

A Comparative Study of Transformations on Noun and Verb Phrases in Normals and Aphasics*

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Noam Chomsky (1965) put forward the hypothesis that the transformations applied to the verb phrase were easier to comprehend than those applied to the noun phrase and thus a greater number of transformations on the verb phrase could be comprehended than on the noun phrase. Goodglass and Myerson (1969), however, found the opposite results (that is, noun phrase transformations were easier to comprehend than the ones applied to the verb phrase) while experimenting on aphasic subjects.

The present study was conducted using ninety normal subjects, thirty in each of the three groups, that is, Marathi-speaking, English-speaking and Hindi-speaking. Subjects between the ages of 18-35 years and who had completed their secondary schooling were taken for the study. Before taking them for the testing purpose, they were asked to read a passage and answer five questions on it. Only if they could answer these questions correctly they were taken for further testing. The same criteria were used while choosing the aphasic subjects.

The subjects were presented with a series of fifty-seven, tape-recorded sentences preceded by instructions asking the subjects

to hear each sentence carefully and to express the meaning of each sentence, as clearly as possible, at the end of each sentence for which they were given two minutes, after presentation of each sentence. Fifty-four of these sentences (twenty-four requiring noun phrase transformations and twenty-four requiring verb phrase transformations) needed the application of transformations for the derivation of the sentences. These ranged from one to nine transformations, three sentences presented at each transformational level. The remaining three sentences required no transformations for the derivation of the sentences.

The responses of the subjects were scored in the following manner. For each transformation correctly expressed, the subject scored one mark. The total number of marks scored on each sentence (containing noun and verb phrase transformations) were calculated and tabulated. The differences between the scores on the noun and verb phrase were calculated and subjected to Wilcoxon Ranks Test for statistical significance. This was done for all three languages,—English, Hindi, Marathi as well as for the aphasic subjects. The results obtained showed that the noun phrase transformations were easier to comprehend than the verb phrase transformations in all

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the three languages for normal subjects as well as for the aphasic subjects. Thus Chomsky's hypothesis had to be rejected and that given by Goodglass and Myerson accepted, as the noun phrase transformations were easier to comprehend those applied to the verb phrase.

In addition to this, the limiting point at which each subject could express two out of three sentences correctly was found out in each of the three languages as well as for the aphasics. The mean values of the limiting points were calculated. It was seen that the aphasics had a lower limiting point of comprehensibility than that for the normals.

Plans for Further Study

- (1) A more extensive study can be done using a greater number of aphasic

cases and by dividing them into groups according to the type of aphasia, that is, into receptive, expressive and global aphasias.

- (2) The same study can be done using another group of Indian languages having an entirely different origin as compared with the ones used here.
- (3) An algebraic relationship between the noun and verb phrase comprehensibility can be established for normals and the same can be proved in the case of aphasics.
- (4) A test can be formulated to find out the level of disorder in aphasics depending upon the type of phrase transformations and the number of transformations he is capable of comprehending and expressing.