

## THE IMMEDIATE PROCESSING OF SENTENCES

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Two independent groups of subjects, under instruction orienting them towards understanding or towards memorizing sentences were timed to respond to a brief auditory signal which occurred at some point during the course of a sentence. Latency appeared to be primarily a function of the task, such that the deeper the semantic processing of the sentence the longer the reaction time. Together with other aspects of the data, it is argued that such tasks affect the extent to which a subject retrieves the meanings of the words in a sentence and integrates them at the end of it. Concrete and abstract sentences were processed in fundamentally the same way. The conclusion drawn is that speech comprehension is an integrative process, under voluntary control, which collates together different aspects of the speech signal.

### Introduction

Understanding an utterance is a process in which a listener develops a mental representation of its meaning. Recent experiments suggest that the device responsible is of limited capacity (e.g. Foss and Lynch, 1969) and extracts the underlying functional relations between the words in a sentence (e.g. Bever, Lackner and Kirk, 1969). Such results are interesting but they fail to demonstrate directly the integrated nature of the comprehension process, since only single aspects of sentences are manipulated in the one experiment. The experiment reported below aims at such a demonstration.

In information-processing terms, speech perception involves a device, which achieves a succession of processing goals. Bever (1971), for example, argues that one initial goal of this device is the abstraction of an underlying noun-verb-noun (NVN) sequence, which specifies the functional relations in the sentence. Although it may be possible to depict the comprehension process generally as a succession of goals, it seems likely that the listener's intention influences the kinds of goals established and the criteria constituting their attainment. A person attending closely to the meaning of a sentence, compared to one listening passively to it, may retrieve more information about the meanings of its words and may seek to unravel the propositions it expresses.

In order to examine this issue the experiment manipulated a subject's task, and assessed the nature of his processing of the sentence, by recording the time he took to respond to a signal that occurred at various points during the sentences, viz: before the noun in the initial nounphrase; immediately after that nounphrase;