

32 Paralanguage: A First Approximation

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0. INTRODUCTION

For many years linguists and other students of language and of communication as a whole have been aware that communication is more than language. They have known that all the noises and movements entering into the activity of people talking to each other and exchanging communications needed to be taken into account if a total picture of the activity was to be arrived at. At the same time it was known, by a sort of tacit consent, that much of what went on was not accessible to study by such scientific methods as had yet been devised. Accordingly, linguists limited themselves to examination of such parts of linguistic structures as they could define and examine objectively, and other communication systems than language proper remained undefined.

0.1. With the development of techniques of phonemic analysis, it became possible to include accentual phenomena of many kinds in linguistic study. The present author in "The Theory of Accentual Systems" (Trager, 1941) set forth the necessity of treating accentual phenomena—stress, pitch, quantity, and others—by the same techniques as had been applied for centuries to vowel and consonant phenomena. A few years later English pitch phonemes were analyzed (Wells, 1945). Then the study of intonation phenomena in English was begun on a large scale (Pike, 1946): in this work and the practical applications that have stemmed from it, many phenomena were alluded to that were not strictly analyzable in terms of the phonemes of pitch, or any other phonemic entities in the system set forth, but which were clearly parts of the total utterances being examined and analyzed.

In *The Field of Linguistics* (Trager, 1949), the

study of language and its attendant phenomena was designated as macrolinguistics, which was subdivided into prelinguistics, microlinguistics, and metalinguistics (p. 2). Prelinguistics was said to include "physical and biological events from the point of view of the organization of the statements about them into systems of data useful to the linguist" (p. 2). And the statement of the "relations between language and any of the other cultural systems . . . will constitute the metalinguistics. . . ." (p. 7).

Following this programmatic statement, a first application to the actual material of English speech was made in *An Outline of English Structure* (Trager and Smith, 1951). Part III, Metalinguistics, of that work (pp. 81-88) set forth some preliminary considerations of "metalinguistic phonology" and "metalinguistic morphology," and attempted to describe some of the factors that could lead to a definition of style.

In the spring of 1952, Birdwhistell, Smith, and Trager engaged in a research seminar at the Foreign Service Institute which led Birdwhistell to define and delimit his preliminary material on body motion and to publish the results (1952).

As another result of the same seminar, and in pursuit of some of the suggestions in *An Outline of English Structure*, Smith put out in prepublication mimeographed form *An Outline of Metalinguistic Analysis* (1952). The principal concerns were with items to be included under a "metalinguistic phonology." Categories were established, symbols provided, and suggestions made as to how the phenomena might be described. As will be seen below, the categories have been almost completely rearranged as a consequence of work since that time.

In the fall of 1952, Smith and Trager engaged in another research seminar with Edward T. Hall, Jr., which led to a preliminary publication (Hall and Trager, 1953). There it was pointed out that language was accompanied by other communication systems, one of motion—kinesics (see 3, below), and one of extralinguistic noises—vocalizations. This idea was expanded and revised by Trager and Hall in their "Culture and Communication . . ." (1954). There communication was placed in a larger setting, called symbolics. Included in symbolics were the phenomena allocated (above) to prelinguistics, identified by such terms as cerebration, encoding, voice set, voice quality, body set, and motion quality. Communication itself was divided into language, vocalizations, and kinesics.

0.2. In the summer of 1956 research was conducted at the Center for Advanced Study in the Behavioral Sciences at Stanford, California, by a group of psychiatrists and anthropologists on material from psychotherapeutic interviews recorded on tape and film. The group has continued its association, has involved Trager and Smith in the project, and is preparing an extensive publication (Bateson, *et al.*, 1958). In this work a great deal of new material was gathered in the areas so far designated as vocalizations and kinesics. One publication has already resulted (McQuown, 1957).

Similar work by Smith with R. E. Pittenger resulted in a publication containing some even more precise statements about the kinds of events being recorded in the area of vocalizations (Pittenger and Smith, 1957).

In preparation for the publication alluded to (Bateson, *et al.*, 1958), and for further work under a joint project of the Upstate Medical College of the State University of New York and the Institute for Research in Human Communication of the University of Buffalo, as well as for other research being engaged in by the various persons so far named, it seems appropriate at this time to set forth as a first approximation to definitiveness a statement of the fields we are working in, the kinds of events being observed, the tentative classification of these events in terms of a postulated frame of reference, the terminology being used, and other pertinent matters.

The author is responsible for the detail of

this presentation, but he has developed it in constant communication with the colleagues mentioned, all of whom agree with the statement in general, though necessarily reserving the right to differ in many details and even in major classifications. The whole area is still too new for anything more precise. As virtual co-authors must be mentioned Henry Lee Smith, Jr., Norman A. McQuown, and Ray L. Bird-whistell.

1. THE COMMUNICATION SYSTEMS

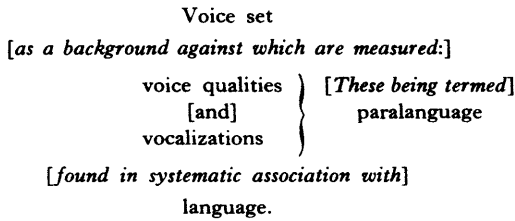
It is taken as a given that language is the principal mode of communication for human beings. It is further assumed that language is always accompanied by other communication systems, that all culture is an interacting set of communications, and that communication as such results from and is a composite of all the specific communication systems as they occur in the total cultural complex.

1.1. *Language* will be described here only to the extent of saying that it is the cultural system which employs certain of the noises made by what are called the organs of speech, combines them into recurrent sequences, and arranges these sequences in systematic distributions in relation to each other and in reference to other cultural systems. That is, language has sound, shape, and sense. This brief description is based upon the extended discussion presented by the author in his article "Language" (Trager, 1955a), and further commented on in the article "Linguistics" (Trager, 1956).

When language is used it takes place in the setting of an act of *speech*. Speech ("talking") results from activities which create a background of *voice set* (1.2, below). This background involves the idiosyncratic, including the specific physiology of the speakers and the total physical setting; it is in the area of prelinguistics (Trager, 1949, pp. 2-3). Against this background there take place three kinds of events employing the vocal apparatus: language (as described); variegated other noises, not having the structure of language—*vocalizations*; and modifications of all the language and other noises. These modifications are the *voice qualities*. The vocalizations and voice qualities together are being called *paralanguage* (a term suggested by A. A. Hill, who has been interested in the development of these studies). Paralanguage

guage is part of the metalinguistic area of activity.

The setting of language and paralanguage may be diagrammatically depicted thus:



The words *paralinguistic* and *paralinguistics* are self-explanatory.

Voice set is briefly discussed in 1.2 and voice qualities are taken up in 1.3. Then section 2 and its subdivisions (2.1-2.3) are devoted to the vocalizations.

1.2. *Voice set* as here delimited is, as stated, a matter of prelinguistics. It involves the physiological and physical peculiarities resulting in the patterned identification of individuals as members of a societal group and as persons of a certain sex, age, state of health, body build, rhythm state, position in a group, mood, bodily condition, location. From the physical and physiological characteristics listed are derived cultural identifications of gender, age grade, health image, body image, rhythmic image, status, mode, condition, locale—and undoubtedly others.

In analyzing and recording the paralinguistic phenomena to be described, it is necessary to state what the voice set back of them is. Such a statement is at least in part an abstraction going back from the actual observation of the paralanguage. But it is not the intention here to discuss the exact nature of voice set and its relation to paralanguage—this being a large separate task. The notation of voice set accompanying a paralinguistic analysis is then to be made in whatever ordinary descriptive terms are available, and to be understood preanalytic.

1.3. *Voice qualities* are recognizable as actual speech events, phenomena that can be sorted out from what is said and heard.

The voice qualities noted so far are these: *pitch range, vocal lip control, glottis control, pitch control, articulation control, rhythm control, resonance, tempo*. Pitch range may be identified as *spread* upward or downward, or *narrowed* from above or below. Vocal lip control ranges

from heavy *rasp* or hoarseness through slight *rasp* to various degrees of *openness*. Glottis control deals with *sharp* and *smooth* transitions in pitch. Articulation control covers *forceful* (precise) and *relaxed* (slurred) speech. Rhythm control involves *smooth* and *jerky* setting off of portions of vocal activity. Resonance ranges from *resonant* to *thin*. Tempo is described as *increased* or *decreased* from a norm.

These voice qualities as described seem to involve paired attributes, but the pairs of terms are more properly descriptive of extremes between which there are continua or several intermittent degrees. Symbols are suggested in section 4 below.

2. VOCALIZATIONS

By contrast with voice set and voice qualities, which are overall or background characteristics of the voice, the *vocalizations* are actual specifically identifiable noises (sounds) or aspects of noises. Yet they are all different in scope and in concatenation from the sounds of language. Every investigator of language has found it necessary to allude to such sounds but to separate them from the actual linguistics material he describes.

We have found it convenient to discuss three kinds of vocalizations. There is a group of items whose number is yet not delimited, and which have a wide scope over or between linguistic material; these are called *vocal characterizers*—discussed in 2.1. A second group, the *vocal qualifiers*, again have rather wide scope and may be combined with the characterizers; they are discussed in 2.2. The third group is composed of sounds that are much like the sounds of language, but again differ from them in scope and concatenation; these are the *vocal segregates*, taken up in 2.3. Symbols for all vocalizations are suggested in 4 below.

2.1. The vocal characterizers are first of all *laughing* and *crying*, which appear to be much alike and may represent extremes of a continuum, something like the voice qualities; intermediate (and possibly involving other vocalizations) would be giggling, snickering, whimpering, sobbing. Then comes a group involving *yelling* and *whispering* as extremes, with muffled sounds and muttering in between. Other groups involve *moaning* and *groaning*, *whining* and *breaking*, *belching* and *yawning*

and probably others. With all these, one "talks through" them.

All of these, as stated, can cover large areas of talking, surrounding, as it were, the language material, or they can occur between bits of language. Together with language, they are embedded in and modified by the voice qualities and voice set.

2.2. Vocal qualifiers were at one time considered by some of us as including many of the voice qualities and vocal characterizers. But working with the material has made it clear that there is a small set of sound characteristics that can be separated out and handled very precisely, and which "qualify" large or small stretches of language material as well as of the other vocalizations.

We now hold that there are three kinds of vocal qualifiers, those of *intensity*, *pitch height*, and *extent*. Within each of these we establish a dichotomy, a range up and a range down from a norm or zero point. And for each range up or down we identify three degrees. The total set-up is as follows:

intensity:	$\left. \begin{array}{l} \text{overloud} \\ \text{oversoft} \end{array} \right\}$: somewhat	
		: considerably	
		: very much	
pitch height:	$\left. \begin{array}{l} \text{overhigh} \\ \text{overlow} \end{array} \right\}$: slightly	
		: appreciably	
		: greatly	
extent:	$\left. \begin{array}{l} \text{drawl} \\ \text{clipping} \end{array} \right\}$: slight	
		: noticeable	
		: extreme	

2.3. Attention was first drawn to what we now call vocal segregates by the necessity of treating such items as English *uh-uh* for negation, *uh-huh* for affirmation, the *uh* of hesitation, *sh*, the Japanese hiss, and other sounds that did not seem to fit into ordinary phonological frames in a language. The *uh-uh* and *uh-huh* noises were at first thought to be alone in this category, called "vocal identifiers" by Pittenger and Smith (1957). The term *vocal segregates* was suggested by Bateson.

Some of these noises, such as *uh*, *sh*, or the various clicks, seemed in many ways to be identical with actual language sounds, in the language being studied, or in some other. But they did not appear in the kinds of sequences that can be called words, and it became

increasingly evident from the work alluded to in 0 above that they would have to be analyzed separately and by a scale less fine-grained than that of phonetics.

The number of different noises of this type that came out in the data we examined led the present writer to establish a table, something like those used in phonetics. The classification turns out to be multi-dimensional, requiring special arrangement if depicted on paper. One dimension is that of articulating organs or areas, with closure and release, or as continuant; then comes a dimension of manners of articulation, including vowel-like resonance, and then there is a final dimension dealing with voice and with clicking.

The articulating organs and areas recognized are: spread lips, puckered lips, dental, alveolar, palatal, dorsal, glottal, velic, bronchial. The manners of articulation are: closed-lip nasalization, open-lip nasalization, lateral, trill, vowel-like resonance (higher, lower), inspiration, expiration. The final categorization is as voiced, voiceless, or clicked. A category of non-phonation (zero phonation, "pause") seems to be necessarily included under segregates. A table of vocal segregates, with suggested symbols, is found below in 4.

It will be useful to describe in the terms just given some of the noises that are dealt with here. The usual *uh-uh* of negation has higher vowel-like resonance, with internal (and often initial) glottal closure; it may or may not be accompanied by closed-lip or open-lip nasalization. The *uh-huh* of affirmation is just like the negation except for glottal continuant internally instead of glottal closure. The reported *ha*, or the like, as the word for "yes" in many American Indian languages, is probably the segregate complex of the glottal continuant, lower vowel-like resonance, and open-lip nasalization. The Japanese hiss is the alveolar continuant, with inspiration. The shushing sound is the palatal continuant. Coughs, snorts, sniffs, imitations of animal cries, all seem to be analyzable in these terms.

3. PARALANGUAGE AND KINESICS

Kinesics was first delineated as an area for anthropological investigation, as stated, by Birdwhistell in 1952. Since the summer of 1956 Birdwhistell has had the opportunity to

conduct extended series of observations on films, in the presence of or with the collaboration of one or more linguists. The theoretical description of the field has gone along with that of paralinguistics, and it appears that in their overall structure these two fields of human behavior may be largely analogous to each other, as contrasted with language. Thus there seems to be no subdivision of either kinesics or paralinguistics exactly analogous to the phonology-morphology-semology division of language. Just how the structures of paralinguistics and kinesics will work out eventually is not yet clear, however. One important correlation is between kinesic "markers" and points of occurrence of zero-segregates. Another is the coincidence of such motions as head nods with the occurrence of vocal qualifiers.

The research projects now going on should make possible a more nearly definitive statement of kinesics before long, and should also bring added refinements to the description of paralinguistics.

4. SUMMARY

This article has presented a synthesis of the now available data on the phenomena, which accompany language, usually referred to by such terms as "tone of voice." These phenomena, the necessity of analyzing which was pointed up by research on filmed and tape-recorded psychotherapeutic interviews and similar materials, are now handled under the term paralinguistics.

Paralinguistics is divided into voice set as background for, and voice qualities and vocalizations as accompaniments of, language proper.

In analyzing a communication, one must, to cover all the data, include material in the areas of paralinguistics and kinesics as well as in language. In the research alluded to above various applications of this injunction have been made. The analyses of the material observed that have been presented here arose from this research, and various practical solutions of problems of symbolization and keeping apart of levels were reached. We conclude this presentation by suggestions for symbols.

It is emphasized that the presentation is not definitive, and the symbols especially are to be taken as the most tentative of suggestions.

4.1. Symbols for the main categories are:

Voice set [<i>precedes</i>]	VS
Speech [<i>which includes</i>]:	Sp
Paralinguistics [<i>divided into</i>]	PL
Voice qualities [<i>and</i>]	VQ
Vocalizations	Vz
Language. [The whole accompanied by]	L
Kinesics	K

If one is doing recording on large sheets of paper, it is probably best to arrange the lines so that an orthography line (Or) comes first, then L with any necessary subdivisions (Ph phonology—Pht phonetics, Phm phonemics; Mp morphology—Mpp morphophonemics, Mpm morphemics; Sy syntax; Se semology [with subdivisions as they are developed]). After this can be placed PL with subdivisions, then VS, and finally K. All should be correlated with a time line, in divisions appropriately small (1/24 second for film, and so on).

VS, as said, is best handled in the present state of development by descriptive terms.

VQ includes categories for which letter symbols combined with mnemonic visual symbols are proposed:

pitch range	Pr
spread upward	-↑
downward	-↓
narrowed from above	-↑
below	-↓
vocal lip control	Lc
rasp—heavy (hoarseness)	-8
plain	-o
openness—slight	-o
full	-8
glottis control	Gc
voicing—over	-˘
under	-˘
breathiness—slight	-˘
heavy	-˘
pitch control	Pc
sharp transition	- ↑or ↓
smooth transition	- ↑or ↓
articulation control	Ac
forceful	-F
relaxed	-R
rhythm control	Rc
smooth	∩
jerky	∪
resonance	Re
resonant	-r
thin	-t
tempo	Te
increased	-<
decreased	->

The principal symbols should be used with the subsidiary ones. Symbols should be placed at the beginning and end of each stretch affected, thus: Te-<...>. VQ is a category in which several items may appear at once, so several lines should be allowed.

The vocalizations, Vz, are subdivided into:

- Vch vocal characterizers
- Vqu vocal qualifiers
- Vsg vocal segregates

The Vch categories are probably best represented by letter abbreviations for the present, thus:

- | | |
|------------|-----|
| laughing | Lf |
| giggling | -gi |
| snickering | -sn |
| crying | Cr |
| whimpering | -wh |
| sobbing | -so |
| yelling | Ye |
| muffled | -mf |
| whispering | Wh |
| muttering | -mt |
| moaning | Mn |
| groaning | Gr |
| whining | Wn |
| breaking | Br |
| belching | Bl |
| yawning | Yn |

These are used as are the VQ symbols: Lf . . . Lf.

Vqu categories have these symbols:

- | | |
|-----------|-------|
| intensity | In- |
| overloud | ^ ^ ^ |
| oversoft | ^ ^ ^ |

- | | |
|--------------|-------------|
| pitch height | PH- |
| overhigh | ↑↑↑ |
| overlow | ↓↓↓ |
| extent | Ex- |
| drawl | () () () |
| clipping | ⌋ ⌋ ⌋ |

The symbols are placed at the beginning and end of the stretch affected: ↑ . . . ↑ .

The Vsg table is as follows:

	spread lips	puckered lips	dental	alveolar	palatal	dorsal	glottal	velic	bronchial
Closure and release	P	P.	T	T	C	K	ʔ	V	⊖
Continuant	⊕	⊕.	S	S	ʃ	X	H	⊗	⊕
Closed-lip nasal	M								
Open-lip nasal	N								
Lateral	L								
Trill	R								
Vowel-like-higher	ɛ								
lower	A								
Inspiration	↗								
Expiration	↖								
Voiced	v̄								
Voiceless	v̄								
Clicked	c̣								
Zero-segregate	∅								

← combined with

→ [are modified by]

These symbols are used more or less like phonetic symbols, sequentially: *uh-huh* ɛHɛ, *rh-hunh* ɛHɛN, *hm* HM, *brrr* (referring to cold) PRv̄, *tsk-tsk* Tc̣, etc.

REFERENCE NOTE

Trager's work, like Devereux's ethnographic observations, broaches a complex area of interrelations among linguistic phenomena, personality, and expressive communication. The references are organized according to the following categories:

- A. Expressive Language and Its Analysis
 - 1. General
 - 2. Sound Symbolism
- B. Nonverbal Expressive Phenomena
 - 1. Gestures
 - 2. Special Gestural Codes
 - 3. Communicative Motor Habits and Expressive Movement Generally
- C. Speech Disturbances

- D. Speech and Personality
 - 1. General
 - 2. Person Perception
- E. Expressive and Persuasive Uses of Language
 - 1. General
 - 2. Oaths, Profanity, and Insult
 - 3. Petition, Prayer, and Praise

Trager's references, if not in the general bibliography, are in (A). For the development of Trager's view on a general theory of language as part of culture, and linguistics in anthropology, see Trager and Smith (1951); Trager (1949, 1955a, 1956, 1959); and Trager and Hall (1954); cf. also Smith (1952).

A. EXPRESSIVE LANGUAGE AND ITS ANALYSIS

1. GENERAL

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CHART OF CONSONANT SYMBOLS

	<i>Labial</i>	<i>Labio-dental</i>	<i>Dental, Alveolar</i>	<i>Retroflex</i>	<i>Alveopalatal</i>	<i>Velar</i>	<i>Uvular</i>	<i>Glottal</i>
STOPS								
Plain (voiceless)	<i>p</i>		<i>t</i>	<i>ʈ</i>	<i>tʃ</i>	<i>k</i>	<i>q</i>	<i>ʔ</i>
" (voiced)	<i>b</i>		<i>d</i>	<i>ɖ</i>	<i>dʒ</i>	<i>g</i>	<i>ɢ</i>	
Implosive	<i>ɓ</i>		<i>ɗ</i>					
AFFRICATES								
Groove (vl.)			<i>c</i>	<i>ɟ</i>	<i>ç</i>			
" (vd.)			<i>ʒ</i>		<i>ʝ</i>			
Lateral (vl.)			<i>ɬ</i>					
" (vd.)			<i>ɮ</i>					
FRICATIVES								
Slit (vl.)	<i>ɸ</i>	<i>f</i>	<i>θ</i>			<i>x</i>	<i>χ</i>	<i>h</i>
" (vd.)	<i>β</i>	<i>v</i>	<i>ð</i>			<i>ɣ</i>	<i>ʁ</i>	
Groove (vl.)			<i>s</i>	<i>ʂ</i>	<i>ʃ</i>			
" (vd.)			<i>z</i>	<i>ʐ</i>	<i>ʒ</i>			
Lateral (vl.)			<i>ɬ</i>					
RESONANTS								
Nasal	<i>m</i>		<i>n</i>	<i>ɳ</i>	<i>ɲ</i>	<i>ŋ</i>	<i>ɴ</i>	
Lateral			<i>l</i>	<i>ɭ</i>				
Median	<i>w</i>		<i>r</i>			<i>y</i>		
Glottalized:	<i>p' t' 'm, 'w, etc.</i>							
Aspirated:	<i>p', t', etc.</i>							
Labialized:	<i>kʷ, gʷ, etc.</i>							

CHART OF VOWEL SYMBOLS

	<i>Front</i>	<i>Central</i>	<i>Back</i>
High	<i>i (ü)</i>	<i>ɨ</i>	<i>(i) u</i>
Lower High	<i>I</i>		<i>U</i>
Mid	<i>e (ö)</i>	<i>ɘ</i>	<i>(é) o</i>
Lower Mid	<i>ɛ</i>		<i>ɔ</i>
Low	<i>æ</i>	<i>a</i>	
Long:	<i>i:, a:, etc.</i>		
Nasalized:	<i>ĩ, ą, etc.</i>		
Voiceless:	<i>I, A, etc.</i>		

NOTE: The plain symbols in the front column typically represent unrounded vowels, those in the back column typically rounded vowels, reflecting the predominance of the correlation of front and unrounded, back and rounded, in the languages of the world. The symbols with umlaut (¨) represent front rounded and back unrounded vowels, respectively. Thus the umlaut diacritic is used here to indicate a vowel the same as its plain counterpart with respect to height, and presence or absence of rounding, but opposite as to front or back. In this book no confusion results by the use of the most convenient symbols, capital I and U, for lower high vowels in one context and for voiceless vowels in another. In some contexts, of course, the two might have to be distinguished.