different physical variables (17) so that there is no one-to-one relation between the dimensions of the acoustical stimulus and the auditory attribute. The former cannot be predicted from the latter, but the totality of the dimensions of the stimulus renders the attribute predictable.

To sum up, the specification of the phonemic oppositions may be made in respect to any stage of the speech event from articulation to perception and decoding, on the sole condition that the variables of any antecedent stage be selected and correlated in terms of the subsequent stages, given the evident fact that we speak to be heard in order to be understood.

1.4 INHERENT AND PROSODIC DISTINCTIVE FEATURES

The distinctive features are divided into two classes: 1. inherent and 2. prosodic. The latter are superposed upon the former and are lumped together with them into phonemes. The opposition grave vs. acute, compact vs. diffuse, or voiced vs. unvoiced, and any other opposition of inherent distinctive features appears within a definite sequence of phonemes but is, nevertheless, definable without any reference to the sequence. No comparison of two points in a time series is involved. Prosodic features, on the other hand, can be defined only with reference to a time series. A few examples may clarify this statement.

A syllabic phoneme is opposed to the non-syllabic phonemes of the same syllable by a relative prominence. For the most part syllabicity is an exclusive function of the vowels. Cases when some vowels or liquids, ceteris paribus, carry the distinctive opposition syllabic vs. non-syllabic are particularly rare. For instance, the Old Czech sequence b r d u changes meaning depending upon the syllabic or non-syllabic character of the /r/ (see 2.226).

It is obvious that whether or not /r/ constitutes a maximum in loudness can only be determined by comparison with the loudness of the other phonemes of the same sequence.

In a sequence of syllables a relative prominence opposes one syllabic phoneme to the others of the same sequence as stressed vs. unstressed. In a number of languages words have, ceteris paribus, a different place of stress, for instance, English billow /b'ilou/ - below /bil'ou/. The greater and lesser prominence of syllabics is a relative notion which can be determined only by a comparison of all syllabics pertaining to the same sequence. The same holds when the distinctive role is played by the relation not of the loudness levels but of the pitch levels of the voice. In K. L. Pike's formulation, "the important feature is the relative height of a syllable in relation to the preceding or following syllables" (18).

When in place of or beside the level, the modulation plays a distinctive role, we identify the pitch or loudness contour of a phoneme by comparing two points in the time series. For instance, the Lithuanian falling pitch, which is opposed to the rising pitch and is due to a lowering of frequency, habitually accompanied

by a decrease of amplitude, is identified by comparing the initial and final fractions of the vowel affected. By a similar comparison we identify the Danish "falling loudness of the voice" (the so-called stød), which is due to a decrease of amplitude often accompanied by a decrease of frequency (19).

The prosodic opposition long vs. short (distinguishing either simple from sustained or simple from reduced phonemes) is based on the relative, not absolute, length of the phonemes in the given sequence. Their absolute duration is a function of the speech tempo. For instance, in the Czech pravá práva/prava: pra:va/ "true rights", the first vowel of the first word is identified as short in relation to the second, long vowel, while the second word displays the inverse relation.

<div align="center">

1.5 THE DISTINCTIVE FEATURES COMPARED TO
THE OTHER SOUND FEATURES

</div>

The smallest meaningful unit in language is called morpheme. A root, a prefix and a suffix are morphemes. A root word is a one morpheme word. The distinctive features and the phonemes possess no meaning of their own. Their only semantic load is to signalize that a morpheme which, ceteris paribus, exhibits an opposite feature is a different morpheme; cf. /gip/, /gib/ and /gid/. This discriminatory function may be assumed by more than one feature (and phoneme), as in the case of /bit/ and /sed/.

There is no difference in function between diverse features (and phonemes). For instance, the question of what is the specific denotation of nasal consonants or, in particular, of /m/ in English, makes no sense. /m/ in map, mess, aim has on the semantic level no common denominator which would set it off from /n/ or from /b/. This lack of semantic difference between diverse distinctive features makes them purely discriminatory marks which are otherwise empty. It separates them from all other sound features functioning in language. Only these, purely discriminatory and otherwise empty units are used to construct the whole stock of morphemes of all languages of the world.

Configurational features are features which signal the division of the sound chain of the utterance into grammatical units of different degrees of complexity. For instance, in languages where the stress is bound to the initial (or final) syllable and, consequently, cannot serve as a distinctive feature, it functions as a border mark which denotes the beginning (or end) of the word. On the contrary, in a language where the stress is free (i.e. can fall on any syllable in the word), its place performs a distinctive function and contains no specific denotation.

From the various redundant and expressive features of English intonation, Z. S. Harris (20) has extracted three configurational units: "/?/ for rise, /./ for fall, /,/ for middle register (as against low register) base-line". /./ denotes the end of the sentence, /,/ the end of a phrase in a sentence to be continued, and /?/ the question, which in configurational terms means the end of a sen-

<div align="center">

- 14 -

</div>