THE NATURAL HISTORY
OF
AN INTERVIEW

(edited by Norman A. McQuown)

with contributions by

Gregory Bateson
Ray L. Birdwhistell
Henry W. Brosin
Charles F. Hochert
Norman A. McQuown
Henry L. Smith, Jr.
George L. Trager

Part IV: Appendices 1 - 10

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The Natural History of an Interview

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material of English speech was made in An outline of English structure (Trager and Smith, 1955). Part III, Metalinguistics, of that work (81-8) 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 extra-linguistic 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 and others, 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 (1953), 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. Birdwhistell.

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, 1955), 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 idiosynratic, including the specific physiology of the speakers and the total physical setting; it is in the area of prelinguistics (Trager, 1949, 2-3). Against this background there take place three kinds of events employing the vocal apparatus: language vocalizations and paralanguage.

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, grade, age grade, health image, body image, rhythmic image, status, mode, cultural 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 opted out from what is said and heard.

The voice qualities noted so far are these: pitch range, vocal lip control, glottal 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 rapping or harseness through slight rapping to various degrees of openness. Glottal control deals with sharp and smooth transitions in pitch. Articulation control covers forceful (precise) and relaxed (alurred) 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 linguistic 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 identifiers---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, whispering, sobbing. Then comes a group involving grumbling and whispering as extremes, with muffled sounds and

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  | quite loud | somewhat, considerably, very much |
| pitch height | very high | slightly, appreciably, greatly |
| extent     | drawl     | 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, uh, 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, uh, 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 analysed 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 recognised 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 humming sound is the palatal continuant. Coughs, snorts, sniffs, imitations of animal cries, all seem to be analysable 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 paralanguage, 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 paralanguage exactly analogous to the phonology-morphology-semology division of language. Just how the structures of paralanguage and kinesics will work out eventually is not yet clear, however. One important correlation is between kinetic '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 paralanguage.

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

In analysing a communication, one must, to cover all the data, include material in the areas of paralanguage 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 [precedes] VS.
Speech [which includes] Sp:
Paralanguage [divided into] PL—
Voice qualities [and] VQ,
Vocalizations [j] Vj:
Language [. The whole accompanied by] L.
Kinesics.

If one is doing recording on large sheets of paper, it is probably best to
Trager, PARALANGUAGE

arrange the lines so that an orthography line (Or) comes first, then L with any necessary subdivisions (Ph phonology—Pht phonetics, Phm phonemics; M 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:

<table>
<thead>
<tr>
<th>Pitch Range</th>
<th>Pr</th>
</tr>
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<tbody>
<tr>
<td>spread upward</td>
<td>-1</td>
</tr>
<tr>
<td>downward</td>
<td>-1</td>
</tr>
<tr>
<td>narrowed from above</td>
<td>-1</td>
</tr>
<tr>
<td>below</td>
<td>-1</td>
</tr>
</tbody>
</table>

Vocal Lip Control:

<table>
<thead>
<tr>
<th>Rapid Heavy (Harseness)</th>
<th>-g</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plain</td>
<td>-y</td>
</tr>
<tr>
<td>Openness—slight</td>
<td>-o</td>
</tr>
<tr>
<td>Full</td>
<td>-8</td>
</tr>
</tbody>
</table>

Glottis Control:

| Voicing—over           | -x |
| under                  | -g |
| Breathiness—slight     | -a |

Pitch Control:

| Forceful               | -f |
| relaxed               | -b |

Articulation Control:

| Rs                     | - |
| Smooth                 | -u |

Rhythm Control:

| Re                     | - |

Resonance:

| Re                     | - |

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

VCh categories have these symbols:

| Intensity: Overloud    | + |
| Oversoft              | - |

VQ categories have these symbols:

| 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, Vs, 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
- Gigling
- Muttering
- Whispering

These are used as are the VQ symbols: Lf...Lf.
Trager, PARALANGUAGE

overlow

extent: drawl (Ex-ch)

clipping

The symbols are placed at the beginning and end of the stretch affected: |•••t|

The Vsg table is as follows:

<table>
<thead>
<tr>
<th>Closure and release</th>
<th>Continuant</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>P P T T K Z V ø</td>
</tr>
</tbody>
</table>

The symbols are used more or less like phonetic symbols, sequentially: uh-inh SPE, zh-inh xINE, im IN, brrr (referring to cold) PHW, lak-tak TH, etc.

The symbols are modified by Inspiration χ and Expiration %.

Voiced V

Voiceless X

Clicked θ

These symbols are used more or less like phonetic symbols, sequentially: uh-inh SPE, zh-inh xINE, im IN, brrr (referring to cold) PHW, lak-tak TH, etc.

References:

Bateson, Gregory; Ray L. Birdwhistell; Henry W. Brosini; Charles F. Hockett; Norman A. McQuown. 1958. The natural history of an interview. [In manuscript.]


<table>
<thead>
<tr>
<th>SYMBOLS USED IN THE TRANSCRIPTION OF SPEECH</th>
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<tr>
<td><strong>THE SCORE</strong></td>
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<tr>
<td>TEMPO</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>VOCAL LOUDNESS</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>MODIFIERS REGISTER</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>OTHERS</td>
</tr>
<tr>
<td>4</td>
</tr>
<tr>
<td>BOUNDARY PHENOMENA</td>
</tr>
<tr>
<td>5 LINES ARE NUMBERED</td>
</tr>
<tr>
<td>6 NUMBERED HERE</td>
</tr>
<tr>
<td>7 FOR</td>
</tr>
<tr>
<td>8 CROSS-REFERENCE</td>
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<tr>
<td>9 FROM EVERYWHERE</td>
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<tr>
<td>10 ON THE CHART</td>
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<td><strong>VOCAL MODIFIERS</strong></td>
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<tr>
<td>TEMPO 1) OVERFAST</td>
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<tr>
<td>—— ——</td>
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<tr>
<td>OVERFLOW</td>
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<tr>
<td>—— ——</td>
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<tr>
<td>LOUDNESS 1) OVERLoud</td>
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<td>OVERSOFT</td>
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<td>—— ——</td>
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<td>REGISTER 3) OVERNIGHT</td>
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<td>—— ——</td>
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<tr>
<td>OVERLOW</td>
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<td>—— ——</td>
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<td>NUTED</td>
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<td>—— ——</td>
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<tr>
<td>SPREAD</td>
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<td>—— ——</td>
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<tr>
<td>OTHER (4, SOMETIMES 3 WHEN TWO OR MORE OCCUR AT ONCE)</td>
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<td>RASP</td>
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<td>OPENNESS</td>
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<td>—— ——</td>
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<tr>
<td>BREATHINESS</td>
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<td>STRONG VOICING</td>
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<tr>
<td>OVERPRECISE</td>
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<tr>
<td>OVERLAPED</td>
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<td>ARTICULATION</td>
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<tr>
<td>GLOSSANDO</td>
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<td>—— ——</td>
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<td>SINGING</td>
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<td>—— ——</td>
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<td><strong>BOUNDARY PHENOMENA 5,6</strong></td>
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<tr>
<td>ONSETS: SMOOTH (NO MARK)</td>
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<tr>
<td>GLOTTAL</td>
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<tr>
<td>ASPIRATED</td>
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<tr>
<td>VOICED</td>
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<tr>
<td>CRESCEND0</td>
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<tr>
<td>APPROACHES FADING (NO MARK)</td>
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<td>TO END: CRAWLING</td>
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<tr>
<td>BOTH</td>
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<tr>
<td>OFFSETS: SMOOTH (NO MARK)</td>
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<tr>
<td>GLOTTAL</td>
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<tr>
<td>EXHAILING h</td>
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<tr>
<td>EXHAILING h</td>
</tr>
<tr>
<td>INTERUPTANCE PHENOMENA</td>
</tr>
<tr>
<td>SILENCE</td>
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<tr>
<td>INHALING h</td>
</tr>
<tr>
<td>VOICING a</td>
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<tr>
<td>VOICED INHALING a</td>
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<td><strong>PHONEMICS (7-9)</strong></td>
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<td>INTONATION</td>
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<tr>
<td>STOPPING OR PAUSING</td>
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<td>BEFORE COMPLETION</td>
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<td>OF INTONATION (7-9)</td>
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<td>END OF INTONATION (7-9)</td>
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<td>INTERNAL OPEN JUNCTURE (8)</td>
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<td>STRESS LEVELS</td>
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<td>PRIMARY</td>
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<td>OVER VOWEL SYMBOLS ON 8</td>
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<tr>
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<td>TERTIARY</td>
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<td>WEAKEST (NO MARK)</td>
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<td>VOWELS: i u e a o æ e æ</td>
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<td>SEMICONSONANTS: w y h</td>
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<tr>
<td>CONSONANTS: p t c k b d j g f ð s s v ð z m n j r</td>
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<td><strong>PHONETICS (II)</strong></td>
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<tr>
<td>POINT OF SYLLABLE DIVISION: *</td>
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<tr>
<td>NONSYLLABIC VOCOID</td>
</tr>
<tr>
<td>LENGTHS: OVERSHORT</td>
</tr>
<tr>
<td>WHISPERED VOCOID</td>
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<tr>
<td>&quot;NORMAL&quot;</td>
</tr>
<tr>
<td>SLIGHTLY RACKED</td>
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<tr>
<td>FRONTED</td>
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<td>RAISED</td>
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<td>SYLLABIC CONTOID</td>
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<td>SIMULTANEOUS GLOTTAL CLOSURE</td>
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<td>LIGHT OR OBSCURE ARTICULATION</td>
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Symbols for phonetic and phonemic transcriptions

n.l. mcquown 1967
### Basic Symbols (Phonetic)

<table>
<thead>
<tr>
<th>Stops</th>
<th>Fricatives</th>
<th>Vibrants</th>
<th>Nasals</th>
<th>Vowels</th>
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<tr>
<td>/p/</td>
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<td>/m/</td>
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<td>/?/</td>
<td>/θ/</td>
<td>/v/</td>
<td>/o/</td>
<td>/ø/</td>
</tr>
</tbody>
</table>

**3 Pharyngo-Laryngals**

- /i/  
- /u/  
- /y/  
- /?/  

**Boundary Markers**

- Point of syllable division
- Other "breaks" in the sequence of contoid and vocoid segments
**Diacritics**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
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<td>uncertain</td>
</tr>
<tr>
<td><code>\</code></td>
<td>certain</td>
</tr>
<tr>
<td><code>p</code></td>
<td>pulmonic egressive</td>
</tr>
<tr>
<td><code>p</code></td>
<td>pulmonic ingressive</td>
</tr>
<tr>
<td><code>p</code></td>
<td>glottalic egressive (&quot;glottalized&quot;)</td>
</tr>
<tr>
<td><code>p</code></td>
<td>glottalic ingressive (&quot;implosive&quot;)</td>
</tr>
<tr>
<td><code>p</code></td>
<td>velar egressive</td>
</tr>
<tr>
<td><code>\</code></td>
<td>velar ingressive (&quot;click&quot;)</td>
</tr>
<tr>
<td><code>\</code></td>
<td>voiceless</td>
</tr>
<tr>
<td>,`</td>
<td>labialized</td>
</tr>
<tr>
<td>,`</td>
<td>palatalized</td>
</tr>
<tr>
<td>,`</td>
<td>velarized</td>
</tr>
</tbody>
</table>

- `\` nasalized
- `s` pharyngalized
- `s` laryngalized
- `s` glottalized
- `k` fronted
- `k` backed
- `a` raised
- `a` lowered
- `k` fortis
- `k` lenis
- `s` round vocal cord segment
- `a` rounded
- `u` unrounded
- t a' retroflex
- s apical
- x+ rasped
- x- smooth
- r flap
- ñ trill
- etc. relatively shorter (or weaker) than surrounding segments
- ñ a' asyllabic vocoids
- ñ m d syllabic continuos
quantity

1: a: relatively longer
2: a: relatively long
3: a: relatively shorter

pitch
stress
quantity

special unit symbols (phonemic)

phonetic phonemic

Affricates

pf  p
bv  b
by  p'
bv+  b'
t0  ts  tš  tʃ tʃ  tx  t'
tš  tš  tʃ tʃ
tʃ+  tʃ

dʒ  dʒ  dʒ  dʒ  dʒ  dʒ  dʒ  dʒ  dʒ  dʒ  dʒ  dʒ  dʒ  dʒ  dʒ  dʒ

d  z

d  f  (j)
<table>
<thead>
<tr>
<th>dI²⁺</th>
<th>( \alpha )</th>
<th>( \gamma^+ )</th>
<th>n</th>
<th>w</th>
</tr>
</thead>
<tbody>
<tr>
<td>kx</td>
<td>( \dot{k} )</td>
<td>( \iota )</td>
<td>y</td>
<td>y</td>
</tr>
<tr>
<td>gG</td>
<td>( \acute{g} )</td>
<td>( \acute{z} )</td>
<td>h</td>
<td>h</td>
</tr>
<tr>
<td>Other (Combinations)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>( \ddot{k} )</td>
<td>( q )</td>
<td>( \dot{x} )</td>
<td>( \dot{z} )</td>
<td>( \dot{h} )</td>
</tr>
<tr>
<td>( \dddot{x} )</td>
<td>( \dot{x} )</td>
<td>( \dddot{z} )</td>
<td>( \dddot{h} )</td>
<td>( \dddot{\check{x}} )</td>
</tr>
<tr>
<td>( \dddot{\check{x}} )</td>
<td>( \dddot{\check{z}} )</td>
<td>( \dddot{\check{h}} )</td>
<td>( \dddot{\check{\kappa}} )</td>
<td>( \dddot{\check{k}} )</td>
</tr>
<tr>
<td>( \ddot{d} \dddot{e} \dddot{r} )</td>
<td>( \ddot{z} \dddot{z} \dddot{z} )</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>( \dddot{l} )</td>
<td>( \dddot{k} )</td>
<td>( \dddot{t} \dddot{\check{r}} )</td>
<td>( \dddot{\check{z}} \dddot{\check{r}} )</td>
<td>( \dddot{\check{z}} \dddot{\check{r}} )</td>
</tr>
<tr>
<td>( \dddot{r} )</td>
<td>( \dddot{d} \dddot{r} \dddot{r} )</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>( \dddot{\check{r}} )</td>
<td>( \dddot{\check{r}} \dddot{\check{r}} \dddot{\check{r}} )</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>( \dddot{\kappa} )</td>
<td>( \dddot{\kappa} \dddot{\kappa} \dddot{\kappa} )</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
In general, any simple (or complex) symbol or combination of symbols which proves unnecessarily cumbersome may be replaced by a simpler one. The ideal, for a phonemic transcription, is: one phonemic, one symbol.
Microkinesic Recording

In microkinesic recording, as illustrated on pp. 00, the use of a pre-defined staff permits the easy recognition and timing of movie material. The micro-recording of direct, that is, non-filmed material, presents a much more difficult recording and timing problem. Two devices have been tried for timing specific kines or kinemorphs by a single observer or team of observers. A stop watch may be used if its presence is not a significantly interfering artifact. For more covert timing the observer can train himself to beat time with his toe hidden by his shoe. Some practice may be required before the full beat per second is mastered, but one can learn to record one quarter, one half, single and multiple seconds with considerable accuracy. Generally speaking, however, in the absence of words as markers, and without the use of a film record, timing is a relatively impressionistic feature for even the best trained observer.

Similarly, while a carefully trained observer can achieve an amazingly complex record of direct material, such material is not equivalent to film-based recording. Since direct material cannot be replayed for the assessment of the zero point, it is strongly advised that several hours of viewing precede even the trained observer’s recording of any subject’s activity.

Since micro-recording is related to the notation of least particles of perceived movement, the trained observer consistently works from a zero point provided by previous analytic research with an informant using film material. This cultural zero point must be kept in mind and explicitly stated when the particular behavior of a particular subject is recorded. Since an extensive list of kines is presented elsewhere the logic of kine annotation is presented below. Careful reading of this presentation should permit the reader to understand the transcript, pp. 00, below.

Notebook of State

Direction of position: (at point of central tendency)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>left</td>
<td>right</td>
</tr>
<tr>
<td>superior</td>
<td>inferior</td>
</tr>
<tr>
<td>anterior</td>
<td>posterior</td>
</tr>
</tbody>
</table>

Direction of movement: (throughout movement to point of central tendency)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>left</td>
<td>right</td>
</tr>
<tr>
<td>superior</td>
<td>inferior</td>
</tr>
<tr>
<td>anterior</td>
<td>posterior</td>
</tr>
</tbody>
</table>

Position held: . . . . . . . .
Repeat a position: - | - | -

Scratching: zzzzzzzzzz

Feeling: o o o o o o o o o o

The relative body positions are recorded by numerals representing clock positions. (a) signals any aspect of the body when the subject is standing erect, with the nose in the midline and pointing along a parallel with an imaginary line extended forward from the feet. Each numeral refers to a clock

position from (n). (1) equals a 30 degree angle, (2) a 60 degree angle, (3) a 90 degree angle, etc. to (6) which is 180 degrees from (n) Beyond (6), for convenience, recording returns to (5) and so on. To record positions of less than 30 degrees from (n), the 30 degree angle is divided rough into 4 parts which are recorded as plus or minus 15°, 30°, or 45°. These (') are expressed verbally as "minutes." Combinations omit, e.g., 3:30.

For middle majority American viewers there seem to be three significant degrees of stress recorded as (a), (—), and (©). These indicate respectively normal stress, high stress, and lax. Multiples of signals indicate impressions of overhigh and overlap: and 2 or 3. A notation of body positions or kines

As noted on pp. 00, the recording chart is divided into six staves: head and face; shoulders, neck, trunk and hips; right arm and hand; left arm and hand; right leg and foot; and left leg and foot. The head and face is further sub-divided into four staves of: head, forehead and circum-orbital activity (and, if necessary, the nose), the mouth and circum-mouth activity, and chin (and neck, when necessary). The arm and hand staves are divided into three sub-staves of arm, hand, and wrist. The leg staves are sub-divided into leg, foot, and ankle. The intrafemoral index is recorded under the left leg staves when necessary.

Whenever it is useful, English orthography may be used to append any statements not covered by the annotational system.

Head

Head is used to cover all activities of the head. As an example, indicates that the head is turned left 60 degrees from (n). indicates a full}

3 - 21

not. indicates a full head shake.

Penetrate and circum-orbital

Using the eyes, as the base line, the forehead, nose and circum-orbital behavior can be quasi-realistically sketched in.

indicates both brows raised, brow furrowed, the lateral aspects of the orbit double-lined, eyes in focus on auditor, and nose wrinkled. Lids and eyeballs may be sketched in: or.

Mouth

is used to signal the mouth at zero. This may be varied as or . Lining around mouth and chin is added in quasi-realistic manner: . Teeth may be shown as:

Neck, Shoulders, Trunk, and Hips

The neck is always recorded as , with used to indicate stress. Arrows provide movement and position from zero.

The shoulders and trunk are shown in a single figure or which indicate shoulders straight, dropped and hunched. indicates a bend at the base of the thoracic region; shows trunk bend at pelvis. indicates an involvement of the left shoulder. Arrow plus clock positions are utilized to show the position of the members. indicates that the body is bent at the pelvis to a 60 degree angle, the shoulders are rolled anteriorly for 30 degrees. By the utilization of x-pivot a pivot action can be shown e.g. or .

Right arm and hand

indicates the right arm. Positional and directional notes can be made: . This indicates that the right arm is extended at the elbow,
with the upper arm held close to the body and the wrist at n. The logic for the hand gives the thumb a, the forefinger b, and the third c. The full hand without the fingers touching and the fingers extended at n is **1**. The thumb hooked, forefinger crooked (but at b or d, but no lower than the joint of b-c), and with 3, 4, and 5 curled (fingers bent beyond joint b-c) is recorded **3**.

R and L indicating which hand is necessary only when staved paper is not used. **1** is used to indicate palm and direction.

**Left arm and hand**

The same logic is used as for right hand and arm. Bi-membrial and bi-manual activity may at times be signalled within a single staff as (\|). This signals crossed arms, right over left.

**Right arm and hand**

The annotational logic for leg and foot parallels that utilized for the arms and hands. \( \vec{R} \) denotes the right leg. Positional and directional notes may be added as \( \vec{L} \). This indicates that the right leg is crossed over the left leg, with the right knee extending right and anterior to one o'clock left and slightly more than three o'clock anterior. The upper leg is at about a 45-degree angle with the lower and the ankle is at n. The foot and shoe are quasi-realistically recorded. The transcript on pp. 00 contains a number of examples from which the following is derived **1**. This indicates that the ankle is bent back toward the lower leg, two hours above n and the toes are hooked, pulling the loose shoe away from the heel and sole. **1** illustrates an ankle bent to four o'clock with a non-weight-bearing toe to the floor.

**Macrokinetic Recording**

Listed below are a series of recorded kinemes which have been selected as demonstration items. These have been tested as meaningful for middle majority Americans. While this is not an exhaustive list, the listing includes a sufficiently broad survey to demonstrate the logic of macrokinetic recording. Duration, repetition and direction of movement, when kinemes, is recorded as it is for microkinetic recordings. Rhythm is indicated by \( \frac{1}{4} \) at rest points.

The following annotational system has been designed for reproduction by typewriter. The addition of four keys \( >, V, <, A \) for direction is all that is necessary for the adaptation of a business typewriter for macrokinetic recording. It should be remembered, however, that the intensive analysis of a protocol will require both kinetic and kinemic recording to achieve control of both the conventional and the idiosyncratic elements of a scene.
Listed below are a series of recorded kineses which have been selected as demonstration items. These have been tested as meaningful for middle majority Americans. While this is not an exhaustive list, the listing includes a sufficiently broad survey to demonstrate the logic of macrokinesic recording. Duration, repetition and direction of movement, when observable, is recorded as it is for microkinesic recordings. Rhythm is indicated by / at beat points.

The following annotational system has been designed for reproduction by typewriter. The addition of four keys >, V, <, A for direction is all that is necessary for the adaptation of a business typewriter for kinesic recording. It should be remembered, however, that the intensive analysis of a protocol will require both micro- and macrokinesic recording to achieve control of both the conventional and the differential elements of a scene.

**Microkinesic Recording**

Kinemorphs, in which there is a dependent relationship between kinesic kineses from more than one motion area, are noted by a fractional system: \( \frac{1}{n} \) or \( \frac{2}{n} \) etc., where 1 is normal, 2 is 15', 3 is 30', and 4 is 45'.

Timing without a frame count presents the same problem for macro-recording as it does for micro-recording. Without technical assistance timing remains a product of skilled impression. This may be indicated by utilizing the notational conventions for musical scores which indicated tempo without referring to the duration of the particular particle.

**Kinemic Macro-recording Key**

**Head**

<table>
<thead>
<tr>
<th>Symbol</th>
<th><em>(with nose as pointer)</em></th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>H</td>
<td>(&gt;, &lt;, or 3)</td>
<td>head in median sagittal plane</td>
</tr>
<tr>
<td>HN</td>
<td>(&gt;, &lt;, or 3)</td>
<td>head left one, two or three o'clock</td>
</tr>
<tr>
<td>HW</td>
<td>(&gt;, &lt;, or 3)</td>
<td>head right one, two or three o'clock</td>
</tr>
<tr>
<td>H 1</td>
<td>(&gt;, &lt;, or 3)</td>
<td>head up one, two or three o'clock</td>
</tr>
<tr>
<td>H 2</td>
<td>(&gt;, &lt;, or 3)</td>
<td>head down one, two or three o'clock</td>
</tr>
<tr>
<td>H 3</td>
<td>(&gt;, &lt;, or 3)</td>
<td>head up one, two or three o'clock</td>
</tr>
<tr>
<td>H 1 1</td>
<td>(&gt;, &lt;, or 3)</td>
<td>head up one, two or three o'clock</td>
</tr>
<tr>
<td>H 2 1</td>
<td>(&gt;, &lt;, or 3)</td>
<td>head down one, two or three o'clock</td>
</tr>
<tr>
<td>H 3 1</td>
<td>(&gt;, &lt;, or 3)</td>
<td>head up one, two or three o'clock</td>
</tr>
<tr>
<td>H 1 2</td>
<td>(&gt;, &lt;, or 3)</td>
<td>head up two, three or four o'clock</td>
</tr>
<tr>
<td>H 2 2</td>
<td>(&gt;, &lt;, or 3)</td>
<td>head down two, three or four o'clock</td>
</tr>
<tr>
<td>H 3 2</td>
<td>(&gt;, &lt;, or 3)</td>
<td>head up two, three or four o'clock</td>
</tr>
<tr>
<td>H 1 3</td>
<td>(&gt;, &lt;, or 3)</td>
<td>head up three, four or five o'clock</td>
</tr>
<tr>
<td>H 2 3</td>
<td>(&gt;, &lt;, or 3)</td>
<td>head down three, four or five o'clock</td>
</tr>
<tr>
<td>H 3 3</td>
<td>(&gt;, &lt;, or 3)</td>
<td>head up three, four or five o'clock</td>
</tr>
</tbody>
</table>

* Note 1, 2, and 3 etc., refer to points on a clock either clockwise or inverted clockwise. thus 5 is directly opposite 7 (or normal) and is highest number used. For movements less than 1 on clock 15', 30', and 45' are used.
### Kinesic Micro-recording Key (Cont'd)

#### Forehead
- **Symbol**: 0000
- **Interpretation**: Dead pan - "expressionless" beyond zero

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>KFb</td>
<td>forehead overlap bilateral</td>
</tr>
<tr>
<td>KFr</td>
<td>forehead furrowed bilateral</td>
</tr>
<tr>
<td>KFr-b</td>
<td>forehead deeply furrowed bilateral</td>
</tr>
<tr>
<td>KFr-lb</td>
<td>bilateral brow raise</td>
</tr>
<tr>
<td>KFr-l</td>
<td>left brow raised</td>
</tr>
</tbody>
</table>

(If to be recorded only once when combination present)

#### Eyes
- **Symbol**: 00 00 Object "00" 0000 0000 000 00 00> (1,2,3) 00:00:00+ 00+   
- **Interpretation**: eyes anterior at zero  
  eyes in focus on object  
  staring (lids may be override)  
  eyes override in focus  
  eyes slit in focus  
  rolled eyes  
  eyes left one, two or three  
  lid flutter  
  blink  
  lids closed  
  lids squeezed  
  bi-lateral contraction  
  bi-lateral crinkle (American Humor)

#### Nose
- **Symbol**: 0 00 0 X-X- "X"  
- **Interpretation**: nose  
  flared nostrilla  
  wrinkled nose  
  nose pinched or contracted  
  bunny nose

#### Checks
- **Symbol**: Ch -Ch- 0Ch 0Chx 4Chx 4Chs  
- **Interpretation**: checks  
  checks sucked in  
  checks puffed out  
  non-smiling superior-inferior lined  
  smile-lined

#### Neck
- **Symbol**: nk onko -nk- &nk  
- **Interpretation**: neck  
  neck override  
  neck tense  
  swallowing  
  Adam's apple jerk

#### Shoulders and Trunk
- **Symbol**: T "T" Tn TW T<T,2 or 3 T>=1,2 or 3  
- **Interpretation**: shoulders and trunk  
  right shoulder involvement  
  left shoulder involvement  
  short trunk nod - 1 hour or less  
  trunk nod or bow - more than 1 hour  
  body right lean  
  body left lean

#### Mouth
- **Symbol**:  
- **Interpretation**: mouth compressed  
  lips overlax  
  lips parted  
  fast minimal smile  
  lip-parted smile  
  smile, upper teeth showing  
  smile, lower teeth showing  
  open mouthed laugh  
  mouth drawn down  
  protruding upper lip  
  protruding lower lip  
  pursed lips  
  sucked in upper lip  
  sucked in lower lip  
  basic lips sucked in  
  tongue protrudes right  
  tongue protrudes left  
  tongue protrudes anterior  
  tongue licks lips  
  chin thrust forward  
  chin thrust right  
  chin thrust left  
  chin tight  
  chin drop  
  neck  
  neck override  
  neck tense  
  swallowing  
  Adam's apple jerk

#### Interpretation
- **Symbol**:  
- **Interpretation**: mouth compressed  
  lips overlax  
  lips parted  
  fast minimal smile  
  lip-parted smile  
  smile, upper teeth showing  
  smile, lower teeth showing  
  open mouthed laugh  
  mouth drawn down  
  protruding upper lip  
  protruding lower lip  
  pursed lips  
  sucked in upper lip  
  sucked in lower lip  
  basic lips sucked in  
  tongue protrudes right  
  tongue protrudes left  
  tongue protrudes anterior  
  tongue licks lips  
  chin thrust forward  
  chin thrust right  
  chin thrust left  
  chin tight  
  chin drop  
  neck  
  neck override  
  neck tense  
  swallowing  
  Adam's apple jerk
Kinesic Macro-recording Key (cont'd)

Shoulders and Trunk (cont'd)

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>x7x</td>
<td>body rigid</td>
</tr>
<tr>
<td>c70</td>
<td>body slumped</td>
</tr>
<tr>
<td>p73</td>
<td>chest thrust</td>
</tr>
<tr>
<td>b7b</td>
<td>belly thrust</td>
</tr>
<tr>
<td>r7b-r</td>
<td>belly slump</td>
</tr>
<tr>
<td>D2</td>
<td>pelvic bend</td>
</tr>
<tr>
<td>I6</td>
<td>thoracic bend</td>
</tr>
<tr>
<td>T</td>
<td>upper trunk bend</td>
</tr>
</tbody>
</table>

Arms

The arm can be seen as a member forming three angles, which, taken together with their position(s) in space, determine the recording system outlined below. The term LAnu describes the left arm hanging at the side. The initial n refers to the shoulder, the second n to the elbow and the final n to the wrist. The numerals represent clock points; the arrows following the numerals indicate the direction of the member immediately inferior to and forming the base line of the joint angle. Thus LAnu indicates that the left arm, humerus roughly parallel to or touching the body (depending on 2) bends at the elbow, with the lower arm thrust forward at a 90 degree angle to the upper and with the wrist held at a . Minute marks (' ) can be used to refine the recording when it is seen to be kinematically necessary. Since this is a macro-recording key, only already standardized positions will be described below. u plus arrow indicates ulnar pivot; r plus arrow indicates radial pivot.

AA    bi-armed activity
RA    right arm
XRA   arm behind back

AXA   arm folded across chest
AXA   arm across body--hands touching below the chest
AXA A arm across body--hands touching across belly
AXA A arm across body--hands touching across genitals
AXA A arm hanging at sides
AXA A arms swinging (as in walking)
AG    right hand in pocket, left hanging
AG    right hand carrying object, left hanging
AG    right hand on hip, right hand recorded
AG    right hand on hip, left hand across chest upper-lower arm angle at 90 degrees
AG    right hand not involving lower and/or upper arm
AG    right hand not involving wrist and hand only
AG    right hand shake or sweep-upper and/or lower arm involved
AG    right half (or portion thereof) circle involving arm
AG    bi-armed circle involving arm
AG    right hand shake or sweep-uppb, wrist and hand involved
AG    right half (or portion thereof) circle involving wrist and hand only
The logic of hand notation, because of the number of parts involved is necessarily complex. However, the fact that there is considerable conventionality in hand activity simplifies the task. Presented below are a series of nested kinemats, when used initially, have a hand // bj manual // bi-manual // bi-manual.

- bi-manual circle
- clapping movement-right hand over
- clapping movement-no superiority of right or left
- right hand to nose
- right hand to mouth
- right hand to eyes
- right hand over eyes
- right hand to knee
- right hand to ear
- right hand to forehead
- right hand brow wipe
- right hand to occiput
- right hand to frontal region above brow
- right hand to back neck muscle
- right hand to throat
- right hand to ankle
- right hand fly check

The palm in recording may be used as a separate symbol or as an aspect of a full hand kinema. The direction of the palm is often a discrete symbol apart from the variation in finger position. Thus, it seems desirable to refer in recording to the palm as (Pnarrow for direction). Otherwise the wrist number and finger numbers are regarded as sufficient referral signals.

If the palm is involved as in a palm caress or palm nail-dig this can be signalled by a -p convention. The fingers are numbered 1 to 5 and are unbracketed, brackets being reserved for special positions. The joints are recorded as a or b or c respectively from the terminal joint as a. Finger position is indicated in the four positions which have been tested as kinematic. These are hook, crook, curl, and close which are recorded following the / sign + finger number. a indicates finger straight beyond zero.

- R/27 Right hand's forefinger in position backward beyond n. Right forefinger hook.
- R/2c Right forefinger bent at first and/or second joint forming angle with third joint of less than 90 degrees. Right forefinger crook.
- R/2c Right forefinger bent at first or second joint forming angle with third joint beyond 90 degrees but without touching palm. Right forefinger curl.
- R/2p Right forefinger bent to right position. May or may not touch palm at portion proximal to third joint. Right forefinger close.

When number is underlined this signals coordinate activity with lateral occlusion between finger. Thus:

- R/1?3 Right thumb hooked, fingers 2, 3 and 5 laterally occluded at 2, finger five separate at 2.
- R/1?n3 Right hand point. Thumb hooked.
- R/1n2 Right hand thumb at 2 not touching remainder of fingers which are crooked.
Hand (cont'd)

Right hand holding cigarette with 1 hooked, cigarette between 2a and 3b and 4 and 5 in position at n. Middle majority female American cigarette group. The shorthand kineme covers cigarette placement varying allokinecity from 2a to 3b and from 3 a/l to 3b. 3 is separate from 4, 4 and 5 are usually separate and hook, curl, crook, and close in 4 and 5 are allokinecity.

Middle majority female American cigarette grasp with little finger overcrook and hook.

Right hand grasps cigarette between 2a and 3b, palm out, 3b and 5 in crook (or curl). European male cigarette grasp. Or lighting hold American or European. Palm direction may be allokinecity.

Cigarette hand cup. Cigarette between 2a and 3b and hold with the lighted end between curled fingers and palm. Palm direction seems allokinecity.

In the above examples the underlined lower case letter indicates holding, e.g., (lao2b). Two other activities seem sufficiently conventionalized in western European and American culture to record them kinematically. Peeling is shown by ooo signal: e.g., (lao2b) indicates that with the thumb at n, 235a's are involved in touching an object for a variedly extended period of time.

Grasping, which involves muscular contraction in fingers around object is recorded by member record, e.g., ((lao2b)) records a thumb four finger grasp. Addition of -p indicates palm involvement, e.g., (lao2b-p) is a full hand grasp.
Hips are recorded only when there is special involvement. Otherwise the T for trunk signifies hips at n.

- X____ right hip tense
- X___X buttocks tense
- S hip swing
- ____ *inverted pelvis
- Y ___ *prominient buttocks

* n for male and female middle majority American differs. n for female involves a degree of pelvic inversion which is kinegically significant when it appears in the male. Similarly with regard to buttock protrusion; n in the female, which is ahomine with pelvic inversion, becomes **inverted** for the male.**

** The male n which is not recorded is kinegic in the female and must be recorded.

- Xs__x__ buttocks shift
- Xx___x__ buttocks bounce

** Legs and Feet**

The leg can be seen as a member forming three angles, which, taken together with their position(s) in space, determine the recording system outlined below. The term **LYnn** describes the left leg in normal weight carrying, standing position. The initial **L** refers to the hip joint, the second to the knee, and the third to the ankle. When numbers are substituted for any of the n's, these makes reference to clock positions; the arrows following the numerals indicate the direction of the member immediately inferior to and forming the base line of the joint angle. Thus, **LY3 n** indicates that the left leg is held up at a 90 degree angle to the left and with the upper-lower leg angle at 90 degrees and the ankle at n. Minute marks (')

- YY Standing on both feet American n no more than 5 inches apart for the male or 3 inches for female.
- Y-Y Standing feet apart. Legs separated by more than five inches for male; more than three inches for female.
- Y-Y Legs overspread standing.
- Y Standing, left leg back.
- Y- Standing, left leg forward.
- -Y- Stooping, knees together.
- -Y- Stooping, knees apart.
- Y: Step.
- Y:Y Walking.
- "T:Y" Running.
- Y:SY Walking: long stride.
- Y:SY Walking: stride overshort.
- Y:Sy Walking: stride overshort and with one foot placed before the other: Mincing.
- Y:SY Swagger: legs curve laterally at each step.
- Y:SY Marching: feet in direct anterior-posterior line, equal time distance between steps.
- Y:SY Dancing: repetitive pattern of non-equipidistant steps.
- Y:SY Right foot stumble.
Legs and Feet (cont'd)

X4

Noel clicking or scraping while walking. Clicking usually accompanied by marching.

X5

Skipping.

X6

Tiptoeing.

X7

Seated: body upright with 90 or 90 degree angle at hips, 90 degree at knee and feet flat on floor. (Or 0 for particular actor.)

X8

Seated, right leg crossed with ankle over left femur above knee. Middle majority American male young or informal.

X9

Same as above, left over.

X10

Legs crossed, left over, at knee. American middle majority female knee over knee. For male, left knee immediately posterior to knee. More formal than X4.

X11

Knee over knee crossed male actor.

X12

Knee cross immediately behind knee lower limbs parallel and touching. Standard upper or middle status British cross.

X13

Ankle cross. Knees close.

X14

Ankle cross with knees spread.

X15

Lags intertwined.

X16

Legs crossed at knees. Leg in short superior-inferior kick or dangle (depending on velocity.)

X17

Legs crossed at knees. Leg in median (five to eight inches) kick or dangle.

X18

Legs crossed at knees. Leg in over-kick (ten inches plus).

Lateral movement of crossed knee over knee. Often combined with kick or dangle.

Y4

Lateral leg movement seated.

Y5

Lateral movement, seated. Legs moved more than one hour.

Y6

Superior-inferior leg nod-less than one hour.

Y7

Superior-inferior leg nod-one hour or more.

Y8

Legs crossed above knees. Short leg sweep. Less than one hour.

Y9

Legs crossed above knees. Leg sweep. More than one hour.

Intrafemoral index: Either seated or standing, the spread of the two legs may be seen as forming the superior planes of a triangle; the base of the triangle being formed by an invisible line connecting the two knees. The angle with its apex at the crotch is recorded. Underlined double numerals signify angle rather than position number.

Y10

Standing, legs apart, roughly one half the length of the upper leg between knees.

Y11

Standing, legs apart, roughly the length of the upper leg apart.

If legs are not equidistant from median line at knee, the weightbearing leg is recorded as X. When sitting, leg nearest median line is recorded X. Arrows following recorded member indicate direction.

Y12

Standing legs apart one half length of leg, right leg bearing weight.

Y13

With legs at 45, weight is shifted from right to left leg.
The Foot

This recording system is being designed for a normally shod culture. When the naxed foot is recorded the system is comparable to that used for fingers.

- Foot
- Right foot pat
- Right foot full nod
- Right foot half nod
- Right foot full sweep
- Right foot half shake
- Right foot circle or curve
- Right foot bent right
- Left foot bent right
- Foot firm on base
- Heel firm on base, remainder of foot up
- Toe firm on base, remainder up
- Toes hooked back
- Toes curled or crooked
- Right big toe curled; toes 2,3,4 and 5, laterally touching and at n.

Kinematics found in transcribing.

But just for the example of the muskshoe making.

Appendix: Shomsh.

be added to foot.

Appendix (4)

As a kinemapel.

Glossary (5)
Doris and Gregory, as the camera is reloaded and again begins to record the scene, are reseated upon the sofa. Each has a stein of the homemade beer supplied by Doris. Doris looks from Gregory to her beer stein and at the matches which Gregory is holding. Her left hand carries the cigarette to her mouth after her right leaves the stein on the coffee table before them. Gregory continues: "He's a very, very bright four-and-a-half-year-old. Why that drawing that he brought in is very advanced for a four-and-a-half." As he talks, he opens the match folder, extracts a match, strikes the match under the closed flap, moves the lighted match into position and makes contact with her cigarette as he terminates his vocalisation. As he talks, Doris moves in concert with his match manipulations until her cigarette is lighted. She speaks: "I suppose all mothers think their kids are smart but I have no worries about that child's intellectual ability." A three eighths of a second lag between "child's" and "intellectual" was equalled by another between "intellectual" and "ability." Gregory speaks, his first words coterminous with the latter hesitation and "ability": "No, that's a very smart one." As Doris talks, her right hand drops to the table edge and then past it slightly to the left to adjust her shoe strap before dropping her hand backboard to the couch. This movement, with its momentary shifts are still in concert with Gregory's, who, after Doris' cigarette is lighted, forms a triangular movement in the air which terminates with the extinguishing of the match and its disposal in the ash tray. [This scene begins at (plus or minus ten frames) #12529 and is concluded by (plus or minus ten frames) #12784.]
Introduction

"The Cigarette Scene", an interactional sequence of some 18 seconds in duration, has remained a type site for linguistic-kinesic analysis throughout the decade following the original work on the Doris-Gregory films. Film-making techniques have improved, budgets have become sufficiently large to permit extensive recording on sound film of half hour and hour long sequences of conversation, interview and interaction, and, with Jacques Van Vlaak's development of the frame count B Roll, the correlation of the vocalic and the movement stream has become more precise. Other films have attracted our research interest, but this scene, in which Gregory and Doris contemporaneously discuss the merits of Doris' four year old son, Bruce and engage in a ritual dance-like lighting of Doris' cigarette, has remained a rich, only partially analysed corpus. The special cadence of this piece of interaction which Gregory (frames 12756-12786 and 12786-12826) terminates by a baton-like change of pace, marks the scene as critical and relevant to any final appraisal of the Gregory-Doris reciprocal. The seeming irrelevance of the body movement to the content exchanged by the participants and the glove-fit coherence of the rhythmic movements of the two participants to the instrumental act of cigarette lighting has made the scene useful for demonstration purposes. In our earlier

assessments, the dramatic quality of the interchange masked out the significance of other behavior in the performance. The parakinesic category, "Rhythmic-Dissyntonic", in the first appraisals, subsumed data, which as our analyses became more refined were to be analysable as stress kineses and suprasegmental kine morphemes. This present exercise attempts to bring the earlier research in line with some more recently developed techniques.

Kine to Kinesic

As reported elsewhere, the theory and methodology of kinesics has been consistently influenced by that of descriptive and structural linguistics. From the initial morphological discoveries, it has been clear that visible communicative behavior exhibited formal properties at least analogous to those describable for audible behavior. I have been fortunate to be in constant consultative contact with linguistic researchers and this contact shaped the research design and terminology constructed for kinesic research. At the same time, because of a deep appreciation of linguistic discipline and rigor, I have reacted against the fashionable and often careless preemption of the "end-c"-"emio" distinctions. Throughout kinesic research, every attempt has been made

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1. The Natural History of an Interview. (Ed. by Norman A. McQuown), in preparation, 1956. The research for this still unpublished report was initiated at the Center for the Behavioral Sciences, during the Summer of 1956. Gregory Bateson, Henry Brodin, Charles Hockett, Norman A. McQuown, Frieda Fromm-Reichmann and the author, selected ten minutes of sound-filmed interview taken earlier by Bateson for examination. Re-search of the scenes from this corpus given special attention has continued sporadically by McQuown and his students, Birdwhistell and his students and by Henry Brodin until the time of this writing (June, 1967).


to be cautious about the abstraction of isolatable elements of body motion (kines) into manipulable classes of allodines (kinemes). "Complementary distribution" is an idea of great methodological force for the linguist and has proved to be an efficient tool for phonologic analysis. Because of the multiple layering of body motion behavior, both in body part and temporal arrangement, the distributional qualities of units of kinemorphology are more difficult to assess in the empirical data.

At the present writing, a kineme is:

A) a class of allodines which can be demonstrated in kinemorphs to be substitutable.

B) If more than one alloklne is discovered to be present in the same structural neighborhood, the kine representing it may be, either:

a. a member of more than one kinic class
b. an insufficiently refined kine, or,
c. the morphology has been insufficiently analyzed and we are probably dealing with an intersection of levels in the behavioral stream.

The distinctions between kine and kineme, kinemorph and kinemorphene remain useful and efficient. However, these terms are heuristic devices. Until we become much more secure as to the morphology and syntactics of kinesics, (even for American English movers) our emic assignments must be registered as tentative. The history of phonological research is reassuring to the kinesthetcist timid about working models; tomorrow's research will validate the model or obliterate it.

Sight and Sound

The earliest work in kinesics attempted only the crudest correlation of body motion and speech behavior. I was yet to comprehend either the feasibility or necessity of sound film recording and was, in fact, resistant to the idea early suggested by McQuown (1951) that the future of kinesic-linguistic research as related to social processes depended upon intensive and parallel phonetic and macro-kinesic recording and analysis. As an anthropologist, I was attracted by grosser elements which I felt could be abstracted and organized by the careful scansion of the complex message stream. The isolation of these, I believed, would lead to the understanding of communication - for me then, as now, the dynamic structure which sustains order and creativity in social interaction.

The complex data which began to emerge as body motion research became involved in cross-cultural comparisons of human body motion and the encouragement of Henry Lee Smith Jr. and George L. Trager to study body motion as a structure with its own rules of order combined to force me to concentrate upon the visible and silenced behavior of human beings. Small stretches of films and access to a low motion projector by 1956 laid the groundwork for the analysis of the American kinesic system. As research proceeded, the presence of vocalization or auditor behavior was not ignored. However, it was recorded at the articulatory level as body motion behavior - not as speech behavior. Even the preliminary attempts to abstract this data, however, made it clear that beyond

the circum-oral activity involved in speech production, behavior appeared which seemed related to or was at least usually modified by the presence of vocalization. It was not until the Palo Alto group began its research conferences that the delineation of such behavior became relevant to kinesic research.

Out of these conferences, out of the co-research with Smith and Trager and out of the subsequent on-going research at Eastern Pennsylvania Psychiatric Institute and at its sister institution, Western Psychiatric Institute and Clinic some ideas which led to the isolation of a variety of circum-speech body behavioral abstractions. These abstractions cover behavior, characteristic of conversation, but which seem to have differing structural properties than those which could be traced for the phenomena assigned to kinesics proper.

In the Cigarette Scene the acts of lighting the cigarette, Gregory's manipulation of the match and Doris' adjustment of her shoe strap may be termed instrumental behavior. Moreover, the fact that Doris and Gregory are seated for an extended conversation is, at one level, instrumental. To say that an act is instrumental, however, does not define it, in itself, as without signal or message value. The performance of any act in the presence of others must be comprehended as having the stamp of individual and social practice. Yet, at this writing, acts such as walking, smoking, eating, knitting, woodworking, still must be filed as "instrumental" and/or "task oriented" until we know more about their communicative structure. However, as we can see from the analysis of the Scene below, the assignment of instrumentality to the larger frame of behavior must not preclude the examination of concurrent behavior whether such behavior is at first glance integral to or apparently trivial to the immediate task accomplishment. There is a temptation to see instrumental acts in a social situation as "carriers" of other messages. Yet there is an equal justification, from another point of view, of assigning priority to the communicational acts. At the moment, I am using the concept of alternating context. Either can be the context for the other.

There is a second type of customary behavior which resists kinesic analysis while having patterned form and discernable message value. Included in this category, the demonstratives, would be such acts as gestural mapping, the illustrative movements customary as accompaniments to female discussions of dress-making and design or of cosmetological arrangements of the hair. To the same category belong the demonstratives which accompany male discussions of fishing or cabinet making and which often accompany male discussions of sporting events. From the limited cross-cultural data available it is clear that demonstratives are conventionalized forms but they do not

7. The work of Harvey Sarles, Wm. Condon, Felix Leb and Joe, Charny at Western Psychiatric Institute and Clinic has been invaluable both as a check upon and as a creative incentive to the work here at Eastern Psychiatric Institute.

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8. The work of Marvin Harris is an approach to this problem. See, The Nature of Cultural Things, New York, 1964. See also the review by Duane Hettiger in the American Anthropologist, No. 67, 1965, pp. 1293....
appear to follow kinetic rules, at least among American movers. No definitive demonstratives appear in this particular scene. However, the limited tri- and directional sweep employed by Gregory as he extinguishes the match which is to be followed by the larger cigarette movement change the cadence of the scene may, as we get more comparative data, be both "instrumental" and "demonstrative." The act is clearly, at one level, instrumental. However, without supporting data, we cannot define the act itself as demonstrative — The change of cadence may very well be at times, in and of itself, demonstrative.

The durations of both instrumental behavior and demonstrative behavior are often longer than that of the accompanying syntactic sentences. This need not be so. For example, a speaker may circumscribe a shape in the air while describing an object and the air picture may coexist with the nominal clause. Comparably, an instrumental act, whether referred to in the content of accompanying speech or not may be completed within or beyond the stretches of the speech behavior.

There is a third type of body behavior which while still but crudely understood, should be mentioned here. This behavior is characteristic of all conversational and non-conversational interactional situations. Interactional behavior includes a variety of behaviors of part or whole bodies as they move toward, away from or maintain careful spacing among participants of an interactional scene. Hall has done pioneering work in the isolation of certain aspects of these phenomena in his work upon proxemics. Schefflin's analysis of the movement patterns in the psychiatric interview provides still another dimension to the understanding of body shifts as messageful. His study, related to Head and Bateson's earlier work of complementary, of mirroring and parallel movements of participants, indicates that there is a discoverable logic which marks segments of interaction. The work of Condon on "synchrony" and "disynchroney" in interaction is further suggestive of overall interpersonal movement patterns which promise, as analysis proceeds, to supply us with measures of interactional communicative signals. In the section of this volume (the Natural History of the Interview) on parakinesia, a number of behavioral categories are reported as of relevance to the examination of the interaction. Often, this behavior, which ranges from the presence of a rhythmic cadence to the interaction to an extent of disassociation in the behavior of the actors that they appear to be in isolation from one another.

12. Personal Communication with William Condon. His analysis of fine grained movement reveals very close coordination to be present in the fine movement of interactants in conversation.
seems almost to be a running comment to the participants about the interaction. Bateson's concept of "meta-communicational" is of relevance here. Perhaps the term "meta-interactional" would leave the function of such variations in behavior more open for further investigation. In the case of the Cigarette Scene, going beyond the data, provided by our corpus, Doris' activity might be interpreted as a demand upon Gregory for a relationship more interpersonally involved than he has seemed to engage in before. As hostess, she has provided beer. Her non-verbal request for Gregory to light her cigarette may be no more than an act to elicit a formalizing etiquette. At some level of analysis his act can be seen as the reciprocal of hers. The cadence of which we spoke above, which distinguishes this scene from the remainder of the twenty minutes, sustains itself until Gregory cuts the beat in half with the waved match and cigarette. This action is special and must ultimately be accounted for in any description of the interaction. However, the point being made here is that while Doris moves her hands and arms and shifts her body, and while Gregory moves his hands and body in a concert beat, other things are continuing to happen. The "dance" is no more exclusive than is her "shoe fixing"—interaction is multi-dimensional in time and structure.

To return to the data, Doris, while continuing to talk about her son, turns away from Gregory, "reaches" for a glass which she does not take, drops the heel of her shoe away from foot and then adjusts the strap and lets her hand fall away from the shoe before it swings back to touch the table again. Meanwhile she has "closed" her body, moving her torso closer to her legs as she talks about "all mothers think their kids are smart"... Her hand touches the table on "but". She then turns back to Gregory and focusses upon him as she says, "I have no worries about that child's intellectual ability" while shaking her head with animation. Here again, is a "layer" of behavior which cannot be accounted for either in strictly kinesic structure or in either of the categories laid out above. The quality of the film makes it impossible for us to confirm the impression that as she talks, the tonus of her face changes. Nor can we determine whether the tight mouth-limited smile with which the scene began taken together with the tonus shift forms a cross-referencing signal that calls attention to the signal value of the complexity of her utterance. These phenomena which are recorded as parakinesic are detectable when we contrast these scenes with others in the larger film. However, "interpretation" of these would require more data than is supplied by all of the film and tape at our disposal.

Since the stretch which we are examining contains no clear examples of kinesic markers, these movements, which seen to be tied to particular semologic forms require no discussion here. Suffice it to say that these movements, reported elsewhere,14 customarily but irregularly appear in

13. See also, Birdwhistell (1961), Ibid.
utterance situations in conjunction with ambiguous pronouns, in situations where the lexeme is ambiguous about tense, position, possession and plurality, and in situations where adverbial clauses appear to require reinforcement or modification. The fact that these are lacking or submerged within other phenomena in this stretch may or may not be of significance. The string upon which we will concentrate in this discussion is Doris's "I suppose all mothers think their kids are smart but I have no worries about that child's intellectual ability". When compared to comparable strings within the larger corpus, there is a kind of stereotypy here to her speech behavior. It is impossible from the available data to determine whether this stereotypy arises from the fact that she has used this sentence before in her dealings with the outside world, whether her words are somehow fillers for a critical relationship shift, or, whether what we hear is not stereotypy at all but what Fromm-Reichmann once described in conference as the "voice of despair." At any rate, regardless of our rationalizations, the absence of discernible markers is worthy of note and may become of significance as we come to know more about the codes of interaction.

The Problem

In this exercise our focus is upon what Doris says in this situation. It is not our present problem to determine what she means. At the same time, operating upon the assumption that description approaches explanation as it deals with a greater proportion of the available data, it should be profitable to more adequately describe our corpus. Charles Hockett originally transcribed the phonetic transcription, but this is a duplication. You may have glossies if and when you need them. - RIB.

Phonetic transcription omitted. Circled numbers are numbers assigned 1956. Open numbers are from edge reading of sound film 1967.
I have no worries about that child's intellectual ability.

* OVERLOUD, (Trager)

* FADING, (Hockett)
this string and his transcription was modified but slightly by an independent analysis by Norman McKeown. Trager-Saith conventions are used here, although modified slightly for Hockett's purposes.

Chart Ia.

Chart Ib.

Chart Ic.

In an attempt to get some kind of perspective upon the lexical aspect of this piece, twelve women of comparable age and social class background to that of Doris were given a typescript in standard English orthography and asked to comment upon it. All except one commented that this was standard "woman talk", with a preliminary apology followed by a proud statement about the child, unusual only in the presence of the "but" rather than the expected "and". The one exception to the "woman talk" generalization came from an informant who said, "It's a sentence to hide the 'but'. She is very concerned about her child." The general attitude of these informants about the "but" was consistent with the appraisal of the psychiatrists, Henry Brosin and Freda Fromm-Reichmann, who saw the central lexical signal of the sentence in the conjunction. (It is worthy of note that four of a control group of six women, when showed this sentence among five other sentences and asked to recall them five minutes later, wrote this sentence as "I suppose (one case "guess") all women think their kids are smart (two cases, "bright") and I have no worries (one case "I'm not worried") about that child's (three cases, "my child's") intellectual ability.")

Careful review of the linguistic evidence (see Chart Ia,b,c) provides the following discussion. Doris's customary discourse pattern contains long strings of secondary stress. Moreover, the tertiary on "I" at the start of the string is not unusual. What is more unusual are the two double cross junctures within such a short string. Doris customarily has very long strings without terminal junctures. This is a phenomenon common in psychiatric interviews (this is not ostensibly such an interview) and has been interpreted as a device to avoid interruption or interpretation. The segregates here again are not unusual in her speech patterning. The paralinguistic rasp over "think their kids are smart" is consistent with other portions of the larger protocol.
The drawl over "are smart but I have no worries about that child's" is not, in the fact that it conveys portions of two syntactic sentences, a common device for her. If we were trying to assess her meanings, the use of drawl here would deserve further comparative attention. Studies of silence remain preliminary among linguists. "Hesitations" and "pauses" have been remarked upon by a number of students as worthy of study but even when statistically appraised, we still know relatively little about the conventional use of the device. However, in the case of Doris, the roughly one quarter of a second between "worries" and "about" and between "child's" and "intellectual" seem worthy of note, particularly if we are in pursuit (consciously or out-of-awareness) of some kind of evidence that the utterance implies that she does have worries and among those worries, some about her child. Even though we are not here preoccupied with meaning, it is always with us and an increase in our data might amplify our understanding of the situation. Let us see how this sentence is marked kinematically.

**Kinetic Junctures**

From the beginning of the systematic investigation of American movement patterns it was evident that we were not dealing with a set of isolated and disconnected gestural forms. The discovery of kinetic junctures in the behavior of American (U.S. and American English speaking Canadians) movers laid the groundwork for structural kinesics. Not only were movement segments tied together morphologically, but longer segments and complex forms were joined or separated by junctural conventions. The fact that streams of body behavior were segmented and connected by demonstrable behavioral shifts analogous to double cross, double bar and single bar junctures in the speech stream enhanced the research upon kinesmorphology and freed kinesics from the atomistic amorph of earlier studies dominated by "gestures" and "sign" language. Moreover, when we attempted to study interactional situations, by means of context analysis, the need for rigor demanded markers to give us some way of explicitly breaking the behavioral stream, of segmenting out sections for special comparative attention. The fact that the kinetic markers, while at times coextant with the linguistic markers, often gave us a very different shape contributed to our assessment of data that did not seem to fit within linguistic terminal junctures. This became particularly evident when the major body shift which I termed the kinetic triple cross juncture served to relate and segment much longer stretches of conversational behavior. While not entirely accurate, we have come to see the behavioral stretch marked by kinetic triple cross junctures as comparable to paragraphing or stanzaing in writing. We have not attempted the systematic research necessary to relate this juncture to content but, as of this writing, the best statement possible is that it is often but not always related to shifts in content or to shifts in relationship patterning. Only further research will permit security as to whether such phenomena as these are separate, interdependent or in free distribution.

During the past several years, research upon complex strings of speech taken from conversation and compared with the production of simple and complex statistical formulae, has provided us with two other junctural forms. The first of these, the “tie” juncture, has been detected only in conjunction with spoken nominal constructions and will be demonstrated, p. below. The second, the “hold” juncture, occurs regularly in conjunction with complex strings of discourse and apparently has a discretely semologic function. The hold juncture, involving a particular body part which holds a position while other parts continue to perform other functions, connects included and apparently intrusive variation in content, maintains the coherence of complex themes and bridges apparently trivial discursive excursions.

These six kinesic junctures are working tools. The primitive state of kinesic research does not permit us at the moment to either see them as structurally equivalent or as of more than one level of activity. My hunch is that the single bar and the tie juncture will turn out to be at a different level than are the double cross, the double bar, the triple cross and the hold. However, this may be a result of the types of data I have been analysing rather than a matter of structure.


<table>
<thead>
<tr>
<th>Symbol</th>
<th>Term</th>
<th>Gross Behavioral Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>K #</td>
<td>Double-cross</td>
<td>Inferior movement of body part followed by “pause.” Terminates structural string.</td>
</tr>
<tr>
<td>K //</td>
<td>Double-bar</td>
<td>Superior movement of body part followed by “pause.” Terminates structural strings. Homomorph in initial and medial or parallel positions may be a kinesome which permits a terminal K( in terminal position. We have no data which illustrates coexistence of a terminal K// in conjunction with a complex kinesomeric construction containing K// in other positions.</td>
</tr>
<tr>
<td>K ###</td>
<td>Triple cross</td>
<td>Major shift in body activity (relative to customary performance). Normally terminates strings marked by two or more K#s or K//. However in certain instances K### may mark termination of a single item kinesic construction. E.g., in auditor responses, may exclude further discussion or initiate subject or activity change.</td>
</tr>
<tr>
<td>K -</td>
<td>Hold</td>
<td>A portion of the body actively involved in construction performance projects an arrested position while other junctural activity continues in other body areas.</td>
</tr>
<tr>
<td>K /</td>
<td>Single Bar</td>
<td>Projected held position, followed by “pause”. Considerable idiosyncratic variation in performance; “pause” may be anacritic lag in shift from body part to body part in kinesomorphic presentation or may involve full stop and hold of entire body projection activity.</td>
</tr>
<tr>
<td>K •</td>
<td>Tie</td>
<td>A continuation of movement, thus far isolated only in displacement of primary stress discussed below.</td>
</tr>
</tbody>
</table>

Tentative Kinemes of Juncture
The Stress Kinemes

Three of the junctural kinemes were isolated prior to the initiation of serious research and analysis designed to integrate kinesio and linguistic data. K\#, K// and, although not given separate status, K\# were easily detectable as operative forms in complex kinemorphic constructions. Only as linguistic-kinesic analysis proceeded, however, did K/, K=» and K« emerge in that order from the behavioral stream. From this time on work proceeded, in a sense, in two directions. Micro-analysis permitted the abstraction of the kinic stream from articulatory description to the point that complex kinemorphs could be abstracted. Fortunately, early hunches that shifts in body part or in intensity or breadth of movement marked movement from kinetic to kinemorph held up in sufficiently large number of cases that as the "terminal" junctures were isolated, their function in relationship to strings of kinemorphs could be postulated and a primitive syntax could be derived to permit the investigation of bounded sequences of behavior. This proved immediately productive.

The Cigarette Scene as a unit for study was originally chosen because of the unique interactive cigarette lighting. While the film was being changed Doris had reported to Gregory that a psychologist had examined her son and felt that he did not need any special attention. The sound made by the camera starting seemed to trigger Doris and she makes a major body shift which is recorded as a kinesio triple cross. The termination of the scene is marked by Gregory's body shift and match lid closing which follows directly upon his triangular cigarette wave. The cameraman shifts his focus and we are precluded from determining whether Doris acquiesces to his juncture. The fact that after a 34 frame duration of silence, she places her hand firmly on the table as she shifts indicates that she has. It is worthy of comment that even after this major shift they continue to discuss the little boy's personality.

Doris' string, with which we are concerned here, is marked:

K\# K// K=» K«

// I suppose all mothers think their kids are smart but I have no worries about K\#

that child's intellectual ability // (See Chart 2 a, b and c below for correlation with linguistic transcription.)

The kinesio single bar, noted in the phonential gap between "worries" and "about", is questioned because while her head activity is the only part in manifest movement, "in its activity, meets the minimal articulatory requirement for held part. However, there is no manifest (in relationship to her ongoing movement pattern) stop in that activity. Analysis of the film does not lead me to see the presence of the morpheme of "dead pan", nor can I find any evidence of "destressed", discussed below under the stress kinemes. The "hesitation" in the head sweeps is assigned single bar status, but I hold little confidence in the assignment. It may be simply that kinesies like linguistics must learn how to deal with cessations of activity which are not codeable by any prevalent classification system. The K=» is manifest, her very active torso holds over the remaining stretch. I suspect that it is the K=» which gives the impression of the presence of a K/.
linguistic or kinesio transcriptions, to dispense with the most microscopic recording achievable within the state of the art. We felt that it would be more profitable in the long run to do shorter stretches in an intense fashion than to do longer stretches of macro-recording. In the annotated transcript which accompanies the Natural History of An Interview, the reader will find that the kinesic "macro" is often crude and arbitrary. Unlike linguistics with its background of research, kinesics had no canons which would regulate the size and relevance of shapes which we termed "macro." On the other hand, the past ten years have given me little reason to vary my decision that micro-analysis is, for our purposes, sufficiently fine-grained, if every third frame of a movie taken at 24 frames a second is recorded. As the years have passed, the micro line has continued to supply data to and confirm hypotheses made about conclusions derived at much higher levels of analysis.

Data has a way of hiding in a corpus and has in itself little power of resistance to false, over-fine or over-gross retrieval techniques. In the case of the behaviors that were to become the kinesic stress phonemes, two factors served to obscure them. The first of these factors came from an all-too-available waste basket called "speech effort" into which I threw the non-kinemorphic activity which occurred between the isolated junctures. Naively and innocently influenced by the fact that these activities were roughly

17. The elegant work of Condon, Sarles, Lobly, Charmy, et al., to my mind constitutes a partial affirmation of this position. Moreover, there seems every reason to believe from their reported data that an articulatory kinesics is developing which will ease the macro-recording of exotic movement systems.

and //last name// either has a secondary plus unstressed, two secondaries, or two unstressed: thus, //John's last name// or //John's last name// or //John's last name//. The stressing is reversed if "name" not "John" is being emphasized. Thus //John's last name// or //John's last name// or //John's last name//. The third stress of "unstressed" was derived following the isolation of "destressed", the fourth stress which is a reduction of stress below the norm of the produced string. In the filmed corpus was discovered: //What is Johns you know Bills friends last name//. The string takes on more form when the kinesic junctures are added: //What is Johns you know Bills friends last name//.

Although several thousands of exercises have been run from sound filmed data, it is still not possible to establish a rule which states an absolute relationship between these kinesic stresses and junctures and the linguistic stress and intonation patterns (by the Smith-Trager conventions) which accompany them. In general, a primary kinesic stress tends to coincide with the primary linguistic stress. Yet, in more than twenty per cent of the cases it does not. Perusal of the data indicates that the highest point of loudness and pitch, when these points coincide, is usually marked by a kinesic primary. However, this does not always occur. A long string of linguistic secondary stresses or a long string of phonation at a pitch 2 level is usually marked by destressed, but not always. In nominal phrases which are often marked by kinesic secondary-primary or kinesic primary-secondary or...
is no suggestion that the "choice" made by the conversant is not of consequence
to the interaction. We are postulating an interdependence of linguistic and
kinetic structure, not a final equivalence of semological or interactional
function. In the discussion to follow, it will be seen that structural distinc-
tions are made in the abstracted speech stream which do not appear in the
abstracted movement stream and vice versa. At one level of analysis it is
possible to say that the kinetic suprasegmental activity is functioning to
make distinctions that might have been made by the linguistic suprasegmentals,
and that we could not have been aware of these distinctions if we examined only
the audible aspects of the activity stream. It is furthermore possible to
say that these same (at this level of analysis) distinctions could have been
made in the linguistic stream without an alternation in the structural activity
in the kinetic stream. All that we are saying is that unless we analyse both
the linguistic and kinetic streams we have no way of knowing what distinctions
have been made by the conversant.

There is a temptation to say that when one channel carries a
distinction which is not made by the other, the fuller channel carries the
"real" meaning. This implies that a given performance has a particular mean-
ing. Under no circumstances must the reader be misled by the heuristically
limited corpus which we are examining in this exercise. From the examination
of extensive sound filmed interactional sequences, I have every reason to posit
the proposition that in human experience there are at all observational times
many streams of meaning in process. The particular section of the stream we
analyse is always a partial and only as we come to comprehend the larger
rules of communicational structure will we be able to determine the relevant
meanings in particular sequences. In short, it is my hope that as we gain
more complete control of the various forms of both linguistics and kinetics,
we shall be able to examine limited sequences with an increased control over
the data we ignore when we limit our corpus. In my opinion, a great propor-
tion of the arguments popular in linguistics today about "grammar", syntax
and meaning are viable only because of the limited universe which is under
scrutiny.
kinesic tertiary-primary, the kinesic stress may be consistent with or differ from the linguistic stresses. To summarize, while statistically, kinesic stress patterning tends to be consistent with linguistic stress patterning, this is not invariable. I assume that further research at the semologic level and greater refinement of research with relationship to both linguistic and kinesic stress patterning will provide more perspective upon these phenomena. I am attracted by a conception of communicative structure which would include the possibility that, at least for American English, kinesic and linguistic suprasegmentals may be in free variation. However, I would hasten to say that the burden of proof for such a proposition would at the present state of knowledge rest upon me.

The kinemes of stress combine to form a set of suprasegmental kinemorphemes which have tested out in studies of complex sentences and statistical formulae. These are:

<table>
<thead>
<tr>
<th>Stress Kinemes</th>
<th>Suprasegmental Kinemorphemes</th>
</tr>
</thead>
<tbody>
<tr>
<td>/V/</td>
<td>k</td>
</tr>
<tr>
<td>/AV/ or /&lt;&gt;/ or /—/</td>
<td>k</td>
</tr>
<tr>
<td>/V/- or /V/ or /—/</td>
<td>k</td>
</tr>
<tr>
<td>/vV/ or /vKv/ or /V/</td>
<td>k</td>
</tr>
<tr>
<td>/kklk/ or /kkl/ or /—/</td>
<td>k</td>
</tr>
<tr>
<td>/v/</td>
<td>k</td>
</tr>
<tr>
<td>/voo/</td>
<td>k</td>
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<td>/v/</td>
<td>k</td>
</tr>
<tr>
<td>/voo/</td>
<td>k</td>
</tr>
</tbody>
</table>

*/VV/ and /—O—/ may as research develops turn out to be at a higher level of structure. The fact that the form crosses terminal junctures may or may not require such placement.
I have no worries about that child's intellectual ability.
Charts 2a, 2b and 2c, below, will demonstrate the kinetic, the kinematic and the kinemorphemic levels of analysis of Doris' circum-lexical stress behavior. The structural balance of this selected segment is immediately obvious. The /K/ is the added factor in the latter section of the utterance. However, ignoring this, if the suspected /K/ is added, our type becomes:

\[ /\sim/\sim/^\#\sim/\sim/^\# /. \]  

This balance could be related to the cadence in which Gregory and Doris are moving in their interactional dance. On the other hand, this may be a stylistic factor related to the production of a stereotypical utterance. At this stage of kinetic and communicational research, however, such statements remain little more than conjecture. (One of my assistants who was proofing this paper points out that the sentence above, when spoken aloud, has the same quality of balance in its accompanying supra-segmental structure.)

---

K_1

K_2

K_3

I suppose all mothers think their kids are smart but

K_1 KINEMORPHIC  
K_2 KINEMIC  
K_3 KINIC

---

Ic***  
fn** <  
Vsg*?m  
Int 3 2 3 2 3  
StrJ ∧ ∧ ∧ ∧ ∧ ∧ ∧  
Sgm ay + spoz + ohl + mēd ørz + eink + øer + kidz ør + smart bat:

---

Phonetic transcription omitted. Circled numbers are numbers assigned 1956. Open numbers are from edge reading of sound film 1967.
I have no worries about that child's intellectual ability.

*OVERLOUD, (Trager)

*FADING, (Hockett)
A final task remains for this exercise. In Charts 3a, 3b and 3c, the linguistic and kinesic materials are assembled for comparison.

Chart 3a.

Chart 3b.

Chart 3c.

A linear examination of the charts points up a series of items for special examination:

1. The movement of the kinesic stress from its expectable position, either ever /mother's/ or over/ all/ as in // all mothers // or // all mothers,, gives us a form // all mothers // as in // hot dog// which contrasts with // hot dog// and // hot dog //.

2. The form // their kids // in the string is specially marked by the kinesic primary-secondary form.

3. Neither of these distinctions appear to be marked either in linguistic stress or intonation.

4. The kinesic single bar between /mothers/ and / kids/ is unmarked in the linguistic stream.

5. The linguistic stress and intonation appearing over /smart/ is absent in the kinesic line but may be subsumed under the kinesic/ i/.

6. The kinesic primary stress, over / but /, bounded by kinesic double cross junctures, in emphasis seems comparable to but not identical with the rather complicated linguistic situation in which /but/ is not especially denoted in either pitch or stress but is followed by a "pause" and glottal stop, and is the nental point for the paralinguistics. / but/ is included within the rasp, which marks// think their kids are smart but/I have no worries about that child//, and is, at the same time, within the drawl which covers // but I have no worries about that child//. It is furthermore excluded from the overload which extends over //I have no worries about that child//.

7. The initial / I/ is kinesically unmarked while being at pitch 3. This may be a function of the cigarette lighting which makes either a kinesic stress or a pronominal marker. The second / I / is marked with a kinesic secondary (perhaps flavored by a pronominal marker) while she speaks with tertiary stress over / I //.

8. The intonation pattern of 3 - 1 - 2, as marked by Hockett, over / no worries/ has some parallel in the primary kinesic stress over/worries/. 
I think that the kinesic stress pattern of secondary-primary or primary-secondary that might have been expected in this construction may have been absorbed in the kinemorphic construction of "head-shaking" which extends over //I have no worries about that child's/.

9. The kinesic primary stress which is pulled to a point between /child's/ and /intellectual/ to give us a form parallel to /all mothers/ is of special interest. More statistically normal forms would have been either /that child's intellectual ability/ or /that child's intellectual ability/ or /that child's intellectual ability/. The /~// recorded for the last form indicating a continuation of movement which seems to cross kinesic junctures, either of single bar or double cross. The linguistic pause, marked by Hockett, may be of consequence in the case. The segregates and the termination of the overloud and drawl are also to be noted here.

Summary

The nine points listed above are sufficient to illustrate some of the complexities which confront the linguist, the kinesiologist or the communication analyst who would attempt an assessment of the relationship between kinesic and linguistic phenomena at this level of analysis. This limited segment, containing two syntactic sentences, represents an abstracted corpus which is short enough to be subjected to intense analysis but does not seem to contain sufficient information to settle many of the questions which come to mind. One general point may be made from these data. Any discourse analysis, conversational analysis, communicational analysis or interactional analysis which would attend to but one modality - lexical, linguistic or kinesic - must suffer from (or, at least, be responsible for) the assumption that the other modalities maintain a steady or non-influential state.
Bibliographic Citations of Clinical Samples of Nonverbal Behavior
by
Henry W. Brosin, M.D.

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Because of Freud's direct and indirect influence upon many students of behavior, and since Freud-inspired publications from various disciplines in increasing numbers it seems worthwhile to outline those aspects of Freudian practice which bear upon our theme. As a physician trained in a good school, Freud's early case histories show an admirable wealth of pungent detail about his patients which make these cases exciting reading even after many years of repetition. Time does not permit our listing all of his shrewd comments about the non-lexical behavior which is imbedded in the fabric of the recital of the early cases. Freud's early descriptions were full and rich, with ample visual material, and therefore useful examples of linguistic-kinesic activity are plentiful. As mentioned earlier, Darwin (1872, 1877) deserves full credit for his extraordinary mastery of the potential methods by which human communication, human development, and ethology as the science of the biology of behavior (K. Lorenz) could be studied, and these have been lauded by M. Mead (1955), K. Lorenz (1955) and G.F. Mahl (1966). Mahl (1966) itemizes six ideas of Darwin relevant to our purposes and then credits Freud with adding the concepts associated with the idea that repressed wishes, thoughts, emotions and memories were often expressed in action instead of in thought. That Freud was well acquainted with Darwin's EXPRESSION OF EMOTIONS IN MAN AND ANIMALS (1872) is shown in two explicit references to this work in STUDIES ON Hysteria (1893–95) in the cases of Frau Emmy von N. (p. 91) and Fraulein Elizabeth von R. (p. 181 of Vol. II of the Standard Edition). In the first example, Freud refers to human equivalents of Darwin's "principle of the overflow of excitation", and in the second states: "as Darwin taught us, this event consists of actions which originally had a meaning and served a purpose. .....Indeed, it is perhaps wrong to say hysteria creates these sensations by symbolization. It may be that it does not take linguistic usage as its model at all, but that both hysteria and linguistic usage alike draw their material from a common source."

To the next published work by Freud in this area is THE PSYCHOPATHOLOGY OF EVERYDAY LIFE (1901) which can be used as a textbook for clinicians who want to sharpen their skills in observation and interpretation. Chapter Nine
on Symptomatic and Chance Actions explains why "symptomatic acts" seems to be a better name than "chance actions" for those acts which "give expression to something which the agent himself does not expect in them, and which he does not as a rule intend to impart to other people but to keep to himself". (p. 191) The same term, "symptomatic act" was chosen by the authors to designate an event or significant sequence of behavior which was examined in this study. (See Chapter 6 and 7)

Freud continues his exposition in this monograph with several useful descriptions. "....there is sense and purpose behind the minor functional disturbances in the daily life of healthy people" (p. 162 of The Standard Edition)

"The actions described so far (Chapter VIII), in which we recognized the carrying out of an unconscious intention, made their appearance in the form of disturbances of other intended actions and concealed themselves behind the pretext of clumsiness. The 'chance' actions merely in the fact that they scorn the support of a conscious intention and are therefore in no need of a pretext. They appear on their own account, and are permitted because they are not suspected of having any aim or intention. We perform them 'without thinking there is anything in them', 'quite accidentally', 'just to have something to do'; and such information, it is expected, will put an end to any enquiry into the significance of the action. In order to be able to enjoy this privileged position, these actions, which no longer put forward the excuse of clumsiness, have to fulfill certain conditions:^ they must be unobtrusive and their effects must be slight.

"I have collected a large number of such chance actions from myself and from others, and after closely examining the different examples

I have come to the conclusion that the name of symptomatic acts is a better one for them. They give expression to something which he does not as a rule intend to impart to other people but to keep to himself. Thus, exactly like all the other phenomena which we have so far considered, they play the part of symptoms.

"The richest supply of such chance or symptomatic acts is in fact to be obtained during the psycho-analytic treatment of neurotics. I cannot resist quoting two examples from this source which show how extensively and in what detail these insignificant occurrences are determined by unconscious thoughts. The borderline between symptomatic acts and bungled actions is so ill-defined that I might equally well have included these examples in the last chapter."

In Freud's major case histories we find more examples of his case of slips of the tongue and other symptomatic acts which are breaks in patterned behavior, often called paraphasia, which together with the examination of free associations, and the interpretation of dreams, which he specifically states are the three technical devices of particular use in psychoanalysis (Freud, 1910, pp. 29-39). The first published major case history in 1905, familiarly known as Dora, was actually written in 1900, at approximately the same time Freud was writing the PSYCHOPATHOLOGY OF EVERYDAY LIFE (1901).

He did not avoid interpretations of Dora's hemicranial headaches, coughing spells, periodic aphonia, chronic dyspnea with phasic exacerbation, depression, fatigue, lack of concentration, any more than he did the more obvious trans-actional symptoms such as withdrawal from social affairs, hostility toward...
both parents, an acute attack of loss of consciousness followed by amnesia after a quarrel with her father (Freud, 1905). Unfortunately, this level of description was not sustained by most psychoanalysts, with a few notable exceptions, in subsequent clinical reporting.

It is also worth noting that in this same essay (1905) Freud anticipates the development of fuller presentation and boldly states the duty of every physician to publish what he knows that may be of use to others. In the same vein he discusses the need for his overcoming the technical barriers to publication. He discusses the obligation to protect the patient from publicity and the need for accurate reporting. Clearly he recognizes the relationship between the clinical situation and the task of the objective reporter.

Dora’s play with a reticule, a small woman’s drawstring bag used as a pocketbook or carry-all, worn at her waist, has become as famous as the wedding ring play in other case histories.

“There are two sorts of conscious attitudes possible towards these symptomatic acts. If we can ascribe inconspicuous motives to them we recognize their existence; but if no such pretext can be found for conscious use we usually fail altogether to notice that we have performed them. Dora found no difficulty in producing a motive: ‘Why should I not wear a reticule like this, as it is now the fashion to do?’ But a justification of this kind does not dismiss the possibility of the act in question having an unconscious origin. Though on the other hand the existence of such an origin and the meaning attributed to the act cannot be conclusively established. We must content ourselves with recording the fact that such a meaning fits in quite extraordinarily well with the situation as a whole and with the programme laid down by the unconscious.

“On some other occasion I will publish a collection of these symptomatic acts as they are to be observed in the healthy and in neurotics. They are sometimes very easy to interpret. Dora’s reticule, which came apart at the top in the usual way, was nothing but a representation of the genitals, and her playing with it, her opening it and putting her finger in it, was an entirely unremarked yet unmistakable pantomimic announcement of what she would like to do with them—namely, to masturbate. A very entertaining episode of a similar kind occurred to me a short time ago. In the middle of a session the patient—a lady who was no longer young—brought out a small ivory box, ostensibly in order to refresh herself with a sweet. She made some efforts to open it, and then handed it to me so that I might convince myself how hard it was to open. I expressed my suspicion that the box must mean something special, for this was the very first time I had seen it, although its owner had been coming to me for more than a year. To this the lady eagerly replied: ‘I always have this box about me; I take it with me wherever I go.’ She did not calm down until I had pointed out to her with a laugh how well her words were adapted to quite another meaning. The box—like the reticule and the jewel-case, was once again only a substitute for the shell of Venus, for the female genitals.

“There is a great deal of symbolism of this kind in life, but as a rule we pass it by without heeding it. When I set myself the task of bringing to light what human beings keep hidden within them, not by the compelling power of hypnosis, but by observing what they say and what they show, I thought the task was a harder one than it really is. He that has eyes to see and ears to hear may convince himself that no mortal can keep a secret. If his lips are silent, he chatters with his finger-tips; betrayal oozes out of him at every pore. And thus the task of making conscious the most hidden recesses of the mind is one which it is quite possible to accomplish.”

The case known as “Little Hans” was written by Freud (1909) about a boy whose father was his therapist, and, as such also wrote the clinical notes.

There are several well known symptomatic acts described such as little Hans hitting his father’s hand and then kissing it (p. 42), biting his father’s hand as identification (p. 52), biting father’s hand as assent (p. 125), and the
symbolic play with the rubber doll Grete (p. 84).

The case history of the "Rat Man", which was also published in 1909, has numerous symptomatic acts congruent with his obsessional neurotic processes which illustrate his ambivalence and indecision.

The case of the "Wolf Man", published in 1918, has examples of symptomatic acts, many occurring during the transference.

Symptomatic acts are mentioned in a number of the theoretical papers with a summary in the essay THE UNCONSCIOUS (1915, p. 179) of which Freud himself was proud. In discussing the "return of the repressed" he postulates direct expression of affect in "secretory or motor discharge resulting in an (internal) alteration of the subject's own body without reference to the external world; motility, in actions designed to effect changes in the external world". (p. 178) Freud also postulates indirect expression of affect through "a substitutive idea in the system C's". (p. 179) Thus, three routes are open depending upon circumstances. The appearance of symptomatic acts in the transference involves numerous mechanisms of defense (sublimation, denial, projection, introjection, repression, reaction formation, undoing, isolation, regression; blocking, postponement, displacement of affects; affect equivalents ("Schreber's somatic 'basic language' (Freud, 1911) consists of affects reduced to body sensations" (Fenichel, 1945, p. 163); reaction formations against affects, et al, and defenses against guilt feelings. (Fenichel, 1945). Obviously our hidden memories and deeply buried feelings can seek and find an infinite variety of external manifestations through this maze of potential transformations, particularly if we recall the quantitative and qualitative variations. Fortunately, we can recognize many of the more common patterns, but we will undoubtedly learn to recognize a myriad new forms (gestalts) as we learn how to look and see at both smaller units which occur within seconds or minutes, and those larger ones which require hours, days and months to unfold. It is one of the rewards of the close grained natural history methods of observation that the clinician as well as the experimentalist learns to "see" events with much greater understanding. We will now cite examples from a few of Freud's pupils who can help us with insights. The writings of Ferenczi and Reich are required reading for the clinician in this area, even though the interpretations of the latter may differ widely from those authors from another culture.
II. Ferenczi and Groddeck

Ferenczi, while not devoting himself systematically to an analysis of body motion, had many insights into such activity worth noting. In 1911, for example he wrote:

"Another neurotic symptom, which may be observed much more frequently, is exaggerated calm and grave precision in the carrying out of every action, of every movement, shown also in the whole attitude and in the dread of all hurry and haste. It is usually accompanied with pronounced antipathy against those people who "let themselves go" easily, who are immoderate, hasty, lively, unthinking and frivolous. One might here speak of a phobia of movement. This symptom is a reaction-formation against a strong, but suppressed, motor tendency to aggression."

(Ferenczi, S., 1950, p. 148-149) Published in the Zentral F. Psychoanalyse, Jahrg. 1, 1911.

Another concept which is useful in therapeutic interpretation is that in which the analyst senses the equivalence between words, even those with a minimal lexical message, and some motor activity.

"These interjections that issue in vehement anger, which are often softened down to jokes also, do not all belong, as Kleinpaul rightly insists, to conceptual speech; they do not serve the needs of conscious communication, but represent reactions to a stimulus which are nearly related to gestures. It is none the less remarkable, however, that a violent affect is only with considerable difficulty saved from discharging itself along a motor path and is turned into an oath; the affect involuntarily makes use of the obscene words that are best suited to the purpose from the strength of their affect and their motor force." (ibid., pp. 151-152.)

The logical extension of this concept to many types of motor activity was experienced by the authors repeatedly while analyzing the films of our case.

Ferenczi then goes on to discuss a query which was prominent in our considerations as we examined our interview materials, namely, what types of vocal and body motion activity included, in context, indices of regressive behavior.

"An important support for my supposition that obscene words remain 'infantile' as the result of inhibited development, and on this account have an abnormal and regressive character, would be the ethnographic confirmation. Unfortunately I have not sufficient experience on this point. What I know of the life of the lower classes, and especially of the gypsies, seems to indicate that among uncultivated people obscene words are perhaps more markedly invested with pleasure, and do not differ so essentially from the rest of the vocabulary, as compared with the state of affairs among the cultivated." (ibid., p. 153)

That psychotic posturing is clinically intelligible is well known, but Ferenczi cites two cases which illustrate early insights: (1) his case of the man who lifted his leg in order to think and (2) the following:

"A paraphrenic who had an uncommonly keen capacity for self-observation spontaneously explained to me that with all his curious catatonic postures and movements he was seeking to defend himself from erotic sensations in the various parts of the body concerned. The extreme bowing forwards of the body that he kept up for minutes at a time served, for instance, 'to break the erection of the intestine.'" (Ferenczi, 1916, 1950, p. 295)
Another analyst, Georg Groddeck, in THE BOOK OF THE IT (1923 and 1950) gives a number of hints about the value of body motions as indices to unconscious activities. All of us learn in early life, in art studies, and in analysis, that we are trained not to see much that is obvious in people around us. This simple fact is forcibly and repeatedly demonstrated when one views a two or three minute scene between two or three people for the twentieth or even for the fiftieth time. Suddenly new observations, associations and insights are available and we are able to see a commonplace interview or exchange with a fresh eye. Here is Groddeck's comment:

"And then it has sometimes happened on my walks that I have seen a peasant standing behind his plough, indulging himself in solitude and without shame; this also one can see with country wenches, if one has not been made blind and kept blind by the prohibition enforced in childhood. Under certain conditions such a prohibition operates for years, perhaps for a whole lifetime, and it is sometimes amusing to note everything that men miss seeing because Mama forbade it. But you need not go first to peasants: your own memories will tell you enough. Or does masturbation lose its shamefulness because it is the beloved, the husband, who plays in those charming places? It is quite unnecessary to consider the thousand possibilities of hidden guiltless masturbation, of riding, swinging, dancing, retaining the stools; caresses whose deepest intention is masturbation, are also fairly common!" (ibid., p. 50)

Later, he explains the symbolism of the wedding ring, and possible significances in its manipulation.

"This parallel between ring and female, finger and male organ, is no casual invention, but is imposed by the It, and anyone can prove this at any time both for himself and for others if he watches how people play with a ring on the finger. Under the influence of certain emotions, easy to guess but as a rule not fully conscious, this game begins; up and down the ring is pulled, now twisted, now turned. The course of the conversation, the hearing or the utterance of particular words, a glance at a picture, at people or at objects, any and every possible sense impression may give rise to activities which at the same time expose to us the secret story of the soul, and also prove beyond doubt that the man does not know what he is doing, that something unknown compels him to reveal himself in symbols, and this symbolism does not arise from conscious thought, but from the unrecognized activity of the It. For who, consciously, under the eyes of another, would perform movements which betray sexual excitation, or which open to public view the secret, ever-hidden act of masturbation? And yet even those to whom the meaning of the symbol is clear, go on playing with the ring; they cannot help but do it. Symbols are not invented, they are there, and belong to the inalienable estate of man; indeed, one might say that all conscious thought and action are the unavoidable consequence of unconscious symbolization, that mankind is animated by the symbol." (ibid., p. 58)

III W. Reich

Another major psychoanalytic contribution to the understanding of body motion is the first edition of Wilhelm Reich's (1933) well-known book CHARACTER ANALYSIS. The third edition, now currently available, has additions in Part III which are about "orgone biophysics" and have nothing to do with psychoanalysis. Reich made clear that analysis of individual character traits, both good and bad, was an inadequate therapeutic process and theoretically indefensible. He showed the way to therapeutic techniques which focussed on characteristic modes of defense against analytic insight.
and unconscious material. It improved analytic results because it enabled the therapist to avoid long obsessional periods of free-association without affect and mobilized these affects constructively. Reich's descriptions of the more typical character-formations contain a wealth of material about their speech and body motions.

"Our investigation of the differentiation of character types proceeds from two facts: First, no matter what the form of the character, its basic function is an armoring against the stimuli of the outer world and against the repressed inner impulses. Second, the external form of this armoring has its specific historical determination." (Reich, 1949, p. 184)

It is obvious that Reich, as we gather from his introduction to the first edition (1933), clearly understands the importance of socio-economic and other group influences on character formation. These relations are discussed at greater length in the earlier chapters 1-3.

A few concrete examples will help clarify Reich's approach:

"The hysterical character—as complicated as the corresponding symptoms and reactions may be—represents the simplest type of character armoring. Its most outstanding characteristic is an obvious sexual behavior, in combination with a specific kind of bodily agility with a definitely sexual nuance....In women, the hysterical character types are evidenced by disguised or undisguised coquetry in gait, gaze and speech. In men, there is, in addition, softness and over-politeness, feminine facial expression and feminine behavior. In the hysterical character, facial expression and gait are never hard and heavy as in the compulsive character, or self-confident and arrogant as in the phallic-narcissistic character. In the typical case, the movements are soft, more or less rolling, and sexually provocative. The total impression is one of easy excitability, in contrast, for example, to the self control of the compulsive character. While coquetry paired with apprehensiveness as well as bodily agility are immediately evident, the other specific hysterical character traits are hidden."

He now discusses inconstancy, suggestibility, and disappointment reactions, easy compliance and its quick replacement by depreciation and groundless disparagement, and vivid imagination.

"Just as the hysterical character is strongly expressed in bodily behavior, so it tends to represent psychic conflicts in somatic symptoms."

This leads us to the nature of the character armor:

"The armor is much less solidified, much more labile than in the compulsive character." (ibid., pp. 185-186)

It is apparent from the brief description that a kinesicist could find numerous identifiable units of behavior in a film of individuals whose character corresponded to that here described. Here then is the opportunity to improve analytic observation and to focus subsequent application of already developed therapeutic techniques. It is even possible that with improved observation and more precise supervision the therapy of character disorders will achieve considerably greater success than it has enjoyed to date.
In discussing the compulsive character, Reich delineates the classical defenses of pedantic concern for orderliness, ruminative thinking, thriftiness, tendency to collect things, reactions of sympathy and guilt feelings, indecision, doubt and distrust, restraint and control in outward appearance, and affect block. These well-known concepts are then related to the body armor.

"It is noteworthy that at first no genital impulses are liberated but only aggressive impulses. The superficial layer of the armor, then, consists of aggressive energy. . . .The affect-block is one great spasm of the ego which makes use of somatic spastic conditions. All muscles of the body, but particularly those of the pelvis and pelvic floor, of the shoulders and the face, are in a state of chronic hypertonia. Hence the "hard", somewhat mask-like physiognomy of compulsive characters, and their physical awkwardness." (ibid., p. 198)

Reich's work on the clinical interpretation of body motion has been amplified by his pupil Lowen (1958), in PHYSICAL DYNAMICS OF CHARACTER STRUCTURE: BODILY FORM AND MOVEMENT IN ANALYTIC THERAPY.

IV P. Schilder, H. Head, S.E. Jelliffe, O. Fenichel and their colleagues.

Paul Schilder, in six published volumes and in numerous papers centering about the concept of the body image, has given us many hints of his interest in interpreting vocal and body motion behavior. The following summary by his wife, Dr. Lauretta Bender (1934, p. 1000 to 1029), states concisely his basic views.

"Somatic diseases that distort the body structure cause an insult to the physical personality which the subject finds difficult to accept. The pathologic process results in a discrepancy between the body structure and the body image constitutionally and socially acceptable to the patients. This study attempts to show how the psychosis which may arise in such persons is due largely to this discrepancy and represents, in part, a specific psychopathology related to disturbances in the body image, postural model or body schema.

'The concept of the postural model was first introduced by Henry Head (1920, p. 669). To him, however, it meant merely the integrated concept of the body posture in gait and station, which is constantly changing as the gait and station change, through the peripheral sensations that arise from the moving or static body. 'Man perpetually builds up a model of himself which constantly changes. Every new posture or movement is recorded in this plastic schema, and the activity of the cortex brings every fresh group of sensations evoked by altered posture into relation with it.' Schilder (1937) has developed a much more comprehensive concept from his earlier work on the Körperschema (1932), built on the 'mechanisms of the central nervous system which are of importance for the building up on the special image everybody has about himself.' This study is based on physiology, neuropathology and psychology, including Schilder's psychoanalytic experiences. He has incorporated this material into a psychologic doctrine with far-going implications. The essentials of the doctrine are that there is a plastic concept of the body image which is built from all sensory and psychic experiences and is in constant integration in the central nervous system into a concept of Gestalt which sees 'life and personality as a whole' and which may become variously modified and distorted by lesions in the central nervous system or by pathologic conditions in the psychic levels of that personality."

The general bibliography to the present volume lists separate articles in the psychoanalytic literature such as Karl Abraham (1927, pp. 235-243) on locomotor anxiety, Ferenczi (1950, pp. 142-174) on tics and on the relation of
thinking to muscle innervation, J. Flescher (1948) on neurotic disorders of sensibility and body schema, E. Gostynski (1953) on a clinical contribution to the analysis of gestures, P. Greenacre (1953) on certain relationships between fetishism and faulty development of the body image, E. Kris (1940) on laughter as an expressive behavior and contributions to the analysis of expressive behavior, K. Landauer (1926) on restlessness in children, B. Mittelmann (1958) on motility in infants, children and adults and on motor patterns and genital behavior, W.C.M. Scott (1948) on some embryological, neurological, psychiatric and psychoanalytic implications of the body schema, D. Tallaferro (1952) on observations on the simultaneity of emotion-muscle processes. The books by T. Braatý (1954) and S.S. Feldman (1959) contain much excellent material for clinicians. Obviously there is more than a little interest on the part of psychoanalysts in (non-lexical) vocal and body motion behavior.

Several other psychoanalysts likewise deserve more than passing mention, because of the importance of their contributions in the general area of our interest. Smith Ely Jelliffe, who has a good claim to the title of being one of the earliest and most influential of the founders of psychosomatic medicine, wrote over 200 articles (see especially Jelliffe, 1939, and the review by Brosin, 1952), many of which have to do with muscular and visceral activity in relation to emotional behavior.

Otto Fenichel (1954) in his studies of character disorders has made a number of observations about such behavior as coughing (pp. 237-242), neurotic acting-out (pp. 296-304), so-called psychosomatic phenomena (pp. 305-323), acting on the stage and in movies (pp. 349-361). He also reviews the ground familiar to readers of the journal, PSYCHOSOMATIC MEDICINE, regarding (1) conversion reactions; (2) affect equivalents such as some "cardiac neuroses" (which may also be conversion hysterias) which are anxiety equivalents; sexual excitement may be replaced by other sensations in intestinal, respiratory and circulatory apparatus (p. 309); (3) disturbed chemistry of the unsatisfied person; here concepts of positive and negative symptoms, "actual neurosis," "unconscious affects" such as "latent rate" or "latent anxiety" are discussed and may be of interest because these states so characterized may betray themselves by detectable behavior (p. 311); (4) physical results
of unconscious attitudes; Fenichel cites the examples of T.M. French
and L.J. Saul regarding habitual clearing of the throat eventually resulting
in a pharyngitis, or sleeping with an open mouth without organic cause,
or other psychological patterns which predispose the person to catching cold.
Fenichel also elaborates on the muscular disorders (pp. 313-314).

Felix Deutsch

Felix Deutsch, one of the leaders in the field of better and more
complete recording of a patient's behavior, may rightfully be called the father
of "psychoanalytic posturology." Deutsch (1955) states that Freud encouraged
him to study the psychosomatic area, and that he (Deutsch) considers
Ferenczi, Groddeck and Jelliffe to be the early psychoanalytic pioneers in
this area. It is worth stressing that, since all behavior, external and internal,
is an indissoluble whole, the findings of workers in the so-called psycho-
somatic diseases (arthritis, asthma, colitis, diabetes, hypertension, peptic
ulcer, and the like) will also contain data on peculiar vocal and body motion
activity associated with these conditions which may be identifiable and useful
for investigative purposes (see Birdwhistell, Chapter 00, pp. 00 of this book.)

In 1949, Deutsch states that:

"The study of motor behavior can contribute a great deal to the
understanding of the personality from the psychosomatic point of view. For the past five years, I have been occupied with
posturology, i.e., the study of the unconscious motivations of
postural behavior as it can be observed during the psycho-
analytic sessions... At the time of my last presentation, my
observations were based on the analysis of 17 persons. In the
following two years, 11 more cases could be added."

"The psychoanalytic procedure, which stirs up large quantities
of psychic energy, is continually accompanied by correlated but
invisible physiological adaptations and responses. The physiologist
Adrian (1946) very impressively presented these correlations some
years ago to the British Psychoanalytic Society. In estimating
postural reactions, or motor behavior, during analysis, it must
always be kept in mind that whatever happens in one part of the
body is reflected in the whole body and is integrated into the
functioning of the whole organism." (Deutsch, 1952, p. 196)

Deutsch has described his method of recording postures and body
motions in his posturograms in two early publications. (Deutsch 1947, 1949)

"Briefly, the method consists of recording daily during each analytic
hour all postures as they occurred, and of arranging them in a
'posturogram' covering the entire duration of each analysis.
Thirty-two patients, who had been analyzed from one to four years,
have been studied and thousands of postures have been recorded.
The term 'posture' denotes the relative positions of the patient's
head, trunk and limbs on the couch, and the topographic relation-
ship of these parts of the body to each other. In the past two years
observations have been extended to the position of the hands, fingers,
and the feet, with particular reference to the total configurative
postural pattern.

"The head may be turned to the left or to the right, or lie in a
fronto-occipital position from which it may be frequently lifted
and dropped. The trunk may be turned to one side or the other,
or remain supine. The hands may be cupped, the right over the left
hand or vice versa; they may be held extended with palms down,
not touching each other; they may be clasped together, the fingers
interlaced. The thumbs may be hidden in the first, one thumb may be
cupped over the other, or it may touch the other only with the distal
The advances in technique made by F. Deutsch in more recent years before his death are to be found in his essay “Some Principles of Correlating Verbal and Nonverbal Communication”. (1966, p. 166-188)

It will be apparent that the methods developed by my colleagues in the present study differ in several important respects: (1) much more minute changes in body motion can be described and recorded; (2) much more precise description of the body motion and vocal activity is possible; (3) much smaller units of behavior are subjected to microscopic examination and thereby, in effect, the individual elements of that unit of behavior are magnified; (4) the relative timing between the various kinds of vocal and body motion activity is now precisely determined. These attributes of micro-recording provide us with a much more refined and complete albeit more complex record, a record whose close inspection may make possible a more accurate diagnosis and a more secure prognosis at every stage of the treatment.

The clinician who wishes further to explore the potentiality of more reliable interpretations based on more precise data on vocal and body motion activity will find certain more recent publications of value. Spitz (1957) points out the paucity of specific studies in this area. He cites the articles on the ontogenesis of verbal and non-verbal communication by Hug-Hellmuth (1919), Spielzien (1922), Kulovest (1939), Sugar (1941), Christoffel (1951), and Greenson (1954) as the only ones which have come to his attention on this subject. Other studies bearing on these problems are to be found in Kris and Speir (1944), Kasanin (1944), Schilder (1950), Rapaport (1951, pp. 689-730), Meerloo (1952), Mittelmann (1958), and Loewenstein (1956).

In addition to Freud’s case histories, papers in technique, and his THE PSYCHOPATHOLOGY OF EVERYDAY LIFE, together with the important work of Ferenczi, Groddeck, Reich, Schilder, and F. Deutsch already referred to, the most interesting “text” on clinical interpretation of linguistic-kinesic phenomena may well be Braatøy’s (1954) FUNDAMENTALS OF PSYCHOANALYTIC TECHNIQUE. Without in any way implying that psychoanalytic technique can be acquired by reading, the articles and books here referred to represent an extensive corpus of clinical observations which will accelerate the progress of a student of human behavior. Braatøy points out that the reclining position on the couch minimizes body movement during therapy, and also diminishes the
amount of visual information available to the therapist. For various reasons, auditory information and "content" dominate the nature of the informational exchange. Without detracting from the undoubted value of "listening with the third ear" (Reik, 1954), Braatóy points out that although it is taken for granted that all clinical work uses the vocal and body-motion elements and the physiological components of messages as well as the strictly lexical items, the psychoanalytic literature in this area has been sparse. He gives numerous concrete examples of the substantial therapeutic value of properly interpreting the muscular and visceral activity of a patient during treatment. He amplifies, without contradicting classic psychoanalytic technique the desirability of "connecting the classic psychoanalytic--mostly verbal--tradition with direct clinical observations and neurophysiological insights." (ibid., p. 154)

Another excellent book describing 121 common mannerisms of speech and 46 gestures and other non-lexical behavior is MANNERISMS OF SPEECH AND GESTURES IN EVERYDAY LIFE by Feldman (1959). Grotjahn's (1957) BEYOND LAUGHTER will also repay close study by advanced students for his analysis of numerous subtle character patterns and human interactions.

One final area which may be of increasing future interest to psychoanalysts and to those using the linguistic-kinesic approach described in this book is that of so-called thought-transference or telepathy. Psychoanalysts who have studied this phenomenon in the therapeutic transference situation believe that, whether or not telepathy is a viable explanation, there are here genuine problems which have not generally been recognized, and on whose solution new knowledge of non-lexical vocal and body motion behavior may have an important bearing. In recent years many psychotherapists have touched on these problems: Ehrenwald (1954), Eisenbud (1946), Gillespie (in Devereux, 1953, pp. 373-382), Hollos (1933), Meerloo (1949), Pederson-Krag (1947), Rubin (in Devereux, 1953, pp. 383-387), and Servadio (1956). Servadio (1956), in a paper read at the International Psychoanalytic Congress in Geneva in 1955, writes:

"Paraphrasing Freud (1933, Lecture 33), who wrote that 'a great deal of activity may be needed to reach a passive goal', we must say that plenty of regressive means may be used towards the attainment of progressive results. In a foreign land, whose dictionary and grammar are unfamiliar to us, we may revert, in our forward drive towards communication, to the more primitive language of gestures and vocal sounds.

"Frustration leading to transference can be physical, emotional, or both. Its physical aspects are well known to analysts who can provoke regression and transference by asking the patient to abstain from this or that kind of motor discharge. Distance can have transference effects because it physically prevents communication and
because it mobilized primitive emotions (e.g., the anxiety of being abandoned). The frustrating attitude of the analyst provokes transference through reactivation of forgotten emotions and unconscious mental processes.

"From 1932, Freud contended that telepathy 'may be the original archaic method by which individuals understood one another, and which has been pushed into the background in the course of phylogenetic development by the better method of communication by means of signs apprehended by the sense organs.'" (Freud, 1933, Lecture 30)

Servadio goes on to explain more fully what conditions in the transference-countertransference situation are conducive to thought-transference.

If frustration on the other conditions is set up, as seems necessary, it is logical to assume that there will be some kind of verbal or muscular behavior which would betray the processes before the state of telepathic communication was reached, and probably some significant identifiable activity even during such a state.

Clearly, the material which has been presented is not a presentation of completed work, firmly established methods, or a thoroughly satisfactory conceptual frame of reference. We believe Chapter I containing Bateson's overview which combines linguistic, anthropologic, communication theory and psychoanalytic concepts to be a more useful working model than others known to us. The barriers to quick publication, both personal and public, prevent us from publishing additional material of considerable interest, but which should be published within a few years. We regret that we have not been able to give more space to many authors cited, and that we were not able to mention many others who are doing good work. If the reader will regard this as a workbook which has no pretensions beyond reporting work in progress, he will not be disappointed. There is much reason to hope that progress in the linguistic-kinesic area will be accelerated during the next decade.
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