison of “A-over-A” and the Psychological Momentum Theory

Finally let’s make a comparison of the “A-over-A” and the Psychological Momentum theory with some examples and see what conclusion can be drawn. Take Chomsky’s sentence “John kept the car in the garage” for example:

According to Chomsky’s “A-over-A” theory, if the phrase “the car in the garage” is considered as one phrase i.e. it is in conformity with “A-over-A” theory, then this sentence means: “John maintains the car that is in the garage.” But If “the car in the garage” is not considered as a phrase, but “in the garage” is used to describe the verb “kept” then this sentence would mean “John kept the car in his garage”, the above two explanations are quite divergent in meanings. However, from the viewpoint of Psychological Momentum theory the above sentence is quite clear, for there is one and only one explanation in concrete situation. So according to

Psychological Momentum theory the sentence “John kept the car in the garage” can be explained as:

1) Surface structure (grammar) meaning: “John kept the car in the garage”. Its meaning is ambiguous. The reader does not know whether it means: “John kept the car in his garage”, or “The car kept by John is in garage”, or “The car that is in the garage is kept by John”

2) Psychological Momentum: “John kept the newly-bought car in his garage, not in the open air”. Therefore the meaning is quite clear, because it occurs in a concrete situation. There is no need to inquire into the psychological state when the speaker is saying this sentence. In the author’s opinion, explaining this sentence from the viewpoint of pure grammatical stratum will lead the researchers into a blind alley. So Psychological Momentum theory is of great use in the analysis of the sentence. As compared with Chomsky’s “A-over-A” theory, Psychological Momentum theory is very useful to language researchers, so long as a sentence enters into communication, no matter how ambiguous its meaning may be, it will soon become clear without any ambiguity.

The relation between the two strata is quite clear. Nearly any sentence with ambiguous meaning can be explained thus and no exceptions. As communication is the function of a language and language involves both social and psychological process, the study of any sentence can only be explained from the new point of both communication situation and psychology. Neglecting any factor, the researchers would not be able to come out with a satisfactory conclusion of any sentence. Different from other phenomenon, language involves not only speaker’s psychological state, but also his social position, and his instant feeling as well. Therefore the study of any sentence must be done from the view point of the above factors. Any one-sided view is not likely to bring about correct conclusion.

### 3. Summary

To sum up what the author said above, Psychological Momentum theory is very useful for language researchers. However, one thing should be pointed out: the language researchers should know what the psychological state of the speaker is. Any isolated sentence without communication situation (or the background) would generally be impossible to be correctly explained. Even a very simple sentence as “The meal is delicious!” would be hard to explain, for the reader does not know whether it really means; “The food is delicious!” or it is just a satirical sentence in meaning. This is just one example among many. Any communication sentence occurs in a concrete conversational trend. It is just like the run of a water-beanbag bed, it must have its general direction. The research of a sentence is just like the exploration of a water-well. It is only when the well digger knows where to dig the well and how deep the well must be dug then the digger is of great hope to touch the water. If the researcher knows nothing of the “general trend of the communication”, how can he know the true meaning of the sentence said then? This is the true essence of this theory. Finally the author wants to point out that by putting forth the author’s Psychological Momentum theory it is by no means a refusal of Chomsky’s “A-over-A” theory on this respect. The author only wants to say that in determining the meaning of a sentence, if the language researchers could keep an eye on the Psychological Momentum theory, and not on the grammatical structure of the sentence only, the result of the research may be quite satisfactory. Here the Psychological Momentum theory shows its usefulness.

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