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THE NATURAL HISTORY
OF
AN INTERVIEW

(edited by Norman A. McQuown)

with contributions by

Gregory Bateson
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Part I: Foreword, Chapters 1 - 5

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In the month of November, 1955, at the Center for Advanced Study in the Behavioral Sciences, at the instigation of Dr. Frieda Fromm-Reichmann, then staff-psychiatrist at Chestnut Lodge, Baltimore, Maryland, Norman A. McQuown, participant with her and others (Alfred L. Kroeber, Gregory Bateson, Charles F. Hockett, Dr. Henry W. Brosin, Ray L. Birdwhistell, David M. Schneider) in an on-going seminar investigating the relevance of language behavior to research in other behavioral sciences, undertook to prepare a fine-grained analysis, transcription, and interpretation of the speech of participants in a tape-recorded psychiatric interview. The results of this attempt were made available in an article "Linguistic Transcription and Specification of Psychiatric Interview Materials" published in PSYCHIATRY in 1957 (Vol. 20, pp. 79-86).

Encouraged by the relative success of this initial endeavor, a team consisting of Fromm-Reichmann and Brosin, psychiatrists, Birdwhistell, kinesicist, Hockett and McQuown, linguists, and Bateson, anthropologist, undertook, in February, 1956, to carry out a similarly fine-grained analysis, transcription and interpretation of the speech and body motion of participants in a sound-filmed (and tape-recorded) family interview. In this second effort, although one member of the filmed family was currently undergoing psychotherapy and the family environment was suspected of being schizophrenogenic, the focus was shifted from a strictly psychiatric one (psychiatrist and patient) to a less clinically oriented one (interviewer and members of the family). During a six-month period of part-time study progress was made independently by psychiatrists and linguists, and during a three-month period of intensive work on the filmed and taped materials, the kinesicist joined these for collation. In brief meetings of the team during 1956 to 1959, work continued, as it did in the home-institutions of the team-members. Fromm-Reichmann died in April 1957 and Hockett could no longer continue as a member of the team after 1960. Bateson turned to communicational research on dolphins, although continuing to maintain contact with other team members.
In three institutions, work continued in a systematic way: At Eastern Pennsylvania State Psychiatric Institute, under the direction of Birdwhistell (with the collaboration of Dr. Albert E. Scheiflen), at Western Pennsylvania State Psychiatric Institute, under the direction of Brosin (with the collaboration of a sizeable team, including Dr. Felix F. Loeb, Jr., Dr. William Charney, and Dr. William C. Condon), and in the Department of Anthropology at the University of Chicago, under the direction of Norman A. McQuown (with the collaboration of William M. Austin, Raven I. McDavid, Jr., and Dr. William Offenkrantz, and, most recently, of Starkey Duncan).

The focus of effort at EPPI was on the description of body motion and on the macro-structure of interactional behavior. The focus at WPPI was on details of body-motion and their correlation with clinical history and on the creation of adequate machinery for the efficient manipulation of sound-film materials. The focus at Chicago was on the analysis and recording of speech and on the pulling together of all the materials bearing on the analysis of the family-film materials supplied by Bateson and worked over by all the members of the team.

Each center contributed substantially to the editorial labor, and each center produced trainees who went on to become efficient collaborators. In September, 1963, Birdwhistell's group completed a typescript of the protocols of the family interview materials. In June, 1967, McQuown's group completed the editing of the explanatory materials ancillary to these protocols. In June, 1968, all materials were placed in the hands of Brosin's group (which had, since 1960, contributed substantially to their elaboration) for final revision and organization. In September, 1968, these materials were again in McQuown's hands. A training manual "The Natural History of an Interview" was ready for publication by September 30, 1968. This manual constitutes a general introduction to the theory of micro-analysis of interviews with a focus on overt behavior, to the individual systems of analysis of the speech and body-motion of participants in such interviews, to the techniques of manipulating taped and filmed materials in order to facilitate such analysis,
and to the theoretical frames suitable for the interpretation of the materials and for their use in psychotherapeutic and other practical applications. It presents a substantial body of analyzed and interpreted materials and a full record of the analytic and interpretive frames used for processing them. This manual may be used for the training of further adepts in the techniques of analysis and interpretation, and may be employed as a starting point for further research into analytic and interpretive frames and into their effective application to a wider variety of interview situations.

It has become painfully apparent, in the course of a decade of effort, that the descriptive frames currently available for undertaking microanalysis of interview behavior are in many ways inadequate to the purpose. The frame for describing and recording the varieties of the English language spoken in the United States and Canada (not to mention the rest of the English-speaking world) is in a continual state of growth and change; although in theory it is at present reasonably adequate for the description of any one regional or social dialect, in practice no full description of any one dialect is currently available, nor is there an adequate coverage of the salient points of difference characteristic of a range of dialects sufficiently wide to enable the micro-analytic interpreter to pick up, for example, the contrastive signals of differences in role and attitude, of group-adhesion and group-rejection, characteristic of participants in an interview. The frames for the description and recording of the varieties of paralanguage used in the English-speaking community are now two, that devised by Trager (1958) in the United States and that worked out by Crystal (1964) in England. Neither is complete, nor has either been widely tested on a sufficient variety of English speech. The pair has not yet been comparatively and contrastively applied to any single batch of interview materials to test for relative adequacy of fit and of coverage. The frame for the description and recording of the varieties of body-motion behavior in the English-speaking community devised by Birdwhistell (1952) has seen very considerable development since 1956, and is incorporated
into "The Natural History of an Interview." Since 1960 Birdwhistell has been engaged in perfecting the frame, and a training manual designed to teach the skills required for describing and recording body-motion in the English-speaking community is in process. Neither the original frame, nor its refined version, nor the two systems of transcription, graphic symbolic, and alphabetic, have as yet been adequately tested on a sufficient variety of body-motion behaviors in the English-speaking community. Although general theories of the structure of language are currently available, no such general theories of the structure of paralanguage or of body-motion behavior have as yet been worked out. Indeed, it is doubtful that such general theories can evolve until the currently available frames for describing and recording paralanguage and body-motion are tested in a variety of non-English-speaking linguistic communities. Likewise, cross-cultural testing of these general frames for the description and recording of language, paralanguage, and body-motion is indispensable to an adequate integration of the three frames and to a general theory of the structure of human communicative behavior.

It is suggested, therefore, that basic research into the facts of English regional and social dialect, of regional and social varieties of paralanguage and of body-motion in the English-language speaking community, needs be carried out on an appropriate variety of sound-filmed or video-taped interview-materials gathered with a view to cross-cutting regional and social dialect boundaries. A major focus of this research should be on sentence-like and sentence-sized units as these are revealed by the analysis of such cross-cutting dialect materials. It is suggested, furthermore, that basic research into the facts of regional and social dialects of other languages, of regional and social varieties of paralanguage and of body-motion in communities speaking other languages, be carried out on an appropriate variety of sound-filmed or video-taped interview materials gathered with a view to cross-cutting regional and social dialect boundaries. A major focus of this research, too, should be on sentence-like and sentence-sized units in such cross-cutting dialect materials. It is suggested, finally,
that the results of such study in the English (and other) language materials be compared and contrasted in carefully controlled frames.

It is expected that, as a result of such investigations, the frames for describing language, paralanguage and body-motion in English (and in other) language communities will be perfected, that the linguistic, paralinguistic, and body-motion markers of sentence-like units manifest in these communicative behavioral channels will be uncovered, and that the foundations of a general theory of the structure of human communicative behavior, as manifest through these channels, and in such units, will eventually be worked out. It is hoped that the materials here presented may facilitate the first steps in this on-going process.

Norman A. McQuown

September 30, 1968
CHAPTER 1

Communication

Gregory Bateson
O dieses ist das Tier, das es nicht gibt.
Sie wusstens nicht und habens jeden Falls
--sein Wandeln, seine Haltung, seinen Hals,
bis in des stillen Blickes Licht -- geliebt.

Zwar war es nicht. Doch weil sie's liebten, ward
ein reines Tier. Sie liessen immer Raum.
Und in dem Raum, klar und ausgespart,
erhob es leicht sein Haupt und brauchte kaum
zu sein. Sie nährten es mit keinem Korn,
nur immer mit der Möglichkeit, es sei.
Und die gab solche Stärke an das Tier,

dass es aus sich ein Stirnhorn trieb. Ein Horn.
Zu einer Jungfrau kam es weiss herbei--
und zwar im Silber-Spiegel und in ihr.

Rainer Maria Rilke, Sonette an Orpheus, II. Teil, IV.
O this is the creature that does not exist.
They did not know that and in any case
- its motion, and its bearing, and its neck,
even to the light of its still gaze - they loved it.

Indeed it never was. Yet because they loved it,
a pure creature happened. They always allowed room.
And in that room, clear and left open,
it easily raised its head and scarcely needed
to be. They fed it with no grain, but ever
with the possibility that it might be.
And this gave the creature such strength,

it grew a horn out of its brow. One horn.
To a virgin it came hither white-
and was in the silver-mirror and in her.

Rainer Maria Rilke - SONNETS TO ORPHEUS
(Translated by M. E. Herter Norton, W. W. Norton and Co. N.Y.)
Second Part, Sonnet 4
Background

At the time of the outbreak of World War II, the most promising insights in the behavioral sciences were those derivative from Freudian analysis, Gestalt psychology, and cultural relativity. Linguistics had begun to take on new life under the leadership of Sapir (1921, 1925, 1933a, 1933b) and Bloomfield (1933, 1939). Psychiatry was evolving away from the exclusive study of the individual patient towards the study of human relationships, most dramatically under the influence of Sullivan (1940); and already there were moves towards a mathematics of human relationship under Kurt Lewin (1935) and L. F. Richardson (1939).

During World War II and immediately following that period of confusion, a series of exceedingly important new approaches were evolving more or less independently in a number of different places, but the possible relevance to behavioral science of the work of George Boole (1854), Whitehead and Russell (1910-13) was still unexplored. All of these scattered advances were precipitated by the war-time development of electronic engineering. A partial list of names and locations of the principal advances will give an idea of what is happening.

Rosenblueth at Cambridge and in Mexico, and Wiener and Bigelow (1943) at the Massachusetts Institute of Technology, were laying the foundations of what has come to be called cybernetics, extending
what the engineers and mathematicians had learned about self-
correcting mechanisms to the fields of biology and social organization.

Von Neumann and Morgenstern (1944) at Princeton were laying
the basis of the theory of games.

Craik (1952), in Cambridge, England, before his premature
death, wrote "The Nature of Explanation" raising the whole question
of how messages are coded in a reticulate central nervous system.

Attneave (1959), Stroud (1949), and others at Stanford, happened
to see Craik's little book and by it were inspired to a new approach to
the problems of perception and adaptive action.

In Vienna, Bertalanffy (1952) was building the beginnings of sys-
tems theory with a special emphasis upon those systems (e. g., organisms)
which have a continuous source of energy derived from the environment.

Shannon (1949), and others working with the Bell Telephone
Laboratories, were building the structure called information theory.

Ashby (1952, 1956), in Gloucester, England, was devising new
models for theories of learning and the evolution of the brain.

Other names McCulloch and Pitts (1943, 1947), Lorente de No
(1922, 1933), Rashevsky (1948), Walter (1953), Tinbergen (1953), Lorenz
(1952) might be mentioned as contributing to this general trend.

What has happened has been the introduction into the behavioral
sciences of a number of very simple, elegant, and powerful ideas all
of which have to do with the nature of communication in the widest
sense of that word. The steps and sequences of logic have been coded
into the causal sequences of computing machines and, as a result, the *Principia Mathematica* has become a cornerstone of science.

**The Natural History of an Interview**

The present book is an attempt at synthesis. It is written by five persons who are professionally concerned with communication problems in diverse fields and we attempt a synthesis of a wide and abstract kind, starting from the most concrete data.

We start from a particular interview on a particular day between two identified persons in the presence of a child, a camera and a cameraman. Our primary data are the multitudinous details of vocal and bodily action recorded on this film. We call our treatment of such data a "natural history" because a minimum of theory guided the collection of the data. The cameraman inevitably made some selection in his shooting; and "Doris", the subject of the interview, was selected for study not only because she and her husband were willing to be studied in this way but also because this family suffered from inter-personal difficulties which had led them to seek special psychiatric aid.

These materials, then, while collected under circumstances unusual in human relationship, nonetheless provide the data for the natural history of two human beings over a brief span of time, and the data themselves are sufficiently uncorrupted by theory so that the five authors, each with a particular theoretical bias and interest, could simultaneously approach this mass of detail. Moreover, we shared something less tangible than the common data: certain theories
or preconceptions about what happens when two people interact.

Theoretical Premises

My major task in this preliminary chapter is to outline those theoretical premises which were engendered in us by the recent advances in the study of human communication:

Freudian

From Freudian theory we accept the premise (1) that only limited aspects of a part of what happens in human communication are accessible to the consciousness of the participants. Our position however differs from that of many early Freudians in two respects which are minor so far as theory is concerned, but major in their implications for method. The important corrective which the Freudian applied to man's thinking about human nature was an insistence upon the unconscious. The error to be corrected was the notion that in human beings the mental process is preponderantly or entirely conscious. This error had roots in eighteenth century culture and back into the Reformation and into earlier Judaeo-Greek philosophies of free will. But this error today seems almost fantastic.

It is now a platitude to state that mental process depends upon hierarchic organization. Whether we think of mental levels or of a brain evolved by a process of successive telencephalization, we envisage a hierarchy of both anatomy and function. And our knowledge of hierarchic function--in machines, embryology, physiology, and in human social organization--indicates as a truism that under no
circumstances can the upper echelons of any hierarchic system handle total information about the processes and events which occur at subordinate or peripheral levels. By the same token, the upper echelons can handle only limited reports—can be only partially conscious—of all that happens at their own upper level. To provide these upper echelons with total reporting would be to add to the system still higher echelons—themselves, in turn, largely unconscious. To us, then, the fact that most mental process (including, especially, the process of perception itself) cannot be inspected by consciousness is a matter of course and what is surprising, and therefore needs explanation, is the fact of consciousness. **Unconsciousness is a necessity of the economics of hierarchic organization** (Sapir, 1927).

This does not mean, of course, that economy of effort or the economic use of the channels of communication to avoid jamming is the only factor determining what information shall be allowed to reach the upper echelons of consciousness. The analogy of human social organizations would indicate very clearly both that upper echelons are commonly "motivated" not to receive information about certain peripheral events and that there are many events which the subordinate echelons are "motivated" not to transmit upwards. There are, therefore, many matters which remain "in the unconscious" for reasons other than those of economy, and the unconscious becomes a repository for material which is repressed in the **Freudian sense**.

The second difference between our position and the classical
Freudian results from our emphasis upon communication. We are interested in such questions as "what signals are emitted and what orders of awareness does the signaler show by emitting other signals about these signals? Can he plan them? Can he recall them?" And we are interested to know what signals reach the receiver and what signals he knows he has received. Our emphasis is thus upon perception and communication rather than on the internal hierarchies of mental process. From where we sit, the distinction between conscious and unconscious becomes significantly comparable to the distinction between foveal and peripheral vision.

A second premise related to Freudian theory holds (2) that everything which occurs is meaningful in the sense of being a part of the interchange as well as non-accidental. The Freudian emphasis was upon psychic determinism—that no word uttered and no detail of a dream experienced can be accidental. A man cannot "just dream." Our emphasis in this book will extend this psychological idea into the realm of inter-personal process. We shall attempt to see every detail of word, vocalization, and bodily movement as playing its part in determining the ongoing stream of words and bodily movements which is the interchange between the persons. We shall endeavor to think not only in terms of psychic determinism but in terms of a larger inter-personal determinism. Two people cannot "just agree" or "just quarrel."

Also, from Freudian theory, we accept the idea (3) that all messages, whether verbal or non-verbal, are mediated in their creation by
primary process and therefore contain, either implicitly or explicitly, all the multiple reference characteristics of dream or fantasy. If it be possible for a man to seem to talk only about the overt subject of conversation, this is achieved only by vigorous ego-function which carefully excludes or conceals the multiple under-tones of implicit content. Further, we expect that the minute analysis of speech and movement will disclose that the messages in both these modalities contain a large proportion of unconscious material with primary process characteristics, that, for example, an unconscious fingering of the dress is likely to denote (or to be a resultant of) sexual interest and/or its puritanical denial.

Also from Freudian theory, we accept (4) a generalized notion of transference: that any person emitting learned signals does so upon the (usually unconscious) assumption that the receiver of these signals will understand them "correctly"—i.e., he assumes that his vis-a-vis at the given moment will resemble psychologically some former (or even fictitious) vis-a-vis from whom he originally acquired his communicational habits.

Closely related to the notion of transference is (5) the notion of projection. This explanatory principle differs however from transference in that it does not invoke some third historical or fictitious person. When A "projects" upon B, he is merely assuming that B's signals are to be interpreted as A would interpret these signals if he himself had emitted them. That is, A assumes that B operates
according to systems of codification similar to his own. Both trans-
ference and projection may, of course, be carried into the future.
A may expect that B will exhibit meaningful action of a sort which some
historical figure in A's life would have exhibited under similar circum-
stances (transference); or he may expect that B will behave as he him-
self would behave in similar circumstances (projection).

Identification must also be mentioned. This explanatory principle
invokes (6) the idea "if you can't lick 'em, join 'em"--or, at least
imitate them as you see them. A is said to identify with B when he starts
to mold his own meaningful action in terms of what he thinks are B's
principles of codification.

Notably, all of these principles--transference, projection, and
identification--are likely to be unconscious in their operation and to be
in some degree coercive. That is, any errors which A may make in his
assumptions about B are likely to cause A to act in such a way that B is
put under pressure to validate these errors by acting as if A's assump-
tions were true. An especially interesting case arises when A acts
in a way which will coerce B into identifying with A's self-image--
which may be false.

Moreover, it must not be supposed that these explanatory or
descriptive principles are mutually exclusive. In a given instance, A
may consciously or unconsciously assume that B is parental (trans-
ference). But A's technique for dealing with his parent may have
involved identification.¹ He will then adopt towards B that role which he formerly adopted towards the parent.

Gestalt

From Gestalt psychology, we have accepted a premise of very great importance: that experience is punctuated. We do not experience a continuum; on the contrary, our experience is broken up into what seem to us to be events and objects. In Gestalt psychology this idea is basic to the figure-ground hypothesis. And for us it is related to the premise that nothing never happens--i.e., that both sender and receiver of signals are so organized that they can and must use, for their understanding of what is going on, the fact that certain possible signals are not present. The first step in building the figure-ground hypothesis is a postulate of this kind. In order to recognize that there are stars in the night sky, we must use the fact that certain retinal end-organs are not stimulated by the darkness. In human relations, no silence is insignificant and the absence of tears may speak volumes.

More must be said concerning the punctuation of interpersonal events. Our whole procedure and, indeed, any analysis of communicational data is shaped by premises which define the units into which the stream of data is to be divided. First, in a macroscopic examination of the interview, we assumed that the 400 feet of film on which

¹The word "identification" was perhaps an unfortunate choice for two reasons. In the phrase "A identifies B as father" is a statement of transference. And the phase "A achieves ego-identity" suggests (as an ideal) A's escape from all the errors of transference, projection and identification.
the interview is recorded\(^2\) can be punctuated into incidents or sequences with beginnings and ends psychologically meaningful to the participants. As will be seen, we have chosen certain of these incidents for microscopic study. Our macroscopic study serves to direct our more particular attention. And, while we narrow our focus from the interview as a whole to an examination of incidents within the interview and then downward to the finer and finer detail of these incidents--we work throughout with similar assumptions about punctuation of the stream of signals.

The historical basis of this assumption will make clearer what is meant. Historically, scientific linguistics has progressed most rapidly since the time when certain popular and preponderantly occidental notions about language were adopted, made rigorous, and extrapolated into the study of minute detail. In their popular form, these notions are, for example, that speech is subdivisible into sentences which in turn are subdivisible into words, which in turn can be subdivided into letters. Profound modifications have been introduced into this hierarchy by the linguists who needed to describe speech rather than written language, but the essential idea that a stream of communicative material must, of necessity, be susceptible of such multiple re-subdivision is fundamental in linguistics and in that part of communications theory which deals with coded communication--a much wider field than the conventionally linguistic. A major contribution of the

\(^2\) The film also has irrelevant gaps while the camera was being reloaded after each 100 feet. The longest consecutive recording is about 3 1/2 minutes.
linguists is the demonstration that the stream of communication contains positive signals by which its units are delimited.

Moreover, Gestalt theory presupposes a hierarchy of subdivisions characteristic of the process of perception. We do not perceive the firing of unit end-organs but, from the showers of neural impulse started by that firing, we build images of identifiabiles and larger meaningful complexes of identifiabiles. We can argue from perception to communication: If an organism's perception is characterized by Gestalten and this organism is capable of emitting complex streams of communication, then these streams must be dissectible into a hierarchy of successive subdivisions. Many such analyses will be possible, and there will be one which will represent correctly the natural history of the organism.

We deal, after all, not merely with the fact that a communicational stream can be dissected but also with the question: in which of the many ways possible should this particular stream be dissected? What we know about language and communication in general indicates that there will always be one or more hierarchies of Gestalten which will be correct in the sense of describing how the message stream is created and/or how it is received and interpreted by the hearer. The Freudian findings also indicate that in any given instance several different analyses may be correct. A particular message may be simultaneously interpreted in different ways by different levels of the mind: we face problems of multiple coding.
The linguists are ahead of the other natural historians in their study of the hierarchy of Gestalten in terms of which a particular kind of behavior should be dissected. Their studies are being fortified by cross-cultural comparison, by dialectal (subcultural) comparison, and by statistics of individual variation. By way of contrast, kinesics—the study of body motion, position, and action as a modality of communication—is a relatively recent development which, like linguistics, is achieving a firm scientific base by the rigorous dissection of the kinesic stream into a hierarchy of Gestalten and subdivisions of Gestalten.

In a later chapter, Birdwhistell will outline the hierarchy of units which he is devising for kinesic description. He is proceeding in a manner comparable to but not identical with that methodology of description which has proved valuable in linguistics. The ultimate validation of this approach in kinesics will, of course, depend upon the results obtained, but there is very strong a priori argument in favor of the correctness of the approach from all that we know about communications theory in general and about human communication and perception in particular.

Returning for a moment to linguistics, other types of description which the linguists have achieved must here be mentioned. The very complex question of "meaning" is too large for discussion in this chapter but this much may be said—that a tape recording of human speech contains a great deal more than the signals correlated with the lexical meaning of what was said.

If a tape recording is transcribed into ordinary script, although some of this more-than-lexical content will be lost, some will still
survive in the transcription. Indeed, to reduce a speech to its merely lexical content would require very drastic procedure (in the course of which other and probably inappropriate non-lexical overtones will inevitably be added). It would first be necessary to strip the speech of all indications of the context in which it was uttered and by whom and to whom it was uttered. But there would still remain cadences and overtones of a non-lexical nature. To get rid of these it would be necessary to translate the speech into some other language and to use as a translator some hypothetical person (or machine) totally insensitive to non-lexical content both of the language from which he is translating and of the language into which he is translating.

As we climb the hierarchic ladder of Gestalten from the most microscopic particles of vocalization towards the most macroscopic units of speech, each step on this ladder is surmounted by placing the units of the lower level in context.

"Meaning," as this word is vulgarly used, emerges only at a very high level in this hierarchy. We discriminate the initial phoneme of the word "peter" from the initial phoneme of the word "butter" but these phonemes are in themselves meaningless apart from their setting in a stream of phonemes. Even the syllables, "pete" and "but," are in themselves either meaningless or multivalent (except insofar as their possible meaning is restricted when we know how they are placed in a stream of syllables). With each step towards a larger unit—the larger unit being always the smaller unit plus its immediate
setting--there is a more and more drastic limitation of possible referents. "Meaning," therefore, is a function of this restriction of possible meanings. Even the words "peter" and "butter" are still multivalent. When the word "blue" is added, the hearer may be pretty sure that the referent of "peter" is a flag. But still, there is room for doubt.

The "Blue Peter" may be referred to as an actual object of action or observation in the larger context of a ship about to leave a particular port. Or the reference may only be metaphor if the term is used on land. Or the usage of the term may be neither metaphor nor direct but may be part of a lesson in maritime communication. Or--as here upon this page--the words "Blue Peter" may be mentioned only as an example of communicational phenomena.

Meaning approaches univalence or non-ambiguity only when very large units of the communicational stream are admitted to examination. And even then, the approach to non-ambiguity will be asymptotic. As larger and larger bodies of data are admitted, the probability of a given interpretation will be increased but proof will never be achieved. The situation is essentially the same as that which obtains in science where no theory is ever proved.

This book is concerned with trying to put together those parts of the communicational stream which the professional linguist studies (phonemes, morphemes, phrases, vocal modifiers, junctures, etc.)
with those parts of the stream which are studied in kinesics (kines,
kinemorphs, etc.). A central question, therefore, which we shall have
to face when we analyze the data is the extent to which there is a mutual
relationship of "context" between kinesic and linguistic elements.

We face phenomena so structured that there is perhaps no defin-
able upper limit to the size—either spatial or temporal—of the Gestalten.
In practice, this would mean that no finite collection of data would confer
complete non-ambiguity upon any item within the collection; that however
widely "context" be defined, there may always be wider contexts a
knowledge of which would reverse or modify our understanding of
particular items.

**Context**

These considerations force us to a method of inquiry which will
postpone the question of "meaning". When faced with a given sequence
of signals, we shall delay the question "what do these signals mean"
for as long as possible. We shall ask, rather, the collateral question
"would the meaning be changed by a given change in the sequence or by
a given change in the context?" This is a question which can be asked
and answered without too much difficulty. We shall, for example, not
ask whether the word "Peter" refers to an apostle or a flag, but rather
whether its meaning, when the word "Peter" follows the word "Blue",
is peculiarly appropriate to the new context.

In kinesic analysis, we shall similarly delay the question of
what is meant by the rapid closing and opening of an eye which is
visible to the *vis a vis* and shall ask rather, for example, whether
the meaning of this signal would be altered (a) if the other eye were
blinking simultaneously and (b) if the blinked eye were one which is
invisible to the *vis a vis*. Parenthetically, we may also ask whether
the meaning of the word "Peter" is altered by winking one eye.

It *is*, after all, only an historic accident--a past pathway in the
evolution of science--that has lead to the circumstance that linguists
study data which can be heard, while the kinesicist studies data which
can be seen. That the scientists have become specialized in this par-
ticular way does not indicate a fundamental separateness between these
modalities in the stream of communication. It *is* for this reason that
the work of this book starts from concrete natural history--from the
recorded interaction between Doris¹ speech and movement and the
speech and movement of Gregory. This placing of every signal in the
context of all other signals is an essential discipline of our work.

A great part of the work which Birdwhistell, Hockett, and
McQuown have had to do has involved a grueling process of synchro-
nization. The audible stream for which Hockett and McQuown are
specialists was recorded on tape and on film with an unsatisfactory
sound track. The analysts had to work frame by frame through the
film to establish the point in the audible sequence at which, for
example, Doris turned her head or let her shoe fall away from her
heel. I described our data loosely above as the aggregate of signals
recorded on the film. More accurately, I should have said that our data are the individual signals or messages, each in its immediate and extended context.

But the context of a signal emitted by Doris is not merely those other signals which she has recently emitted plus those which she emits soon after; it is also the room in which she is speaking, the sofa on which she is sitting, the signals emitted by Gregory with whom she is talking, and by the little boy Billy, and the inter-relationships among all of these.

**Interaction**

At this point, our concept of communication becomes interactional and our intellectual debt is to G. H. Mead (1934) and to Sullivan (1940) rather than to Freud and the Gestalt psychologists. The system which we now study is no longer merely a descriptive synthesis of Doris' body motion and speech, but the larger aggregate of what goes on between Doris and Gregory.

This larger frame determines meaning for what each person does and says. Rilke's "Unicorn" is present in every conversation between persons and this fictitious beast evolves and changes, dissolves and is recrystallized in new shapes with every move and message. Denial of the Unicorn will not prevent its existence--but only cause it to become monstrous.

This poetic fancy must be made scientifically real to the reader if he is to understand what this book is about.
For every human being there is an edge of uncertainty about what sort of messages he is emitting and we all need, in the final analysis, to see how our messages are received in order to discover what they were. For the schizophrenic this is often dramatically and conspicuously true.

Let me illustrate by an example. A schizophrenic patient tells me that he built the China Wall, rowed across the Pacific and landed in Seattle. He then walked to California where he was "affriended by those people." This narrative he offers as if it were a statement of fact. But whether it is a statement of fact for him depends upon my response. If I say, "Nonsense. You were born in California," I have thereby verified for him the notion that his narrative is to be taken literally. I have denied it as if it were a literal statement and now it exists for him as a literal statement which must be defended. From there on, we shall get into an argument not about the question "is this narrative a statement of fact?" but about the red-herring question "is this a true statement of the facts?"

The response which we get tells us about the state of the hearer after he has received the signals which we emitted. It may be evident that he misunderstood the message either grossly or subtly. The status quo, however, which obtained when we emitted the message, no longer exists and merely to repeat the message will not do. We are now communicating with a person whose relationship to us is different from what it was a moment ago. And within the framework of this new relationship we must now speak.
Of all the elements and vicissitudes of formation and re-formation of relationships, perhaps the most interesting is that process whereby people establish common rules for the creation and understanding of messages. Whatever reply I may make to the patient's delusional narrative proposes a pact to govern us both in our understanding of the message. If I deny the factual truth of the narrative, I implicitly propose that we agree to treat it as literal. If, on the other hand, I ask him whether he thinks his parents had a part in building the "China Wall" which separates him from them, I have proposed that we agree upon a different set of rules for the creation and understanding of such messages.

The possible systems of rules which two persons may share are many and complex. Among them must be mentioned a system which has been characterized as **symbiotic**. Such a label, as I understand it, refers to a system of non-verbalized and usually unconscious pacts in which, for example, A and B "agree" to accept each other's messages in some spirit other than that in which they were coined. By ignoring overtones and implications, or by reading in overtones which were not intended, the persons maintain a strange semblance of understanding.

**Code Distortion**

In this book we shall pay but little attention to those failures of communication which are due to the randomization of signals occasioned either by background noise or by imperfect resolving
processes in the receiving sense organ. We are concerned with a
more subtle phenomenon—the distortion of messages which occurs
when the persons involved differ from each other in their rules or
assumptions governing the making and understanding of messages—
their explicit and implicit rules of coding.

Imagine a machine which has the function of transmitting a
half-tone block, (a picture formed entirely of rows of dots), over a
wire to another machine. The transmitting machine will transmit
over the wire a sequence of electrical impulses such that each impulse
or absence of impulse is a "yes" or "no" answer to the question "is
there a dot in the given space?" When the transmitting machine comes
to the end of a line of spaces, it will either transmit a special signal
which will cause the receiving machine to go on to the next line, or the
machines will have to have been so adjusted to each other, that they
operate in terms of a common pact governing how many dots there shall
be in a line. A discrepancy regarding the terms of this pact will intro-
duce code distortion. In such a case, the receiving machine will create
a picture which may be an absolutely correct record of the sequence of
signals emitted by the sender but which, considered as a picture, will
be distortion of the original.

**Figure 1**

A is a picture to be transmitted, B is the distorted version which
is created when the receiving machine acts upon the premise that there
are only 16 squares in each line instead of 17.
In Figure 1, the effect of code distortion is shown, and it is worthwhile to stress the basic difference between such distortion and the loss of information due to entropic noise. In the case of entropic noise, the information which is lost is irretrievable, but in the case of code noise what has occurred is a systematic distortion which could conceivably be rectified.

All that is needed for this correction is that there be some means whereby the transmitter and receiver can communicate about the rules of communication. This presents special difficulties but it is a fundamental thesis of this book that at the human level such communication about the rules of communication occurs constantly. This, in fact, is the process whereby the "Unicorn" is continually created and recreated. When my patient tells his story of the "China Wall", whatever reply I make is a communication to him about how I received his message and therefore indicates to him (ideally) how he should restate it in order to have me receive that message which he wants me to receive. It tells him how to code his messages so as to elicit an appropriate response from me.

It is necessary again to insist upon the unconscious character of most communication. We are almost totally unaware of the processes by which we make our messages and the processes by which we understand and respond to the messages of others. We are commonly unaware also of many characteristics and components of the messages themselves. We do not notice at which moments in a conversation we cross and uncross our legs or at which moments we puff on our
cigarettes or blink our eyes or raise our brows. But the fact that we do not notice these things does not imply that all these details of personal interaction are irrelevant to the ongoing relationship. Just as we are in the main unconscious of the fleeting pacts which we enter into as to how messages are to be understood, so also we are unconscious of the continual dialogue about these pacts.

This dialogue is not only between persons and about the pacts which they form, it is also and more strangely a dialogue which governs what each person is. When A makes overtures which B brushes aside, this experience is to A more than a hint about how to code messages when dealing with B. In everyday language we say that a person's self-esteem is enhanced or reduced by the responses of others. Or we say that "he sees himself differently." In communicational terms, we may translate this into a statement that the very rules of self-perception, the rules governing the formation of a self-image, are modified by the way in which others receive our messages.

Learning and Pathogenesis

In part, this book is a study of how communication works between two persons, but it is also a study of how communication fails to work--that is, of certain pathologies of communication. Our collaborating team includes not only the two linguists and the founder of kinesics, but also two psychiatrists and the writer, whose initial training in anthropology has finally led him to study schizophrenic communication. It is therefore appropriate to examine a little more
closely the relation between psychiatric pathology in the individual patient and the pathologies of communication which may develop between persons. In order to keep the subject matter simple, I will exclude from consideration those psychiatric abnormalities which have an established base in organic lesion.

To build a bridge between the study of psychiatric functional pathology and the pathologies of communication, it is necessary to insist upon the existence of the facts of learning and conditioning. Two considerations become especially relevant. First, every failure of communication is painful. Second, the learning organism always generalizes from experience. Further, the business of communication is a continuous learning to communicate. Codes and languages are not static systems which can be learned once and for all. They are, rather, shifting systems of pacts and premises which govern how messages are to be made and interpreted. Every signal which establishes a new premise or pact bringing the persons closer together or giving them greater freedom may be a source of joy. But every signal which falls by the wayside is in some degree a source of pain to both. The ongoing stream of communication is thus, for each individual, a continuous chain of contexts of learning and, specifically, learning about premises of communication.

At this point, it is necessary to consider certain aspects of the learning process and to expand conventional learning theory to make it
relevant to an analysis of the interchange of signals between persons. A typical learning experiment involves two entities: an experimenter and a subject, and the theoretical conclusions derived from such experiments are commonly stated as psychological regularities descriptive of the subject. In contrast, I shall here view the experimental situation as an interaction involving two entities in whose relationship I am interested. I shall regard their relationship as formally characterized by an interchange which is repeated in successive "trials" and shall assume that not only the subject, but also the experimenter is undergoing a learning process determined, at least in part, by reinforcements which the subject provides.

As a preliminary to this, it is necessary to define a hierarchy of orders of learning. This may be done as follows:

1. It appears that the simplest learning phenomenon is the receipt of information or command. The event of perceiving a whistle may constitute, for a dog, an important piece of information or a command. Before it heard the whistle, it was in another state. The change of state I classify as the simplest learning phenomenon. It is important to remark, however, that this phenomenon is excessively difficult to investigate and has not been an immediate object of experimental study. It has, however, been a major focus of theory. What seems to have happened is that in order to arrive at a theory to describe what I call the second order of learning, the psychologists have had to provide
some description of this first order process--some verbalization of what message the dog has received. The "effect" theory proposes that this message is a promise of reward or a threat of punishment, whereas the associational theory proposes a more automatic and less purposive description of the dog's response.

2. The second order is the learning or conditioning upon which the vast mass of experimental work has been conducted. Here the word "learning" refers to a change in the dog's ability to act upon percepts or signals received. What the experimenters study is changes in the dog's behavior resulting from a sequence of trials. The phenomena studied are of a different and higher order than those discussed in 1 above. The question asked is not "what change occurs in a dog when he hears a whistle?" but "what changes have occurred in the change which a dog undergoes when he hears a whistle?" This subtle difference in the question asked by the experimenter makes it formally impossible for the theorists to deduce answers to the first question from data collected to answer the second. The behaviorists had logic on their side when they insisted that we never ask about the subjective experience of the dog. To try to deduce the dog's experience from data which could only throw light upon change in his experience is to attempt the logically impossible. From the characteristics of a class, I can make
no deductions about what a member of that class might be.

3. The third order of learning is a familiar laboratory phenomenon but has received only slight attention from the experimentalists. If we describe the second order of learning as "learning to receive signals", then the third may be described as "learning to learn to receive signals."\(^1\) What happens in the laboratory is that the animal having been subjected to experiments of the second order becomes "wise". That is, when faced with an entirely new experiment of this sort, the animal requires now a smaller number of trials to achieve that learning of the second order which the experimental situation demands. The animal has acquired a knack or skill for second order learning. This phenomenon has been measured by Hull (1940) studying rote learning of nonsense syllables, and by Harlow (1949) studying problem solving in rhesus monkeys.

4. There is no theoretical reason to deny the possibility of fourth and higher orders of learning, though none of these

\(^1\) Unfortunately, in an earlier theoretical paper, (Bateson, 1942) I have used for this third order of learning the term "deutero-learning." This was due to my failure to recognize the receipt of a meaningful signal or the receipt of a bit of information as an example of the simplest order of learning. To achieve any analogy between the mechanical computers and the brain it is necessary to insist that any receipt of information is, in a broad sense, learning.
have been demonstrated. The nature of the hierarchy which
we are discussing is such that there is no upper limit to the
series other than that set by the limitations of brain struc-
ture. The number of neurons being finite, it is certain that
for any organism there is a practical upper limit to the number
of orders of learning of which it is capable.

Inspection of this hierarchy of learning reveals that the dif-
ference between any order of learning and the next higher order is
essentially a difference in size of Gestalt. The higher order is always
documented by demonstrating change which results from a larger Ges-
talt, this larger Gestalt being in general built up of a multiplicity of
the Gestalten characteristic of the lower order. But while this gen-
erally seems to be the case, there is no theoretical premise by which
we might estimate the multiplication factor, and it is necessary to con-
sider as at least theoretically possible the case in which this factor
would be unity.

A single increment in what appears to be a context of lower
order learning might conceivably precipitate major changes of some
higher order, whereby all experience of the lower order would be
reframed and reorganized. We face here an unpredictability of a sort
which I noted earlier when discussing the indeterminacy of meaning.
Larger and larger bodies of data will provide greater and greater
certainty of interpretation but it is never possible to be sure that the
next increment of data will not compel us to a totally new interpretation.
There is thus an analogy—perhaps amounting to identity—between those hierarchies of Gestalten which determine meaning and that hierarchy of Gestalten which we here call contexts of learning.

These abstract matters become clearer when we state that learning of the third or higher order is, in popular parlance, called "change in character." Let us suppose that an organism becomes "wise" in dealing with contexts of Pavlovian learning. The change which we here refer to may be described both as a change in the organism's expectations and as a change in its learning habits. If we speak in terms of expectations, we will say that the organism now preponderantly expects the universe of experience to be punctuated into sequences resembling the Pavlovian context; i. e., sequences in which certain percepts can be used as a basis for predicting later events. Or, if we speak in terms of learning habits, we will say that this organism will respond to the predicted certainty of that which is to come, (e. g., by salivating), but will not endeavor to change the course of events. In a word, the organism has become "fatalistic" and examination of the formal characteristics of the learning context has provided us with a formal definition of one particular sort of "fatalism."

The psychiatrist is interested largely in learning of the third or higher order. If a patient tells him that she can use a typewriter, the psychiatrist will pay but little attention. She has reported only a result of second order learning. But when the patient goes on to
describe the context in which she learned to typewrite and tells him that her teacher punished every error she made but never praised her for progress, the psychiatrist will prick up his ears. He will see in this narrative a statement of what effect the context of learning to type may have had upon the patient's habits and expectations--i.e., upon the patient's character. This enlargement of learning theory to discriminate orders of learning makes this body of experimental knowledge especially relevant to the psychiatrist. Actually the old barrier between experimentalists and clinicians seems to have grown out of this; that the experimentalists have mainly studied learning of the second order, while the psychiatrist is interested chiefly in effects of the third order. These effects he tries to evaluate in his diagnosis or to achieve in his therapy.

If this description of learning is substantially correct, that is, if there really is a hierarchy of orders of this phenomenon and the discrimination of these orders is something more than an artifact of description, then it becomes theoretically probable that there exist complex sequences of experience and action such that learning of one order will in some degree contradict the learning of some other order. We can imagine, for example, that a human subject might experience a long sequence of Pavlovian learnings but might be penalized (Bateson and Jackson, 1956) for exhibiting "fatalism." Or he might be trained towards obedience but be continually penalized for the finer detail of every obedient act. As between adults, this is familiar enough and
may make for bad "personnel relations." A between parents and small children, I believe that it is - under some circumstances - pathogenic.

Pathogenic Contexts

It is now clear, however, in an abstract and formal way, what patterns of interchange we should look for in our data. The discussion which preceded this reexamination of learning theory concerned the establishment of pacts and premises of communication. But evidently a premise of communication, a rule governing how messages are to be constructed or interpreted, bears the same relationship to the given message as occurs between a higher and a lower order of learning.

The acceptance of what I have called a premise of communication is the same phenomenon as the acceptance of a role—a momentary or enduring shift in habit and expectation. And "role" is only a word for some phase of character change, be it brief or enduring. It is a description of the pattern exhibited by one person in that two-person system which constitutes a context of learning.

It follows that what we have to look for in the data is sequences and, at the meta-level, sequences of sequences. The relevant units will be those segments of the stream which constitute contexts of learning. Problems of pathology within the stream will become recognizable when we see instances so constructed that learning in
a given small sequence would be contradicted by learning in some larger sequence of which the smaller is a component. Theoretically, we may expect instances in which part and whole will be identical--where the multiplication factor relating the part to the whole is unity. A single context (seen in two different ways) may propose contradictory learning at different levels.

One other peculiar phenomenon must now be mentioned--namely, that the premises of communication are commonly self-validating. By their operation they may create that consensus which will seem to validate them. He who believes that all the world is his friend--or enemy--will emit messages and act meaningfully in terms of his premise. He will meet the world in a way which puts pressure upon this very world to validate his belief, which belief he acquired in the first place by the cumulative impact of those contexts of learning which were his communication with some earlier person.

An inquiry into the functional psychopathologies thus becomes an investigation of the dynamics of past communication. But, curiously enough, because of this fact that communicational premises are self-validating, it is often not necessary to delve into the past in order to investigate their etiology. The premises are self-validating in the present and therefore the disturbed--like the normal--is continually creating around himself that environment which provides the typical etiology for his communicational habits--his symptoms. One has only to examine the present family relations of a patient to find working today the constellation which is etiologic for his symptoms. Indeed,
we may profitably examine the workings of any typical mental hospital for clues as to why its patients are mentally ill.

This broad description of the interchange between persons as a sequence of contexts of learning contains the possibilities for two kinds of psychopathological result: the learning of particular error and the disruption or distortion of the learning process itself. Historically, the first of these received most attention in the early days of psychoanalysis when emphasis was placed upon the fact that certain neuroses result from single and extremely painful experiences in childhood. In terms of what has been said above, we might rephrase this theory as a learning of error—the error being an inappropriate generalization from some terrifying, painful, or over-rewarding experience. Today, less theoretical importance is attached to this kind of pathogenesis, but its occurrence is still undoubted.

In contrast, modern psychiatric theory insists more upon those psychopathological results which derive from continual and repeated experience rather than from isolated trauma. Here the probability that simple error will be generated in the learning individual is much less, since, after all, his opinions, stemming from a multitude of instances, are to that extent validated by the repetition of instances. What is rather to be expected from such an etiology is the distortion of the learning process itself—a type of pathological result more abstract and intangible—and more difficult to correct by any therapeutic experience, since whatever
the patient learns from this experience will probably be learned by means of that process which is already distorted.

It is, however, necessary to give some substance to the phrase "distortion of learning". I have to indicate what sorts of interpersonal sequences might have this effect on one or on both of the participants.

A context of learning is a definitely structured segment of the stream of interchange between persons. We know from experimental data that while the structuring of contexts of learning is extremely variable, some structuring is always present. The events of which the context is composed--conditioned stimulus, response and reinforcement--may be variously related to each other and still constitute a structured whole. That is, we are here dealing with Gestalten (units of the interchange) and are therefore again face to face with the peculiar nature of all such units. Although they are in large part the creation of the individuals concerned, and are necessarily a product of the ways in which these individuals perceive and punctuate what is happening, their perception is inevitably guided by culture and convention. Such perception may be rigid or it may be flexible. But the essential fact is that the rules for this punctuation are a part of that system of pacts and premises upon which communication is based. For their learning communication must be viewed as a sequence of contexts.

What I am describing is a strangely retroflexed procedure;
a process which is in a way folded back upon itself. This may be said in many ways and perhaps most simply by stating that the communicational stream is a sequence of contexts both of learning and of learning to learn.

At this point, the phrase, "distortion of the learning processes" takes on meaning. It would refer to all those cases in which an individual punctuates the stream of communication in a way different from his vis-a-vis but which are reinforced nonetheless by the pain resulting from his idiosyncratic view. From the point of view of the speaker, it will seem to him that he has incurred punishment for what he thought he was communicating, whereas he is in fact being punished for what his messages seemed to be, as perceived by the other.

It is clear that this line of thought, if substantially correct, will lead to a formal theory of stability and instability in human relations. We might therefore inquire into what the engineers call criteria of stability. Is it possible to classify the degrees and orders of misunderstanding if such a way as to separate those conditions which will be corrected by the participants, so that the system continues in a steady state, from those others which lead to a progressive deterioration? At the present time such a question can only be posed in the most general terms and no meaningful answers can be imagined. One relevant matter must, however, be mentioned--that we deal with entities whose behavior is by no means describable in terms of linear equations or monotone logic. What actually seems to happen in many
instances is that when what seems to be progressive change sets in, the situation becomes more or less intolerable for one or both persons and some sort of climactic outburst occurs. Following this, the system either returns to a state which existed before the change began or entirely new patterns of communication may be evolved. There are, after all, larger and longer sequences of interchange than any which we meet with in the brief spans of data upon which this book is based.

From what little we know of the relationship between the fine details of human interaction and the longer cycles of the career line, there is reason to expect that the longer cycles will always be enlarged repetitions or repeated reflections of pattern contained in the fine detail. Indeed, this assumption that the microscopic will reflect the macroscopic is a major justification of most of our test procedures. A major function of the techniques of microanalysis is, therefore, to obtain from small quantities of data, accurately and completely recorded, insights into human relationship which could otherwise only be obtained either by long-time observation or from the notoriously unreliable data of anamnestic reconstruction.

In sum, we are concerned in this book to present the techniques for the microscopic examination of personal interaction. While, of course, the words that people say to each other have importance, the question with which we are concerned, the problem of describing the
relationship between persons, is not a question which can be answered
by any summary of the dictionary meaning of their messages. There
is a vast difference between the mechanical description "A gave B such
and such information" and the description of the interchange "A an-
swered B's question immediately."

The ultimate goal of the procedures outlined in this book is a
statement of the mechanism of relationships. No statement of mechan-
ism without larger context can be of long-term interest; no statement
of relationship, unsubstantiated by a statement of mechanism, can war-
rant confidence. In order to trace the path from mechanism to validated
relationship, it is first necessary to lay out for the reader some des-
cription of how the flow of linguistic and kinesic material can be systema-
tically described.
CHAPTER 2

Vocal Activity

Charles F. Hockett
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2.3. Nonlinguistic vocal communicative systems
2.0. **Introduction**

The vocal activity of a human being past earliest infancy is controlled to a large extent, though not exclusively, by a complex set of habits which we call his language. No two people have exactly identical language habits. To underscore this the total set of language habits of a single individual, at any given point in his life, is called his idiolect. It is obvious, however, that people who live together manage to understand one another's speech most of the time despite the differences. This common-sense observation leads us to speak freely of "English," of "French," of "Swahili," and so on--of different languages, each existing not monolithically but as a collection of more or less similar idiolects.

Not all vocal activity is linguistic (that is, governed by and conforming to language habits). We emit shrieks and groans, babbles and murmurs, laughs and weepings, when we are not talking--and sometimes when we are. We all stutter and stammer more or less as we speak or try to speak. Such disturbances in what would otherwise be a smooth flow of words are most easily dealt with in terms of a separate, nonlinguistic, layer of habits which have to do with the kinds of control\(^1\) we exercise over our linguistic habits proper. Finally, speech in any language necessarily implies speaking

\(^1\) See Appendix 1.
at a certain rate, and with a certain loudness, pitch, and tone quality. Some\textsuperscript{1} features of these sorts constitute integral parts of a language; others\textsuperscript{2}, however, are extralinguistic.

Our basic assumption is that all vocal activity audible to others—-not just the linguistic segment—-is communicative. That is: hearers pay attention, consciously or not, to the nonlinguistic features of vocal activity from a speaker as well as to the linguistic portion, and the former as well as the latter can be crucial in triggering responses. Our basic assumption is really broader than this, since we hypothesize that any human act detectable through any of the senses of other humans is communicative in the way described. In this chapter, however, we are concerned only with vocal activity. Our hypothesis assumes some kind of regularity and predictability in the responses of others. While we may for convenience focus on the behavior of a single person, we try always to see that person in his changing locus relative to others, triggering behavior on their part and being triggered by them.

A further assumption is that every aspect of vocal activity, nonlinguistic as well as linguistic, is learned and arbitrary, rather than innate or "natural." We must consequently expect the organization of nonlinguistic vocal activity

\textsuperscript{1} See 2.1.3. below.

\textsuperscript{2} See Appendix 1.
(and, indeed, of patterns of body motion) to vary from one society to another, just as the linguistic habits of a Frenchman are different from those of an American, and as Japanese landscape paintings do not look like those of the Western European tradition. All habits of vocal activity, and of responses thereto, are part of human culture, and, as such, are patterned, systematic, and therefore susceptible to analysis and description. We cannot be sure, of course, that these assumptions are entirely valid, but to assume the contrary would be an immediate counsel of despair—and this book would not have been written.

To make such assumptions is easy. To carry on empirical research based on them is another matter. Our scientific information is uneven. As of this writing, we know a good deal of the workings of human language; and our control of the details of some languages, including English, while not perfect, is not too lamentably bad. Nonlinguistic vocal activity, on the other hand, is a largely unexplored wilderness. The trails that have so far been blazed carry us only into its edges; we do not know how much more may lie beyond the point of deepest penetration. This imbalance is inevitably reflected both in the present chapter and in the whole investigation of which this book is the report.

2.1. The design of a language.

2.1.1. Introduction.

Here, though examples will be drawn largely from English, we shall concern ourselves only with those features of design believed to be shared by all human languages.
In my opinion—not all specialists agree—one of the most important properties of all languages is duality of patterning. To describe this property we shall turn first not to a language, but to a much simpler human communicative system—a simple substitution code of a variety often devised by American schoolboys. The essence of the system is displayed in Figure 1. Here each of twenty-six simple geometrical figures is assigned an arbitrary letter-value: each figure means a certain letter of our conventional writing system. But the figures are also related, purely as to physical shape, in a systematic way. This is shown in the right half of the figure. Thus,

\[
\begin{align*}
\text{[]} \quad \text{is to} \quad \text{[]} & \quad \text{as} \quad \text{[]} \quad \text{is to} \quad {}; \\
\cdot & \quad \text{is to} \quad \text{[]} \quad \text{as} \quad {>} \quad \text{is to} \quad <; \\
\end{align*}
\]

and so on. Another way to point this up is to notice that each of the twenty-six figures is built out of a small stock of ingredients—straight-line segments in one of four orientations, and a dot—arranged in a strictly limited number of ways.

This systematic interrelationship in shape has nothing whatsoever to do with the meanings of the figures. If we concern ourselves only with the shapes, we can correctly assert such proportions as those given above. But these proportions do not hold between the meanings. Though one vertical segment, joining one horizontal segment at a right angle opening upwards and to the left, with a dot, means "Q", 
![Figure 1](image_url)

| A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T |
| U | V | W | X | Y | Z |   | N | D | I | V |   |   |   |   |   |   |   |   |   |

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No symbols, characters, or illustrations are present in the document.
the three ingredients themselves—the vertical segment, the horizontal segment, and the dot—do not mean anything. Rather, the elementary ingredients of the figures, and their arrangements, serve only to keep the whole figure apart—they inform the recipient of a message whether one figure or another was intended by the writer. We say that the whole figures, and sequences thereof, have a semantic function, whereas the smaller ingredients have only a differential function.

The writer of a message in this system can afford to be fairly careless in his drawing of the successive figures, without giving the recipient too hard a task of decipherment. Thus if one writes

\[ \square < \square \] or even \[ \square < \square \]

the recipient will still quickly make out the intent as "SICK." In the first case, the second figure is tilted slightly counterclockwise from the norm given in the table (Figure 1); but it is still closer to the norm for "I" than to that for any other meaning (say "X").

Figure 2
If the system included a larger number of two-segment figures (perhaps sixteen, as shown in Figure 2, instead of eight) then this much deviation from a norm would be confusing, and more care would have to be taken.

In the second case, the writing was so careless that the second figure is just as close to the norm for "X" as it is to that for "I". Here a further factor renders decipherment easy—a factor that plays a role in the first instance too, but a less crucial one: there is no ordinary written English word "SXCK," so that interpretation of the writer's intent as the figure for "X" yields an impossibility. What these examples show is that, in a communicative system of this sort, redundancy operates both within the realm of physical shapes and within the realm of meanings.

Any communicative system in which the smallest meaningful message-elements are built in a systematic way out of a stock of smaller meaningless but differentiating ingredients has duality of patterning. On one level, every whole message in such a system consists of an arrangement of minimum meaningful elements; on another level, every message in such a system consists of an arrangement of smallest differentiating ingredients.

Many systems either do not have duality, or have it in such a trivial or ultra-complex way as to be of no importance. As an example of utterly trivial duality, we can consider the system worked out by Paul Revere and his assistant for the transmission of one piece of vital information across the Charles River at night. One light was to carry one meaning,
two lights the other possible meaning. If we analyze the system with reference to meaning, we find just two minimum meaningful message-elements—namely, the two possible whole messages, one light and two. If we analyze purely with reference to physical shape, we discover, as the smallest differentiating ingredients, just the same two things: one light and two lights. The minimum meaningful message-elements and the smallest differentiating ingredients are identical, and there is thus no point in speaking of duality. Redundancy plays a role as in the system discussed earlier; but it plays that role only in one way—the light or lights can vary, without relevance, as to color, brightness, and relative placement.

Or we can consider ordinary English writing with the Latin alphabet. Roughly speaking—admittedly there are many irregularities and complexities—the minimum meaningful elements in English writing are letters, which have, as their meanings, the sounds we produce as we speak English. In a few marginal cases, we can find proportions which hold between the letters purely as to shape. Thus, in some type fonts, "p" is to "q", in shape, as "b" is to "d". But by and large there are no such simple relationships. Readers seem in the main to tell one letter from another in terms of total configurations.

The duality of language can be illustrated with English, but the reader must think in terms of spoken English in order to understand the example, even though we must necessarily present it via writing. Consider the following set of English words:
Each of these words is a meaningful element, recurring from time to time as we speak. None of the words can be broken down into small elements that are also, on this level, independently meaningful (this is not true of all words, but it holds for the twelve listed here). Thus each word is a minimum meaningful message-element. But in physical shape—that is, in articulatory motions as we utter them, and in acoustic shape as we hear them—they are systematically related: pit is to bit as pat is to bat, bet is to pen as bat is to pan, and so on. Every utterance in a given language consists of an arrangement of minimum meaningful elements, drawn from a large but strictly finite stock of such elements. At the same time, every utterance in the language consists of an arrangement of minimum meaningless but differentiating ingredients, drawn from a much smaller stock. In describing any language, or languages in general (but not dual systems other than languages), we call the minimum meaningful elements morphemes, the smallest meaningless but differentiating ingredients phonemes (Bloomfield, 1933, p. 264).

We have seen that duality characterizes language and some, but not all, other human communicative systems. No known system used by non-human animals has been demonstrated to have duality. It appears not unlikely that among human systems, language is the earliest to achieve duality. Moreover, wherever
the property appears in simpler and more recent human systems, it may be interpreted as having developed in them directly or indirectly on the model of duality in language. All this does not necessarily imply that duality is the most crucial property of language—another property of basic importance will be described later. We have put duality first because it affords the most logical basis of organization for the further remarks that must be made about language design.

We asserted in our introductory remarks that the vocal behavior of humans is only in part governed by language habits. In analyzing vocal behavior, how are we to determine which portion is linguistic? Duality gives us the most useful criterion for the definition of language, however hard it may be to apply in practice: that segment of vocal activity which analysis shows to be dually patterned, having both morphemes and phonemes, is linguistic. The remainder, whatever its communicative relevance, is by this definition not language.

Here is a preliminary example. On two successive mornings, Jones comes into the corner drugstore and says to the clerk Coffee and doughnuts, Pete. The first morning, Pete merely fills the order; the next morning, as he is filling the order he remarks You sound tired this morning, Mr. Jones. Pete's observation may be quite accurate, in the face of absolute phonemic and morphemic identity between Jones's utterances on the two mornings. If so, then the response is triggered by nonlinguistic features of Jones's speech—a slower tempo, a "thinner" voice, less precise articulation of vowels and
consonants, and the like. Variations of these sorts are commu-
nicative, and are patterned—but they are not dually
patterned, and are hence not part of language.

We are now ready to discuss, in turn, the two levels of
patterning found in language and the relationships between
them.

2.1.2. Morphemes and Grammar.

As we have said, the smallest individually meaningful
constituent signals in a language are morphemes. In the English
utterance She bought a new hat, as ordinarily spoken, there are
seven constituent morphemes: she, bough- (the "same" morpheme
as buy, for a reason we shall see later), -t (past time), a,
new, hat, and an intonation. Some acts of speech are broken
off by intrusive elements—coughing, interruption by someone
else, and the like. Setting aside such fragments, every
utterance in a given language is composed wholly of an arrange-
ment of an integral number of morphemes drawn from the
morpheme-stock of the language.

In English, and quite possibly in all languages, at
least one constituent morpheme of every utterance is an
intonation; an assenting grunt Hm! or a querulous Hm? from
the point of view of the language consists wholly of an
intonation. Every adult speaker of a language controls
several thousand morphemes; in English, about one hundred of
these are intonations. The language as a whole can be said
to provide an even larger stock of morphemes, since there are
always some known to some speakers but not to others.
As might be expected, the matter of meanings is much more complicated for a system as complex as a language than it is for the simple substitution code discussed earlier. Some morphemes have meanings only in an indirect way. The larger combinations in which they occur have meanings different from the meanings of the combinations in which they do not occur. One can describe, at least in part, the meaning of a morpheme such as boy, girl, table, by pointing to things in the world around us; one cannot do this for such morphemes as and, or, if, a, the. Yet the meaning of men and women is different from that of men or women, and the meaning of match and book is different from that of match book, and this is enough to show us that and, or, and the like must be classed as morphemes. The meaning of a whole utterance results not alone from the meanings of the constituent morphemes, but also from their arrangement: dog bites man versus man bites dog; match book versus book match. Thus arrangements, as well as morphemes, have meanings or contribute to the meanings of larger messages.

Physically, arrangements of morphemes in utterances are linear in time and with overlap (the intonation of our sample utterance She bought a new hat is delivered simultaneously with the words). Communicatively, however, arrangements are hierarchical. In a context in which the phrase old men and women obviously means "women of all ages, and elderly men," the speaker intends the and to join the constituent parts old men and women, and his hearers so interpret it. In a context in
which the same phrase means "elderly men and elderly women," the speaker intends old to go with the whole smaller phrase men and women.

Sometimes speaker's intention and hearer's interpretation are at odds, or the hearer is uncertain; this may or may not lead to further misunderstanding. Although structural ambiguity of this sort is not uncommon, usually the specific morphemes, and the linear sequence in which they occur, allow of only one interpretation within the economy of the language. The superposition of hierarchical organization on a physically linear arrangement by a hearer is a Gestalt phenomenon, like the reading of depth into what is physically an assemblage of line segments on a plane surface. Figure 3 shows this, and also displays one device for the graphic representation of hierarchical organization.

Figure 3

A

B

C

D

E

F
Gestalt perception in vision and in the hearing of speech. A, B, and C are all assemblages of line segments on a flat surface. We see depth in all three; furthermore, B can be seen as more like A or as more like C. E stands for the physically linear arrangement of morphemes as we hear the phrase. D and F represent two different hierarchical ways in which the constituent morphemes can be organized by the hearer.

There are always stringent limitations on the arrangements in which the morphemes of a language can occur relative to one another in speech. Thus, in English, John do-es not like Mary occurs; not-es Mary John like do is nonsense. In one sense, these limitations constitute constraints on speakers. Speakers are not free to speak in any manner they please. The truth of this is not altered by the fact that the constraints are probabilistic rather than absolute. In another sense, the limitations are not so much constraints as smooth grooves along which a speaker slides with minimum effort. In the same way, a net-work of highways enables one to travel easily wherever one wishes to go--so long as one keeps one's car on the road and within the network.

This comparison breaks down in one respect. One can reach East Micro Junction by car only if a highway has already been built to or through that town. In a language, one can reach points that have never been reached before; for speaking a language is comparable, at one and the same time, both to road building and to highway travel. That is, a speaker may say something that neither he nor his audience has ever
heard or said before, and be perfectly understood, without any of the participants being in the slightest aware of the novelty. As an example, the reader need only consider the present paragraph: every morpheme and every way of putting morphemes together that is involved in this paragraph is familiar, and yet the specific combination is new.

This property of languages as communicative systems is called openness, and it should be obvious that openness is a trait of even more fundamental importance than duality. Yet whereas no non-human animal communicative systems seem to have duality, at least one such system shows openness: bee-communication. Thus a worker can report to her fellows the location of a source of nectar at a place where neither she nor her fellows have ever found nectar before. Yet we search apparently in vain for open systems in use by our nearest non-human relatives. Gibbon vocalization, for example, is apparently constrained to a discrete choice from a small finite set of calls: no matter how novel a situation, the communicative vocal response to it can only be one or another of these calls, not a new call consisting of two old ones in sequence or of a blending of ingredients from two or more of the old ones. The practical difference between such a closed system and an open system like human language hardly needs underscoring.

The mechanism of openness is at bottom simple: a novel utterance is produced on the analogy of various utterances of various structures which have occurred previously (in the speaker's experience) in partly comparable circumstances.
Thus the new utterance consists of individually familiar elements (morphemes), put together by familiar patterns: only the total result is new.

A result of limitations on arrangement is that any single morpheme in a language is characterized by a certain roughly definable range of privileges of occurrence relative to other morphemes. Sets of morphemes which have approximately the same privileges of occurrence constitute form-classes. In any language, some of these form-classes are very large (English man, boy, child, woman, dog, cat, etc.) and some are very small (English a and an). The very small form classes usually include only morphemes of the sort that have an indirect bearing on meaning (and, or, etc.), rather than a denotation at which one can point.

The morpheme stock of a language, and the hierarchical arrangements in which the morphemes occur relative to one another in utterances, constitute the grammar of the language. Both elements and arrangements differ from language to language. That the elements differ, not only in sound but in range of meaning, is obvious: the central meaning of English chair, for example, is broken into two ranges of meaning in French, in which one says chaise or fauteuil depending on whether the sittable is hard or stuffed; what the Cree Indians express with the single word ӧskew has to be conveyed in English with the long phrase he makes a hole in the ice to hunt beaver.

Arrangements are also incommensurable from one language to another. If only the elements were different from language
to language, then all we should have to do to master a foreign language would be to learn its vocabulary, and anyone who has tried knows that it is not that easy. To translate English I do not have time word-by-word into German yields nonsense (ich tue nicht haben Zeit!); good German Das hat alles über den Haufen geworfen yields comparable nonsense when subjected to the same sort of translation in reverse—That has everything over the heap y-thrown. Nor is it valid to say—as we may be inclined to with reference to our own language, in which everything seems reasonable and proper merely because of familiarity—that arrangements of morphemes occur if they make sense. It is nearer the truth to say that they make sense—to those who speak the language—if they occur. Even this is not the complete truth, since the perfectly natural process of coining new utterances from time to time yields something meaningful to the speaker but cryptic to others.

Words are recurrent clumps of morphemes—single morphemes in the limiting case—which manifest a degree of cohesion greater than that shown in the same language between successive morphemes in different words. In English, we can in general rely on our orthographic habits of leaving spaces at certain points as a clue to word-identity: boy is a word of one morpheme; boys and boyish are words of two morphemes each; boyishly is a single word of three morphemes. The clue is not infallible: blackboard is two words (each one morpheme) whether written that way, or with a hyphen (black-board) or with a space (black board).
Some morphemes, especially all intonations, belong to no word, but form additional non-word constituents of utterances. Conventional English orthography does a very inadequate job of representing these. Therefore the non-word morphemes supplied by a reader as he peruses ordinary written English are often different from those used by the writer as he wrote. Languages differ as to the average number of morphemes packed into single words, and as to the precise kind of intraword cohesion. English thus averages more morphemes per word than Chinese, but fewer than Spanish, which in turn averages fewer than Latin, and Latin fewer than the Algonquian languages of aboriginal North America. Such differences are relevant for purely linguistic purposes, since a language with relatively more complex words has more morphology to be described (morphology being that compartment of grammar in which words are built out of morphemes) and comparably less syntax (the building of whole utterances out of words and non-word constituents), than does a language with relatively simpler words. But these differences have never been shown to correlate with any other aspect of the life of the speakers of the languages.

Certain combinations of morphemes—sometimes exactly one word in size, sometimes smaller or larger than single words—have meanings not predictable from their constituent morphemes and the arrangements of the latter. Any such combination, and any single morpheme, is an idiom. Examples of longer idioms are white paper (governmental document), marriage of convenience, run out ("become depleted"), Statue of Liberty (in New York bay),
statue of liberty (in football). It is well to recall, too, that there are fixed longer discourses such as a poem or a cliché which are also idiomatic. Awareness and consciousness are obviously quite similar in meaning, and interchangeable in most contexts; the fact that self-awareness and self-consciousness have sharply different meanings shows that the latter two are both idioms. Idioms are learned and used as wholes; but, also, new idioms are coined in various ways, and old ones can become disused. If we measure vocabulary in idioms instead of morphemes, the count for the ordinary speaker runs to the tens of thousands: one\footnote{Martin Joos in conversation.} estimate is that the average person past infancy controls about one thousand idioms for each year of his age, though perhaps with a decline in the rate of increase past the mid forties.

2.1.3. **Phonemes and Phonology.**

Phonemes are the smaller meaningless constituents out of which morphemes, combinations of morphemes, and whole utterances are built, and which serve to keep morphemes and whole utterances apart.

The words pit and bit, said in isolation as whole utterances, differ in sound only at the beginning, and are in certain aspects the same there. In terms of articulatory movements, the lips and the nasal passages are closed for both. For pit the vocal cords are quiescent (the p is voiceless), while for bit they are in vibration (the b is voiced). There is no actual or possible third morpheme in English, differing from pit and
bit only in that the initial consonant is more strongly voiced than for pit yet less strongly than for bit. Out of the continuum of physiologically possible degrees of voicing, only two ranges are selected and assigned contrastive function in English. No matter how sloppy a speaker's control of voicing may be as he says one of these two words, a hearer who know the language is absolutely constrained to interpret the result as exactly the one word, or as exactly the other, or as so badly articulated that identification is impossible. The last of these alternatives is not a third possibility within the limits of the system, but a reparable breakdown of the system. Of course, hearers may notice the production of a mumbled and undifferentiable pit/bit by a speaker, as they may note, say, a bit pronounced with an unusually strongly voiced b; and either of these may convey information of some sort. But the communicative function of such variations stands outside of language proper, within which only discrete\(^1\) contrasts between quantized points or ranges of speech sound are relevant.

The phonemes of a single language are thus not speech sounds, but rather ranges of speech sound--bull's eyes, as it were, at which a speaker aims his articulation. The phonemic system of a language is not so much a stock of "things" as it is a network of distinctive articulatory-acoustic differences. A particular phoneme in a system is defined functionally not so much by what it is physically, or what it sounds like, as by

\(^1\) See Appendix I, p.
what, in the same system, it differs from. This means that even if phonemes in two languages sound roughly the same, they may still differ radically in function. English makes systematic use of two degrees of voicing (voiceless, as \( p \), and voiced, as \( b \)), but Menomini, and many other languages, make no use of this scale at all, so that the Menomini phoneme which sometimes sounds to us like \( p \) is not functionally commensurate with either English \( p \) or English \( b \). Phonemes in different languages are never commensurate; only phonemic systems can be compared.

No known language requires articulatory motions of any part of the body except the respiratory and upper alimentary tracts, for the production of its phonemes. A few languages do not use all the manipulable parts of this region: for example, in most of the Iroquoian languages the lips do not function; and in Quileute there is no distinctive contrast between nasal passages closed and nasal passages open, so that there are no phonemically separate "nasal" sounds like English \( m, n, ng \) (come, can, king).

What we ordinarily call "vowels" and "consonants" are kinds of phonemes (segmental phonemes), but there are other kinds as well. There are phonemes involving the pitch of the voice, the general strength of articulation, differences of timing and duration, and the like. The contrast between the noun \( \text{PERmit} \) and the verb \( \text{perMIT} \) is a matter of distribution of strength of articulation, not of vowels and consonants. In Chinese, a set of syllables all of which sound something
like English you mean "oil," "have," "again," and "swing," depending on the tonal contour which accompanies the vowels and consonants. Chinese uses pitch both in the way just illustrated and also as the raw material for intonation phonemes; English uses pitch only in its intonation phonemes.

A phonemic system, then, consists of a stock of phonemes and of the arrangements in which they occur relative to one another in utterances. There are always stringent limitations on these arrangements, just as, in grammar, there are for morphemes. Phonemic systems differ from each other in two ways: (1) as to the particular quantizing of the multidimensional continuum of possible articulatory motion, and resulting sound, into contrasting ranges of speech sound, and thus as to the number of phonemes in the system; (2) as to the arrangements in which the phonemes can occur.

Systematization on the level of phonemes is, if anything, even more rigorous than on the grammatical level. Standard German has twenty-seven segmental phonemes; American English thirty-three. German has no separate phoneme acoustically similar to the English th of thick; English has none similar to the German ch of Bach. German and English share acoustically comparable phonemes t (G Tag; E time) and s (G Wasser; E sing); in German the initial sequence ts occurs (Zeit, pronounced Tzeit), but not in English; in English the initial sequence st occurs (sting), but not in Standard German. Finer (and trickier) differences of this sort appear among the dialects of a single language; coarser (but also trickier) differences
appear among languages less closely allied than are English and German—say, between either of these and Chinese.

2.1.4. Speaking as a Process.

When we examine an utterance via a written record, we are free to read it from beginning to end or to look back and forth from one part to another in any way we please. Of course, this is not the way utterances really happen, and our culturally imposed preoccupation with writing must not be allowed to mislead us. Language manifests itself first and foremost in the behavior of speaking. An utterance is not spoken all at once, but bit after bit in time: speech is not only unidimensional but unidirectional. Each successive bit is spoken and then vanishes into limbo, never to be recovered or unsaid.

It is convenient to pretend that a speaker "first" chooses the morphemes he wishes to transmit (perhaps very few at a time), arranging them appropriately, and "then" encodes the result into an array of phonemes for articulation—perhaps as he proceeds to the selection of the next few morphemes. Conversely, the hearer "first" interprets the incoming speech signal into an array of phonemes, and "then" decodes the phonemes into morphemes.

The convenience is twofold. First, we may thus imagine the process of morpheme emission as going on continually in any human past infancy. When not being directly guided by contemporary input from elsewhere in the person, it is driven, as it were, under its own power; but only sometimes does it "break through" to the surface to be audible to others. The progression
is probabilistic, not determinate. It is the arrival of a morpheme at "headquarters" that triggers the emission of the next morpheme, and it does not matter whether the incoming morpheme has been transmitted via feedback routes from the hearer's own "headquarters" or through the air from someone else. Thus, self-communication, either aloud or "thinking in words," mocks speech communication between people.

There is also only a probabilistic tie between the morpheme-flow within a person and other events within and around him. The tie is in both directions. Sight of a cat may or may not lead a speaker to say There's a cat: the probability that it will is conditioned by where his internal morpheme-flow is at the moment. If the self-driven probabilistic progression leads to the emission of the morpheme cat, that increases at least somewhat the probability that the speaker will look around for a cat.

Thus the "impact of language on thought and behavior," as discussed by Whorf, can be understood behaviorally; it will differ in kind, if not in degree, from language to language. So, also, can we understand one variety of Korzybskian "identification": if an experiential stimulus (say the sight of a plate of food of a certain kind) triggers the emission of a certain train of morphemes ("This stuff is Irish stew"), subsequent behavior may be controlled largely by the economy of the individual's idiolect—which, in its turn, derives from a whole history of previous experiences, of the individual and of his predecessors—rather than by the immediate idiosyncratic reality
"I don't like Irish stew"). It must never be forgotten that the generation of the stream of speech, even internally, involves work, and that it may be more work to force the succession of morphemes to match specific novel facts than it is to let the progression follow geodesic lines of highest intra-systemic probability.

2.1.5. Morphophonemics.

The second convenience of the mode of description adopted above (2.1.3.) is that it helps us to specify the remaining aspect of language design: the morphophonemics of a language is the code by which arrays of morphemes are transduced into arrays of phonemes and vice versa.

In any single context of other morphemes, a given morpheme is represented by a specific arrangement of phonemes. Some morphemes are represented in the same way in all occurrences: pay in pay, pays, paying, paid, payer, etc., and in all the longer utterances which incorporate any of these words. Two morphemes may share a representation: pair "couple" and pare "to peel." A single morpheme may have more than one representation, depending on linguistic environment: wife with a final 'f in the singular, but wive- before the pluralizing morpheme -s; the latter is pronounced a in cats, pits, but z in cads, ribs, wives; buy is changed to bough- when followed by the past tense ending -t.

Some such alternations in phonemic shape are imposed by phonemic habits. English phonemics allows us to say -ts and -dz
at the ends of words (cats, cads), but not -tz or -ds, so that
the use of both -s and -z for the pluralizing morpheme is
"natural" within the language (not in any more general sense,
of course: some languages allow sequences like tz and ds).
Other alternations are survivals of earlier historical acci-
dents; buy and bough-, since there is nothing in English pho-
nemics to preclude us from saying buyed. Any of the latter
is a morphophonemic irregularity.

Languages differ as to the number and importance of their
morphophonemic irregularities. Russian ranks high in irregu-
ularity; German is less irregular, but still slightly more so
than English; Hungarian is somewhat more regular than English,
and Chinese is the most regular of the five languages we have
just named. In language-learning, morphophonemic regularity
is an obvious advantage. For an adult student of a second
language, this advantage can be outweighed by other factors:
e.g., German is easier for speakers of English to learn than is
Chinese, because vocabulary and pronunciation are less alien.
It has been suspected that for a child learning his first lan-
guage these other factors can play no part, so that, for
example, the Hungarian child should learn his language somewhat
more rapidly or easily than the American or Russian child. This
hypothesis seems reasonable to me, but so far as I know it has
never been supported by carefully controlled observation.

2.1.6. Idiolects and Dialects.

A person's idiolect is a product of a succession of differ-
ent contacts: each period of residence in one or another
community, each period of interaction with a given set of friends and associates, contributes a layer, its importance depending on the length and intimacy of the contact and on the individual's receptivity at the time. Early habits can be apparently submerged by those acquired later, but they are perhaps never altogether lost. Special circumstances can bring them again to the surface. One woman, raised in the Bronx, went to the Middle West at the peak of her adaptability (age 20), and now, fifteen years later, usually speaks fairly typical Middle Western English, with a few generalized East Coast features but with no clear indications of the Bronx. But whenever this woman talks over the telephone with her parents or sister (who did not move west), typical Bronx features reappear. They also turn up when she is engaged in certain emotionally colored types of argument with her children. In the latter context, there is presumably some cue of similarity to her earlier relations with her own parents that elicits this shift in speech-pattern.

A dialect is a variety of a language characteristic of a particular geographical-social region. Dialects vary from one geographical area to another, and from one social\(^1\) stratum or occupational grouping to another, sometimes slightly, sometimes radically. Regional and social dialect continuity seems to be

\(^1\) For social concomitants of dialect variation see McDavid, 1948, 1951, 1952-3.
maintained in this country in the face of considerable mobility of individuals. If a given dialect loses speakers through emigration or social-climbing, in compensation it gains the children of new arrivals. The idiolect of a person who stayed near his birthplace indefinitely might reflect features typical of the dialect of his region and social stratum. If all speakers were like this, then we could say that a dialect consists of a set of closely similar idiolects, just as a language, in turn, includes one or more fairly similar dialects. But this assertion does not hold for American English. Many an idiolect far exceeds in dialect affiliation the complexity of that of the woman mentioned in the preceding paragraph, including within itself features from two or more dialects, the speaker's environing circumstances eliciting now the features of one dialect, now those of another.

Dialect differentiation also shows certain partial correlations with age-grading and with what we may call sex-grading. In addition to purely linguistic features, certain typical "tones-of-voice" tend to be differentially associated with different age-grades and sex-grades. Age-grading is self-explanatory. For example, within many social strata in many parts of the country, the typical voice and speech of an upper-teen-aged girl are quite different from that of a matron in her thirties, and if we hear the teen-aged voice from a matron there is an incongruity. By "sex-grading" we refer not merely to male versus female, but to the two or three different culturally transmitted manners in which the fact of being a male, or a
female, can be acted out. The "locker-room male"—taught how
to be a male by other males, in a context of emphasis on
physical sports—acts and speaks differently from the male who
has been conducted through childhood and adolescence largely
by women. Statements of male homosexuality, as a "tertiary"
(i.e., culturally developed) sexual characteristic sometimes
unaccompanied by any overt homosexual tendencies, can show up
in certain features of voice quality and of the articulation
of vowels and consonants.

Interpersonal differences in speech habits are quite like
interpersonal differences in all other varieties of communica-
tive behavior. In observing and comparing people, we must
remember, however, that interpersonal differences are of two
orders. Obviously, what John Jones signals on a given occasion
(in words or otherwise) differs from what Jim Brown might signal
in the "same" circumstances, and from what John Jones might
signal in other circumstances. But there are also interpersonal
differences in the systems, and it is primarily to those that
we refer when speaking of dialects and of idiolects. We cannot
understand what John Jones means by his signals without knowing
the idiosyncratic twists given to each communicative system by
John. Thus a nod means "yes" to us, "no" to an Eskimo; homely
means "pretty" in Australia, "ugly" in the United States; the
intonation of a polite request in British English is that of
exasperation in American English; lost in some Southern speech
sounds exactly like loused for some Northerners. Children whose
control of their language is not yet fluent often answer yes or
no for lack of the machinery for a more precise response:
parents may take this as a falsehood when it is not. Blood—the word, not merely the substance named by it—connotes laboratory work to a serologist; it may send someone else into a faint.

2.2. The design of American English.

A complete description of any language—one spoken by hundreds of millions of people, like English, or one spoken by a few dozen people in some New Guinea village—is a lengthy and laborious matter. A complete description of English is impossible here; fortunately, it is also unnecessary. What follows is an outline or frame of reference, describing the basically important habits of the language, and supplying appropriate points of attachment for the multitudes of details which have to be omitted.

Grammar is always more complicated than phonology; consequently, our discussion of English phonology will be relatively less sketchy than what we say about English grammar.

2.2.1. English phonology.

What we shall present on phonology is not the exact system of any single idiolect or dialect, but the overall pattern of (General) American English: a system incorporating all (or almost all) of the contrasts functional in any idiolect, so

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1 For fuller treatments, see Trager and Smith, 1951, and now, since this writing, Hill, 1958, and Sledd, 1959.

2 For a fuller treatment of American dialect variation see McDavida, 1963.
that the precise system of a single idiolect is a weighted selection from the overall system. The logic of the overall pattern approach will become clear from the examples. Certain Southern and Canadian varieties of American English may require slightly different overall patterns, but this possibility has not been sufficiently explored for consideration here.

Any utterance in (General) American English is built out of a selection from a stock of forty-four phonemes. In presenting and describing these phonemes, we also supply symbols for their graphic representation. Since many of the symbols are identical with letters of ordinary English spelling, they will regularly be cited between slant lines (thus: /a/), except in tabular displays.

**Segmental phonemes:**

**Consonants:**

<table>
<thead>
<tr>
<th>Full Consonants:</th>
<th>p</th>
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<th>k</th>
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<th>Semiconsonants:</th>
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<th>Vowels:</th>
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<tr>
<td>æ</td>
<td>a</td>
<td>ɔ</td>
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</tbody>
</table>
Nonsegmental phonemes:

Juncture: +
Stresses (written over a vowel): á à ã

Intonation phonemes:

Pitch Levels (PLs): 1 2 3 4
Terminal Contours (TCs): | || #

2.2.1.1. Consonants.

The first eight of the full consonants are illustrated by the following words:

/p/ pull /púl/, lip /líp/ /b/ bull /búl/, sib /síb/
/t/ tell /tél/, let /lét/ /d/ dull /dél/, led /léd/
/ch/ chill /kíl/, rich /ríč/ /ʃ/ jill /ʃíl/, ridge /ríʃ/
/k/ cull /kúl/, luck /lék/ /g/ gull /gúl/, lug /lég/

These eight are stops: they are articulated with closed nasal passages and with a complete closure somewhere in the oral cavity. For /p b/ the oral closure is between the lips (bilabial), for /t d/ between the tip of the tongue and the alveolar ridge (apico-alveolar), for /ch j/ between the blade of the tongue and the general region of the alveolar ridge (lamino-alveolar), for /k g/ between the back part of the upper surface of the tongue and the velum (dorso-velar). /b d j g/ are voiced, and /p t ch k/ voiceless. /ch j/ are released in such a way that the air passes between the blade of the tongue and the alveolar ridge to produce audible friction; for this reason these two are called affricates. The other six stops
are not affricates.

The next eight full consonants are illustrated in the following words:

\[
\begin{align*}
/f/ & \quad \text{full} /\text{fúl}, \quad \text{cuff} /\text{kéf}/ & \ /v/ & \quad \text{vat} /\text{vat}/, \quad \text{live} /\text{lív}/ \\
/θ/ & \quad \text{thumb} /\text{θém}/, \quad \text{myth} /\text{miθ}/ & \ /ʒ/ & \quad \text{thus} /\text{ðs}/, \quad \text{scythe} /\text{sáyθ}/ \\
/s/ & \quad \text{sell} /\text{sel}/, \quad \text{less} /\text{lés}/ & \ /z/ & \quad \text{zip} /\text{zíp}/, \quad \text{haze} /\text{héyz}/ \\
/ʃ/ & \quad \text{shell} /\text{ʃél}/, \quad \text{mesh} /\text{méʃ}/ & \ /ʒ/ & \quad \text{Jeanne} /\text{ʒán}/, \quad \text{rouge} /\text{ruwʒ}/, \quad \text{vision} /\text{víʃín}/
\end{align*}
\]

These eight are spirants (or fricatives, whence the term "affricate" for \(/ʃ \ ʒ/\): the nasal passages are closed, and a partial closure is made in the oral cavity so that the air, in passing through, is forced into turbulence. For \(/f \ v/\) the partial closure is made between lower lip and upper teeth (labio-dental); for \(/θ \ ʒ/\), between the front edge of the tongue and the backs of the upper teeth, the air escaping through a transverse slit (apico-dental slit spirants); for \(/s \ z/\), between tip of tongue and alveolar ridge, the air escaping through a tiny hole in the median line (apico-alveolar rill spirants); for \(/ʃ \ ʒ/\), between blade of tongue and the region of the alveolar ridge (lamino-alveolar). \(/f \ θ \ s \ ʒ/\) are voiceless, \(/v \ ʒ \ z \ ʒ/\) voiced. Some speakers do not use \(/ʃ/\) either initially or finally (they do not use the "French" pronunciation of \(\text{Jeanne},\) and end \(\text{rouge, garage}\) with the affricate \(/ʒ/\)); this is why we have also given an example in medial position above.
The next three full consonants:

/m/  null /nél/,  dumb /dém/
/n/  null /né/,  dun, done /dén/
/ŋ/  singing /síŋŋ/.

These three are nasals: a complete closure in the oral cavity, but with the nasal passages open. For /m/ the closure is bilabial, for /n/ apico-alveolar, and for /ŋ/ dorso-velar. All three are voiced. /ŋ/ does not occur initially. Note the difference between singer /síŋŋ/ and finger /fíŋŋ/: some speakers with a direct or indirect background of certain Central and East European languages say singer /síŋŋ/, sing /síŋ/, singing /síŋŋŋ/, and have no /ŋ/ except directly before /g/ or /k/ (sink /síŋk/).

The last two full consonants are sometimes classed together as liquids, a term which makes no particular reference to articulation:

/r/  red /ré/,  tar /táhr/ (some speakers /tá/)  
/l/  led /lé/,  dell /dél/

For /r/, the tip of the tongue is curled back, but does not touch anything (a retroflex glide vocoid). For /l/, the tip of the tongue touches the alveolar ridge, but the sides are not in contact with the sides of the mouth, and the air can pass through without any friction (apico-alveolar lateral). Both are voiced, and for both the nasal passages are closed. Many speakers, in parts of New England, the Hudson Valley and New York City, and certain regions in the old South, have /r/ only before a vowel.
The three semiconsonants occur before vowels, as follows:

/y/ yes /yéz/, yacht /yájt/ (or /yáht/)
/h/ hem /hém/, hut /hút/
/w/ wet /wét/, wind /wínd/

For /y/, the blade of the tongue approaches the hard palate and is pushed forward in the mouth, for /h/ the position of the tongue approximates that of the following (or preceding) vowel, and for /w/ the back part of the tongue approaches the soft palate. The lips for /y/ are spread, for /w/ rounded, and for /h/ accommodated to the lip position for the following (or the preceding) vowel. Both /y/ and /w/ are voiced, whereas /h/ is voiceless before, but voiced following, another vowel.

The full consonants and the semiconsonants occur in various sequences uninterrupted by any vowel. These combinations are called consonant clusters. Initial clusters have as many as three constituents: sigh, spy, spry /sáy spáy spráy/, well, quell, squelch /wél kwél skwél/. Final clusters have as many as four: sing, sink, sphynx, jinked /síŋ sínk sfpíŋks jíŋkd/. Of the thousands of mathematically possible consonant clusters, only a few hundred actually occur, and some of these are extremely rare. Thus some speakers use initial /ts/ in a few uncommon words (tsar /tsáhr/, tsetse /tsýtsý/, Tsimsian /tsýmíyíán/), while many speakers do not use this initial cluster at all.

2.2.1.2. Vowels and Nuclei.

Consonant clusters directly after a vowel do not have a semiconsonant as first constituent, because when a semiconsonant
occurs directly after a vowel the combination of vowel and semi-
consonant forms a complex syllable nucleus or complex syllabic.
A vowel with no following semiconsonant constitutes a simple
syllabic. Since there are nine vowels and three semiconsonants,
there are thirty-six syllabics in all:

<table>
<thead>
<tr>
<th>simple</th>
<th>complex /-y/</th>
<th>complex /-h/</th>
<th>complex /-w/</th>
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It is not unlikely that most speakers of American English use
most, if not all, of these thirty-six nuclei. But in any single
idiolect some of them are commonest and a few are very rare, and
the distribution of common and rare varies widely from one
variety of English to another. We illustrate here all the
simple nuclei and the most widespread of the complex syllabics:

/ɪ/: hip, bit, kick /hip bit kIk/

/ɛ/: bet, neck, kept /bɛt nɛk kɛpt/

/æ/: cap, hat, batch /kæp hæt bæt/, except that some speakers
(e.g., in Western New York State) have /æh/ or /éh/ in almost all
such words.

/ɜ/: just /jʊst/ in I just got here (not in a just man,
which has /jəst/); often in this /ðɪs/); common in children,
silver /ˈsʌldərn səlˈvər/; in parts of the South in sister,
dinner /ˈsɪntə(r) dɪˈnə(r)/; the commonest syllabic in un-
stressed syllables.

/á/: but, bud, bun, buzz /bʌt bʌd bʌn bʌz/; southern
British English has /á/ in such words.

/á/: cot, lock, hop /kɔt lɑk hɔp/, except that in
Eastern New England, as in southern British English, these
words have /ɔ/.

/ú/: book, put, puss /bʊk pʊt pʊs/.

/ó/: most widespread in gonna /ˈgɑnə/ (=going to: I'm gonna
stop now), whole /hɔl/ (the whole thing, not make me whole again,
which has /ɔw/), because /bɪykɔz/ (also with /ɔ/ or /ɔh/); in
parts of rural Eastern New England in home, road, coat and some
other household words /hɔm rəd kɔt/, elsewhere most generally
/ɔw/.

/ɔ/: not common, except for the British use in cot, lock,
hop, etc. (See above under /á/); some New England rural types
may have this rather than /ɔ/ in home, road, coat; I have it
before /l/ in balm, calm, psalm, alms /bɔlm kɔlm sɔlm ɔlmz/.

/ɪ/ː: beet, peep, leak, reach /bɪt pɪp lɪk rɪʃ/. In bee, bean, seem, leave most speakers have /ɪ/, but some in
the region of Philadelphia and Baltimore have /ɜ/.

/ɛ/ː: pate, cape, sake /pɛt ˈkaɪp sɛk/.

/æ/ː: I, lie, tight, spike /æ ˈlai tæt spæk/. Many New York City speakers have /ɔ/ in these words; in the
South, /ɑ/ is common; in Central and Western Canada /ɔ/ is
usual before a voiceless consonant, as /ˈtæt spæk/, but /ɔ/ otherwise.
/ɒy/: boy, hoist, coil, oil /bɒy hɔɪst kɔɪl ɔyl/. Some Southern speakers have no cases of this, sometimes using /ˈɒh/ instead (as before /l/: /kɒhl ɔhl/), sometimes /ˈæy/ (boil, "heist" /bɔyl hɔɪst/), sometimes pronouncing two syllables where other speakers have one (boy /ˈbɔwi/).

/ˈɛh/: commonly in yeah /ˈyɛh/; in the Central Atlantic Seaboard in can "container" /ˈkɛhn/, in contrast with can "be able" /kæn/. Many Middle Westerners have this or /ˈɛh/ or /ˈæy/ almost to the exclusion of the /ə/ found in the East and in New England in words like cab, cad, fad, sand, ham (/ˈɛn/ or /ˈɛh/), bag, ashes, back (/ˈæy/).

/ˈæh/: speakers (mainly New England and the East) who distinguish between bomb /bɔm/ and balm /bɔlm/ have /ˈæh/ also in words like father, starry (vs. sorry with /ˈæ/), Dali (vs. dolly with /ˈæ/ or /ˈɛ/). In the Middle West /ˈæh/ is more usual before a voiced consonant, /ˈæ/ before a voiceless (e.g., bomb and balm both /ˈbɔlm/, but /ˈæ/ in pot). Everywhere words like spa, fa, la, rah, pa, ma end with /ˈæh/, except that some speakers say rather paw, maw with /ˈɔh/.

/ˈɔh/: widespread in law, saw, ought, haul /ˈɔh sɔh ɔht hɔhl/ and the like. But in New York City these words usually have /ˈɔh/; in the Northwest including Central and Western Canada, they have /ˈɑh/ or /ˈæ/ (so that cot and caught are identical, /ˈkɔt/, and cod and cawed are both /ˈkɔd/) and in many parts of the South they all have /ˈɔw/.

/ˈɔw/: house, cow, about, loud. In parts of the South one hears /ˈɔw/ (or even /ˈɔh/ or /ˈɔwi/) in these words; in the Virginia Tidewater /ˈɔw/ is customary. In Central Canada and
the Northern Middle West, /ɔw/ is usual before a voiceless
consonant (house /ˈhɔw/) but /ɔw/ otherwise (houses /ˈhɔwz/) .

/ɔw/: boot, spook /ˈbʊwt spʌwk/. In too, boom, moon
most speakers have /ɔw/, but some in the region of Philadelphia
and Baltimore have /ɨw/ .

/ɨw/: cope, boat, roach, poke /ˈkɒwp bɒwt rɒw ɨ pɒwk/ .
Some speakers (East?) have /ɨw/, also common in British English
in these words; an extreme Briticism is /éw/ .

From these examples we can describe the pronunciation of
the vowels and semiconsonants in articulatory terms. The three
vowels /i e æ/ are all pronounced with the tongue bunched
towards the front of the mouth (all are front vowels): but
they differ in that /i/ has the tongue high /æ/ has it low,
and /e/ has it at an intermediate height (mid). As shown by
the arrangement of vowel symbols on the Table of English
Phonemes, the same three-way difference of tongue-height dis-
tinguishes among the members of the triad /ɪ ə a/, and also
among /u o ɔ/. For all six of these, the bunching of the
tongue is towards the central or back part of the mouth instead
of forward: all six are back vowels. /u o ɔ/ are perhaps
typically a bit further back than /ɪ ə a/; more important is
the fact that the lips are slightly rounded for /u o ɔ/, but
not for /ɪ ə a/ (nor for /i e æ/).

After a vowel, as part of a complex syllabic, /y/ is a
glide of the tongue towards (not necessarily to) high front
position; /h/ is a glide towards mid or low central unrounded
position; and /w/ is a glide towards high back position, accom-
panied by an increase of lip rounding. As parts of complex
syllabics, all three semiconsonants are voiced, as are all vowels. Before a vowel, the three semiconsonants are glides from rather than towards the positions just described: /y/ and /w/ are voiced in this environment too (except that speakers who say hue, white /hyúw hwáyt/ may have voiceless /y/ and /w/ after /h/), but /h/ is here voiceless (compare hot /hát/ with voiceless /h/ and spa /spáh/ with voiced /h/).

2.2.1.3. **Stress and Juncture.**

In utterances longer than a single syllable, some syllables are louder than others. Thus in our transcription of the word *singing*, used above to illustrate certain segmental phonemes, we placed the mark ´ over the vowel of the first syllable to indicate that the first syllable is pronounced more loudly than the second: /síŋŋ/. Some *pairs* of words do not differ at all in segmental phonemes, and yet are different: in my speech, the noun *permit* /pérmit/ versus the verb /pérmit/ (in some parts of the country the noun is /pármit/, showing a difference in segmental structure also; and for some speakers the noun is pronounced /pérmit/, just like the verb). This pair shows that differences of stress or loudness are distinctive, but does not show how many distinctively different levels there are. There are in fact four: from loudest /ˈ/, called *loud* or *primary* stress, through *secondary* /ˈ/, *tertiary* /ˈ/, to *weak* (usually no mark, but ~ when needed for clarity). The following examples show the contrasts and the unpredictability of distribution of the four levels:
(He lives in a) white house. (any house of the specified color)
(He lives in a) white house, (not a green one). (contrasting colors)
(He's living in the) White house. (the house that belongs or once belonged to a family named White)
(The President lives in the) White House. (a specific structure in Washington, D.C.)
Lông Íslænd (is a) lông Íslænd.
(He's our) nêw ūndêrtâkêr.
(It's a) nêw ūndêrtâkîng.

In general (though not without exception), the pronunciation of what are ordinarily thought of as "single words" does not contain instances of the juncture phoneme /+/, and consequently our transcriptions of single words for illustrative purposes have not yet illustrated the /+/. But compare:

(That's sodium) nitrate. /...náytrèyt/
(After six you get the) night rate. /...náyt+rèyt/
(Dr. Gerald Nye discovered that, and it is called the) Nye trait. /...náy+trèyt/
Shé's (going.) /ʃìyz.../
Béa's (going.) /bfìz.../

and for many speakers:

(I want a) tomato /...təmèytow/
(The Republic of) Plato /...plèy+tòw/

where the single word Plato is pronounced exactly as though it were a compound of play and toe.
The juncture phoneme /+/ consists regularly of a slight lengthening of the segmental phoneme represented in transcription directly before it—that is, that segmental phoneme is held slightly longer than it would be under the same circumstances but without the juncture. Its presence is usually marked also by certain additional features, depending on just what segmental phonemes flank it: thus in night rate the /t/ (of night) is inaudibly released, as it is at the end of an utterance, and the /r/ is fully voiced, as it is initially in an utterance; whereas in nitrate the medial /t/ is released with a slight puff of breath which also partially devoices the /r/. Any segmental phoneme directly after /+/ is pronounced as it is at the beginning of an utterance, rather than as it is medially not flanked by /+/, or finally.

2.2.1.4. Intonation.

The English intonation phonemes (PLs = pitch levels and TCs = terminal contours) occur only in certain combinations called intonations. An intonation involves one and only one TC, at least two PLs, and may (at least in theory) involve as many as five PLs. An intonation occurs most usually (certain "grunts" of acceptance, rejection, and the like, may be exceptions) simultaneously with a sequence of segmental, junctural, and stress phonemes; the whole combination we shall call a macrosegment. We shall label the five positions for PLs with the letters a through e. The following examples show the positions:
a  b  c  d  e
/₃h  katılım #/ (Halt!)
/²g  ş  w + ³w  é  y₁ #/ (Go away!)
/²its ³rayv+³k  l  à  k₁ #/ (It's five o'clock.)
/²s  ş  w + ²fytsxer+²enξ² #/ (So eat your lunch!)

(The spacing out of the symbols is designed only to show the PL positions. Each of the four "sentences" could, of course, be intoned in various other ways.)

Position  c  is at the syllable which bears primary stress. There is always one and only one such syllable in a macrosegment, and there is always a PL accompanying it.

Position  e  is at the end, where the TC also occurs. There is always a PL at this position.

Position  a  exists only in those macrosegments in which there is material before the syllable with primary stress. Whenever position  a  exists, there is a PL at it.

Position  b  exists only when position  a  does and when, in addition, at least one syllable between positions  a  and  c  carries secondary stress. Under these circumstances, some intonations have a PL at this position and some do not.

Position  d  falls between positions  c  and  e. Relatively few intonations involve a PL at position  d,  and those that do are relatively rare.

No sure examples have yet been observed of intonations with PLs at all five positions. It is possible that the occurrence of a PL at position  b  precludes the occurrence of one at position  d  and conversely, but this is not certain.
Phonetically, the four PLs are four rather narrow ranges of pitch. They are relative, not absolute: a woman's lowest PL may be higher than a man's highest, and a single speaker may switch register from time to time. /1/ is the lowest and /4/ the highest. The actual pitch of the voice, in the intervals between the points at which the PLs occur distinctively and must be marked in transcription, varies somewhat, but is largely determined by the bounding PLs, by the distribution of stresses, and by the length of the interval. Thus, for example, if the last syllable of a macrosegment carries primary stress, so that position c is at its beginning and position e at its end, and if /3/ occurs at c and /1/ at e, the pitch will fall quite rapidly during the syllable. If, on the other hand, position c is several syllables from position e, with no PL at d and the same distribution of /3/ and /1/, then the pitch may fall fairly rapidly immediately after position c, and stay down, or it may slide down more slowly; the difference may be nonlinguistic or it may involve the presence of a PL at position d.

To illustrate:

\[3\text{h}5\text{hlt}1\# \quad (\text{Halt!}) \quad \text{contour} \quad \]

\[3\text{péyrrha}h\text{ŋer}1\# \quad (\text{Paperhanger.}) \quad \text{contour} \quad \text{or} \quad \]

Of the TCs, /#/ and /\|/ are characterized by quite distinctive properties, while /\|/ is marked largely (not exclusively) by the absence of any of the properties distinctive of the other two. /#/ involves a certain amount of stretching and fading. The segmental material directly before it is articulated somewhat more slowly than it would be with no TC, and the
force of articulation decreases. When the PL at position $e$ is $^{1}/$, $^{3}/$ also involves a lowering of pitch below the ordinary level for $^{1}/$ in otherwise similar circumstances. It is mnemonically helpful to note that the combination $^{1}#/$ almost always carries the implication "I am done speaking, at least for the moment: your turn." This implication is strongest if the intonation ending with $^{1}#/$ has $^{3}/$ at position $c$. Thus:

$^{2}h\text{a}w+^{3}\text{hr}+y\text{hw}^{1}#/$ \hspace{1em} (How are you?)

$^{2}h\text{ym}+^{3}\text{fayn}^{1}#/$ \hspace{1em} (I'm fine.)

$^{3}ll/$ involves some stretching, as does $/#/$, but without any fading; and the pitch of the voice rises to a point higher than that of the PL at position $e$ though not so high as that of the next higher PL. The combination $^{2}ll/$ or $^{3}ll/$ occurs very often in questions which call for yes-or-no answers, though by no means exclusively here:

$^{2}h\text{ry}+^{3}\text{g\text{ô}w}^{3}ll/$ \hspace{1em} (Are you going?)

$^{2}ll/$ involves slight stretching, but neither fading nor lowering nor raising of pitch. When $^{2}ll/$ occurs followed by silence, the impression is usually that of hesitation or incompleteness. Medially:

$^{2}l+^{3}\text{cå}t+k\text{έy}^{2}/^{2}\h\text{l}^{3}+^{3}\text{g\text{ô}w}^{1}#/$ \hspace{1em} (In that case I'll go.)

2.2.2. **English grammar.**

In Figure 4 is displayed the sentence She bought a new hat, in a diagram that shows much of its grammatical structure. Like any other utterance, this one is built wholly of morphemes, put together wholly by recurrent patterns of combination called constructions. The ultimate constituent morphemes of the
utterance do not participate directly in the whole. Rather, they are put together two-by-two, or few-by-few, into somewhat larger forms, which in turn are put together a few at a time into still larger forms, until we reach the whole. Thus the immediate constituents of the whole sentence, as the diagram shows, are (1) its intonation and (2) the non-intonational remainder. The non-intonational portion in turn has, as its ICs (immediate constituents), the smaller forms she and bought a new hat. She is a morpheme; but bought a new hat is composite, and has the finer-grained structure shown in the diagram.

No English morpheme is ever represented phonemically by a combination of intonational and non-intonational phonemes. Intonational phonemes occur only in recurrent combinations which represent intonational morphemes; all other morphemes are segmental.

Figure 4.

The marks "ε", " > ", and so on, represent types of structural relationships; see 2.2.2.4. below.
Despite their regular simultaneous manifestation in speech and despite the extent to which intonation marks the structure of the segmental material it accompanies, the intonational and the segmental parts of English constitute, in a sense, two separate communicative systems, each characterized by duality. What little we know of the intonational system so far, beyond its phonology, concerns mainly how it impinges on and marks segmental structure. Beyond this we are not ever certain of the identity of intonational morphemes; it is only a matter of convenience to assume that each intonation, as defined in 2.2.1.4, is a morpheme. So the discussion which follows will deal mainly with the segmental system. In the first two sub-sections we describe the kinds of elements (morphemes and small idiomatic combinations of morphemes) used in English; in the third sub-section we describe the constructions by which they are put together.

2.2.2.1. **Functors.**

The segmental system of English involves morphemes, and small idioms, of two basic kinds: functors and contentives. Examples of functors are and, if, he, in, on, the -es (/z/) of goes, the -s (/z/) of umbrellas, the -ly of quickly the /'t/ stress-and-juncture pattern of blackbird. Examples of contentives are black, bird, umbrella, quick, go, boy, boyish, boyhood.

Functors are of two kinds: markers and substitutes. Markers are elements which signal the grammatical relationships of surrounding forms. The ICs (=immediate constituents) of men and
women are the forms men and women; and is a marker. The ICs of John's hat are John and hat; 's (/z/) is a marker. These two markers (and and 's) are pure: they signal the relationships of surrounding forms, without themselves having any position in the hierarchical structure of the larger forms in which they occur. Other pure markers are the or of men or women, the either and or of either John or Bill, the neither and nor of neither John nor Bill, the both and and of both John and Bill, and the /' + '/ of blackbird.

Impure markers participate in the hierarchical structure of the larger forms in which they occur, but still mark structural relationships. The in and on of the pencil in the desk and the pencil on the desk are examples. The ICs of the former are the pencil and in the desk; the ICs of in the desk are in and the desk. In addition to standing in construction with the desk, the impure marker in also signals the fact that the whole form in the desk stands in a certain relationship (here attributive: see 2.2.2.3.) to something else—in the example, to the pencil. Other impure markers are the if of if John comes, the when of when you get there, the is of John is tall.

Cutting across their classification as pure or impure is another classification of markers: as free or bound. Free markers are separate words, called particles: and, or, either, neither, nor, both, in, on, if, when. Bound markers are less than whole words, and are called inflectional affixes: the /z/ of (he) goes, the /z/ (a different morpheme) of umbrellas, the -er of poorer, the -ed (/d/) of begged, the -ly of quickly.
The 's of John's hat is on the boundary between bondage and freedom, and can be classed either way. Stress-and-juncture patterns are neither words nor parts of words, and thus fall outside the free-bound classification and are separately designated as superfixes.

Substitutes are special forms the meanings of which are redefined on each occurrence by (1) the selection and structuring of nearby linguistic material, or (2) certain elementary features of the communications situation, or both. Thus the denotation of I and me depends entirely on who (or what) is speaking; the denotation of you depends entirely on who (or what) is being addressed. If one says John took his car, his means John's (unless special features in a larger context force his to refer to someone else); if we say Bill took his car, then the same form his refers to Bill's. In John doesn't hate her, but I do, do means "hate"; but in John doesn't like her, but I do, the same form means "like."

All English pronouns (personal, demonstrative, interrogative, relative, negative nobody etc., indefinite anybody, somebody etc., and inclusive all, everyone, etc.) are substitutes. So, probably, are the numerals one, two, etc., and the articles a/an, the; pro-adverbs here, now, there, then; the pro-verb do as illustrated above; so (a pro-adverb in He did it so, a clause substitute in if so); then also as a clause substitute, as in if he comes, then we must leave.

None of the classifications mentioned and illustrated above are airtight. Some forms appear now in one function, now in
another; or, if one prefers, some forms come in pairs identical
in shape but different in function. Is is a functor in John is
poor or God is good, but a cöntentive in God is or That which is,
is. The terminal /z/ of goes is an inflectional affix, and hence
a marker; but it is also a substitute, since it indicates that
the subject of the verb is singular and other than speaker or
addressee. Any form is used on occasion as a designation for
itself; "And is a functor", as we have said earlier. When so
used, the form is of course a cöntentive.

Allowing for such uncertainties and boundary-line cases, we
define a cöntentive as a form which is not a functor.

2.2.2.2. Stems and their Classification.

A stem is what is left of a word when all inflectional
affixes, if any, are stripped from it. Thus the stem of boys is
boy- (where we write a hyphen to show that we are not designating
the word boy), and the stem of the word boy is also boy-, since
there are no inflectional affixes to be deleted. Some stems are
functors: the i- which is left when the inflectional affix /z/
is stripped from is. But most stems are cöntentives (e.g., boy-),
and it is with the latter that we are concerned here.

English (cöntentive) stems fall into seven basic classes
depending on their privileges of occurrence in larger forms: that
is, on the inflectional affixes that are used with them, and on
the constructions in which they participate.

One set of privileges of occurrence is the noun pattern:
inflection for plural (boy : boys), though not invariably; use
after a or an, the, this or these, that or those, unstressed some (/sʌm/) (a boy, an elephant, the boy, this boy, these boys, some boys, some milk). English stems which follow this pattern, or much of it, but do not also follow either of the patterns of usage yet to be described, belong to class N. Examples are strength, food, action, day, friend, art, danger, music, boy, elephant.

A second pattern is the adjective pattern: inflection for degree (pretty : prettier : prettiest) or use after more and most to yield phrases (more beautiful : most beautiful) which are then used in much the same way in still larger combinations; inflection with -ly for adverbial use (prettily, beautifully). Stems which follow this pattern, but not also the noun pattern nor the third pattern to be described, belong to class A: long, false, likely, certain, icy, sleepy, short, soft, civil, beautiful.

Some stems follow both the noun pattern and the adjective pattern, but not the third pattern to be described below. These stems belong to class NA: American, sweet, savage, private, male, white, red, innocent.

The third pattern is the verb pattern: many stems have five inflected forms, as sing, sang, sung, sings, singing: most have only four, as describe, describes, described, describing; a few have even fewer, as can, could, or must and ought with only one form. Syntactically, the typical verb uses are as verb in objective constructions (saw John; the syntactical terms used here are all expounded in 2.2.2.3. below); as verb in intransitive
predicates (I see, John was singing loudly); and as connector in a connective construction (seem tired). Stems which show this pattern, but not the noun or adjective pattern, belong to class V: describe, admit, punish, bury, strengthen, falsify, penetrate, collaborate, denazify.

Stems which show both the noun and verb pattern, but not the adjective pattern, belong to class NV: walk, love, cure, change, air, eye, nose, beard, elbow, finger, cut, build. Stems showing both adjective and verb patterns belong to the sixth major class, class AV: clean, dry, thin, slow, clear, busy, idle, true. The seventh class, class NAV, includes stems which show all three patterns: fancy, faint, black, yellow, blue, brown, gray, damp.

Any stem of any of these classes, in a specific occurrence in which it is functioning by one of the three basic patterns, is, in that context, a noun, a verb, or an adjective, as the case may be. Its momentary usage does not alter its basic affiliation: fancy is of class NAV whether appearing as a noun (Her head was full of strange fancies), as a verb (She fancies herself a dancer), or as an adjective (a fancy dress, a fancier dress). Some positions of occurrence do not indicate whether a stem is functioning by one pattern or by another: Milk! is an NV stem combined with an intonation, and is ambiguously a command (="Milk the cow now!") and thus a verb, or an exclamation (="Why, it's milk!") and thus a noun, but nothing in the utterance tells us which.

The seven major stem classes include many smaller subclasses of stems marked by one or another peculiarity or limitation of usage. We give only a few examples. Scissors, shears, trousers,
pants, clothes are always plural. Some nouns, such as music, are almost invariably singular. Some nouns are used syntactically as either singular or plural without any overt inflection: sheep, deer, trout, bass, carp, fish, people. Such features of behavior place these stems in special subclasses of class N, NA, NV, or NAV.

A great many English stems are not single morphemes, but are built from smaller stems by the addition of certain elements called derivational affixes. Thus girlish and boyish, stems of class A, are built from the class N stems girl and boy with the derivational affix -ish; the class N stem actress is formed from the class N stem actor with the affix -ess; actor is in its turn formed from the class NA stem act with the affix -or. Some stems larger than a single morpheme do not contain a smaller stem, though derivational affixes are present: the in- and re- of infer and refer are derivational affixes, but -fer is not a stem. Derivation—the patterns of formation of stems larger than a single morpheme—constitutes a lengthy chapter of English grammar, about which, fortunately, we need here say no more.

2.2.2.3. Constructions and Construction-Types.

The number of constructions in English is very large, but most of them fall into certain fundamental construction-types, and it is these that we shall describe.

A construction is either centered or uncentered. A construction is centered if the larger forms built by it have much the same privileges of occurrence, in still larger combinations,
as at least one of the ICs. Otherwise the construction is uncentered. The constructions involved in black cat, blackbird, ran quickly, quite clear, men and women, either John or I, Lake Michigan, Queen Elizabeth are centered; those involved in saw John, seems a shame, with Bill, if so, I ran are uncentered.

To show that the construction by which black cat is built is centered, we note that the form black cat can in general be substituted for the smaller form cat: I saw a cat or I saw a black cat; a big cat or a big black cat; and so on. The constituent cat is called the center (or head) of the larger form; similarly bird is the center of blackbird (and of black bird, which involves the same constituents in a different but also centered construction), clear that of quite clear, and ran that of ran quickly. If a centered construction has only one center, its other constituent is called an attribute and the construction is of the attributive type; the examples given in this paragraph are all attributive.

Some centered constructions have two (or more) centers or heads, and no attributes. Such double-headed (or multiple-headed) constructions are of two subtypes: coordinate and appositive. Examples of the former are men and women (with heads men and women; and is a marker, not a constituent), men or women, two plus five, either John or I. Examples of the latter are Lake Michigan and Queen Elizabeth, in which, though both constituents are centers, also each constituent seems to modify the other.

Centered constructions appear at all "size-levels," as it were. In the sentence If he gets here soon enough we'll all go
together, the portion If ... enough is attributive to the remainder. In any form which consists of an intonation morpheme and a string of segmental material—say our diagrammed example, She bought a new hat (Figure 4)—the construction of intonation and remainder is centered, probably with the intonation as head and the segmental part as attribute.

The major types of uncentered constructions in English are directive, connective, and predicative. Directive are the constructions of in | the box, on | the table, if | he is going, while | we were there, saw | John, asked me | a question, asked | me. Connective are the constructions of is | a big man, is | tired, became | excited, lay in the corner | motionless. Predicative are the constructions of He | is a big man, She | sings beautifully, I | saw him, That man | I just don't like, (She watched) us | cross the street. A vertical line separates the ICs in the above examples; parenthesized material is to indicate context.

Directive constructions are prepositional, conjunctive, or objective. In prepositional constructions the first IC is a preposition: in | the box, on | the table. The form built by a prepositional construction occurs most often as an attribute in a larger centered construction: e.g., the pencil | in the box; but also as predicate attributes (see below) in connective constructions: (The pencil) is | in the box. Conjunctive constructions have a subordinating conjunction as first constituent: if | he comes, when | you see him, if | so. Forms built by conjunctive constructions are also used mainly as attributes in
larger centered constructions: if he comes | we can go. Objective constructions have a verb (single word or phrase) as first constituent: saw | John, asked me | a question, asked | me. The forms built by objective constructions occur typically as predicates (second constituents) in predicative constructions: I | saw John. But if the verb is in certain forms, there are other uses. Thus to see John can be used as subject of a predicative construction (To see John | is my only desire), or as object in an objective construction (want | to see John).

Connective constructions have a verb of a special kind, or one particle (as), or, in certain contexts, zero, as first constituent. There are three subtypes based on the nature of the second constituent: a noun predicate attribute, as in (That) is | John; an adjectival predicate attribute, as in (He) grew | large; or an adverbial predicate attribute, as in (He) is | here. The forms built by connective constructions are used like those built by objective constructions: mainly as predicates (That | is John), but sometimes otherwise (wants | to be good). In (select him) as | our president, the connector (first constituent) is the particle as. In (elect him) president the first constituent is zero, but is allied to the verb be, as shown by comparison with (choose him) to be | president.

Predicative constructions have as their ICs a topic and a comment: John ran away; That new book I haven't read yet; (the man) whom you visited here yesterday. In the first of these three examples, the topic is what is traditionally called the subject, and the comment is the predicate: this is true
perhaps in the majority of cases, but not in all, as shown by
the second and third examples.

Forms built by predicative constructions are clauses.
Independent clauses are those to which one need only add an
intonation to produce a complete simple sentence: John ran.
Independent clauses can be rendered dependent with a subordinat-
ing conjunction: if John ran. Otherwise, dependent clauses are
shown to be so by the verb: John is there is independent, but
John be there, John were there, John being there, John to be
there, John there are dependent. That is, clauses of these
latter varieties occur as constituents in larger segmental forms,
not, as a rule, alone. Thus a dependent clause with -ing on the
verb occurs: as a subject or topic (John singing that song
annoys me); as object of certain prepositions (Don't count on
John singing that song); and as object of certain verbs (I heard
John singing that song).

Independent clauses are also classed by order. In direct
order, the subject precedes all of the verb: John is going. In
inverted order, part of the verb, at least, precedes the subject:
Is John going? and Has John been going?, where the verb is the
interrupted phrase has been going. There are also some special
orders (e.g., that of Away ran John) found under limited circum-
stances.

A sentence is a form which is not in construction with any
other form. This requirement does not preclude certain kinds of
ties between parts of successive sentences, which are not techni-
cally constructions but cross-cutting connectivities. Thus one
sentence may be a question and the next an answer. Or a word like he in one sentence may refer back to a name, say John, in the preceding sentence. Or a second sentence may begin with some loose connective, such as but or and. Thus: John did arrive, didn't he? -- Yes, but he forgot his books. Mainly, the selection and distribution of intonations marks the limits of sentences: thus any intonation ending with /\^1#/ marks the end of a sentence, and no intonation ending with /\/ marks the end of one.

Many sentences, at least of formal discourse, are built around an independent clause consisting of subject and predicate (or other type of topic and comment). Such sentences are called favorite. Sentences which are not of this type are of various minor types: Oh? Hey! Bring that here! Well for goodness's sake! There is a sharp difference between any sentence, favorite or minor, and a fragment which the speaker breaks off without completing. If one begins with I was going to--and then simply stops, one has a fragment, not any kind of sentence; this is usually obvious because only part of an intonation has been produced.

2.2.2.4. Grammatical Patterning in Action.

In terms of my earlier definitions, the grammatical structure of an utterance emerges, for a hearer, as the successive elements of the utterance are received. The first element sets up certain limitations on what may come next, and certain expectations as to what is more likely or less likely to come next. The same is true of a speaker, except for those occasions on which he has
planned an utterance in detail in advance of starting to speak it aloud.

To illustrate this, let us assume that we are listening to a formal lecture, and that the first word we hear is **empathy**. We shall assume also that the production of the word is not accompanied by an utterance-closing intonation. Our expectation-pattern after reception of the first word, before we hear the next one, can be graphed as follows:

```
empathy
--------------------------> < + ≡ E
```

The marks have the following meaning. ">" means that the next thing spoken might be something to which the part already spoken is an attribute; **empathy methods** ... or the like. "<" means that the next to come might be a postposed attribute and modifying **empathy**: **empathy of some sorts** or **empathy in psychotherapy**. "+" means that the next to come might stand in a coordinate construction with what has already been said: **empathy and intuition**. "≡" means (though this is less likely) that the next to come might stand in apposition with **empathy**: **empathy, the method used in** ...

Finally, "E" means that **empathy** may be all of a topic, the next element in the sentence beginning the comment: **empathy is often used in ineffective ways**. Now this is a wide range of grammatical possibilities, but it does not include everything—for example, it is entirely precluded that the next element should be the object of **empathy** (in an objective, prepositional, or conjunctive construction), since **empathy** is not a word which can occupy the first position in any such construction.
The next word we hear is \textit{as}; and the expectation-pattern is restructured:

\[
\begin{array}{c}
\text{empathy} \\ \longrightarrow \\ \text{as} \\
\text{\quad <} \quad \rightarrow \quad \text{\quad ( < + \text{E})}
\end{array}
\]

Most of the possibilities left open by the uttering of \textit{empathy} have now been eliminated. \textit{As} begins a grammatical form which will stand as a postposed attribute to \textit{empathy}; this is indicated by the mark "<" at the junction of the boxes in the diagram for \textit{empathy} and for \textit{as} .... \textit{As} must itself be followed by something standing to it in the relation of object; this is the meaning of the mark "\textit{->}". The other three marks have the same meanings as before; they are put in parentheses because they do not indicate what can happen next--the possibility of a further postposed attribute, or of something in apposition, or of a comment, is temporarily in abeyance, until the materials demanded by \textit{as} have been spoken.

The next word we hear is \textit{a}:

\[
\begin{array}{c}
\text{empathy} \\ \longrightarrow \\
\text{\quad as} \\ \quad \quad \quad \quad \quad \quad \rightarrow \\
\text{\quad a} \\
\text{\quad \quad \quad \quad \quad \quad \quad ( + )} \\
\text{\quad \quad \quad \quad \quad \quad \quad \text{\quad ( < + \text{E})}}
\end{array}
\]

What comes next must be something modified by \textit{a}. Next we hear \textit{technique}:
--and this opens up the possibilities again. What comes next may stand in construction only with technique, or with a technique, or with as a technique. The first would be the case in Empathy as a technique in psychotherapy; the second in Empathy as a technique or a method; the third in Empathy as a technique has challenged many of us.

The next four forms are of, behavioral, research, and designates, and we present the expectation-diagrams for the four resulting situations without comment save about the last:
Note, particularly, the difference between the openness of the possibilities after research and the decisiveness of structure which results when is is added: the adding of is (or, of course, of seems, designates, implies, appeals, strikes or the like) finally establishes that all the forms so far constitute a unit, and that anything further in the utterance will relate to that whole composite unit, not to any of its individual components.

Such "growth diagrams" thus show some dynamics which the mere diagramming of a whole sentence, after the fact, cannot reveal.

Two related points must be added. Not infrequently, a
speaker will simply abandon an emerging structure, and start
over again. This is always a possibility, though it is not
represented, in the foregoing diagrams, by any positive mark.
Also, the emerging structure may become so complex that the
speaker forgets some of the "hang-over" irresolutions implied by
his earlier words, so that the resulting whole simply does not
structure. Such a "hang-over" irresolution is the need for a
predicate, which is established in our example by the very first
word. By the end of research, this could have been lost, the
speaker going on to produce an imparsable sentence like Empathy
as a technique of behavioral research developed particularly by
psychiatrists, but also taken over by anthropologists, who adapt
it for use with people with vastly different cultural backgrounds.
Our strong habit of editing out such structural irresolutions in
written material should not close our eyes to their very high
frequency in oral communication, even of a technical and formal
sort.

2.3. Nonlinguistic\textsuperscript{1} Vocal Communicative Systems.

The nonlinguistic features covered in the following discus-
sion were observed from speakers of English. Some of them are
doubtless much more widespread, in connection with many languages;
but insofar as we have been able to see the systematic pattering

\textsuperscript{1} See Appendix 1 for a somewhat more recent (Trager, 1958) and
somewhat fuller treatment, and Pittenger, 1960, 185-206, for
further modifications of the system presented here.
of any of these features, our description must be interpreted as applying only to speakers of English.

Some vocal activities take place not accompanied by any linguistically organized behavior: coughs, belches, sneezes, laughing, crying, humming, and the like. Some of these, of course, occur also during linguistically organized speech: as when a cough interrupts speech, or a laugh either interrupts or is simultaneous with it. In transcribing recorded vocal behavior, it is convenient to use a symbol for laughing:

L

repeated as necessary over the transcription of the relevant sequence of words or syllables. Other interrupting effects of this kind are perhaps best taken care of via added notes. There are, of course, various kinds of laughing, and no doubt the variety is culturally patterned; but we have not yet subjected this range of phenomena to closer analysis.

Certain types of activity incorporate linguistically organized speech with certain limitations. In singing with words, the segmental portion of language is fully represented; the stresses are sometimes undistorted but sometimes modified (depending on the style of song); the intonational system of the language does not clearly manifest itself, since the raw-material in which it normally is made evident--pitch--is preempted by the conventions of singing. In whispering, of various different kinds, the intonational system is also distorted. The segmental phonemics is maintained, though the actual sound of some of the phonemes is quite different from
normal unwhispered speech. In transcription, whispered passages
are marked

\[
X- \quad -X
\]

For most of the above phenomena, and for those to be dis-
cussed below, there are two sets of features which can be classed
under the terms **vocal quality** and **vocal set**. Without attempting
to define either of these with absolute precision, we can say
that both have to do with longer-termed features of the quality
of the voice. Thus women's voices are different from men's (yet
some men can mimic women's voices, and vice versa); the voice of
a child sounds different from that of a young girl, or a woman in
her twenties, or a matron of thirty-odd, or an old woman (yet
young actresses can play old-woman roles). A cold in the nose
affects voice quality. These "biological" or quasi-biological
manifestations are matters of voice quality. Most speakers adapt
to the size of the room in which they are speaking, and the size
of the audience, and the amount and variety of extraneous sound,
in such a way as to establish a personal norm for the specific
circumstances: these adaptations are matters of vocal set.

It is within the range established for a relatively larger
period of seconds, minutes, or hours, that the variations take
place which we analyze in terms of **vocal qualifiers**. The system
of vocal qualifiers consists of a number of dimensions of varia-
bility of voice quality (acoustically speaking) or style of
articulation, each of which is more or less independent of all
the others. On each scale, the "norm"--the most colorless
placement--is roughly in the middle, while deviations from the
norm in either direction constitute significant signals. We
are not certain of the exact number of dimensions; the writer
has found it feasible to work with the following nine:

(1) **Tempo**: **overslow**, normal, and **overfast**. Symbols,
the following, used like brackets through the passage effected:

overslow  &lt;&lt;-
overfast   &gt;&gt;-

(2) **Syllable control**: clipped, normal, and **drawled**:

clipped  -&gt;
drawled  -&gt;

(3) **Volume**: oversoft, normal, and **overloud**:

oversoft  -
overloud  -

(4) **Height of register** (the bandwidth of frequencies with-
in which the pitch levels are pronounced): **overlow**, normal,
**overhigh**:

overlow  &lt;
overhigh &lt;

(5) **Width of register**: from overnarrow or "muted" through
normal to **overwide** (also called "singing," but this is a ques-
tionable application of the latter term):

overnarrow  &lt;
overwide   &lt;

(6) **Pitch control**: **glissando** (slurring from one pitch
level of the intonational system to the next), normal, and
**portamento** (sharp stepwise motion from one pitch level to the
next):
glissando  GL
portamento  PO

(7) Glottal tension: rasp, normal, and open:
  rasp   Q
  open   O

(8) Air flow: breathy, normal, and squeezed (or "overvoiced"):
  breathy  B
  squeezed V

(9) Precision of supraglottal articulation: overloose
("sloppy"), normal, and overprecise.
  overloose  Sl
  overprecise Pr

Each of these is, as indicated, a scale along which variation is possible. It is not yet known just how many points along each scale are communicatively distinctive. In the earliest work done on vocal qualifiers, it was believed that for each scale there were three and only three contrasting points: those assigned labels in the above listing. That is, as to tempo for example: speech was either normal, or enough faster than normal to count as distinctively overfast, or enough slower than normal to count as distinctively overslow. More recent work has convinced several investigators independently that, at least on some of the scales, more degrees are distinctive. It may, indeed, be the case that there is no exact small finite number of contrasting points along each scale, but rather a genuinely continuous range of variation. For transcription purposes, at present, however, our only practical course has been to use only the symbols
listed above.

Akin to the vocal qualifier system, yet distinct from it in one way, is a set of dimensions in which the norm \textit{is at one end of the scale} instead of in the middle. Whispering can be classed as one of these dimensions: normal speech is not whispered, and whispering has no "opposite" which also deviates from the norm. A second is \textit{breaking}: normal speech has no breaking, which is added as a rapid turning on and off of the vibration of the vocal cords (a sort of "chatter" or nervous "giggle"). Laughing can be interpreted as a third. Symbols:

\begin{align*}
\text{whispering} & : X - \\
\text{Laughing} & : L - \\
\text{breaking} & : \dot{o} - \\
\end{align*}

Quite different from either of these systems is the system of \textit{boundary phenomena} (also called \textit{vocal identifiers}—a term with no mnemonic value). The items of this system appear typically at the boundaries of actual linguistically organized utterances—as one starts an utterance, as one finishes one—and during hesitations either between grammatically organized utterances or in the middle of utterances as the speaker is (as it were) deciding how to go on. The analysis of boundary phenomena is far from complete; all we can do here is to list the symbols which, it seems, are minimally necessary for transcribing them:

\begin{align*}
\text{voiceless aspiration (sometimes a "sigh")} & : \text{\(\text{h}\)} \\
\text{voiceless intake of air (a "gasp")} & : \text{\(\text{d}\)} \\
\text{voiced aspiration through mouth} & : \text{\(\text{e}\)} \\
\end{align*}
(without the articulation of vowels and consonants)

Glottal catch release into speech, or glottal closure breaking off speech

Thus a very common way of saying the assenting "grunt" (conventionally spelled M-hm) begins with the last of these and has the first of them in the middle.

Tentatively I find it convenient to distinguish between "quarter-speech," "half-speech," and full (completely linguistically organized) speech. In quarter speech, neither the segmental nor the intonational portion of language is represented: "utterances" in quarter-speech involve the system of boundary-phenomena described above and some of the system of vocal qualifiers. In half-speech, intonations are present in addition to boundary phenomena and vocal qualifiers, but not linguistic segmental material. In full speech, of course, intonational and segmental linguistic material are both present, in addition to the non-linguistic features.
CHAPTER 3

Body Motion

Ray L. Birdwhistell
"Every little motion has a meaning all its own."

This line, from a song popular in the twenties, has been suggested as expressing the theme of the work of the student of body motion. Reflecting the growing self-consciousness of our culture, this line contains within it the challenge and the promise which motivates such a student. Like Bateson (p. ), we are convinced that 'everything which occurs in a social interaction is meaningful in the sense of being part of the interchange as well as non-accidental.' At the same time, however, "Every little motion has a meaning all its own," carries with it an implication which is probably the major impediment to the analysis of communicative systems: the assumption that not only does each motion have a meaning but that the relationship between that movement and that meaning is precise, integral and universal.

It is the task of this chapter to make clear that while body motion behavior is based in the physiological structure, the communicative aspects of this behavior are patterned by social and cultural experience. The meaning of such behavior is not so simple that it can be itemized in a glossary of gestures. Nor is meaning encapsulated atomistically in particular motions. It can be derived only from the examination of the patterned structure of the system of body motion as a whole as this manifests itself in the particular social situation. It should be evident to the reader that this is precisely the same point which has been made by Hockett, as a linguist, in
<table>
<thead>
<tr>
<th>Soldier No. 1:</th>
<th>Car Passes</th>
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<tbody>
<tr>
<td>Head</td>
<td>H&gt;1°</td>
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<tr>
<td>Forehead-Brows</td>
<td>Hfb-b</td>
</tr>
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<td>Eyes</td>
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<td>Nose</td>
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<td>Hips</td>
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<tr>
<td>Right Arm</td>
<td>RAN[RA2:45&lt;3:45]</td>
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<tr>
<td>Hand and fingers</td>
<td>N N</td>
</tr>
<tr>
<td>Left Arm</td>
<td>LAn-15'3ul[A;TA]</td>
</tr>
<tr>
<td>Hand and fingers</td>
<td>L/1c2C3C4C5C</td>
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<tr>
<td>Right Leg</td>
<td>Y45Y</td>
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<tbody>
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<tr>
<td>Forehead-Brows</td>
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<td>Left Leg</td>
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<td>Foot</td>
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| Driver* | |
|----------------|
| Head | H> . |
| Forehead-brows | H·nq A |
| Eyes | oo |
| Nose | |
| Mouth | |
| Cheeks | |

* Driver noted as "oo" or "oo".
Hffbbz

=00=
car

oMo

tl-1

"Txpivot

\( \vee RA_{n}(4<5)n \land \land RA_{25n} \)
\( \vee R/1_{4-c} \land 5 \uparrow R/1_{4-c} P \geq 0 \)

LAn\(n<3n \)

L/1_{4-c}(on R. biceps) \)

RY\(n<3^{0}(Y_{45}+30^{0}Y) \)

(Y\(45+30^{0}Y) \)

Ly5< Ly3^{0} \)

H>1

Hffbbz

0000

0000

0000

0000

"Txpivot

\( \vee RA_{n}(5<wn)n \).

R/1_{1} l-5 R/1_{4-c} P \geq 0 \)

LAn\(n<3n \)

L/1_{4-c}P \geq 0 \)

RY\(n<3^{0}(Y_{45}+30^{0}Y) Ly5< Ly3^{0} \)

(Y\(45+30^{0}Y) Ly5< Ly3^{0} \)

H< Z

= oo

road

Z

Z

Z

\( H< Z \)
Cheeks
Chin
Neck
Shoulders

*Driver maintains upright, bi-manual driving position throughout scene.

(Sample)

<table>
<thead>
<tr>
<th>Shoulders</th>
<th>$\parallel \leq 1^\circ$</th>
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the preceding chapter (p. ). It is the task of this chapter to review the present status of kinesics, the systematic study of body motion, in such a manner that the nature of the relationship between the two communicative systems will be adumbrated—if not entirely revealed. Based on the same assumptions, the two modes, kinesic and linguistic, have parallel, even at time analogous, structures. They are, however, infra\textsuperscript{1}-communicational systems, not directly meaningful in themselves, and the reader should not be surprised to discover that their correlation brings difficulties into the analysis of the communicative process.

In the pages to follow an example of a non-verbal communicative system will be presented. This is designed to sensitize the reader to the kinesic scene. The second sub-section will contain a general review of the present status of kinesic theory and research. Finally, a discussion of the problem of systematic interpretation should prepare the reader for the experiment with which this present work is concerned.

Example

Just west of Albuquerque on Highway 66 two soldiers stood astride their duffle bags thumbing a ride. As a large car sped by them, the driver jerked his head back signifying refusal. The two soldiers wheeled and one Italian-saluted him while the other thumbed his nose after the retreating car.

\textsuperscript{1} See p. .
Macro-kinesic Translation

The two soldiers stood in parallel, legs akimbo with an intrafemoral index of 45 degrees. In unison, they raised their right upper arms to about an 80-degree angle with their bodies and, with the lower arm at approximately a 100-degree angle, moved the arm in an anterior-posterior sweep with a double pivot at shoulder and elbow; the four fingers of the right hand were curled and the thumb was posteriorly hooked; the right palm faced the body. Their left arms were held closer to the body with an elbow bend of about 90 degrees. The left four fingers were curled and the thumb was partially hidden as it crooked into their respective belts.

The driver of the car focused momentarily on the boys, raised both brows, flared his nostrils, lifted his upper lip, revealed his upper teeth, and with his head cocked, moved it in a posterior-anterior inverted nod which in its backward aspect had about twice the velocity of the movement which returned the head and face to the midline and, thus, to driving focus.

Without apparent hesitation the boys rightstepped posteriorly, one of the boys moving in echo following the movement of the other. Facing the retreating car, one of the boys raised his upper lip to expose his teeth, furrowed his forehead, lowered his brows, contracted the lateral aspects of his orbits, and flared his nostrils. His right arm swept from its posteriorly thrust position, on a shoulder
pivot, to rest, fist clenched, upper arm across the right half of the body and the lower right arm thrust up and slightly anterior to the body line. The left hand left the belt and the lower arm swept right and upward to meet the descending upper (right) arm. The left hand grasped the right biceps as, fist still clenched, the right arm moved quickly in an anterior-superior thrust in line with his shoulder and the retreating automobile.

The other boy dropped his face into "dead pan," pivoted his right arm at the elbow, flared and straightened his fingers into crooks, and, as the already hooked thumb crossed the midline of the body in the lower arm's downward sweep, the apex of the thumb made contact with the apex of the nose. Without hesitation the arm completed its sweep across the body and came to rest hanging, palms slightly forward, at his side. The left arm, on an elbow pivot, swept downward and came to rest mirroring the right.

Discussion

These three portrayals, the brief statement, the macrokinesic transcriptionFigure 1, and the kinesic description derived from the macrokinesic recording, all tell the same story with varying degrees of fullness. Some readers may feel like the little boy who received a birthday book about penguins from his aunt and felt it contained more about penguins than he ever wanted to know. However, such a record as is provided by these latter descriptions makes it possible for us to do extended analysis of the transaction.
The initial descriptive statement is totally inadequate for such purposes.

This scene contains much more than three men gesticulating at each other. In the time it takes an auto to pass a fixed point at seventy miles an hour, a communicational transaction has taken place. In five seconds a social group is established, a social ritual is performed, and, presumably, the lives of three human beings are somehow affected. This is patterned activity; its components were learned in a multiple of comparable but differing situations by the participants. Yet this is no mere mechanical performance. We cannot, for the moment, "explain" it; nevertheless, it is a piece of microculture whose natural history we may attempt to relate.

We have no way of telling how the driver felt or what he thought about as he approached the soldiers. Our only evidence comes from the driver's compressed mouth (L/L). Our experience with other American scenes suggests that this orifice compression scarcely indicates receptivity to their plea. We have for the purposes of this example elected to limit the scene to that period during which all members of the transaction could "see" each other. The "why" of the transaction may rest upon the boys' previous experience that day which occasioned the particular stance which they maintained. Perhaps as the car came into view it swerved almost imperceptibly toward the soldiers, thus alerting them to the driver's attitude. Interpersonal space
variations are in part extensions of kinesic activity and are often definitional of communication situations. Within the range of our abstracted scene, the driver's face was clearly visible to the soldiers for scarcely two seconds, and his head and face movement took less than a half second to complete. The observer has no way of finding out exactly what the soldiers "saw." Yet their unhesitating reaction indicates that the driver's analyzable act was transmitted to them. Both soldiers responded with acts of the same class as that used by the driver. Further, Boy No. 2 selected his from the same South European (post-World War II American male overlay) diakinesic\(^1\) system as that expressed by the driver. This supports the conclusion that theirs was a response to the driver's activity and not simply an idiosyncratic reaction to being refused a ride.

Further questions arise from the analysis of this microcosmic scene. Was the driver initially stimulated to his insultingly rejective activity by the spread-legged stance of the boys? And/or were the left thumb in the belt combined with the spread-legged stance (often part of the pre-fight or pre-sexual advance behavior of adolescents) dominant as parts of a definitional act which challenged him, a male, into his negative response? Obviously, only by observing this driver and these soldiers in a series of contrasting scenes would such questions as these be answered.

There is a strong suspicion, however, that if the driver had

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\(^1\) Analogous to a dialect system in language.
responded with a back nod of less ascending velocity, raised his eyebrows bi-laterally and lowered the corners of his lips in a "I would if I could, but if I can't, I can't," the boys would have carried out their activity in a considerably less hostile manner.

This scene is illustrative of the extent to which a human communicational event, a transaction, can be completed without recourse to verbal behavior. At the same time it demonstrates the fact that communication within even one modality is seldom a simple affair. The student of body motion behavior is not always so fortunate as to have a scene so clearly defined for him. Nor do most transactions have their interactional tempos so neatly marked, as in this case, by the explicitly conventionalized "gestures."

Notwithstanding its relative simplicity, the scene provides a useful point of departure for our present discussion. The ritual of "thumbing a ride" is familiar in American culture, yet a closer analysis of this special incident is illustrative of the hidden complexity of such scenes. In the soldiers' persuasive activity with the "thumbing a ride" gesture as the ostensible action proposition of this scene, we are provided with an excellent example of the extent to which an act can be modified by incongruent movement complexes which complete it. The spread-legged stance, congruently modified by the thumb-in-belt complex, contains two components which combine in a larger act. At the same time this act is, at one level, incongruent with the gesture of thumbing. As Bateson has suggested, such
components may modify, that is, may constitute commentaries on, each other. What they mean is another matter. At the moment we are concerned only with their relationship to each other and to the package act of "thumbing."

By careful cross-context analysis, we can derive a series of working hypotheses concerning the soldier's initial act and its incongruent components. The stereotypic "thumbing" gesture is deceptively familiar.

We must remember that the same gesture in another actional setting is conventionalized as the insulting or mock-insulting directive to "Get lost!" In fact, the complex act described above, if it took place on a street corner in Los Angeles or Chicago, could have just this explicit interpretation. Through contrast analysis, we are able to say that the "thumbing" action as produced is itself incongruent with its context—if we postulate that the dominating purpose of the boys was to persuade the driver to give them a lift. The recognition that communicational behavior can be congruent in one setting and incongruent in another should serve as a warning against any theory of meaning which suggests that the particles carry meaning in and of themselves.

Contrast analysis permits us to define this particular combination of movements in this context. We postulate the arm and thumb as an "appeal for a ride", the spread-legged stance modified by the thumb-in-belt as "male defiant," and the whole as an act conveying a "defiant appeal for specific assistance." This complex of behavior is consistent with
the role of these late adolescents, in uniform, who are avoiding "begging." These young soldiers are in no position to play the role of the college boy who "thumbs" a ride but whose college sticker and clothes belie the ingratiating stance and head cock plus smile with which he modifies his petition.\footnote{For an interesting analysis of the complex social psychological aspects involved in such "presentations," see Goffman (19\textsuperscript{19}).} We could pursue such contrastive examination throughout the entire scene, and in the final analysis the social meaning of the individual movements, gestures, acts, and action must be phrased in terms of the entire scene. These are all susceptible of analysis if the activity is seen as a transaction, in the context provided by the various participant social roles as defined by American male sub-culture. The scene may be viewed as a role-stating ritual in which the component activity is such that it negates the central gesture. The boys must wait for another car and driver in order to get to Los Angeles. It is probably safe to say that the boys either must amend their activity or wait until a driver with a different set toward such messages comes along if they hope to get a ride.

\textbf{Background to Kinesics}

\textit{Kinesics} is the systematic study of the communicational aspects of human body motion. The methodology of kinesics is still extremely crude. At its present stage of development, kinesics may claim to be a science only by virtue of
the canons which dominate its operations and by virtue of
the postulates upon which these operations depend. As a
body of knowledge, it cannot yet be judged worthy of the
appellation kinesiology. Yet five years of research which
has utilized and constantly refined the methodological pro-
cedures of kinesics have been so fruitful that it is without
qualms that the present investigation, employing those
procedures, is attempted.

It is entirely fitting that psychiatrically oriented
interview material be the subject matter for this initial
attempt to apply practically the data derived from kinesic
investigation. Psychiatrists and psychologists have for
over a century been aware that body motion and gesture were
important sources of information regarding personality and
symptomatology. All port (1), Dunlap (2), James (3),
Krou (4), Lersch (5), Ombredane (6), Grodeck (7), and
Wolff (8) are but a few of the students of personality who
have contributed to a considerable body of literature con-
cerning expressive movement. The brilliant observations of
Felix Deutsch (9) on what he calls "posturology" must be
especially noted. His is one of the clearest statements con-
cerning the diagnostic value of body motion and posture.
Kinesics, however, represents both a theoretical and a
methodological departure from studies such as these which
stress personal activity and individual performance. It is
our hope that communicational research and, particularly,
kinesic research, will provide a methodology, an annotational
system and a set of norms against which these kinds of intuitional systems can be checked. It is our conviction that significant statements concerning the behavior of particular individuals must be based on an understanding of the patterns of intercommunication of more than one actor. The significance of particular individual variation can be assessed only when the range of permissible group variation has been established.

There is nothing new about the recognition that formalized gestures play a role in communication. Theatrical performances, whether centering around dancing, drama, opera, or the mime have long emphasized the role of gesture, particularly in its stereotyped or conventional form. Integral to every religious ritual, the gesture is stressed in all novitiational training. A considerable bibliography has been collected with representation from almost every literate country and extending back in time to early India, which evidences the international character of the interest in gestures, and their proper performance. Most of these writings are of collateral interest to the kinesicist.

The concentration upon the particular gesture and its meaningful performance leaves most of these writings of primary concern to the folklorist. Perhaps when extended research into the kinesic systems of particular areas has provided a body of background material, much of this earlier material will become relevant in a new way, just as linguistic
research consistently opens new perspectives upon old data of a verbal nature.

Of these earlier publications, most relevant have been those which have dealt with the development of systems for annotating body movement. Before the publication of the Introduction to Kinesics\(^1\), we carefully reviewed a series of annotational systems and were particularly impressed by those of Craighead (1942), Lifer (1940) and Pollenz (1949) and these doubtless influenced our system of microkinesic recording, the logic of which is presented in Appendix 3. These annotational systems are all extremely useful for recording the conventionalized patterns present in the dance, modern, classical, or folk. They are, however, somewhat too limited in scope for use as instruments of broad kinesic research. Perhaps the most complete and extensive recording system in usage today is that provided by the Laban\(^2\) school. Used principally for industrial studies, this system has been used effectively both for stage and for general movement recording. The decision to develop the specialized system presented here rests finally upon the conviction that annotational conventions which signal the specific operations governing their abstraction are probably desirable. In short, recording systems should derive, in the first instance, from considerations of theory and methodology, rather than the reverse. As

\(^1\) Birdwhistell, 1952.

\(^2\) See Laban, 1952.
research and theoretical re-evaluation continues, such recording procedures must necessarily be revised.

Both the microkinesic system outlined in Appendix 3 and utilized on pp. to pp. , and the macrokinesic system demonstrated above in Figure 1 and outlined in Appendix 4, have been revised a number of times and must be further revised as body motion research continues. Certainly any system which is as accurate and which would permit still easier and weifter notation would be more desirable. As the annotational system for microkinesic recording now stands, only a relatively large, well-trained (and thus expensive) team could record live micro-cultural material with any degree of completeness and accuracy. Designed for the analysis of filmed material, the kinegraphs are useful only for checking kinesic research with live subjects. They are insufficiently flexible for primary microkinesic research on such subjects.

This is not the occasion for an extensive presentation of the background to kinesic research. However, to put the present work into perspective, some reference should be made to a series of men whose work bears directly upon the development of kinesic theory and methodology. The pioneer work, Darwin's Expression of Emotions in Man and Animals, contains many lucid suggestions which foreshadow the theories emergent in the present-day fields of ethology or comparative psychology or kinesics. The rigor of his observations combined with his

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1 See Darwin, 18...
nascent sense of the dynamics of social interaction make many of his statements seem contemporary. One cannot help but wonder how far Darwin would have gone with this work if he had had the tools of descriptive linguistics, of communication and information theory, and the technical aids to precision provided by the tape recorder, the sound camera and the time-motion analyzer.

The interdependent nature of linguistic and kinesic research is anticipated by Edward Sapir, who, a little more than a half century later says,

"Gestures are hard to classify and it is difficult to make a conscious separation between that in gesture which is of merely individual origin and that which is referable to the habits of the group as a whole ... we respond to gestures with an extreme alertness and, one might almost say, in accordance with an elaborate and secret code that is written nowhere, known by none, and understood by all."²

Sapir did not follow up his own lead, but it is his students and other linguists strongly influenced by his work who have contributed most to the systematization of body motion research. George L. Trager and Henry Lee Smith, Jr., at the time doing research in the structure of American English at the Foreign

¹ Sapir, 1927.
² Our italics.
Service Institute, provided an atmosphere and the special guidance which encouraged the original formulation of kinesics as a science. John Broderius, another student of Sapir's, worked cooperatively with me at later stages of the refinement of kinesic principles. His constant insistence that kinesics be firmly based in pre-kinesic research and not be lost, as he phrased it, "in the thin stratosphere of intuition," helped to maintain the frame which early association with Smith and Trager had produced. The present research with the linguists is another logical step in the necessarily interdependent companionship of descriptive linguistics and kinesics.

Parallel to these influences and consistent with them, have been the writings of a series of anthropologists whose field experience, as did my own, led them to the conclusion that body motion and facial expression were strongly conditioned, if not largely determined, by the socialization process in particular cultural milieux. While affirming the ultimate biological basis for all human behavior, there seems little doubt that out of the vast range of possible combinations of muscular adjustments, perhaps a quarter of a million in the facial area alone, each society "selects" certain ones for recognition and utilization in the interaction process.

Probably the pioneer anthropological analysis of gestural activity is Efron's test of the hypothesis that there is a direct correlation between the previous social environment of European immigrants to America and their gestural systems.  

1 1941.
Concentrating largely on the range of movement in the arms and hands, Efron contrasted the gestural systems of Italian and Southeastern European Jewish immigrants. Although his thesis correlating certain ecological factors with the respective gestural systems remains inconclusive, his work effectively demonstrates the social genesis of the evident variation in the gestural systems of these two groups.

While Efron's experimental approach has not been pursued by other investigators, Labarre¹ and Hewes², with quite different emphases, have directed the attention of field workers to the importance of recording and analyzing the gestural behavior of human groups. However, the most important anthropological contributions to the development of the study of body motion as a communicational system have come from the work of Mead and Bateson³. Their concern with the relationship between socialization and communication, assisted by considerable skill with and appreciation for the camera as a research instrument, set the stage for the development of kinesics as a behavioral science. Not only has their field work provided a body of materials for cross-cultural study but their insights into the systemic quality of the communicational process have prevailed upon the writer to take up his profitable association with the linguists.

¹ 1947.
² 1948.
³ 1942.
These few paragraphs were not intended exhaustively to relate the contributions which underlie the present status of kinesic research. The recognition that body movement contributes to interpersonal understanding (and misunderstanding) is probably as old as man's interaction with man. Yet kinesics as a systematic approach to such phenomena is still relatively untested. The brevity of these remarks does not represent a failure to appreciate the extensive scholarship from which kinesics has emerged but rather a feeling on my part that our present experiment demands an assessment of the infant discipline rather than a genealogical legitimatization of it. The scientific history of a discipline should be concerned with the tests and modifications of its theory and methodology; until investigators are trained and experiments are performed, kinesics will have no history.

In seeking to comprehend and to make intelligible those aspects of human body behavior which contribute to the communicational process, the kinesicist-anthropologist employs a set of procedures which are special only in the sense that they must be adapted to the peculiarities of the system under examination. Dealing with a universe which he has pre-defined as ordered and interdependent, his primary task is that of developing a methodology whereby units and sub-systems can be abstracted and manipulated. From the seminal insight that kinesic activity constitutes an infra-communicational system is derived a plethora of data
which, unless explicitly and methodically ordered, drowns
the investigator in a myriad of shapes and sizes and orders
of behavioral pieces. Having fixed his eyes upon the
behavior which constitutes the human interactional scene
and having adjusted himself to the outrage of the recogni-
tion that communication is continuous, he must resist a
series of temptations which would shortcut and, coterminously,
predetermine the results of the observational process. Some
of these temptations are suggested in the discussion above
but their subtle influence upon the work of those concerned
with "non-verbal communication" has been such that they are
probably worthy of explicit delineation.

Temptations

The "carrier" temptation

This derives from a linguistic naïveté which assumes
that each gesture, whether as gross as a thumbed nose or
as tiny as a first degree right lid droop, has a "real"
meaning just as "words" are supposed to have. If the
investigator succumbs to this, his attention is directed
into a kind of dictionary wherein he draws up lists of moves
and their meanings only to discover that most human beings
are kinesically illiterate and move improper English. As
shall be demonstrated below, even a preliminary approach to
kinesic data reveals that no abstracted body motion, gesture
or kine, has a precise and absolute meaning apart either from
its position in the kinesic system or from the social context
in which it appears. The question "What does X mean?" can only be met by the counter questions of "At what level of analysis and in what contexts?".

The "closer to nature" temptation

This category really covers two companion but differing hidden assumptions. One of these is that body movement is somehow more primitive and thus closer to biological nature than is verbal behavior. Animals move and animals don't talk. Humans move and talk. Ergo, moving and kinesthetic-visual communication came earlier in evolutionary history than did talking and thus remain unpatterned. Depending upon the predispositions of the writer, this same assumption has permeated the work of the individualists who feel that body motion and facial expression reveal the "true" feelings of a communicant, the writings of the racists who confuse social variation in response pattern with genetically determined "stoicism", "vivacity" or even rhythmicity, and the universalists, who assume that since there is minimal biological variation in homo sapiens and since moving came early, there is species-fidelity and universality in all movements. The way in which these assumptions are expressed varies from that of some of the individualists who say that everyone is so different from everyone else as to preclude generalization at all to that of some of the universalists who optimistically anticipate a movement catalogue. Whether simply nihilistic or modern pastoralist these assumptions do not hold up as we examine the communicational situation. Not
Not only is kinesic activity systematically patterned but this pattern varies significantly from culture to culture and even from sub-group to sub-group. While eventually we may find that the special physiological patterning of special groups may influence to a considerable degree the characteristic tone of the kinesic activity of such groups, we expect also to find a reciprocity of influence between the biological and social systems rather than any pattern of basic priority of a simple genetic nature.

More subtle and more seductive than these assumptions which deal largely with the total membership of society are those which see infantile behavior as more natural than adult behavior. Those so persuaded see maturation as somehow artificial and distortional of infantile naturalness or, accepting maturation as a natural process, these writers seem to feel that those behaviors which are characteristic of the infants of a group (or of all infants?) are somehow truer representations of the feelings of the communicant than are those more characteristic of adolescence or maturity. So long as generalizations such as these are related to the examination of individual responses and deal with the documentation of personal histories they are not of direct concern to the kinesicist. However, if they are permitted the dignity of becoming basic to all systemic interpretation it is well to point out that our knowledge of the ontogenetic development of individual kinesic systems is less than fragmentary. There exist a number of suggestive—even exciting—
studies of maturational behavior. But we lack the cross-cultural longitudinal analyses which would permit any safe generalization of "how" humans learn to become communicators or give us more than an intuitive feel for the sustaining strength of infantile response.

It must be pointed out that this does not in any way affect the validity of the regression hypotheses. It is evident to any observer that adults will in special situations behave incongruently with their level of maturation. However, to assume in an a priori manner that this proves the strength of the infantile response is to ignore the communicational function of the act.

As we shall discuss below, while a body curl or a thumb suck may on one level of analysis be incongruent with other kinesic behavior being exhibited by an actor, such behavior may be quite congruent in the total communication situation. In the sections below on body set and motion quality the differences between "ageing" and "age grading" will be discussed. Suffice it for the moment to say that it is the present premise of kinesics that considerable research on the social learning patterns of infants and children must precede any security on our part concerning "basic" behavioral manifestations.

The "modifier" temptation

As professionally literate members of a culture devoted to literacy, we are strongly tempted to believe that words carry the meaning and that all other non-word behavior merely
modifies it. Thus, there are those who feel that words
form the natural center of the communicational universe and
that all other modes of communication are to be studied as
sub-systems subordinate to it. Such a decision predetermines
the nature of the communicational process and I am as yet
unwilling, from the situations which I have examined, to
assign any such priority to any of the infra-communicational
systems. For the kinesicist, silence is just as golden as
are those periods in which the linguistic system is positively
operative.

As shall be seen below in the discussion of kinesic
markers, there are aspects of kinesic activity which have
an infra-communicational function only heuristically separable
from the vocal activity. Correlated with the process of
verbalization, these markers, whether an aspect of the
speaker's production of the message or the listener's contribu-
tion to the transaction, deserve special attention in an
assessment of an interview like the one presented below.
Indicating position, temporality, special emphasis, subject,
object, etc., the markers, like many gestures, are often so
closely bound to linguistic behavior as to seem like exten-
sions of it. Further research may well force a special
categorization of this kind of kinesic behavior. At present,
however, with the recognition that during much of human inter-
action verbalization is absent, it seems proper to study the
two systems as of comparable weight in the communicational
process.
This temptation has received stress because of its implications for communicational theory and research. When do humans verbalize? Is there a correlation between intimacy, for instance, and a reduction of conversation? Is there a correlation between the culture of a group and its dependence upon one mode of the communicational process? What are we talking about when we say that one person is verbal and the other taciturn? Even such a subjective term as "good listener" may now be within the reach of objectification. It seems unlikely that such questions as these can be answered until we have considerable understanding of the nature and the role of the infra-communicational systems and their relationship to each other. To assume priority for one or the other sub-system prior to such research would be to oversimplify the problem in a manner already too familiar in so-called "content analysis."

The "central movement" temptation

Somewhat more technical than these temptations is the tendency on the part of the investigator to assume that one part of the body "carries the meaning" and other parts "modify" this central message. This is particularly seductive because we "know" intuitively as a member of a particular diakinesic system that certain movements seem to take precedence in the presentation or reception of a message. The eyes, the mouth, the face, the hands, the posture, the shoulders have all been listed by informants as being the
primary carrier of meaning. To accept such statements would be a little like accepting an informant's conviction that nouns or verbs or even consonants or vowels are the most important part of language. Further, as is true in linguistic analysis, simple particle counting does not give us a score revealing system importance. I have no doubt but that research will reveal that given cultures will, by sheer count, tend to produce more movements from one body area than from the remainder. Such counting does not, however, permit the investigator to assume a correlation between the incidence of usage of a body area and its functional importance either to the infra-communicational system or to the communicational process. Redundantly, I must again insist that only following systematic analysis of kinesic units and patterns can so-called central movements be established.

Even with the minimum of cross-cultural data at our disposal, the evidence is clear that cultures will tend to concentrate activity in certain body areas and permit the activity of others only under certain very limited circumstances. It seems evident that this will have momentous implications for students of national character. However, it does not follow that we can make statements like "Spanish women use their eyes and Russian Jewish women their hands and American stenographers their feet to say what they really mean." Such statements as these will remain at best brilliant intuitions until we comprehend the respective
kinesic systems of these women and the role of these systems in the communication processes of their respective cultures.

The "analytic informant" temptation

Kinesics, like the other behavioral sciences, uses informants as well as direct observation in gaining control of the data of the discipline. Like linguistics, however, it insists that the informant be an informant and not a fellow analyst. The young investigator is particularly prone to ask the informant what he has done or what the movement meant and to forget that the answer provides further data for analysis, not an acceptable conclusion to his analytic research. Even those investigators too sophisticated to rely on such subjective contributions may in lieu of behavioral description and analysis substitute the "multiple judge" technique. Often little more than a pooling of ignorance, such a technique is perfectly valid if the investigator is concerned with questions of establishing patterns of recall; it contributes little to the final abstraction and analysis of the kinesic system.

Kinesics is concerned with the abstraction of those portions of body motion activity which contribute to the process of human interaction. Much, if not the overwhelming proportion, of such behavior is learned by a member of any society quite out of awareness. It is my belief that not only is much of such behavior not within the range of recall but that the learning pattern may carry within it positive prohibitions on recall. Kinesics is not concerned, as such,
with the movement potential of the human species, but rather with those portions of the movement spectrum which are selected by the particular culture for patterned performance and perception. At the same time, as is true with other cultural behavior, much of what happens and which is necessary to the proper performance of a social act cannot be recalled by the actor or the untrained spectator. I said above that I had a belief that as the child is taught to move, to view and meaningfully to reproduce movement, an integral part of this education is concerned with enhancing or preventing recall of much of this activity. Preliminary observation of "flat-land" southern contrasted with New England children in Louisville from comparable socio-economic positions supports the conclusion that, even within a single culture, sub-groups may experience socialization processes sufficiently different to create misunderstanding between them. Not only was the southern "raised" child encouraged to engage in gender-identifying behavior earlier than his or her Yankee cousin, but it had far greater recall in this area both as actor and as viewer than did the northern child.

The need for skilled observers in kinesic research is evident, but even training is at times insufficient guarantee of objectivity in certain situations. One of the critical scenes discussed below of the Billy-Doris-Gregory interview contains extensive intrafemoral hand play on the part of Billy. I must confess that it was only after some thirty viewings and with the demand for micro-kinesic recording that I allowed
myself to see that his hand play was patterned. I venture to suggest that early training which precluded my "seeing" male play in the genital area contributed to my concentration of attention on the little boy's eyes and head.

Suffice it to say that an informant should be used as a window into a culture. As shall be seen below, his contribution to the research is indispensable. The investigator must constantly remind himself, however, that his informant is an adherent, not an objective interpreter, of his communicational system. Not only one but fifty million Frenchmen are likely to be wrong in their view of their own communicational system.

**Methodology**

Having determined the systematic nature of human interaction and having recognized that membership is attained in a social system only after patterned experience in this system, it is the task of the behavioral scientist to ascertain what it is that is learned which provides any particular system with its particular dynamic. It is not my task, but that of the psychologist to determine how the organism incorporates the experiences which make him a human being. Neither is it my task to map the internal relationships of the physiological systems out of which emerge the perceptible shifts in the various parts of the body. As an anthropological kinesicist I am concerned with the learned and visually perceptible shifts in the body which contribute to the peculiar communication systems of particular societies. Kinesics is
concerned with abstracting from the continuous muscular shifts which are characteristic of living physiological systems those particular groupings of movements which are of significance to the communicational process and thus to the interactional systems of particular social groups.

The human body is capable of producing literally thousands of distinguishable positional shifts per second. Even at "rest" the body is not inactive. A high speed movie camera, the so-called slow motion camera, as it is speeded up, records more shifts or motions the faster it is set. Obviously, on some level of analysis these are of significance. The question which immediately confronts the kinesicist is whether or not his minimal unit of activity is in the last analysis to be determined merely by the speed of his film and camera and the patience of the recorder.

There is a considerable body of data concerning the speed of neural transmission. An even larger bibliography is concerned with the psychological study of visual perception. Neither of these, unfortunately, provide us with a statement of biological potential which might in any apriori way delimit the raw material of kinesics. In short, the body of one human being produces a volley of signals, an indeterminate proportion of which may excite the optical nerve of another human being. Observation of the two over any extended period of time will reveal that, if the two were selected from a common social group, each adapts his behavior to the activity of the other. The intra-personal activity which results in
such adaptive muscular shifts and electro-chemical activity in the visual area are pre-kinesic in nature.

This is not to say that the behavior of the physiological system is isolated from the social environment. Even the most cursory examination of the cross-cultural or ontogenetic data indicates that the developing system is influenced, if not shaped, by its patterned interaction with its environment. The reverse is equally evident. In the same way, the knowledge that member X of society A will tend to be more active in one area of the body than is member Y of society B, is of obvious concern to the kinesicist, but such interest is still pre-kinesic. The data of kinesic's is not derived from the observation of intra-personal behavior. A product of systematic social interaction, the kinesic system is a social system. Out of the range of muscular adjustments produced by a human being some are utilized by the social system for communica-tional purposes. Thus, to say it simply, no human body produces a kine (least kinesic unit); it moves or adjusts in a set of muscular relationships. In social interaction, certain of these have demonstrably special utility in the commu-nicational process. That is, under analysis, they emerge as kines. Every visible body movement, accordingly, is not a kine any more than every audible noise made by the vocal apparatus is a phone. Only after analysis has revealed that the presence or absence of a given movement in a particular context systematically affects the interactional process do we assert that that movement has kinesic significance.
A kine is an abstraction of that range of behavior produced by a member of a given social group which, for another member of that same group, stands in perceptual contrast to a different range of such behavior. While, theoretically, within certain limits provided by the physiological structure, a given complex of muscular reactions may produce a continuous series of positions, in actuality, any social system patterns these into a discontinuous or discrete series for reception or reproduction. Thus, while, for example, the membership of culture A will report only two degrees of lid closure, culture B may recognize as many as five. As a skilled spectator under optimal conditions I can record or reproduce fifteen degrees of lid closure quite distinct from each other but most middle majority informants "see" only three. Similarly, while a finger of even the distal joint of the finger can produce a continuous arc of position in relation to the remainder of the finger or hand, four degrees of finger position on this axis are all that elicit the report of a perceptual contrast from a middle majority informant.

Thus, a kine is not a point or position of articulatory activity; it is a range which the unsophisticated informant reports as "the same". In a previous publication\(^1\) points within this range were described as being in *allokinic*

\(^1\) Birdwhistell, 1955.
relationship to each other. I propose now that these be called **kine variants**, since they may be substituted for each other and are, thus, symbolizable by a single class denoting symbol. At the risk of being repetitive I must restress the point that these equivalences are culturally defined. Each kinesic system will have differently shaped kinic classes. As a demonstration, we may use laterality as a special test of kinic significance. All indications are that, at least on the level of the kine, American movers do not necessarily, in awareness, distinguish laterality. Given individuals may favor the fingers of the right hand, the right eye or the musculature of the right side of the face. Two American middle majority movers, one favoring the right side of the body, the other the left, can, as far as we now know, interact without translating "right lid droop" into "left lid droop" or vice versa. This seems to hold for all body parts considered on the kinic level. This is not to deny the obvious fact that handedness is of social significance. What we are here concerned with is whether we can record, say, the movements of the right or left lid as variants of the same kine. We must test whether \( R\sim \) is equivalent to \( L\sim \) and whether they can be regarded as variants of a kine class ( 3). It is obvious that they are distinguishable on the level of articulation. The test is not, however, whether the informant tells us that the right or left lid is used. What we need to discover is whether they function interchangeably in larger kinesic contexts.
As a test let X stand for a specific brow-kine; Y stand for a specific lid kine; Z stand for a specific lateral orbit kine:

\[
\begin{array}{cccc}
\text{LX} & \text{RX} & \text{LX} & \text{RX} \\
\text{RY} & \text{LY} & \text{LY} & \text{RY} \\
\text{LX} & \text{RZ} & \text{LZ} & \text{RZ}
\end{array}
\]

equivalent to each other in a manner which permits us to establish a

\[
\begin{array}{c}
X \\
Y \\
Z
\end{array}
\]

class of \( Y \) covering all four of these as class variants?

If it is inconsequential whether the right or left eyelid is involved in each of these structures, we have no need to establish RY and LY as members of different classes since they are variants of \( Y \). The fact that the difference between R and L may not be of significance on this level does not however preclude the possibility that on other levels of analysis they may function contrastively.

**Kinemorphics**

In earlier formulations of kinesics, to expedite recording, yet with the intuitive feeling that the particular division of the body "made sense", I arbitrarily divided the body into eight specific areas. Systematic investigations, utilizing contrast analysis, have since justified this body division—when applied to American movers. However, even a few hours of work with Indonesian and Bombay Indian
informants makes it clear that the specific divisions will not hold up cross-culturally. The eight areas, head and neck, face, shoulders and trunk, right arm, left arm, pelvic region, right leg and left leg, will probably be differently subdivided according to the body conception of a given social system. The particular range of such segmentations can only be determined by further research. Nevertheless, the kinemorph was defined then as an assemblage of movements (kines) in one such area.

A kinemorph is not merely an assemblage of movements in a given body area. A moving picture of such an area would not provide the investigator with a kinemorph. Such a picture or abstraction from it in the form of an exhaustive list of micro-kinegraphs or articulations would provide us with relatively little concerning the kinesic system of the actor. We must again use the method of abstraction and contrast analysis. As soon as we begin to contrast, with the aid of an informant, a series of kine assemblages, it becomes possible to abstract those which form unitary complexes. To return to the example which we used in the text above: We may find that we cannot set

\[
\begin{array}{ccc}
RX & RX & RX \\
LY & RY & RY \\
RZ & LZ & RZ \\
\end{array}
\]

up a single kinemorph to cover

\[
\begin{array}{ccc}
RX & RX & RX \\
LY & RY & RY \\
RZ & LZ & RZ \\
\end{array}
\]

LX

LY . Further, we may discover that

\[
\begin{array}{ccc}
RX & RX & LX \\
LY & RY & LY \\
RZ & LZ & RZ \\
\end{array}
\]

LZ
are kinemorphic variants to which informants react as substitutable for each other at this level. Similarly,

\[
\begin{array}{c|c}
RX & LX \\
\hline
LY & RY \\
\hline
RZ & LZ \\
\end{array}
\]

may also be found to be substitutable for each other. We may then conclude that we have two kinemorphs, which may be recorded as [XYZ] and [XYZ].

While this example gives some idea of how the kinesicist deals with contrast analysis, it will be exceedingly misleading if it is not seen as over-simple. For while all of the kines which compose a kinemorph are to be found within a given time frame (while will be discussed below), they are not necessarily coterminous. I have thus far been able to abstract three kinds of kinemorphic constructions, their definition dependent upon the order behavior of the component kines:

(1) synchronic kinemorphs; in which the component kines are simultaneous and of equal duration;

(2) series kinemorphs, in which the kines follow one another in time; and

(3) mixed kinemorphs which have both synchronic and series features but in which all component kines are not of the same duration.

Figure 2
Figure 2

(1) \( \frac{X}{Y} \)

(2) \( \frac{XY}{W} \)

(3) \( \frac{XY}{W} \)
Each of these meets our definitional criterion of taking place within one body area and each forms a complex in which all components are necessary for the production of the unit and all are to be found within a given time frame. In the discussion of the kine we did not deal with the durational aspect of its definition, since by extended test, it is clear that performance not duration determines the kine.

A raw movement becomes classifiable as a kine at any time that its performance (of whatever duration) suffices to change the contrastive function of the complex in which it operates. The same kind of test is utilized on the kinomorphic level since the kinemorph is more than an arbitrary grouping of kines. We can establish the kinemorph, not only because the informant tells us that "these movements fit together", but also because we find transition devices which mark its initiation and terminus, and because we are able to establish its unitary function in larger contexts.

The most readily apparent kinemorph is one which begins with the body at zero (Z) and ends with it at zero (Z). Zero is defined as attention without specific movement, or, in the appropriate context as an arbitrary norm from which all kines are traced. Such kinemorphs can be described as pause-marked (=). A second type is characterized by onset of activity in one body part and is terminated by the introduction, from zero, of activity in another part. The term areal transition (X) seems useful here.
There is a third type of transition, the bound transition (+), which marks kinemorphs which can only be detected by extended contrastive research. This occurs when one kinemorph is replaced in the same body part by a different kinemorph which utilizes the same points of articulation but by rearrangement of order and/or duration establishes a complex with a meaning demonstrably different from that of the previous complex. The fact that these types of kinemorphs are differently marked by differential transitional behavior indicates that future analysis may reveal their special roles in the kinesic system. On the other hand, it is within the range of possibility that they are functionally equivalent and are merely contextual variants.

The linguist will see that the kinemorph and the morpheme are in some ways comparable. For several years I have been hopeful that systematic research would reveal a strict hierarchical development in which kines could be derived from articulations, kinemorphs from complexes of kines, and that kinemorphs would be assembled by a grammar into what might be regarded as a kinesic sentence. While there are encouraging leads in the data, I am forced to report that so far I have been unable to discover such a grammar. Neither have I been able to isolate the simple hierarchy which I sought.
While, by count, a major proportion of the kines of the American kinesic system may be meaningfully segmented in one body area, there are many occasions when the restriction of contrast analysis to one area leads only to confusion. This occurs when kines from two or more areas form a complex, which, under contrast analysis, behaves precisely like a kinemorph. These I have chosen to call complex kinemorphs. The complex kinemorph and the simple kinemorph seem to be on the same level of analysis in that they may both be directly analysed into kines. By definition, of course, the complex kinemorph differs from the simple kinemorph both in its placement and in the fact that we cannot utilize simple shift of body area as a transition marker. Letting (A), (B), and (C) stand for kines in one body area and (X), (Y), and (Z) stand for kines in another, we may specify the shape of the complex kinemorph as [A, Y, B], while the shapes of simple kinemorphs are [A, B, C] or [X, Y, Z].

To complete the description of this level of analysis, I must include those single kines which emerge as kinemorphs: thus (A) becomes [A], (X) becomes [X], and so on. The test for kinemorphic function continues to be one of abstraction and contrast analysis. Our testing context is the kinemorphic construction. The raw unit of body motion is classifiable as a kine when it is seen to have differential value in a kinemorph. Ultimately, the existence of the simple kinemorph, the complex kinemorph, and the kine as
kinemorph must all be established in the kinemorphic construction.

Figure 3

\[
\begin{array}{c|c|c}
\text{Kinemorphics} & \text{Kinemorphic construction} \\
\hline
\text{Complex} & (\text{Simple}) & \text{Kines as} \\
\text{Kinemorph} & \text{Kinemorph} & \text{Kinemorphs} \\
\uparrow & \uparrow & \uparrow \\
\hline
\text{Kines} & \downarrow & \downarrow \\
\hline
\text{Kine} & \uparrow & \uparrow \\
\downarrow & \downarrow & \downarrow \\
\text{Variants} & \text{Arbitrary Raw Units of Body Motion} \\
\end{array}
\]

In Figure 3, the reader will note the succession of two-way arrows. This indicates that at each level of analysis a unit not only must be abstractable from non-significant variation, but must be seen to have differential meaning in the complex in which it operates.

The term \textit{kinemorphic construction} is suggested to cover the next order of combination in kinesic behavior. As kines combine with other kines to make isolatable units
(the kinemorphs), or as single kines emerge as kinemorphs, these forms combine with each other in a variety of kinemorphic constructions. The simplest of these is the kinemorphic combination. A kinemorphic combination is constructed of two or more kinemorphs—either in parallel or in series. Recorded initially as [A, B, C] [X, Y, Z], if the combination can be tested for unit existence, i.e., as having differential meaning in a wider context of body activity, it can be recorded as /[A, B, C] [X, Y, Z]/. We further find that complex kinemorphs can combine with other complex kinemorphs in complex kinemorphic complex combinations /[A, X, C] [Y, N, Z]/, and with single kinemorphs to form kinemorphic compounds /[A, B, C] [X, N, Z]/. Finally, constructions of the shapes /[A] [X Y Z]/ and [A] [X, N, Z]/ have been abstracted.

The existence of a kinemorphic construction is determined by exactly the same procedure as has been utilized in the abstraction of the kinemorphic or kinic combinations. We abstract an assemblage in which the components repetitively appear in conjunction with each other. Then by substituting behavioral events of a comparable shape within the combination we establish the kinemorphic function of the components and, by extension, the reality of the morph, on one level, and that of the construction on another. Thus, the kinemorphic value of kines is revealed when we discover that /[A] [X, Y, Z]/ stands in contrast to /[B] [X, Y, Z]/ in exactly the same way as /[A] [X, Y, Z]/ stands in contrast to
Thus, recording \([A, B, C] \rightarrow Z [X, Y, Z]/\) signifies that the construction has been abstracted from a larger action sequence and that during its duration the rest of the body has remained at what one of my students aptly referred to as "ready rest." The \((Z)\), in this case, serves to remind the analyst that he is dealing with an included construction. When a full actional sequence is dealt with, \((/)/\)'s are utilized to mark the initial and terminal aspects of the sequence and all segments within the double slashes are bound constructions and form a unit on the next level of analysis.

I have not yet found any way of determining whether or not there is a conventional limitation, in terms of the number of component morphs, to the size of a kinemorphic construction. In the examples above two-part constructions were used. The reader must not be misled by this. I have seen kinemorphic constructions which contained as many as seven morphs. The test for the unitary nature of a kinemorphic construction takes place in the larger field of body movement which we call action.

In the definition of the kine, I said that zero does not stand for no behavior at all but for behavior which does not have variational kinic or kinemorphic significance.
Analysis of the American kinesic system has led to the tentative conclusion that in the probable absence of cross-referencing systems similar to those of linguistic grammar and syntax, meaningful segmentation and binding together of kinesic construction sequences if handled, in all likelihood, parakinesically the medium of stance. Stance is a term designed to cover a pattern of total body behavior which is sustained through time, within which one or a series of constructions take place, and which contrasts with a different stance. Stance subsumes position (p), (which is a statement of the relative position of all the body parts in space) locomotion (l), (the movement of the body through space) and velocity (v) (which covers sustained velocity of movement of the total body).

A stance change is said to occur when any one of these or combinations of these is varied to such an extent that there is a marked shift in the total message. In a major proportion of the interactions which we have observed these shifts coincide with a transition (+) (X) or (=) on the construction level. Our problem would be a good deal simpler if we could say that action-sequence transitions always coincide with inter-construction sequences. Certain of these stance changes, however, take place within what appear to be bound constructions as well as within an included construction. Such stance changes

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1 See now Birdwhistell, 1960.
may or may not be coterminal with morph transitions. The term stance shift is used to indicate this variety of stance variation which may, as research develops, turn out to be parakinesic in nature.

While our research in this area is far from exhaustive it seems probable that stance variation may serve at least a dual function. On the kinemorphic level, stance serves to mark the beginning and end of action sequences. In such cases (///)'s mark the action sequences and all elements included within are analysed as bound components in an interactional system. Thus, we might record a typical action sequence according to the notational logic, ///[A, B, C] [N] [X, O, Z] [etc.]//. The type of stance change is marked by a small letter at the upper right of the double slash notations: ///P), ///1), or ///V). When a stance shift occurs within a sequence of bound constructions, a capital S is used with the identifying marker. Thus: ///V[X, Y, Z] [N] [P, Q, R] S [A, F, C] [etc.]/\n///V indicates an actional sequence bounded externally by two perceptible shifts in velocity and containing a stance shift (S) of one of the other two variants (position or locomotion).

Only further research can reveal the functional nature of these internal shifts for the action sequence. As shall be seen below, the gross behavior noted on the microkinesic level as stance, contains behavior which, on the macrokinesic (i.e. probably parakinesic) level, emerges as posture, demeanor, pose, and presentation. It would be desirable to
have the evidence which would give assurance that all internal
stance shifts can be ignored on the microkinesic level. How-
ever, for the time being such a conclusion must be postponed.
In discussing the interpretation of kinesic systems more will
be said about the incidence and relative placement of stance
shifts and changes. The fact that communicants react
unfavorably toward "too many" or "inappropriately" placed
stance shifts suggests that these are especially patterned.

**Interaction**

While it is hardly the function of this section to
develop a social-psychology of human interaction, the data
to follow are perhaps illuminated by establishing exactly
what it is we mean by interaction. Review of the existent
literature on social animals gives us some security in making
a generalization which states when social animals of a common
species make sustained sensory contact with each other they
must engage in behavior which identifies each to the other
as a species member, a group member, and as being in a
particular state of readiness. Ethologists and comparative
psychologists have presented us with an impressive array of
behavioral data which indicates that some term like "learned"
or "conditioned" or "released" must be applied to this
behavior. That is, behavior of identification is not only
necessary for the adaptation of the species but is apparently
patterned by the particular experiences of the group. This
is hardly the place to review the evidence, but it seems clear
that a member of any social group must "recognize" and "emit" certain signals in order to sustain association with that group. The data are at the present time too sparse to indicate the range of discrimination of in-group and out-group identification signals.

The fact that animals engage in species, group, and state readiness signals does not give us the right to call this complex of identifying signals animal behavior with the implication that it is somehow instinctual. I prefer to call such behavior social, since it emerges from the patterned association of species members with patterned activity systems. The fact that we use the same term to cover an aspect of kinesic behavior does not make such behavior "more biological". It rather emphasizes its functional importance to the social system.

The term encounter will be used to cover that communicational situation which occurs prior to interaction. The duration of an encounter will depend upon the nature of the communication systems exhibited by the participants. An encounter becomes an interaction when the participants become communicants. That is, the participants interact rather than counteract when they find it possible to introduce cross-referencing signals into the scene in such a way as to sustain continuing adaptive association.

This difference between an encounter and an interaction is stressed because it so clearly sets boundary lines between those situations in which mutual cross-referencing signals are
appropriately used and those in which none yet exist or if they exist, are inappropriately used by the participants.

It is probably evident to the reader that with this definition few encounters are ever of sufficient duration to be recordable. It may well be that "encounters" have no real existence and that "encounter" (or non-communication) refers to the subjective feelings of distress which we have when we do not comprehend the communication situation in which we are participating. There are cross-cultural situations in which an "encounter" becomes an interaction by the introduction of the cross-referencing signal that the participants shall search for cross-referencing signals. Such a sequence may be no more complex than the joint presentation of palms followed by squatting, buttocks resting on heels, with the weight balanced on the ball of the feet and the toes. This set of signals gives evidence of the willingness to participate in some sort of sustained interaction. This simple action sequence stands in sharp contrast to a scene in which participants may not engage in a sustained encounter because one or more of the participants use only internal cross-referencing signals and thus prevents the emergence of an interaction.

Kinesics and linguistics provide recording and analytic techniques which should give new insight into the processes of acculturation and group-formation. At the same time such situations should provide micro-cultural laboratories for sharpening the tools of these disciplines. In a seminar at
the University of Buffalo, the authors of this present book working closely with Smith and Trager, who had originally suggested comparable though by no means identical classification of similar vocal phenomena, developed a methodology for the analysis of visual recognition patterns. The skeletal structure of this aspect of communicational behavior is presented below with full recognition of its crudeness. However, even in this unrefined state, such abstraction provides a tool which has proved invaluable in the establishment of actor base-lines (see Chapter 7).

**Visual Recognition Patterns**

While we do not wish at this time to become involved in status and role theory, we must note that the broadest cross-referencing behavior in the communication system relates directly to these aspects of interaction. In the section above we discussed the function of stance shift (or change) in providing structural frames for extended stretches of kinemorphic constructions. Such cross-referencing behavior gives us data for recognizing that even on the kinemorphic level human beings do not communicate through an additive series of independent messages. In kinemorphics we were concerned with demonstrating that the system contains a variety of behavioral shapes which tie together least pieces of activity. We are now reversing our procedure to examine those cross-referencing signals which tie together the broadest possible amount of inter-actional behavior. Among such behavior, that which we call body base is, theoretically, sustained
throughout any interactional sequence:

Figure 4

Body-Base Types

Position
Sex
Age
State of Health
Body Build
Rhythm Phase
Territoriality
Mood
Toxic State*
N-States

* and organic confusional and deficit states.
This list of body-base types has been derived from a set of recognition behaviors some of which probably occur in all social groupings, animal or human. As we originally worked with these categories, it seemed to us that not only were these the broadest of the cross-referencing patterns, but also that they were somehow "closer" to the physiological base of the species. Certainly, with the exception of "position", which related to the order participation of a member of a group vis-a-vis his or her group associates, and "territoriality", which refers to systematic space occupation, all of these types seemed to have primary, physiologically constituted accompanying behavior. It seemed justifiable, therefore, to refer to these as "primitive"--somehow implying priority in an evolutionary sense. As I worked with these categories increasing confidence was gained that such states are characteristic of social groups--at least of mammalian groups--and probably of a number of fowl groupings. I had the opportunity to talk at some length with Dr. Konrad Lorenz who concurred in the tentative conclusion that these are probably requisite to sustaining the basic division of labor necessary for adaptation in the animal groupings. In the light of this, it may be suggested that if we are justified in calling these recognition states "primitive", it is with reference to the order of their appearance in social groups rather than in terms of anatomic characteristics.

The detailed description of the body-base types has been purposely avoided since these types are kinesic categories--not behaviorally specific constructs. Body-base
constitutes the basic image of other members of the social group which must be internalized by the group-member in the socialization process. **Body-set** constitutes behavioral derivatives from the expectancy pattern of an associated member against which are measured the body qualities or situationally variant signals basic to any interactional sequence. Body-base, then, constitutes the zero line which any communicant must have internalized in order to recognize the special cross-referencing message carried by the body-set signal-complex.

No member send or expresses any of the types as a unitary activity to the exclusion of others. Even the limited survey of films which I have attempted makes it clear that these types are neither specific (in an organic sense) nor independent from each other. In every case that we know anything about there is a complex relationship between the various types. Until further extensive cross-species research has been carried out we can only say that body-set is complexly patterned and learned. As we gain more knowledge cross-culturally, both about the patterning of these types and the predominant shapes of body-set in particular cultures and in particular individuals within the group, we shall be able to provide a more substantive base for cultural character and temperament studies.

In the discussion above, body-base was described as the patterned, learned zero-line against which body-set is measured. Body-set represents the particular cross-referencing
signals introduced in the particular interactional scene. A brief glance at Figure 5 below will make clear the relationship between the body-base zero-line and the body set which appears in the communicational sequence. It will be noted that for each of the body-base types we have derived a parallel body-set of social recognition value.

Figure 5

<table>
<thead>
<tr>
<th>Body-Base</th>
<th>Body-Set</th>
</tr>
</thead>
<tbody>
<tr>
<td>Position</td>
<td>Status</td>
</tr>
<tr>
<td>Sex</td>
<td>Gender</td>
</tr>
<tr>
<td>Age</td>
<td>Age Grade</td>
</tr>
<tr>
<td>State of Health</td>
<td>Health Image</td>
</tr>
<tr>
<td>Body Build</td>
<td>Body Image</td>
</tr>
<tr>
<td>Rhythm Phase</td>
<td>Rhythm Image</td>
</tr>
<tr>
<td>Territoriality</td>
<td>Territorial Status</td>
</tr>
<tr>
<td>Mood</td>
<td>Mode</td>
</tr>
<tr>
<td>Toxic State</td>
<td>Toxic Image</td>
</tr>
<tr>
<td>N-State</td>
<td>N-Status</td>
</tr>
</tbody>
</table>
Before discussing body-set states a word of caution must be introduced. While it is possible heuristically to abstract the ten states and to use these as frames for the collection of data, such abstracted units are never behaviorally isolated categories. Communication, intrinsic to culture, is patterned and systematic. As such it is constituted of a number of interacting sub-systems, the appearance of which is determined by the complex demands of the particular interaction situation. Since a particular (in space-time) cross-referencing system is shaped by the exigencies of a particular interaction system, it would be surprising if any specific state could be reacted to without modification by other state representations.

In the process of the establishment of actor and interactional baselines, I have found it necessary to analyze large stretches of behavior on a base-set model. In every case, at least five and at times all ten set-states categories are represented. The particular kinemorphs or kinemorphic constructions, the organization of stance shifts and postural positions, as well as the selected body motion qualifiers (to be discussed below), all combine to give us a cross-referencing statement of the quality of the interaction.

To avoid confusion, I have purposely avoided examples in the preceding discussion. Since this present chapter is not designed to provide the reader with data for the analysis
of particular sub-cultural situations but is aimed at orienting the reader to the Doris-Gregory-Billy interview, the discussion has been purposely general and theoretical. However, the reader may gain more perspective if a somewhat stereotyped example is presented at this point.

If we were to consider a situation in which a 35 year old junior Vice President talks to the 63 year old Chairman of the Board of his firm, we might find the following states manifested in the two participants in the interactional scene. These states cross-reference the discourse within the situational frame. While the problem of representation makes the diagram below appear like parallel or contiguous individual behavior, the reader is again reminded that the behavior of each is a function of reciprocation—the cross-referencing signal is a reciprocal, i.e. part of an interaction—not an individual expression.
(See Appendix 6 for the symbols used in the macrokinesic recording)

## BODY-SET STATES

<table>
<thead>
<tr>
<th>Categories</th>
<th>Vice President's Behavior</th>
<th>Chairman's Behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td>Status</td>
<td>¥ 4 K &quot; p T p Hq or Hq -LL-alternating with L/L OO::::(intermittent)</td>
<td>4 ¥ b T b, AxbA Hn ... Hfbb, s00s</td>
</tr>
<tr>
<td>Age grade</td>
<td></td>
<td>Set + 3</td>
</tr>
<tr>
<td>Gender/Or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sex Grade</td>
<td>¥ 4 K &quot; [xx - xx] p T p Qualifier!! / +...+ + 00 +</td>
<td>4 ¥ + intermediate R 2 p Set + 3</td>
</tr>
<tr>
<td>Health Status</td>
<td>p T p</td>
<td></td>
</tr>
<tr>
<td>Mode</td>
<td></td>
<td>+ 00 + Hfbb, s00s AxbA</td>
</tr>
<tr>
<td>Body Image</td>
<td>— —</td>
<td>— —</td>
</tr>
<tr>
<td>Territorial</td>
<td>interaction centered movement projection to whole room</td>
<td></td>
</tr>
<tr>
<td>Image</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Toxic Status</td>
<td>— —</td>
<td>— —</td>
</tr>
<tr>
<td>N-Status</td>
<td>— —</td>
<td>— —</td>
</tr>
</tbody>
</table>
This scene, which is purposely oversimplified by having its opening and closing phases eliminated, covers the length of a discourse, marked at its beginning by "settling in" behavior and terminated by interruption and departure behavior. We are concerned neither with the content of the scene nor with the linguistic or kinesic detail of these cross-referencing signals. The signals above are internally congruent--the young man's over-youthful, clear-eyed "sincerity", with appreciative humor, is consistent with the slit-eyed belly holding and genital scratching of the older man. The [Y4K"] (knee over knee leg cross) is the congruent seating posture reciprocal for the older man's [4Y] (broken or open 4 leg cross). The seeming reversal here in which the older man uses a leg cross customarily seen in younger men is modified and tempered by his [AxBA] (bi-manual belly hold)--just as the [4YK"] (knee over knee) which is formal and at the same time within the range of the feminine leg cross arc is tempered by the[+00+] (eyes with distal aspect wrinkled) and the [Hq] (head cock).

These body-set cross-referencing signals may be seen as overall frames for the system of interaction occurring within their boundaries. The example above is simplified in that the interview portrayed contains no major shifts, that is, this complex of behavior extends throughout the interaction. Body-set signals are extremely important in assessing interaction topography; often the first signal of a parameter shift in an interaction is signalled by a set-shift--either in the linguistic or in the kinesic area, or in both. As our
understanding of the dynamics of interaction increases, it is clear that in body- and voice-set shifts we have one method for measuring "movement" in psychiatric as well as other interviews.

Returning to the example, it is to be noticed that under territorial image the younger man's behavior is described as "interaction centered", whereas the older is noted as "movement projection to whole room." The absence of macrokinesic recording here relates to my own uncertainty. However, at the moment it seems likely that space control has something to do with eye focus and convergence behavior modified by activity discussed below under motion qualifiers and motion markers. Of theoretical and methodological importance is the fact that while such behavior may be experimentally "located" in one rubric of the kinesic and parakinesic system, it may nonetheless be multi-functional.

Using the above as a background for recognizing the interdependence of quality behavior, the role of base and set as related to health and health image may be elaborated. Pathological conditions in the muscular, skeletal, and neurological system often directly emerge as limitations or specific underlying determinants of motor or dermal behavior. There can be little doubt that the form of the message sent or received is strongly influenced by the state of the organism qua organism. Probably the largest section of the bibliography concerned with visible body movement is related to the specific or generalized symptomatology of neurological disturbance. Theoretically, all specifically idiosyncratic body behavior lies
outside the field of kinesics, whether such behavior gains its peculiar cast from organic sources or from some special conditioning experience on the part of the actor or viewer. Yet it is essential to the methodology of kinesics as it is for linguistics, that the behavior of any participant in an interaction situation be described as idiosyncratic only after the patterned aspects of the behavior have been exhaustively described. That is, in the process of classification and testing, individuality is assigned after not before the fact of data exhaustion. Our theoretical framework provides us with an approach to the problems of allocating data to pre-kinesic or to macro-kinesic levels, but only when cross-cultural research provides us with clear indications of symptomatic activity concurrent with specific organic malfunction can we be secure in our assessment of particular pieces of behavior.

While anthropologists have long been aware of differing cultural emphases on disease or accident, the literature is exceedingly thin with regard to the specific variations in symptom presentation. Discussion of this problem with physicians whose practices are limited to the ethnic variations of an American city, has convinced me that practitioners are aware of the difficulties involved in treating symptoms expressed by various groups, as though there were a common and universal symptom structure for a given disease. This point was repeatedly stressed by M. D.'s whose practice included the range of variation provided by a Santa Fe or an Albuquerque hospital. Yet to my knowledge the data remains essentially impressionistic.
Perhaps as the World Health Organization expands its research area, specific and extensive attention will be given to the cross-cultural examination of the social structuring of symptoms. Such data as would be supplied by these studies—properly organized—should help us to be more explicit about the separation of prekinesic and kinesic behavior.

My own convictions in this area derive from experience gained while doing research on the social structure of two adjacent but differing sub-cultures in central Kentucky. Not only did the "BlueGrass" and "Hill" Kentuckians differ in their attitudes toward disease in general, but their choices of favorite ailments varied as systematically as did other aspects of their social organization. This research was done prior even to the preliminary systematization of kinesics, yet we were aware of the fact that there were styles of symptom presentation in both verbal and kinesic statements of illness which were sufficiently different in the two areas as to lead to misunderstanding between them. The discussion to follow is based on insights gained during this community research project, measured against the material gathered by a number of investigators in the cross-cultural sphere, and reinterpreted through the recent formalization of communication research.

Although Dry Ridge was only about fifteen miles into the hills from the Blue Grass community, Green Valley, the health set of this area is markedly different from that characteristic of the Valley. As a culture, more rigorously individualistic
and puritanical than Green Valley, signess was patterned in
Dry Ridge into "non-reference to health" and "critically ill." Ideally, any variation between these two states is to be
ignored or, at least, should remain a private matter. Ideally one is forced to go to a doctor, take medicine, or go to bed.
The kinesic message that one is critically ill (although con-
scient and not yet bed-ridden) is best covered by the gestural reference, "stiff upper lip." This includes retraction of
the scalp, tightening the skin of the forehead (with a signifi-
cant reduction of brow markers), reduction of smiling, carrying
the torso in hyper-erect, reduction of velocity in hand and
arm movement, increased precision in gross movement (decreased
overkick--anterior and posterior--while walking) and increased
"foot-planting" (both feet--heal and ball--on floor while
standing or sitting). If this does not elicit response from
responsible kindred, this general quality is sporadically
interrupted by "sag" behavior of about 2 to 5 seconds duration
followed by "pulling together" behavior of about 2 to 4 seconds
duration. The sag and pull-together should not take place
very often or the quality shifts and the behavior is reacted
to as malingering or as an infantile appeal. I have never,
in over a year of watching this behavior, seen the sag and
pull together used by males more than once in fifteen minutes
except by the very young and the very old. Females, on the
other hand, sag and pull together more frequently--several as
often as two or three times in 5 minutes. This statement of
variation is probably over-precise but there is quite obviously
a difference in expectancy here. A child, an old person, or a woman may engage in sag and pull together at greater frequency within a time span without being considered as malingering. It is perhaps unnecessary to stress the point that in Dry Ridge the full cross-referencing system is made up of "stiff upper lip" plus "sag and recover." It is perhaps of interest to note that the health image quality behavior of "stiff upper lip" differs from the mood image of anger in Dry Ridge in only two behavioral aspects that I have been able to trace. First, in eye convergence and focus--in anger the Dry Ridger avoids focussing on the eyes of others--looking to either side of other communicants, whereas, in sickness, he looks at his communicant with in and out of focus variation. Second, in aspiration presentation: in sickness he engages in intermittent pronounced chest presentation with audible aspiration (usually through the nose). Paralinguistically this is very close to a sigh. In anger, he uses deep, measured visually perceptible breathing which is usually inaudible.

In Green Valley the situation differs both linguistically and kinesically. A kith and kin community, health is used as a device for establishing interdependent interaction. Ill health is discussed and, in a manner of speaking, "enjoyed." A public affair, any manifestation of physical malaise occasions group diagnosis and comparison of symptoms. Accompanied by extensive verbalization, the kinesics of all communicants are characteristically directed with kinesic area markers. The etiquette of illness even in Green Valley (both of these
communities are, after all, American) demands that the viewer initiate verbal discussion of the actor's debility. Thus, the community member introduces a cross-referencing appeal which is sustained until it is responded to by other participants in an interactional scene. In Green Valley the kinesic illness behavior is characterized by first to third degree medial compression of the brows accompanied by first degree brow raise. The lids sag and there is tensing of the lateral aspects of the orbit plus upper cheek sag. The lips fill and the lower lip falls slightly away from the lower teeth. The neck is out-of-tonus often with a forward or forward and lateral thrust. The upper torso sags anteriorly as do the shoulders. Belly may be presented. Arms and hands may hang at the side or moved in over-slow velocity with lower arm performing any arc at greater velocity than do the hands. Feet drag while walking, or rest anteriorly on heels while sitting. There is, of course, variation in completeness or duration of this quality behavior—but it is my conviction that this variation is a function of the lack of response on the part of the other communicants rather than of the seriousness of the debility represented. This is supported by the fact that as soon as the malaise of the initiator is responded to, the body moves into tonus and a verbal recital of symptoms is accompanied by pointing--touching--rubbing--caressing of the ostensibly involved body parts. Even persons who are apparently (from doctor's diagnosis) quite ill become animated,
with eyes in focus—mouth at zero, and body at increased
frequency of response during such conversations. Such activity
is intermittently interrupted by "sag and recover", if the
responses get "too" general in nature. I am somewhat unsure
about this, but it is my feeling that malingering is suspected
in this community when the "sick" person does not interrupt
his or her performance with sympathy and empathy activity,
when the traded symptoms are introduced by other participants
in the conversation. An actor's preoccupation with his own
health is a signal that his appeal is not simply a statement
of illness.

These are neighboring systems and there is some inter-
marrige between the two groups. With this range of difference,
it is easy to see that some misunderstanding arises in an
intermarriage situation. It is perhaps of no consequence to
this present chapter, but it is interesting to note that Dry
Ridge, an economically poorer region than Green Valley, has
produced four doctors since 1890 while Green Valley has pro-
duced but one.

Further discussion of body-base and body-set must await
a more extensive presentation. These examples should serve,
however, to illustrate the general propositions concerning the
function of this aspect of the parakinesic system as a
cross-referencing system. This discussion and these examples
may be somewhat misleading for they do not properly underline
the point that while we are able to abstract some fairly
c precise movements as central indicators here, such behavior
may congruently or incongruently be modified on the macro-
kinesic level, which contains kinemorphic constructions,
the constituent behavior of which may function on both levels
of systematization. Further, our analysis must not omit
what is probably the most critical (and least adequately
analyzed) level of parakinesics. This area includes that
behavior which I have termed the motion qualifiers, and
the kinesic action and interaction modifiers. Although
they in general refer to shorter stretches of behavior than
do the base and set cross-referencing systems, these
parakinesic qualifiers and modifiers may cover activity as
limited as a kinemorph or a single kinemorphic construction
or stretches of behavior of such duration as to make us
feel that they may ultimately be relegated to the base-set
level.

**Motion Qualifiers**

The stream of body-motion behavior has thus far been
discussed as though there were a somewhat mechanical all-or-noth-
ing quality to the production of the components of the kinesic
system. The student analyst in his training tends to move
from a period of concentration on the "expressive" or personality
indicative, or idiosyncratic behavior to one of atomistic
recording of the finite particles. It soon becomes evident
that the range of variation in production of body-motion
interaction is not a simple matter of idiosyncracy or "style", 
or, on the other hand, is it as highly patterned as is kinemorphic construction. Out of an extended range of production behavior three aspects of the motion qualifiers deserve special attention because their performance seems so intimately tied to the structure of the most complex arrangements of kinemorphic constructions. These include intensity behavior, durational behavior, and range behavior. For most middle-majority American movers these seem each to be distributed on a three to five-degree scale which is outlined below with the symbols I am presently employing for their notation.
### Motion Qualifiers

<table>
<thead>
<tr>
<th>Motion Qualifier</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Intensity</strong> (or degree)</td>
<td>Overtense</td>
</tr>
<tr>
<td>of muscular tension</td>
<td>Tense</td>
</tr>
<tr>
<td>or production of kine (or kinemorph)</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td>Lax</td>
</tr>
<tr>
<td></td>
<td>Overlax</td>
</tr>
<tr>
<td><strong>Duration</strong> (or length)</td>
<td>Stacatto</td>
</tr>
<tr>
<td>of kine (or kinemorph)</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td>Allegro</td>
</tr>
<tr>
<td><strong>Range</strong> (or width) of movement in performance of given kine (or kinemorph)</td>
<td>Narrow</td>
</tr>
<tr>
<td></td>
<td>Limited</td>
</tr>
<tr>
<td></td>
<td>N</td>
</tr>
<tr>
<td></td>
<td>Widened</td>
</tr>
<tr>
<td></td>
<td>Broad</td>
</tr>
</tbody>
</table>

These motion qualifiers are roughly analogous to supra-segmental phenomena in language, that is, they may occur across or cover segments of a complex construction. They function to modify the kinesic meaning of the construction, but so far as I am able to ascertain, an increase or decrease of intensity, the rate of production, or the breadth of the
performance of any kine or kinemorph in a kinemorphic construction cannot serve as a substitute for one or more of the kines or kinemorphs in that construction. In other words, the modification function of one of the qualifiers, regardless of its extent of distribution within a bound form, seems to extend over the full kinemorphic construction. Or, to say it still differently, at least so far as our examination of American movers are concerned, there are no kinemorphs composed of variation in intensity, duration, and range.

If we try to evaluate these phenomena with relation to the present or allied research, the motion qualifiers take on special significance. While present research indicates that the 5 degrees of intensity and breadth and 3 degrees of duration have kinesic significance for all middle-majority American movers, the "distance" covered by a particular mover in the performance of the qualifiers will vary widely. This distance is of significance in the assessment of motion qualities. Further, the qualifiers seem to be especially related to that area of psychiatric symptom description called "flattened affect". Flattened affect in the kinesic behavior seems, at least in part, to be an incongruent narrowing of qualifier extent, the term incongruent, in this case, being related to the general or interactional system. Not altogether in jest we have been using another term "fattened affect" which occurs when the spread of qualifier extent becomes incongruent with the interactional sequence. This discussion of interpretation may seem somewhat out of keeping at this point in the
chapter but I think the reader must be warned with respect to a methodological point. The qualifiers may be looked at from two analytic points of view: first, as patterned modification phenomena which vary the kinesic meaning of a kinemorphic construction and, second, in their extent aspects as part of the general cross-referencing system of the full interaction. In analysis these must be kept separate since in their discovery quite different operations are involved. The particular qualifier behavior noted for a particular construction is of kinesic significance and is determined as variations of behavior within the base line of the actor. The quality aspect of the qualifier behavior is determined by comparative analysis and has interactional significance.

**Action Signals**

Since one of the purposes of this chapter is to serve as a progress report on the attempts at data exhaustion in kinesic raw materials it is perhaps justifiable to include in this already programmatic chapter a series of behavioral categories whose position and function are far from worked out. Something of a waste-basket category, the action signals include the action modifiers which are descriptive of an entire body in motion, the interaction modifiers which involve the full body behavior of two or more participants in an interactional scene, and the action markers. Perhaps the material at present handled under these headings will become data for the description of motion quality and/or
for the analysis of the base-line, but for the time being
I am more comfortable in recording them under these less
definitive categories.

The literature covering "expressional behavior" con-
tains a number of sets of more or less descriptive cate-
gories of individual behavioral types. Many of these
provide useful concepts based on careful observation and
brilliant intuition. In the training situation, however,
such borrowed concepts prove the adage that one can never
get a borrowed bucket clean. Since we have attempted to
make sure that each of the concepts utilized in kinesics
and parakinesics relates both to a specific order of
behavior and to the operations by which such behavior is
abstracted, a new set of terms and categories is required.
The following outline includes those modes of behavior
which have been sufficiently examined to give us some con-
fidence in their presentation. Such a systematization does
little more than scratch the surface of possible categori-
zations. The nine modifiers listed below are what remain
of forty-one paired types which I worked with in 1955.
As systematic research proceeded, most of these were dis-
carded as over-generalization of kinemorphic constructions.
As it became clear that the "gesture" was a closely bound
stem-like morph which signalled a constructional core, it
also became evident that the classification of gesture
types as indicators of cultural character tendencies must
await systematic cross-cultural research. Further, the
development which followed the recognition of the cross-refer-
cencing function of the base-set activity further limited
this list. I have no doubt but that this list will be
lengthened and rearranged as research proceeds, but I
present these categories as they now stand in the hope that
other workers will find them useful. All of my testing
indicates that they have some kind of communication function,
but I am not at all sure how they fit into the remainder
of the data.

Action Modifiers

The categories listed in outline below under the action
modifiers include a series of paired types that cover the
mode of behavior of the body as a whole. In all cases these
are included because they elicit patterned responses from
communicants and because they seem in "normal" movers to vary
from situation to situation within the behavioral system of
the particular member.

Action Modifiers

<table>
<thead>
<tr>
<th>Type</th>
<th>Behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unilateral-Bilateral:</td>
<td>Mover favors right or left side of body, contrasts with inclusion of both sides in performance (not just handedness).</td>
</tr>
</tbody>
</table>
Specific--Generalized\(^1\): Mover tends to utilize one body area for major proportion of kinesic activities as contrasted to more extensive utilizations.

Rhythmic--Disrhythmic\(^2\): Mover tends to adopt a definite rhythm within which he moves (often marked by kinemorphic or stance shift junctures) as contrasted to a clearly defined pattern of rhythm interruption (not just non-rhythmic).

Graceful--Awkward: Mover tends to make major proportion of movements in a directed, minimally interrupted manner, as contrasted to a start-stop-proceed action with a series of abortive inclusions. (Grace is characterized by containing minimal "searching" behavior in contrast to awkwardness where searching is maximized.)

\(^1\) There is probably a closely allied pair which covers "lost" or avoided body parts. This is not now included since cross-cultural research is needed to determine how idio-syncratic or set-quality patterned this is.

\(^2\) See Interaction Modifiers, below.
Fast--Slow:

Integrated--Fragmented:

Intensive--Intrusive:

(Not to be confused with the duration qualifier.) Mover tends to high velocity of production of kinemorph and kine-morphic constructions as contrasted to a low production rate. Integrated mover tends toward harmonic organization of various body parts (whether generalized or specific) whereas fragmented mover may divide body into non-harmonic--even apparently contradictory parts. A finger, a hand, or an eye may seem to have existence independent of remainder of body activity. May involve the full division of the body into two spheres as: above and below pelvic girdle or (in one case) right through the middle of the body leaving a right and left sphere. Intensive mover tends to be highly responsive to behavior of other communicants--engages in consistent check and modification behavior as contrasted to
the intratensive mover who appears to engage in extended auto-stimulation but with minimal apparent strenuous rejection. At first this seemed to be an aspect of the encounter-interaction process but, as research continued, it became clear that this behavior continued even after an interaction was clearly in progress. As in the case of the "self-possessed/self-centered" type which follows, this type probably has special significance for clinical observation.

**Self-possessed--Self-contained:**

A dubious category (see discussion). These types are easy to recognize once seen but are difficult to objectify. I suspect that this is a complex category and perhaps should not be included in this list of modifiers. However, the self-possessed mover is characterized by a reduction of qualifier width without incongruence, by the harmonic organization of the body parts, by minimal searching behavior and by what might be loosely characterized as "poise." Only the fact that self-possession seems to appear intermittently within or beyond and apparently quite
this category is so useful in the analysis of psychiatric interview material that it is included. independent of the qualities persuades me that this is a category of another order than quality. Self-possession appears to relate to social "ease" and "confidence" in interaction (neither of which terms have more than impressionistic value in this presentation). Our description of self-containment is equally impressionistic, characterized by seeming intra-tension; the general feeling is one of restraint and "avoidance" of stimuli. Category by category the behavior is congruent, but it is best characterized as systematically resistant to any change in the interaction beyond narrowly established limits.
Only extended research can establish a clear perspective on this pair of types. The difficulty may lie in the pairing which I have utilized in the modifier assignment. Self-possession may be a special complex more adequately described under motion qualities, while self-containment may be a special pathological condition paired with another poorly defined pattern that I have been calling "identity loss." Identity loss has been characterized by a high incidence of "echo" behavior or of pieces of behavior that have no apparent relevance to the interaction situation. If self-containment is characterized by exclusion or avoidance of stimuli, identity loss seems to be made up of over-reactivity to them.

**Interaction Modifiers**

While, by definition, kinesic research is only concerned with body motion behavior with a demonstrable communicative function (and this implies an interactional frame), the action modifiers were concerned with the behavior of a given actor in an interactional context. The interaction modifiers are concerned with the classification of comparable behavior which appears in a sequence involving two or more actors. In the outline below is presented a series of three paired types of interaction modifiers.
Interaction Modifiers

Mirror-Parallel: Mirror behavior is characterized by one or more actors acting in mirror image of a central actor. Parallel behavior occurs when two or more actors move in parallel.

It is recognized that when more than two actors are involved, some by limited possibility are in parallel, others in mirror, interaction. Our very limited observation of group interaction has not revealed any particular patterning to this variation. Perhaps when kinesic observation is combined with the linguistic and studied in association with devices like Chapple¹'s chronograph this material will have more consequence.

Rhythmic-Disrhythmic: When the interactional behavior of two or more actors contains a clearly perceptible beat, introduced either in parallel, or in series such interaction is termed rhythmic. Disrhythmic interaction occurs when established rhythms are repeatedly interrupted.

¹ Chapple, 19
Open-Closed: An interaction is termed open when the behavior is characterized by the searching of the environment for other stimuli. To the extent that the participants are so highly interactive that they do not respond appropriately to other stimuli in the milieu, the interaction is closed.

"Searching" as used here refers to focusing the eyes or ears, or other sensory receptors on objects or people outside of the interaction area, "squirming" (non-congruent shifts in stance), foot shuffling, finger drumming, etc.

Systematic research has thus far been directed almost exclusively to the examination of two- and three-person interactions. Even within this limited universe, there are a number of other interaction modifiers which are being examined. Their behavioral limits are not yet clear, however, and discussion of them should await further analysis. Needless to say, the interaction modifiers appear both in association with speech behavior and through periods of silence.
Motion Markers

The discussion of that aspect of body motion behavior which is classifiable only in direct association with verbal behavior has been saved until the remainder of the material had been presented. This chapter is not the place to discuss the intimate relationship between speech and movement in the communicational process. When we turn to examine the role of communication in society, these systems are dynamically interrelated with each other and with the other communicational systems as well. Up to this point, with few exceptions, body movement has been treated as a universe different from that of speech behavior. This methodological separation has been more than a convenient rendering unto Caesar. The internal consistency of language has been revealed by systematic research based on the proposition that linguistic phenomena are organized into a system which can and should be examined without reference to other social systems. This rigorous abstraction provided both a model for kinesic research and a set of clear frontiers which facilitated the abstraction of kinesic material. This entire discussion has rested upon the proposition that every interaction is based upon continuous communication carried on through the medium of patterned, discrete but interlocking and cross-referencing symbols. Looking only at the two modalities, speech and body movement,
but inspecting them from the point of view of the kinesicist, a model might be constructed to illustrate the temporal aspects of this process.

**Figure 8**

<table>
<thead>
<tr>
<th>Observational time</th>
<th>T₁</th>
<th>T₂</th>
<th>T₃</th>
<th>T₄</th>
<th>T₅</th>
<th>T₆</th>
<th>T₇</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parakinesic behavior</td>
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<tr>
<td>Kinesic behavior</td>
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<tr>
<td>Audible speech behavior</td>
<td>___</td>
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<td>___</td>
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<td></td>
</tr>
</tbody>
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"Gestures" and "posture" and "facial expression" are probably the body-motion events most accessible to the American "folk"-viewer. That is, these phenomena represent public abstractions or shorthands for the much more complex behavior described in the pages above. As such they may be included in literary description, stage instructions, and even in etiquette prescriptions. As our discussion above has demonstrated, these are derived systems and are to be finally analyzed only in the complexity of the full communicational process. The *motion markers*, while less public in the sense that only a portion are sufficiently abstracted to be taught, seem very close to awareness in American speakers and movers. At least, an American audience seems to have relatively little difficulty in seeing them and "explaining" their function, once they are demonstrated. Yet, as with "gesture," "posture," and "facial expression" their apparent
accessibility creates confusion and pseudo-understanding when we attempt to analyze them. Special attention is given here to the motion markers, because of their tremendous importance in measuring the congruity of the linguistic and kinesic systems and because, in the interview situation, they are immediately available to the observer.

The kinesicist, recording, let us say, from a muted sound film of hitherto unanalyzed material, records a stream of kines. As his analysis proceeds, he orders these into kinemorphs and kinemorphic constructions. As he enlarges his procedure to include the qualifier behavior, he develops a multi-level record which is internally consistent. Yet, as he scores this record, he can detect a particular distribution of kines as kinemorphs, and he can observe narrowly limited stretches of qualifier shift which combine to punctuate certain portions of his data sheet. Upon turning up the sound, it becomes clear that these specially marked passages are very frequently co-extant with speech phenomena, although this is not always true, for under a variety of circumstances a communicant may verbalize sub-audibly, so that his speech behavior is visible rather than audible. At this stage in the research, the kinesicist's abstraction of such phenomena will provide him with a data-series which resists systematization except in so far as it constitutes discernible patterned movement that occurs in association with speech behavior. Such body-motion behavior tends to have a different shape if the
the mover is speaking. Auditor behavior often includes the same order of punctuating events. The model shown in Figure 8 may now be expanded to:

Figure 9

<table>
<thead>
<tr>
<th>Observational time</th>
<th>T₁</th>
<th>T₂</th>
<th>T₃</th>
<th>T₄</th>
<th>T₅</th>
<th>T₆</th>
<th>T₇</th>
<th>T₈</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parakinesic behavior</td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Kinesic behavior</td>
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<tr>
<td>Audible speech behavior</td>
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<td></td>
</tr>
</tbody>
</table>

Until some of the linguistic and paralinguistic analysis is completed, however, we have no way of explaining this evident intersection of the linguistic and kinesic systems. When we turn to protocols which include both the linguistic and kinesic material, it is possible to abstract a series of linguistic situations which seem to demand a particular kinesic accompaniment. A more explicit description of some of the punctuation behavior is probably called for, therefore, before we proceed with the analysis. Utilizing our abstracted figure of kinemorphic construction, a record may read:

//\[\uparrow \cdot \cdot \cdot \uparrow \] \[N\] \[O \, P \, P \, Q\]//\[L \, M \, N\] \[O\] \[P \, Q \, R\]//

In this example the kine Y, in the kinemorph [XYZ], stands for brow rise which is held for one degree of over-long as compared to X and Z. Q, which may stand for lip pursing, is
Figure 9

Observational time $T^1$ $T^2$ $T^3$ $T^4$ $T^5$ $T^6$ $T^N$

Parakinesic behavior

Kinesic behavior

Audible speech behavior
comparably over-long in the [O P Q] kinemorph. In contrast
N in the [L M N] kinemorph, here standing for head nod, is
overshort, and [P Q R], here a mid-face kinemorph, is marked
by first degree of overlaxness. Since nothing never happens,
this variation must be accounted for in the process of data
exhaustion. The kines (as kinemorphs) [N] and [O] cannot
from this record be abstracted as potential punctuation.
However, when we match this record with a record of the speech
events, we may well discover that either or both have a
punctuational function as well as an observable bound place
in the kinemorphic construction.

Theoretically, it should be possible to analyze this
punctuational behavior without recourse to the linguistic
or paralinguistic behavior which accompanies it. At the
present time, however, our knowledge limits us to the conjec-
ture that these events will eventually be orderable into some
kind of suprasegmental form, analyzable in purely kinesic or
parakinesic terms. Certainly the events do have a certain
regularity of occurrence and of individual shape. Until
either or both a binding or a linking kinesic principle is
detected in their operation, they must be considered punctua-
tion forms to be classed, since they are abstracted both
behaviorally and functionally, as motion markers.

The motion markers, behaviorally, seem to fall into two
general types: those constructed from qualifier variation,
and those composed of kines-as-kinemorphs and of "gestures" as
bound kinemorphs in a kinemorphic construction. Either type
may appear in the behavior of a speaker prior to and at the cessation of phonation—but not at the beginning or end of all phonation. They also appear in conjunction with special internal arrangements of complex sentences, but a speaker may very well emit certain complex sentences without punctuating them with markers. Similarly an auditor may or may not modify his speech-related behavior with motion events of the order of markers. In other words, while the punctuational behavior can be located in the speech context in certain positions, the analysis has not yet reached a point where we can posit obligatory binding between linguistic and kinesic events. With this caveat, we may list a series of derived functions that markers play in the interaction sequence. By "derived function" I mean an observable set of behaviors in a given context which can be abstracted and interpreted as related. Since my confidence in such interpretations is, at the moment, relatively low, I prefer to use "derived function" rather than some kind of "meaning."
## Figure 10

### Motion Markers

<table>
<thead>
<tr>
<th>Types by derived function</th>
<th>Punctuation behavior</th>
<th>Motion marker</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>I CUE:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A- Signalling anticipations of interruption</td>
<td>Examples would include hand, foot, and head</td>
<td>(Q)</td>
</tr>
<tr>
<td>B- Signalling anticipated termination of phonation</td>
<td>nods, raised eyebrows, stance shifts, lid closure and duration to 2nd degree, sustained incomplete kinemorphs, palm presentation, pursed lips, visible breathing, eye focus shifts.</td>
<td></td>
</tr>
<tr>
<td>C- Signalling anticipated initiation of phonation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D- Signalling &quot;proceed, I'm listening.&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E- Signalling &quot;completed phonation.&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>II SELECTION:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A- Selected item in series of items</td>
<td>Examples would include qualifier shift, head nod, head sweep or arc, special lip protrusion or retroreflection, torso nod, hand nod, foot nod, digit nod, brow nod.</td>
<td>(S)</td>
</tr>
<tr>
<td>B- Selected connection between items in series</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C- Selection of certain items as related to other items</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>III DURATION:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A- Increase</td>
<td>Duration qualifier shift to staccato or allegro; lateral sweeps of hands, feet; eyeball sweep.</td>
<td>(D)</td>
</tr>
</tbody>
</table>
IV AREA:
A- Nearby locale
B- Distant locale
C- Traversing distance

Range of "gesture" including "pointing," with head, hands, feet, torso, hand sweeps, head sweeps, etc. (always encased in construction).

V PRONOMINAL REFERENCE:
A- Speaker
B- Auditor
C- "We"
D- "They"
E- "It"

Same as in IV above except that pointing is directed toward subject with supportive construct.
These five markers (Q), (S), (D), (A), and (P) represent contextual appearance of a wide variety of punctuation behavior. Assignment of marker status to any particular punctuation thus represents an abstraction from context. Only extended contrast research in interaction situations can strengthen our confidence in the organization of the marker categories. For the present, the five point system represents a tentative working base which has proved useful in the examination of interview material. A sample recording of kinesic marking following extensive analysis might read:

(Q) (P)             (S)             (P)             (A) 
I told John, Mary, and Bill to put it in the back part 
(S)                 (Q) 
of the big, red barn.

The reader will note that the markers here are added to the simple English orthography. As will be clear in later chapters, the position of the marker may be seen to have even more significance when the full linguistic-kinesic protocol is assembled for the assignment of symptomatic and diagnostic features.
At this stage in the development of kinesics, interpretation must always rest upon the adequate measurement of the context of an occurrence. Throughout the preceding discussion I have stressed the fact that no kinesic event, whatever the size or the shape, is a carrier or invariable stimulus with its own emergent causal component. From the point of view taken within this discussion, no kinesic form is a vehicle with a constant load, no kinesic event, an encapsulator of meaning. I have tried to make it clear that the question, "What does X mean?" is non-admissible unless the system within which X operates has been subjected to sufficient analysis so that X in its multiple of transforms can be described. However, to reject the over-simple question is not to repudiate the responsibility for weighing the role of the event within the system. Perhaps a summary of certain aspects of our discussion will make this position less ambiguous.

When we have repetitively isolated the forms A, B, and C, established within the preliminary descriptive frame of the investigator, as least discriminable variations from an established zero point, we can say that for the investigator the meaning of A is not that of B is not that of C. This procedure provides us with units whose value for the subject is yet to be determined. If repetitive manipulation of the forms A, B, C demonstrates that, for the subject, they are in fact
not substitutable for each other in all frames, it is then necessary to describe them as having (for the subject) discriminational meaning.

If, on the other hand, we establish the fact that the preliminary units which the investigator distinguishes in a given position (e. g. \(A_1, A_2, a_1, a_2\)) are substitutable for each other in that context without (for the subject) varying the function of the form, we may then say that these units are in this context in free variation and have, for the subject, the same perceptual value. That is, the kine variants, while having for the investigator discriminably different values, have for the subject identical perceptual value. They belong to the same class of events and they derive their meaning from their class membership. Thus \(A_1, A_2, a_1, a_2\) have a single perceptual meaning \(A\). Yet we have said nothing as to the meaning of \(A\) as a kine. We can, however, discuss the structural value of \(A\) when we systematically examine the kinemorph and kinemorphic-construction bound-forms which contain \(A\). Again we are not saying what \(A\) in and of itself means. What we are saying is that \(A\) will occur in certain kinesic contexts. While our analysis has not yet gone this far, in the future we may very well be able to list those kinds of constructions in which \(A\) does not appear. There is also the possibility that we will discover a systematic nature to kine positioning which will allow us to perform the complementary distribution analysis so characteristic of linguistic analytic procedures.
On the next level of analysis we can determine the relationship between certain groupings of kines and their complex associations under some kind of suprasegmental binding system. Through analysis we can determine that certain of these bound forms will exist in association with other bound forms under some kind of cross-referencing system which serves to distinguish one complex bound series of movements from another comparable but differing cross-referencing series.

But the question still remains, once these forms have been distinguished, ordered, and conceptualized in their complex organization, how do we then determine their significance in the interactional sequences in which they appear? Throughout the sequences discussed above, our procedure has been dominated by a series of methodological canons. (A) Establish and maintain a given level of analysis. (B) Isolate units for manipulation. (C) Establish the independent identity of these by contrast analysis. (D) Weigh the analytic value of these newly established units by the examination of the contexts in which they regularly appear or never appear.

These same canons prevail in the analysis of the social meaning of any form or series of forms. The social meaning of a form is established by the description of the shift in field or context occasioned by the presence or absence of a given complete form. However, let us reemphasize one point. This procedure cannot be accomplished before the full analysis of the form—which includes the assignment of the form to its
role within a pattern has been carried out. We cannot simply count the forms present and derive the special meaning of the forms. Unless we carefully separate our levels of analysis, we shall be unable to deal with those patterned arrangements in which the value of a pattern is shifted by the absence of a component which is normally internally bound. In other words, no running list of kine variants will ever inform us as to the role of the kine in the interactional sequence. Only in a pattern, composed of complex bound forms, does the form enter into associations on the social interactional level.

Because we are dealing with a patterned system, our analysis, once completed, serves to make public incongruities which appear within the system at any given level. The statement that the behavior which we are analyzing at any given level contains incongruities, however, does not permit us to assume that these incongruities will introduce incongruities into the social interactional sequence. One of the most important functions of parakinesic activity is that of introducing cross-referencing signals that indicate that what appears to be an incongruity is congruous within some larger system. Such statements as "Everything to follow (or everything just said) is a joke," or "I am imitating" or "to quote so and so" or "this is play" provide us with examples which can be kinesically rendered in such a manner that apparently incongruous statements are cross-referenced into congruity. As we shall see in later discussion, this is the very area in which personally
distorted systems become mal-operative. Only systematic research with contrast analysis in multiple contexts will permit us to evaluate the particular incongruity. Within our basic assumption that "nothing never happens", the incongruity is itself a message if it remains uncompensated for within the larger system. Its interpretation, again, will rest upon its repetitive contextual appearance.

This is not the place to attempt to analyze the relationship between the two communicational systems, language and body motion. Suffice it to say that we already have considerable evidence that these systems cross-reference each other and establish full patterns of conversational performance which operate in the social interactional sequence. Man does not merely move and see movement, or talk and hear, in an interaction. Body motion and language, on this level, form a complex pattern in which they are only analytically separable. The full pattern must be assessed before we can hope to weigh the role of either within the interactional sequence.

Finally, even the most exhaustively analyzed conversational pattern does not exhaust the systems in operation in any sustaining association. That is, communication analysis as discussed here does not constitute a final analysis of culture or its component situations. The final answers to "What does X mean" can only be arrived at when all of the other social systems interacting in any situation are equally thoroughly analyzed.
Implications for Psychiatry

Sept. 30, 1968
Henry W. Brosin, M.D.
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"The history of science is largely a history of technique..."

Topley and Wilson, 1946

"The successful mapping of large molecules has needed courage and persistence as well as imagination, but the way to further maps will be made plainer... Yet, in spite of that, the biologist has little hope of escaping the immense variety of his material. Even when the molecular structures are mapped there will be organisms to deal with, the vast range of plant and animal form and in the end the differences between one man and another."

Lord Adrian, 1955

or--

"There are two laws discreet,

Not reconciled, --

Law for man, and law for thing;

The last builds town and fleet,
But it runs wild,

And doth the man unking."

Emerson

"For this reason no man of intelligence

will venture to express his philosophical

views in language, especially not in

language that is unchangeable, which is

true of that which is set down in written

characters."

Plato
4.1 The Task of Clinical Recording and Analysis of Non-Lexical Behavior

A physician along with other students of human behavior may well ask, after reading the exceedingly technical discussion of the preceding chapters, what advantages appear for him in the linguistic-kinesic analysis and synthesis of raw clinical data. Is such elegant technicality worthwhile? Is the already overburdened physician being asked to master a new area in addition to those being described in the more than 165,000 articles and 85,000 book titles published in the biomedical field last year? Our exposition in this chapter will focus on the interests of the physician-psychiatrist in order to meet space limits, although we are keenly aware of the contributions and relevance of other behavioral scientists.

Psychiatry has been defined as the study of the disorders of language and movements of the body. Freud (1901, 1905) pointed out that human communication included speech, gestures, dreams and writing; "that the interpretations made by psychoanalysis are first and foremost translations from an alien method of expression into one which is familiar to us." (1913, p. 176)
..."The language of dreams may be looked upon as the method by which unconscious mental activity expresses itself. But the unconscious speaks more than one dialect.

...While the gesture-language of hysteria agrees on the whole with the picture-language of dreams and visions, etc., the thought language of obsessional neurosis and of the paraphrenias (dementia praecox and paranoia) exhibits special idiomatic peculiarities which, in a number of instances, we have been able to understand and inter-relate. For instance, what a hysterical expresses by vomiting an obsessional will express by painstaking protective measures against infection, while a paraphrenic will be led to complaints and suspicions that he is being poisoned. These are all of them different representations of the patient's wish to become pregnant which have been repressed into the unconscious, or of his defensive reaction against that wish". (1913, p. 177-178)

Symptoms and neurotic behavior are seen to be meaningful, although disguised
communication, and that the therapist's efforts to understand and help the
patient are based upon his ability to understand the ways in which forgotten
or repressed feelings, conflicts, and memories are transformed in body
language and behavior which are the focus of his complaint. Because the
task of the therapist is the translation of these disguised patterns into
conventional language, it seemed to us that stable recordings which permit
re-examination by multiple judges over time would be an aid in systematic study,
both for exploration, verification and refinement of models which seemed
appropriate to workers in the clinic. Because there are a large number of
relevant clinical observations, and also more recent laboratory investigations
from workers in many disciplines to be reported which are useful to serious
students, but not of primary interest in an introductory statement such as
this, it was decided to place these examples, together with some historical
comments into Appendix 0000. (Insert proper number for Appendix b -
"Bibliographic Citations" as outlined in McQuown Table of Contents - 1968).

Here we will keep to the modest goal of describing a method for improved
recording of out patient's behavior in the hope that in some organic dis-
orders, it will help sharpen the focus of these disorders and thereby help
us understand better the mechanisms present, and that in behavioral problems,
whether genetically, organically or psychologically based, we can better
comprehend the structure and grammar of the communication systems
at work. Many, if not most, of our problems concern the human relations
of the patient to the people and events surrounding him. As scientists, we
have seen in all of the related fields, elaborate searching devices developed
to examine apparently simple patterns. The value of these or any other techni-
ques must ultimately be determined in terms of the usefulness of the
instrument--not in terms of how complex, elaborate, or difficult to
master they are. We are aware that the intensive study of human communi-
cation is of ultimate concern to all behavioral sciences, but will not try to
go beyond immediate clinical psychiatric implications in this preliminary
statement.

Experience teaches us that simple memory is too unreliable to
permit the objective evaluation of the subtleties of behavior available in
any interaction. Such study requires a clean and transmittable recording
and storage system. Recent technological advances in sound and film
recording seem to provide some answers to these problems of storage and
recall of social circumstances.

Existing methods for annotating, analyzing and interpreting
the social interaction of any species, i.e., the transactions and the
interactions between the individuals of a species, however, have remained
inadequate. It seems to us that one reason for this is that a considerable
proportion of the significant signals in any human interactional system
have not been systematically recorded for analytic purposes. All of us
can appreciate the theoretical importance of inadequate recording of signals
at various levels of interaction. And even though we can legitimately
expect extensive improvement in understanding with improved technique, we
are also aware that recording and analysis will probably never be complete,
or free from technical difficulties. We recognize that the more minute
gradations of sound and movement escape even the sound-camera and the
most skilled observer. We also remember that smell, color, temperature,
skin resistance, pulse and respiratory rate, pupillary size changes, and
other visceral indicators are not being recorded for analysis in our studies. The recording of these modalities is also in an early stage of development (Watson and Kanter, 1956). The extensive possibilities for explaining tactile communication, even though recognized clinically in both psychotic children and adults, have not been adequately developed (Frank, 1957; Geldard, 1960; Wiener, 1966). The need for such records is evident. They provide an invaluable tool for the furtherance of investigations involving interviews. However, let us be clear. Because of the very nature of human experience it is doubtful whether even the most complete records will ever be an adequate equivalent for a direct personal experience with a patient.

There are other immediate increments from the use of these tools. Within the past few years physicians have had an opportunity to hear themselves in action. The revealing, but at times uncomfortable insights derived from this experience have been multiplied in the case of those who have had the much less common opportunity of hearing and seeing themselves on sound film. After the initial shock of recognition and
incredulity, most clinicians are surprised at the difference between their
image of themselves, their transactions with the patient and that revealed
by the record. It is not surprising that these distortions should occur.

The physician, as a member of his society, shares its image-making system.

It is not entirely reassuring to remind ourselves that the distortions evident
in even the most sophisticated self-image of a clinician can be both customary
and functional. It is important, however, to recognize that within the past
five decades, with Freud's emphasis upon the countertransference relations,
there has been a significant shift in the order of magnitude of self-awareness on the
part of the physician.

The shift in the search for self-awareness presents new responsibilities. The previous chapters have laid the groundwork for the explication
of this theme. We may go directly to consideration of the relationship
between methods for achieving social awareness and clinical practice. The
twork done thus far by the use of film and sound-tape in clinical situations and the
systematization of interpretations by clinicians practiced on masses of
raw data are notable for pointing the way to more widespread usefulness.
But we must not be too sanguine. The high hopes of 1945 are not justified by the experimental work up to 1968, but the rate of increase in the number and quality of publications in this area since 1960 furnishes new hope.

At present, many clinics have mausoleum-like closets piled high with tapes and films which defy their possessors to abstract from them significant data which can be ordered into patterns affording interpretations which are intelligible and useful. The publications which report the work which does attempt to surmount the many difficulties inherent in the "documentary" approach merit our deepest respect and challenge us to more conscientious exploitation of such sources of clinical insight.

During 1953-1960 we might mention the work of Will and Cohen (1953), Gill, Newman, and Redlich (1954), Rogers and Dymond (1954), Wolberg (1954), Deutsch and Murphy (1955), Deutsch (1963), Deutsch (1966), Kahn and Cannell (1957), Hoch and Zubin (1958), and Pittenger, Hockett, and Danehy (1960), all dealing with the psychotherapeutic interview in one way or another.

The mass of data and the valuable hypotheses which have emerged from the study of the behavior of patients by physicians and their colleagues in the behavioral sciences in clinics, hospitals and in private practice is
impressive. Much good work continues to be done in these areas, utilizing the methods of observation and correlation, group comparison and the tracing of genetic development, with the clinician as a self-conscious participant-observer. Yet the shortcomings of these methods have been increasingly obvious to the investigators themselves. Incompletely recalled and recorded interviews provide insufficiently reliable data for intensive review by other colleagues or even by the clinician himself. Without a manageable system for transcribing significant data, based on a comprehensive theory, it is not certain how successful our analyses can ever be.

The physician is clearly subject to the errors of his own perceptions and interpretations, however skillful, talented and industrious he may be. The problems of the observer, i.e., of reviewing his subjective recollections and interpretations during and after an interview, are well recognized. This process has not been sufficiently studied to be satisfactorily broken down into its numerous component parts Renneker (1960); Lennard and Bernstein, (1960); Thorne, (1961); Rosenthal (1966); Moscovici, (1967); Berkowitz (1967); Chassen (1967); Friedman (1967). One of the rewards of the study of film-
tape interviews is the larger perspective gained on the ways in which the participant-observers, consciously or unconsciously, alter the course of the interview or the climate of communication. It has long been clear that the lexical record, i.e., the words in the typescript, is in all cases made peculiarly significant by the vocal modifiers and body motion frame in which the words occur. These have not been adequately covered in previous attempts to comprehend clinical material. The new technology provides us with stored records which hopefully can be mined with new and explicit techniques. We must say, however, at the outset, that we will not know how to use these methods most effectively until they have been given an adequate trial under favorable experimental conditions. One problem is the choice of the size and shape of a sample of film and tape, while another is the nature and magnitude (micro-, semi-micro, or gross) of the analyses which are most appropriate to the experimental task.

A priori judgment based upon insufficient evidence will not demonstrate either the virtues or the faults of the methods concerned. Unfortunately, the methods for linguistic-kinesic analysis are costly of time, of energy and of talent. It will be some years before trained workers in adequate
numbers are available. For this reason, the present experiment was undertaken to test the usefulness and the limitations of such analysis in a single selected situation.

The use of the oscilloscope would seem an excellent way to study speech sounds with stable recording of patterns. Initial efforts to utilize this method have uncovered many difficulties in making these methods useful in studies of personality, social interaction and the psychotherapeutic process, but the hope remains that technical advances may give us a new tool. Ostwald (1963, 1964, 1966) has furnished excellent examples of acoustic manifestations of emotional disturbances, including the demonstration of speech disturbances as seen in a spectrographic study of a schizophrenic adolescent. (Ostwald, 1966, p. 40-49)

Our emphasis in this brief summary on problems of clinical recording and analysis of non-lexical behavior should not obscure the steady progress made by clinicians in the firsthand study of such components of communication, namely, the physiological, vocal and body motion activities which characterize the interactions between people.
Psychiatrists trained to observe these non-lexical activities will find much that is familiar in the case material presented here, but we hope that there is sufficient novelty in the data and in the concepts to encourage them to make use of these new techniques.
4.2 Psychiatry's Interest in Non-Lexical Behavior

The novelty will be more evident as we review some of the relevant work in the field. To do justice to the subject, one should begin with Charles Darwin's classic study, *The Expression of the Emotions in Man and Animal*, originally published in 1872, before reviewing current work. However, for the purposes of this chapter it seems justifiable to place our emphasis immediately in the more recent psychiatric context. Psychiatrists' basic interest in the observation and recording of patients' thinking, feeling and acting, akin to the medical model, was enhanced with the writing of Freud and his pupils. In order to furnish easily available samples to students, these will be furnished in Appendix 000(7b) in order not to delay this narrative.

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It is difficult to write a succinct account of the development of recording and filming devices and methods because there is relatively little publication of the early attempts even though we know from direct experience that many were made prior to World War II. Gill, Newman and Redlich (1954) have described previous recordings from 1947 to 1953. Their statement that Earl Zinn is probably the first to record therapeutic interviews is supported by his pupil, H.T. Carmichael (1956, 1966) who was with Zinn in the early 1930's. They provided a valuable discussion of the instruments and methods employed, and set an admirable example in specifying the details of equipment, and how the material was actually used. (Also see Dittman, Stein and Shakow, 1966). Many of the earlier papers fail to do so. Also, many of the earlier workers only used recordings as the basis for a transcript until later experiments by Bierer and Ström-Olsen in 1948 and by Ruesch and Prestwood in 1949 demonstrated the superiority of studying the linguistic components of the communication stream. The writings of H.H. Strupp and his associates together with the references to other active workers during the past two decades already
cited will provide the reader with descriptions of the progress in experimental technique made by himself and others. (Strupp and Luborsky, 1962, and Strupp, 1966)

Our studies began with McQuown's linguistic analysis in 1955 of the Will and Cohen (1953) recording which was published in 1957.

The earliest linguistic transcription of psychiatric material known to us is that of Stanley S. Newman and V.G. Mather (1938) who worked on the linguistic properties of patients with affective disorders and found significant patterns of constrictions. Kramer (1963) has given us an excellent review article dealing with the non-lexical properties of speech up to 1962.

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2 Robert E. Miller (1966) has reported dramatic experiments about the transmission of affect in monkeys. Haggard and Isaacs (1966) have carefully studied fleeting facial changes lasting one-eighth to one-fifth of a second, and observer reliability, and thereby generated several new hypotheses worth testing in a controversial field. Haggard and Isaacs (1967) is a worthwhile summary of recent and current work from this active group. Condon and Ogston (1967-68), using film of a chimpanzee found an organization of vocalization and body motion similar to that of human behavior.
Several excellent demonstration films of psychiatric patients with presentations by Heinz Lehman were made in 1938 by the Mental Health Division, Department of National Health and Welfare and the National Film Board of Canada.

Leighton and Lidz (1942) together with John P. Lambert made silent films of patients for demonstration purposes in syndromes not readily available such as paretic and manic reactions. Similar films were made by Dr. Franklin G. Ebaugh, Charles Rymer and their colleagues, between 1931-33. The recording devices before 1949 were not reliable and most workers, under the pressure of other duties and projects did not pursue this means of investigation. Herman Serota (1964) used home movies of children as correlative developmental data in the psychoanalysis of adult patients before 1940, but did not publish it until 1964. The technical and conceptual difficulties which prevented these and other workers from making progress became more obvious in the publications which followed Ruesch and Bateson (1951) and Gill, Newman and Redlich (1954), McQuown (1957), Pittenger, R. E., and Smith, H. L., Jr. (1957),
Pittenger, R.E. (1958), Eldred and Price (1958), and Pittenger, Hockett and Danehy (1960). The feasibility of making meaningful transcriptions, which had been developed by Pike (1945), Trager and Smith (1951) and Trager (1958) between 1942 to 1958, had been shown to be of interest to psychiatrists in studying the therapeutic process in ways not hitherto available and which might help improve objective recording. The difficulties are many. Linguists do not always agree upon the equivalence of the raw data, and use different conceptual schemes for recording. (Hill, 1958, 1968 and Longacre, 1964, Pike, 1967 and Stetson, 1951) It is our experience that the differences in working out transcriptions are relatively small compared to the large areas of agreement. They also vary in their opinions about interpretations which was summarized by Dittman and Wynne (1961) in their conclusion that the details of linguistic analysis are reliably describable, but "probably have little psychological relevance" (p. 203), while paralinguistic phenomena "have higher psychological relevance, but cannot be coded reliably." Trager's (1966) comments on this judgment are
worth repeating to illustrate the complexity of the phenomena involved and the need for more intensive and imaginative studies. "It is probably true that linguistic details as such have little psychological relevance, though they are basic to the sociocultural placement of the speaker in therapy; and the paralinguistic phenomena are of much higher psychological relevance in psychotherapeutic situations, though it must be understood that as behavior events they occur in a matrix of language. But I must question the conclusion that paralinguistic details cannot be coded reliably. At the time that the work was done with Dittman and Wynne, the analysis of paralanguage was still in a very preliminary stage, though good agreement was reached by the three of us in evaluating the material. Since their study, a notation system for paralanguage has been worked out, and work has been done in recording minutely the paralinguistic phenomena in English as well as in some other languages." (p. 81) The new notation in his article referred to by Trager (1966) has since been augmented by Crystal and Quirk (1964). Kramer (1963), in a review article on the
judgment of personal characteristics and emotions from nonverbal
properties of speech (timbre, inflection, and stress) find evidence that
some validity of judgment is possible, in spite of many methodological
difficulties such as "inadequate measures as the independent criterion
for the traits being judged", and no method for totally eliminating the
effects of the verbal content, nor has adequate attention been given to
the individual differences among listeners, or the relationship of voice
to psychopathology. In our own group, the importance of individual
differences was a source of frequent comment, while the diagnostic
importance of the interpretations of a very small sample of Doris' vocal
production, described in Chapter IX - Collation, can scarcely be over-
estimated even though it cannot be reproduced in most experimental conditions.

Kramer cites Sanford (1942) who noted that "common experience seems to
accept the existence of connections between voice and personality, and if
'the analytic-experimental approach...reveals no relationship, we should
be forced to conclude that it may be the fault of the approach'. (Sanford,
1942, p. 838).
Markel (1965) using college students to score rating scales developed a quick method for coding pitch, loudness and tempo and found high inter-rater and test-retest reliability for these elements.

Weiner and Mehrabian (1968) discuss some of these problems, with the introduction of the concept of "immediacy" to other "channels" of communication, which must be of interest to all students of communication, particularly in connection with the concepts of "proxemic" behavior (Hall 1959, 1966, 1968), and the improved methods of the study of interpreting emotions from facial expression. (Davitz, 1964). Davitz, like Kramer (1963) and Sanford (1942) before him, comments on the wide differences in accuracy reported even though there is general agreement that facial expressions communicate feelings beyond chance expectancy. "These differences are probably a function of the stimulus used, the kinds of discriminations required in the experimental procedure, the categories of emotional meaning considered in a research, and the individual differences in ability among those who express feelings and those who are asked to identify the expressions." (Davitz, 1964, p. 14)
A further example of the different methods of obtaining data resulting in differences of opinion about another important question, namely the synchrony between body movement and speech, is the paper by Dittman and Llewellyn (1968). They found the results to be significant, but the amount of movement variance accounted for a much smaller one than that reported by Pittenger et al (1960) and Scheflen (1964). Dittman and Llewellyn believe that their method allowed direct tests on films with the conclusion that the claims of Pittenger et al (1960) and Scheflen (1964) "of very close speech movement relationship were found to be exaggerated."

Dittman and Llewellyn also explore the convergence between Kendon's (1967) analysis of gaze direction at "hesitation pauses" and "phrase boundary pauses," even though direct comparison of data is not possible. The history of science is replete with examples of growth in concepts and improved methods for data gathering through the work of numerous workers comparing results. We need more active workers to test methods and concepts for recording, analyzing, and interpreting human communication more quickly and accurately so that we may be able to study the therapeutic process
and other interactions more effectively. It seems to this author that
resolution of the "usefulness" of linguistic and paralinguistic data will
become more apparent when the units under consideration include the
kinesic (body movement) components as a single unit. We hope that
more workers will find this concept useful so that the synchrony of
speech and body motion found by Condon (1964) and further elaborated
and/or refinement of method.

The many perplexing problems concerning the segmentation
of seemingly continuous behavior into "units" which has descriptive and
experimental value is central to many other issues, and requires close
examination of basic assumptions. In much of the work of Condon and
his associates, the concept of "Etic" segmentation, i.e., the analysis
of the physical, articulatory structure of sound emission as contrasted
with the "emic" segmentation based upon classes of sounds was employed.
The analysis of body motion has, thus far, been primarily etic in nature.
Emic analyses will emerge as inquiry proceeds. No review of this topic
will be attempted here because many chapters of this book are relevant, and the discussions by Pike (1967, pp. 37-72) and Stetson (1951) provide adequate background.

We regret that lack of space prevents a review of many more examples from our selected bibliography of 1900 titles. The number could easily be doubled if one included additional studies in linguistics, anthropology, speech and speech pathology, neurology, infant and child development, and the linguistic philosophers. The beginning student can probably orient himself most easily by scanning Gottschalk and Auerbach (1966), A.G. Smith (1966), J.M. Schlien (1968), P.H. Knapp (1963), Hymes (1964) and Sebeok, Hays and Bateson (1964) since many of the most active workers in the field are represented in these volumes, and the bibliographies are exceptionally full.

We will not cite additional articles by Bateson, Birdwhistell, and McQuown since they are represented in their chapters. Attention is called to the work of Scheflen, a longtime associate of Birdwhistell's, whose experiments and expositions in the analysis of film and tape at
several levels have brought to public attention much new data (1965 a, b, 1967, 1968). In addition to Condon and Ogston (1966, 1967a, 1967b, 1968) already cited, the examples of coordinated regulation of lexical content, and body motion are shown by Charny (1966), Loeb (1967), Kendon (1967), and Brosin has reviewed some of the work of Condon and his associates (Brosin 1964, 1966).

Condon, Ogston and Pacoe (1968), Schossberger, Condon and Ogston (1968) have closely studied the film of one case of infantile autism which shows synchrony to non-human sounds and indifference to the human voice. Pacoe (1968) is studying the effects of delayed auditory feedback showing dyssynchrony between the movements of fingers and speech, akin to aphasics, in standardized situations. In unpublished work Condon has several samples of dyssynchronies in stuttering, petit mal, aphasia and the schizophrenias. In over 50 control cases Condon has not found these dyssynchronies. If this can be corroborated by other works using similar methods, it may be possible in many cases, even if not in all of them to make significant observations about the presence or absence of various kinds
of disturbed behavior at these levels. Most observers at first are highly
skeptical, but Condon has convinced outside visitors who are willing to
study the film closely. Kendon (1967a, 1968), utilizing a similar approach,
has tentatively confirmed some of the findings concerning self and
interactional synchrony.

We will mention some of the more current psychoanalytic
publications which are of interest. Carmichael (1956, also reprinted in 1966)
and Bergman (1966) furnish the only two publications of a sound film of
psychoanalytic therapy known to us, and both articles are worthy of study.

Carl Rogers has also made a film of a psychotherapeutic process (date
unknown) but cited by Carmichael (1956). Gill, et al (1968) are making
audio-recordings of psychoanalyses and developing ways of studying them.

They discuss the obstacles, re-evaluate objections and conclude that
"recorded research analysis needs to be done, that the crucial problems
may lie in the therapist as much as, if not more than, in the patient, and
we believe that such an analysis can be successfully performed. If not,
that demonstration in itself will constitute a valuable addition to our fund
of information about psychoanalytic treatment and provide other leads for
future psychoanalytic research." (p. 242-243) In this same issue, there
are excellent articles by George L. Engel (1968), and Sadow et al (1968)
on psychoanalytic research. The discussion groups on language which
are reported in psychoanalytic and psychiatric journals to date contain
material of general, but not of special interest to our major topic.
Sternberg, Chapman and Shakow(1958) and Shakow (1960) also furnish
excellent critiques of the sensitive problems surrounding the intrusions
of privacy in psychotherapy research. Kiesler (1966) does a highly useful
evaluation of the recent attempts at quantification and rigor, and their
underlying assumptions which prematurely close off areas of inquiry. He
examines the "patient uniformity assumption," the "therapist uniformity
assumption," the "spontaneous remission myth," the lack of comparability
of various patient groups, "the myths that present theories provide
adequate research paradigms, "the distinctions between process research
and outcome research; independent, dependent and Underwood's (1957)
"confounding" variables in penetrating ways which support his thesis that
no single one-shot method will definitely establish the value of psychotherapy.
(p. 127). The essay calls to mind the need for historical perspective
described by Kuhn (1962) in THE STRUCTURE OF SCIENTIFIC REVOLUTIONS
which emphasizes the need for long preparatory periods of "normal science."

Examples of explorations which may be of interest to our field
are Schossberger (1963), K. K. Lewin (1965), V. H. Rosen (1958), (1967),
Meerloo (1964) on linguistic components, Kestenberg (1967) on movement
patterns, Calogeras, R. C. (1967) reviews the psychoanalytic literature on
silence. Matarazzo, et al. (1968) have presented an excellent review of their
work on silence. Jaffe (1968) has numerous publications concerned with
computer assessment of dyadic interaction rules from chronographic
data in psychiatric interviews representing fifteen years of intensive
quantitative research. While this work does not involve films, it is a
dramatic example of the potential use of the computer, and some of the
data and hypotheses will be of interest to linguists.

Ekman (1968) also has many publications dealing with nonverbal
behavior in psychotherapy research, which will undoubtedly be of interest
to linguists who have a different bias about the size, shape and duration of
units of behavior, levels of interpretation, and the kinds of messages which can be decoded from verbal and nonverbal information.

Haggard (1967) and his co-workers were cited earlier, but are mentioned again together with George A. Mahl (1968), another long-time investigator of clinical subjects because their writings cover a wide range of subjects which we cannot abstract here. His papers on gestures and body movements contain many valuable observations, and appreciation that the study of nonverbal behavior has much bearing on general psychology and that unconscious conflicts are a vital component of much behavior.

Saslow and his associates (see Matarazzo, et al.) have published consistently over many years in the effort to bring more rigor into psychotherapeutic studies. The urgent recommendation of Saslow, et al. that "the time may be appropriate for a centrally administered, nationwide study of psychotherapy along the lines established for prenatal and post-natal development, cardiac disease, etc." (p. 393) may be a realistic one in the near future.
N.H. Greenberg (1967) has embarked on a large program for filming infants at closeup and distant views at any time for any reason while the infant is alone or in interaction with the mother or other caretakers. Although space does not allow an abstract of some of Greenberg's protocols, we can expect much new and detailed data from his use of "time lapse photography" and "infant stimulation" experiments.

The work of E. Hess (1968) since his earlier publications following 1960 has stimulated considerable interest because change in the size of pupils upon exposure to stimuli seems to be a measure of attitudes or change in attitudes. The measure is complicated by the fact that one component, the autonomic response, must be taken into consideration. Since potential applications are many, even if it does not become a stable index or objective measure of progress during the course of psychotherapy, it merits attention from students of the therapeutic process.

We have called attention to the interest of social psychologists to "social space" and want to mention the work of Argyle and Kendon (1967), Kendon (1967), Mehrabian (1968), Wiener, M. and Mehrabian (1968), Argyle (1969),
Sommer (1967), Rosenfeld (1967), and the popular books by the anthropologist Edward T. Hall: THE SILENT LANGUAGE (1959) and THE HIDDEN DIMENSION (1966), and a recent review article "Proxemics" (1968), because of the great importance of the larger units of social interaction which have not received adequate attention to date. The journal, EKISTICS is publishing reviews on the problems of human settlements from the Athens (Greece) Center of Ekistics by C.A. Doxiades which will be of interest to those students who wish to study the large social units.

Parenthetically, the journal, IKON, the International Review of Filmology, published since 1948, is the official journal of the Agostino Gemelli Institute for the Experimental Study of Social Problems of Visual Information in Milan, Italy. I am indebted to Dr. David Shakow of NIMH for the information that the Gemelli Institute has equipment which includes motion picture facilities, closed-circuit television, equipment for photographing audience reactions by infrared light, and neurological and psychophysiological recording apparatus. Associated with the Institute
is also the Central Register of Scientific Research on Visual Information.

Their studies have included EEG response to the film situation, the use of film as stress stimulation in the study of psychophysiological response, posture changes and other overt responses of schizophrenic and normal subjects while viewing films, development of children's responses to humor in films, and several studies using a filmed projective technique developed by Professor Gilbert Cohen-Seat of the University of Paris.

The quality of research reported is comparable to our own.

N.A. McQuown (1964) has recommended "particularly in view of the fact that the paralinguistic and kinesic disciplines are in their very beginnings, that we associate as closely as possible with people who are working in the animal behavior area, and in our initial training we must include films and tapes not only of a variety of human groups but also of higher primates" (p. 222). In addition to other citations to animal behavior studies by ethologists and comparative psychologists in this chapter, I would recommend the studies of R.E. Miller (1967) as
a useful introduction among the scores of exciting studies in this field.


Occasional inquiry about the possible relevance of the well known writings of Chomsky (1965) cause me to comment that up to this time his followers have not yet undertaken to show the usefulness of his theories in the linguistic-kinesic analysis of human behavior. At least some of the reasons for this are suggested in the reviews by Lamb (1967) and Hockett (1968).
4.3 Convergence on the Problem from Parallel Disciplines

Medicine is traditionally rooted in biology. The art of medicine which has always been an important aspect of the practice of clinical medicine has more recently, however, been increasingly subjected to systematic study by psychiatrists and social or behavioral scientists, as seen in the previous section. In turn, leaders in medicine have gradually opened the door to studies in experimental and social psychology, in cultural and social anthropology, in interpersonal relations, in medical economics and sociology, and in ecology and ethology. Among such pioneers is Gregg (1941, 1957). Acceptance of the need for such studies is far from general, however, since objective methods have not sufficiently demonstrated their usefulness. A few medical educators are willing to assume responsibility for helping workers in these fields develop methods and data relevant to the practice of medicine. The majority, if not indifferent because of preoccupations with their own work, prefer to wait until the fields themselves are sufficiently developed to be clinically useful.
A change in the attitude toward the non-medical disciplines, however, can be seen, for instance, in the growing recognition of the importance of genetics, especially of the value of those innovations made possible by advances in chemical and population genetics. Most psychiatrists have been much interested in the behavioral sciences because they recognize the need to study man in his social environment for the better practice of medicine.

Reviewing the development of psychiatric theory and the types of data with which psychiatrists deal, we find that they have much in common with other behavioral scientists, especially with the anthropologists, some of whom have attempted to explore the interrelations of pathology and normalcy in human behavior. Among these are Kroeber (1953 and 1956) (the latter in Thomas, 1956; pp. 292-311), Kluckhohn (1944 and 1949), LaBarre (1955 and 1964), Mead (1952, in Alexander and Ross, 1952, pp. 401-448), and Sapir (1933 and 1938, reprinted in Mandelbaum, 1949, pp. 7-32 and 569-577, respectively,)
The essays by Margaret Mead, LaBarre, Kluckhohn and Sapir especially clarify many of the links. Both disciplines have been criticized, with some justification, for the following reasons: too much theory with insufficient data or inappropriate data, lack of convincing correlations under specified conditions, lack of data which can be publicly examined and directly experienced by other observers, lack of clear definitions with operational meaning, lack of concern over the specifications of experimental conditions, lack of precision in formulations and inferences which are acceptable to workers from other fields, too great concern for raw data with insufficient generalizations of high quality, as in many case histories, and unwillingness to present both the methodology and the direct experimental data.

It seems probable that anthropology, along with other behavioral sciences, will have much to contribute to the understanding of the conditions, both internal and external, which determine human health.

With better data, more precise and explicit methods of observation, and
with more carefully defined concepts, behavioral studies should make an appreciable contribution to the human clinical field.

Edward Sapir deserves mention as the pioneer linguist who clearly stated the hypothesis that "language" and "communication" in all aspects are cultural systems which can be studied and understood, even when dealing with deviant behavior and unconscious motivation.

His associations with Harry Stack Sullivan enriched the insights of both men and provide us with the background to pursue clinical studies in a more rigorous way. Kenneth L. Pike (1967) is another pioneer who is credited by Hockett (1968) as having "given us some remarkably important insights: phonological hierarchical structure is one; his brief exposition of linguistic-like approaches to the discussion of other phases of culture (1967, the first few sections) is another" (p. 33). Hockett continues on with a severe criticism of Pike's terminology and style, a view also shared by others. (See N.A. McQuown, 1957). In spite of these difficulties, it may be worthwhile to study the ambitious attempts of Pike
to establish a conceptual framework of trimodal interlocking hierarchies, and building bridges between linguistic structure and the structure of society, and of nonverbal behavior. We need better hypotheses for the nature of the units to be studied from the split second eyeblink to events occurring over hours, months or years. At more basic levels we also need better understanding of the biological roots of language behavior which have been studied by Lernè berg (1964, 1967).

Clinicians cannot expect to take over ready-made either a set of hypotheses or an integrated body of fact which will immediately solve their most pressing problems. For one thing, such a body of unified fact does not yet exist, but is in the making and it will soon be available to us, particularly if we contribute to its formation. Furthermore, there are no coherent theories of personality and culture, advanced either by anthropologists or by psychiatrists, which have been sufficiently tested to be accepted as definitive. That contributions of this order may be mutual is evidenced by the facts that the most unified theory of personality is probably provided by psychoanalysis, and that psychoanalytic theory has
been extensively used in various ways by social anthropologists.

Many anthropologists have long been familiar with psychoanalytic theories. Almost all of them are devoted to the naturalistic methods of direct experience, observation, comparison, and correlation and to the historical method, vigorously defended by clinicians. It is not surprising, therefore, that anthropologists have much in common with psychoanalysts. Kroebner (pp. 211-293 in Thomas, 1956) and Ackerknecht (pp. 117-125 in Spencer, 1954) hold that naturalistic methods have been useful since the advances in comparative anatomy in pre-Darwinian days, and that subsequent progress, using such methods, is impressive, even though less dramatic than progress in experimental science.

Although differing in disciplinary focus from the anthropologists, the work of the ethologists seems to be converging on similar problems. Darwin's great monograph THE EXPRESSION OF THE EMOTIONS IN MAN AND ANIMALS (1872) may be regarded as a cornerstone of behavioral studies and of comparative psychology. Such studies are only now receiving a
powerful new impetus in the direct study of behavior by the ethologists Lorenz (1952 and 1966), Tinbergen (1953), Thorpe (1956), E. Hess (1968), R. Hinde (1959), J. P. Scott (1958) and their colleagues on the one hand, and in the linguistic-kinesic analysis of film-tape recording of such behavior, on the other. However different on preliminary examination these methods may seem to the physician of today, it requires but little review of medical history to see that such methods are in the direct line of clinical medical development.

Physicians trained in the Oslerian tradition, that the history of science and of medicine is a most important source for understanding the gradual development of various experimental and clinical techniques, will recall the long chain of events which culminated in the modern disciplines of anatomy, physiology, pathology and microbiology. The complex sequence of investigations by workers in many fields which brought about the conquest of poliomyelitis is a clear example of such a chain of development. Similarly the numerous single advances which contributed to the understanding of the diabetic process have given us a
considerable control over most forms of the disease.

The life-saving qualities of insulin, on the other hand, as those of small-pox vaccine and digitalis, were successfully utilized long before the physiological and chemical complexities of their action were understood. Even in such diseases as tuberculosis, syphilis and malaria, where we have achieved reasonable comprehension of the chemical factors involved, we have not achieved similar understanding of the socio-economic factors. It is not extravagant to say that much in medicine has been built upon empirical research in the clinical setting. It would repay us in contemplating the advances of recent years to study more carefully the methods of empirical work in order to use our new technology more effectively. Klopsteg (1960) makes several good points in illustrating from the history of science that "instruments are unifying elements which help self-centered disciplines shed their isolationism," (p. 1913) and also that "the application of research to the furtherance of research is as basic as the research itself" (p. 1922), thus echoing a famous A.N. Whitehead theme. Klopsteg emphasizes the growing importance of scientists
whose research deals with instruments for research. We need to reward
able men who will find this an interesting and satisfying career because
our progress will be accelerated if we do so.
4.4 Need for a New Technical Language

Physicians as well as other workers in the field of human
relations, however, should not expect future hypotheses to be stated in
classical cause-and-effect sequences. The failure of mechanically simple
means of verification in the analysis of more complex systems has led
the physician to seek other working models for his investigations. For
example, as we become able to record more accurately slices of behavior,
the sizes of which run from that of an eyewink (1/10 of a second or less),
to that of a hereditary culture pattern with a duration of at least three
generations (90 years), we will have available data whose ordering will
require new theoretical frames.

Special attention must be given to the mechanics of the
ways in which such data is obtained, so that we may understand the
regularities which are introduced by the observer. At the same time
it will continue to be absolutely essential to subject the clinical material
to similar rigorous examination. It is evident that common-sense,
man-in-the-street hypotheses are not adequate for describing such complex systems. We may even discover that neither words nor pictures based upon mechanical models are the most economical or accurate means by which to describe and interpret a sequence of human behavior (see Dirac, 1947, pp. vii-viii, 10).

It is necessary, for example, for the clinician to find better ways to describe various states of being-in-action. Particularly are we concerned with the transformations of states such as that of an anxious-depressed-ambivalent patient who in the course of his illness develops aggressive-obsessional defenses which apparently have the option of becoming schizophrenic or manic under specified sets of conditions. Some physicians use clinical descriptive-genetic-dynamic formulations which allow for the possibility of such potentials. It seems probable that the anthropological, and particularly the linguistic and kinesic tools, which may now be utilized in clinical descriptions, may make possible a more flexible conceptual frame which permits a more systematic assessment of alternative pathways of development.
With the possibility of objectively recording and minutely
describing human activities underlying multiple-level messages being
sent and received between two people, we shall be in a position to make
use of the more complex concepts described in the earlier chapters. The
persons in a clinical setting may now be viewed as exchanging complex
messages during relatively short periods of time. Such complex messages,
at several levels of awareness, must be analyzed on several levels of
behavior: physiological, linguistic and kinesic, and social organizational,
by a set of parallel operations whose end-points are intelligible only in
the total matrix of the social communication pattern (Sapir, 1931; reprinted
pp. 104-109 in Mandelbaum, 1949, and Pike, 1967). We might also include
as objects of analysis the large and ill-defined group of implicit processes
which grow out of overt behavior and which may be rather vaguely referred
to as 'social suggestion.' (Sapir, 1931, p. 105) Such multilevel messages
are received by each participant, and responded to with equally complex
messages. In the flow of communication there are no totally irrelevant
messages, no superfluous information, and no randomly produced data.

On the contrary, it is the obligation of the observer to assign values
and meanings to all such component communicative items after studying the
contexts in which they appear. We must recall that many messages which
apparently relate only to the immediate present are nonetheless connected
with events of the remote past and foreshadow future happenings. A good clinician can sense when the patient is bringing into the communication
situation large components of the past or future and acts upon this under-
standing. An example is the state-of-regression which may be detected
in the lexical components, or in the return to childhood vocal modifiers
or body movements or even in physiological activities which signal
childhood patterns. The separation of the "Here and Now" from the "There
and Then" in the patient's report is one of the therapist's primary interpre-
tive tasks.

It seems inevitable that we reconstruct our teaching programs
in such a way as to give our future clinicians that familiarity with the social matrix
which can only come from extended investigations carried on by them at
first hand or from the distillate of such investigations carried on by
others. In fact, the degree of specialization required for effective control
of such background information will probably lead to the employment of
highly skilled behavioral scientists who work in the medical setting in the
role of basic scientists. Such a pattern is now familiar to us in the basic
science divisions of a medical school.
4.5 The Natural-History and the Experimental Method

Although the conceptual frame and the method derived from it which is used in the investigations presented in this book are by no means new, perhaps a review of the salient differences between this naturalistic-field study-participant-observer method and the currently more popular "experimental" methods will help clarify some of the inherent problems. It is highly enlightening and stimulating to read now Claude Bernard's INTRODUCTION TO THE STUDY OF EXPERIMENTAL MEDICINE, written in 1865, which outlines in masterly fashion a combination of the naturalistic-descriptive with the experimental method, years before Francis Galton (1822-1911) had introduced statistical analysis, and introduced a vogue which came to be considered a cornerstone of all social scientific investigation. Today it is quite clear that much naturalistic-descriptive and experimental spade work must be done before statistical methods become appropriate and rewarding in the solution of the problems presented by our investigations (G.A. Miller 1964, 1965). We make no claim that one method is per se superior to any other, since to us it seems
quite clear that each is appropriate to a particular phase or aspect of a problem. We enter into an investigation with the assumption that all human behavior is amenable to study, but we want to apply, as far as we can, the most appropriate methods to the problem in hand as we now understand it. It appears to us that naturalistic methods are essential in the early phase of the development of a science. Until a sufficient body of data is available for the application of critical hypotheses we cannot test by crucial experiments. Naturalistic methods seem to have many advantages in the exploratory phases, since they lay the groundwork for the application of the more controlled treatment characteristic of the experimental method of verification.

Lest this attitude toward the planning of medical research seem insufficiently critical, let us quote from an eminent physicist (Oppenheimer, THE OPEN MIND, 1955):

"You know that when a student of physics makes his first acquaintance with the theory of atomic structure and of quanta, he must come to understand the rather deep and subtle notion which has turned out to be the clue to unraveling that whole domain of physical experience. This is the notion of complementarity, which recognizes that various ways of talking about physical experience may each have validity, and may each be necessary for the adequate description of the physical world, and may yet stand in a mutually exclusive relationship to each other, so that to a situation to which one applies, there may be no consistent possibility of applying the other. Teachers very often try to find illustrations, familiar from experience, for relationships of this kind; and one of the most apt is the exclusive relationship between the practicing of an art and the description of that practice. Both are a part of civilized life. But an analysis of what we do and the doing of it—these are hard to bed in the same bed. (ibid., pp. 82-83)

The analogy to the problems facing the clinician in describing his own activities, or the behavioral scientist in delineating his methods in an ongoing transaction, is obvious. As investigators grow more certain of their aims and methods, they will probably develop more tolerance for a wider range of techniques and eventually aim at the goal of finding the best tools for each job.

In order to clarify our reasons for adopting, in this preliminary investigation, the natural history approach rather than the experimental
approach, I will try to contrast some of their comparable properties:

**Naturalistic Approach #1**

The organism or group under study is maintained as far as possible under the customary conditions of living. We are probably dealing with a spectrum rather than an antithesis in many instances.

**Experimental Approach #1**

The subjects are usually approached in the more-or-less specialized artificial conditions.

**Naturalistic Approach #2**

Because real life situations are under observation, their problems are more likely to be comparable to practical problems in the clinic, school or business organization.

**Experimental Approach #2**

The specialized nature of many experiments may make the results more difficult to apply to real life situations.
Naturalistic Approach #3

The quality of the responses of the subjects is more likely to be "life-like" and in keeping with customary behavior under observed conditions.

Experimental Approach #3

The responses are more apt to be altered to suit the experimental demands of the tighter design.

Naturalistic Approach #4

The responses are more apt to appear on a wider scale such as is available to the organism under its ordinary conditions of living.

Experimental Approach #4

The responses are more apt to be constricted because of the restraints imposed by the experiment.

Naturalistic Approach #5

The time-span is apt to be longer and thus to afford more information for longitudinal studies and for the dynamics associated with larger patterns.
Experimental Approach #5

Although so-called cross-sectional experiments do utilize significant time segments for the study of behavior, and some of them may study relatively larger units of behavior, they tend to be limited to manageable units which have limited meaningfulness in clinical situations. Recording of responses is determined by the test design. These experiments have great power and are highly desirable where the experimental conditions can be sharply and meaningfully defined. It is reasonably argued that long-term studies can only be pursued profitably after a sufficient number of cross-sectional experiments have been carried out so as to make the methods of investigation worthwhile by providing essential facts about the interacting variables under experimental conditions. The fact that cross-sectional experiments are more apt to be sharply defined, amenable to relatively concrete manipulation and interpretation, take less time, energy and manpower, makes them more suitable in many research situations.
Naturalistic Approach #6

Because naturalistic methods usually permit the study of several variables, more potential latitude exists for discovering new relations between them.

The naturalistic methods are essentially comparative, correlational, or genetic-developmental in their strategy. More opportunities are asked for focussing upon new problems in which controlled experiments or observational techniques provide greater precision. Clinicians have long insisted that the study of patients is the best starting point for more intensive experimental design with much evidence to support their claim that this approach will best serve our needs to understand and master clinical problems.

Experimental Approach #6

The strength of most tightly designed experiments consists in focussing upon one dependent variable which can reliably be measured in its relations to several independent variables which in themselves can be manipulated. As with the naturalistic method, this may be a shortcoming if the material manipulated is inappropriately chosen, or if the operation produces trivial results.
Naturalistic Approach #7

Ideally, although this is not uniformly true, hypotheses grow out of the data produced by the longitudinal studies of a participant-observer in the field situation. Unfortunately many clinicians laboriously accumulate much data which they cannot process in any manner productive of meaningful experiments or vitalizing hypotheses. Unfortunately, too, raw data is too often interpreted in such a manner that the generalizations derived from it are not convincing or useful in further research, or worse, cannot be put to crucial tests. Too often, also, too many investigators view natural history explanation as an end in itself and arrive at results which are essentially sterile.

Experimental Approach #7

Ordinarily, a well designed experiment, with controls, contains a more or less well formulated apriori hypothesis which is being tested. Where the question being asked is a good one and the method appropriate to the interrogation, the results may be applauded. Too often neither of these conditions is fulfilled and the results are disappointing. Again the experiment
can become an end in itself and lead only to trivial results when the
experimentalist becomes a slave to his tools.

**Naturalistic Approach #8**

When a number of variables are being studied over a relatively long period,
it is essential to make a selection of what appear to be the most significant relations
between important variables among the available events. Errors in judg-
ment and interpretation are bound to occur, but the hope remains that
other investigators may examine the data for new interpretations, since
such critical review and reassessment is as necessary to the natural history
method as is repetition in the experimental method. In important areas
it may be necessary to re-do the observations repeatedly until the significant
variables are recorded with sufficient accuracy to establish confidence.

**Experimental Approach #8**

Although the by-products of a well designed experiment, as contrasted
to the pointed questions asked, may be productive of new experiments,
the artifacts inherent in the experimental design at times force inconclusive
or negative results of little significance for future work. This is a necessary
cost where the aim is to simplify and cut down all data subordinate to
the primary aim of the experiment. Here the attempt is to eliminate
"irrelevant" factors, to place variables in vivid contrast, and, if it is
not possible to "randomize" the samples, it is possible to avoid undesired
effects of individual differences. The possible conclusions are, in a sense,
built into the experiments.

Naturalistic Approach #9

In general, natural history observation requires more continuous working
time and more energy spent on recording than the classic experimental
method. Clinicians as a rule have not provided sufficiently complete records
which may be profitably studied by colleagues who wish to gain new insights.
Clinicians, furthermore, as a result of differences in training, may not
produce records which are sufficiently comparable. Finally, clinicians
may tend to withhold salient information, either to protect patient privacy
or as a measure of self-protection.
Experimental Approach #9

The recording of data and its interpretations are much more concrete and obvious in planned experiments. This is one of their most attractive features.

It has been suggested that an investigator who works in a field as a participant-observer over a relatively long period, becomes devoted to the subject matter, and unduly motivated by his interest in it. In this, self-selection plays an important, but as yet indeterminable role. Such an investigator may be better suited to his role than the investigator whose primary investment is in technique. The former may be more inclined to use techniques which are appropriate to the material because the material is of primary concern. This generalization becomes vital in clinical work where the investigator also has responsibility for the welfare of patients. Unfortunately there are times when consideration for the patient has absolute priority over any investigative procedure. Perhaps some clinicians at times utilize this necessary rule either consciously or
unconsciously to save themselves embarrassments or unwanted insights.

It seems highly probable that this serious barrier can be overcome with
intelligent planning and hard work, but we do need to take more seriously
Freud's comments about the difficulties involved in trying to maintain a
stable therapeutic attitude simultaneously with an experimental attitude.

(Freud, 1912)

Freud also points out in this paper that the therapeutic ambition
to achieve results which will impress others is a serious affective danger
which must be controlled for the welfare of the patients. There is no reason
to believe that the experimentalist is any the less affected by these
variables. The participant-observer pays a considerable price among his
"tough-minded" colleagues for his freedom to form hypotheses in a
continuing study because his records are seldom complete enough to con-
vince skeptics, and his personal interpretations are usually vulnerable
to negative criticism or subject to alternative interpretations.
Hypotheses drawn from relatively small samples of behavior often sound like unquestioning belief or self-deception to workers trained to expect quantitatively displayed, immediately demonstrable evidence. While such hypotheses may frequently be inadequate, some of them may lend themselves to experimental verification. Although such experimental verification may seem remote, freedom to formulate such hypotheses is absolutely essential to the progress of a discipline.

Experimentalists will learn that for every gain in method, there may also be a loss. It is true that the undisciplined participant-observer may introduce many artifacts into the system which may not easily be detected, thus abusing at times the inalienable "right of every scientist to be wrong," but with communication we need not fear that such error will long remain undetected. All too often the critics of the participant-observer method are simply unaware of the extensive training required by the practitioner of this method. Several highly skilled individuals trained in the same methods of observation and recording provide for indispensable self-correction in
the descriptive and analytic process.

The experimentalist, in the classic quantitative tradition, has his role as an observer more or less defined by the experiment. His recording is designed to be adequate for his specific purpose and for that alone. Like the modern physicist he must be aware that as an observer he becomes a part of the system in question. He must also be alert to the possibility that he may, himself, be introducing a portion of the regularities which he perceives in the system. Like the physicist, he, too, is bound by the limitations of his observational instrument and by the restrictions inherent in the experimental design. However, these inherent drawbacks in his method tend to be much less questioned, and he may hope to be rewarded for the loss of some degree of freedom by the greater security of his results. In one gratifying way, even though it leads to more frequent disappointment, he may have an advantage over the naturalistic participant-observer in that he may be more likely to attain much sooner and with greater certainty the end point of his experiments. He can also make a definite statement as to the positive or negative results. "The
refinement of techniques for the prompt discovery of error serves as well
as any other as a hallmark of what we mean by science." (Oppenheimer,
1955, pp. 93-94)

A further advantage of the experimental method is that in many
experiments less training is required for the experimental technician
once the experimental frame is set. During the early exploratory phases
of discipline, the choice of the unit to be studied is apt to be determined
by the previous experience or bias of the investigators. Only with
experience do the units chosen for study become more appropriate to the
task in hand, and different workers can find some equivalence in their
experiments.

The units of observation of a young science, therefore,
necessarily are often not so precise as one might wish. Of course,
the units chosen for observation are those which seem to be most
significant within the bias or conceptual scheme of the investigator.
(Pike 1967). Sometimes units are chosen primarily because they are
most amenable to manipulation, or the best provided by the tools
available. Such factors can be studied and improvements made as the

nature of the problem in hand is better understood.
4.6 Advantages of More Precise Observation and Analysis and the
Training Value of the New Techniques

It was in the hope that reliable descriptive units might for
the first time be made available that the demonstration described in this
book was undertaken. From the outset our goals were modest, and they
have remained so. A brief description of the raw material under investi-
gation will be presented here in anticipation of a fuller presentation to
follow (Chapter 5). For our examination Mr. Bateson was able to provide
1,800 feet of sound-film of the activities of the members of a family of
three who had volunteered as subjects for his investigation of the etiology
of schizophrenia. These sound-films, supplemented by a fuller, but in
part simultaneous recording on tape, were taken in the home of the family
by Mr. Bateson's technical assistants utilizing a sound camera and with
sufficiently fast film that special lighting was unnecessary. The special
problems involved in the filming and recording are discussed later in this
chapter and elsewhere in this book. The scenes show father, mother
and son eating dinner together; the family entertaining neighbors; father
bathing the son; father and Mr. Bateson talking; mother, son and Mr.
Bateson talking. This last was chosen for varying degrees of analysis
both of vocal and of body motion activity. Interpretations of all activity
were made independently by all members of the team, each on the data
of his own medium, although these interpretations were necessarily strongly
influenced by the intensive work done together. In one experiment the
attempt was made to categorize the nature of the activity of one person
on the film in each of three modes of action, as independently as possible
by one member of each discipline. These results are reported in Chapter 9.

From our preliminary work we feel justified in suggesting the following
advantages inherent in the new procedures:

1. **Intensive repeated viewing and listening** to a limited and
carefully selected segment of behavior (1 second to 50 minutes), particularly
after tutoring by trained workers in linguistics and in kinesics, in an
enriching and gratifying experience. It is one which gives the student
new perspectives on and insights into his daily clinical techniques, his
strategies and maneuvers, both conscious and unconscious. One is
mindful of the shock of being confronted by auditory and visual evidence
of behavior of which we were previously unaware. On occasion, one may
even want to repudiate such evidence because it does not conform to one's
self-image or to the conscious plan of one's therapy. Through practice,
such shock is gradually overcome, just as our clinical defenses are brought
under control through supervision in therapy and by personal psychoanalysis.

2. This technique forces an increased awareness of minimal
cues, and permits a greater selectivity among them. We are forced to
accommodate to the unusual in ourselves and in others by the growing
recognition that we also are biological organizations capable of sending
very diverse messages to ourselves and to others. Some of these
messages may seem trivial, but many are vital to life and to well-being.
A good clinician is by definition one who can lift the more relevant facts
from the mass of data made available through the new techniques. The
good clinician will now have the chance to sharpen his own techniques of
observation through repeated and focused viewing and listening. Not
only will he be able to detect more of the cues upon which he makes
judgments, but he will be able to be more explicit about the bases of these very judgments.

3. The technique promises to objectify affects-research at the interpersonal level. Transcribed taped and filmed materials will provide the means by which his fellow clinicians may inspect the interaction and proffer focused criticism and comment. It will no longer be necessary to balance one intuition against another with no hope of arriving at a consensus. Clinical insights can now be analyzed and substantiated by specific reference to data observable by all. Such data can also be supported (or refuted) by information on visceral activity. Both externally observable and internally measurable data may be combined to show that a patient or doctor is angry, disturbed, depressed, or indifferent; that a particular system of activity represents masculinity, femininity, regression, aggression, or ambivalence; that another action or state such as politeness, passive aggressiveness, prudery, exhibitionism, or paranoid defensiveness is idiosyncratic or patently culture-bound.
4. The clinician, sensitized by the observation of linguistic-kinesic microanalysis to the patterning inherent in the clinical data, will also gain a tremendous support for his assumption that all events in a human interaction are interrelated and that events and sequences are meaningful precisely because there is mutual triggering. Even in our relatively limited experience with sound-films, we have found sequences which are startling in their strictly patterned dance-like shapes. This is especially impressive in studying the relations between a mother and her child. The closeness of their interdependence as evidenced in their vocal and body-motion activity lends additional credence to theories that each individual, whatever his biological-genetic heritage, is also a strict product of his orientation, his training, and his environment.

5. It seems likely that with the new orientation the clinician will learn to ask highly specific questions which can be answered by the presentation of linguistic-kinesic data. We may gradually learn not only to ask questions of this type, but also consciously to seek out specific con-
stellations of vocal and body-motion behavior bearing on their
answers. Such questions as the following were asked (and in part answered)
in the course of our investigation:

"Does this person act his age?"

"Does he speak and act in keeping with his
training and present position?"

"How do his body motions suggest bisexuality?"

"Has he regressed in his identification with
his father?"

"Is this behavior similar to that of adolescent
revolt?"

"Is the behavior of this person incongruently
mature?"

6. The clinician acquires new evidence that very small
samples of interaction between persons may be the source of considerable
information about the participants and the way they relate one with
another. There is evidence that smaller and smaller segments of behavior can be regarded as significant samples. Pattern-analysis shows that such small sequences, if carefully chosen, may be iconic for much larger stretches of behavior. This will hardly be news to the many skillful clinicians who make use of the device of analyzing one small segment of behavior, such as a patient's entry into the room, or his walking across a room, or the associations to one dream, as a means of writing out in detail many factors of a patient's conflicts and their defenses.

7. The purposeful viewing of selected film-tape sequences will encourage a much wider use of them as training devices and will probably raise their general utility to a higher level because they offer a relatively stable medium for such training.

For many clinicians in training, the prolonged and repeated viewing of small quantities of such film-tape materials will bring home the thesis that the price of civilization is repression. While we all know this intellectually, it is a shock to experience it viscerally when the
clinician finds himself uncomfortable because of the intimacy which such viewing and listening not only allows but forces on him. This shock phenomenon deserves careful study, inasmuch as it will be necessary to allow for it in a clinician's training; perhaps highly specific aversion patterns and defenses against them may be recognized and allowed for, thereby both accelerating self-awareness and facilitating the supervisory process.

Training in intensive film-tape observation will help free many clinicians from their need for large amounts of clinical history and interactional data before making judgments. Certainly a great deal of data must be compiled, analyzed and compared before reliance can be placed on decisions based on small samples.

8. Although we have made only a beginning toward that end, the new techniques allow us to hope that we may eventually arrive at a dynamic diagnostic formulation of an illness from an analysis of relatively small samples of behavior in typical settings. It will be possible to specify
with greater accuracy the criteria upon which a diagnostic formulation is made. Similarly, the possibility exists that we may be able to make much better prognostic evaluations with recommendations for greater specificity of therapeutic intervention than is now possible. There is no question that as our observational skills improve (with the gradual discovery of the definable indices of vital processes occurring during a mental illness and during the therapeutic intervention) more reliable ways will be found to detect and chart the phenomena which signify improvement or regression. Prognostic studies will be more meaningful as we are able to chart more tangibly (from the results of analysis of film-tape materials) those activities which are common to all patients with an active neurotic process.

9. The new techniques have obvious advantages for comparing and evaluating therapeutic procedures. With increasing experience, it is conceivable that studies can be designed to investigate more adequately those therapeutic activities which are common to the several allied types of therapy. Studies on "control" patients may then become possible in a
way which does not seem very rewarding now, and a genuine basis for
comparing therapeutic techniques will become feasible. It may eventually
be possible, through careful study of filmed-taped interviews of student-
candidate activity with patients, and of the procedures followed by
particular practicing therapists, to prescribe more economically a course
of training for the individual student, and to assign more efficiently particular
patients to particular therapists.

10. Trial demonstrations of materials obtained through these
techniques have already shown their usefulness in case presentation.

It is likely that as clinicians become more at home with the techniques
involved in efficient use of film-tape materials, such film-tape data
will become increasingly popular at professional meetings when clinical
problems are presented. Such evidence will have greater impact and be
more convincing than is the usual written report.

We cannot expect too much too soon. It is important to remember

that the use of recording devices in medicine (microscope, camera,
x-ray, EKG) required many years for their full development. It is possible that with more accurate and more objective data, improved identification, isolation and definition of various classes and categories of disease processes will emerge. The change in these processes can be followed in greater detail and thus provide valuable clues to the crucial factors which make possible significant and enduring change.

It is certain that these methods in themselves will not solve all the clinical problems of diagnosis, of interviewing, or of psychopathology. It is quite likely that shortcomings will appear which are now not obvious.

Viewing film is not an adequate substitute for a face-to-face interview with a live patient in a closed room. Extensive empirical experience will be required before we can fix on those problem areas where these techniques will have their most powerful application.
4.7 Possible Disadvantages of the New Methods of Recording, Transcription, and Analysis

At this early stage of exploration it is not possible to spell out with entire certainty the limitations of these methods. From our experience a number of such limitations can be described as inherent in them. Only further experience, however, will demonstrate to what extent these can be minimized so that they will not constitute insurmountable barriers to obtaining vital information. It is certain that, even though reasonable control over new methods is gained, new difficulties will appear as we deal with more (or less) complex patterns of communication.

1. It is unlikely that sound-films will ever entirely replace face-to-face interviews in clinical research, since the recording media inevitably tend to distort some aspects of the scene under observation.

Even technical improvements in reproducing the scene in color will not provide the information furnished by odor, by temperature, or by other sensory cues in their native setting, for which better methods of measurement need to be devised. Even though it may be true that working
intimately with film-tape material will enable a worker to "translate"

with much greater insight and accuracy, we need more studies to demon-

strate the conditions under which more reliable translations may be produced.

The experienced investigator must learn to develop compensatory mechanisms
to counter-balance the sensory limitation inherent in the film-tape medium.

2. The privacy of the therapeutic transaction is usually cited

as an absolutely essential condition for good work. This may well be

true for some transactions, but we need evidence from experience to be

sure that this requirement has not been overestimated for many types of

psychotherapy. There are many investigators who do not share this

belief, for in the types of interviewing they have studied they have not

observed serious interference with the patient's production attributable
to the obvious presence of recording devices. This does not preclude the

possibility that more subtle transactions may be prevented from coming

into being by the nature of the recording situation. (Carmichael, 1956;

Bergman, 1966; Gill, et al, 1968)
It has been observed, moreover, that the therapist, however experienced, is more likely to remain acutely aware of his "public" role, in such a situation, even after considerable practice, and is apt to introduce artifacts into the transaction. This is in keeping with Freud's observations (1912) already mentioned that therapeutic ambition to impress others presents the greatest affective danger to the therapist, and that in some transactions one may find it difficult to be an experimentalist and a therapist simultaneously. Occasionally, the therapist will alter the course of the therapeutic process for "the good of the patient." It will require much sensitive cooperative work to establish the legitimacy of some of these claims which seem to be motivated by the needs of the therapist rather than by the needs of the patient. (Gill, et al, 1968)

Judicial and patient review by valued colleagues will make possible the selection of therapists who are especially fitted for this exacting experimentation. It is not unlikely that the therapist as well as the patient should be protected by as much anonymity as possible by an inbuilt system in the experimental design whereby the therapist has ample
social and professional support and consultation opportunity. With increased

skills, it is probable that the system of protective devices for the therapist
can be so arranged that his needs and those of his colleagues will not

interfere with the external requirements of the experimental design which

have been agreed upon at the beginning of the experiment. Planning of this

order will eliminate some of the difficulties which might prevent proper

examination, recording, and interpretation of raw data about the therapeutic

process.

3. It is not known at this time how much special training may

be required for the average worker to recover quickly from the "cultural

shock" of intensive viewing and listening. It is necessarily a transient

phenomenon which must be met by skilled tutoring, if the problem of

overcoming our resistances to focused viewing and examination of another

person's privacies is not to undo the defenses provided by good clinical

training. We suggest that we need to develop better methods of dealing

with the observer's feelings under the conditions of repeated intensive

listening and viewing.
4. There is a potential danger that the mechanics of recording will introduce artifacts, distortions and omissions which will lead to misinterpretations, particularly if the recorded materials are collated too literally with physiological data or with the overt content of such materials. It was not, for example, immediately detected on film that one patient had dyed her hair, even though the shading was different in films taken several months apart. Although investigators must be alert to such artifacts and distortions, it seems unlikely that they can be of serious consequence since they were detectable upon review by several workers who had the total context in mind. Our original difficulties in detecting that mid-face motility in Doris which clinically we identify as grimacing, and in identifying on tape the voice with "flattened affect", have diminished with increased practice.

5. There is the potential danger that the very setting of micro-linguistic-kinesic examination and interpretation may lead us into distorted evaluations because we have lost proper perspective both for the elements
of the transaction and for the relations between them. Freud's valuable caution about this problem in dream analysis is contained in his quotation (Freud 1900) from Hanns Sachs:

"If we look in our consciousness at something that has been told us by a dream about a contemporary (real) situation, we ought not to be surprised to find that the monster which we saw under the magnifying glass of analysis turns out to be a tiny infusorian."

The primary safeguard is provided by the multiple listening and viewing technique leading to the establishment of patterns prior to the reevaluations provided by narrow focussing. A further safeguard provided by a multidisciplinary team approach and by a larger number of experienced workers will facilitate detection of misuse either of concepts or of data. It is well known that preoccupation with very small samples of behavior may cause distortions, but, as long as the possibility of correction exists, this need not constitute an insurmountable barrier. We know that some patients may vary from one extreme (apathy) to another (panic) within short periods, but appropriate sampling will provide us with the proper evidence.
6. Some psychiatrists have suggested that large expenditures of time, energy, and highly specialized skills required for work on small samples may not be warranted in view of the relatively limited amount of new information obtained. They claim that a similar expenditure of effort in the more traditional recording and analysis of data would probably be equally rewarding. It is not possible to prove conclusively at this time that this claim is not justified, but the probabilities are very strong that micro-analysis will produce much new data and unforeseen hypotheses which are inaccessible to ordinary recording methods.

7. The lack of adequate comparative data (such as that provided by the social anthropologist and the social psychologist) in our own and in other societies makes accurate evaluation of our micro-linguistic-kinesic data difficult. We urgently need comparative series in the field of social behavior, not only for the evaluation of our linguistic-kinesic data, but also for the interpretation of the larger behavioral constellations in which such data are embedded.
8. Some workers are skeptical about the value of micro-
analysis in view of the paucity of comprehensive psychological theories
of personality which are susceptible of testing. It seems likely that
the most unified theory of personality, the psychoanalytic, will become
increasingly available for testing as we are able to record the data on
which it rests more completely and more accurately. We may anticipate a
flood of new theories released by the new data being made available by
microanalysis.

9. Everyone who has worked with these recording methods
knows that there is a tremendous danger of being swamped by the mass
of accumulated data. The methods described in earlier chapters provide
the possibility of better selection and increased mastery of significant
material once the more important patterns of signal transmission between
individuals are recognized. The cost in time and skill in analyzing
samples may be large at this time. But this is a new method of examining
data in an orderly manner with the possibility of introducing new concepts.
Although future experience may show up areas of minimal return
due to redundancy or relative degrees of inapplicability, it now seems
probable that the gains will far outweigh the disadvantages. It does
provide objective techniques in which scholars may be trained to check
upon each other's findings. Until this is done we cannot finally decide the
degree of parallelism, mutual support or possible contradiction between
lexical, linguistic, kinesic and physiologic behavior. Only then can we
finally determine the value of these developments for the physician and
other students of human behavior.
CHAPTER 5

The Actors and the Setting
Conditions of Filming

The films which provide most of the data used in this book were made under the following circumstances:

A therapist, who knew of my interest in collecting film data on family interaction, told Doris (who was his patient) about my project. It so happened that Larry and Doris had attended a public lecture which I had given some months previously and, therefore, were receptive to the idea of having some part in our research. As recounted elsewhere (reference to Brosin's chapter on the case history), this couple had in the past made considerable efforts to find solutions to the problems which troubled them and their world. They had participated in dianetic sessions and had maintained an interest in communicational problems as part of their quest for answers.

Shortly after the therapist's conversation with Doris, Larry telephoned me to express their interest in cooperating with my work. I then made an appointment to visit the household with Mr. David M. Myers, our cameraman, bringing camera, tape recorder, and lights. Myers and I arrived punctually at four o'clock and found the house empty. We withdrew and telephoned 15 minutes later verifying that Doris had returned. She told us to come right over, but when we arrived we found her quite flurried. She had just returned from a session with the therapist, had picked up Billy from the house of a neighbor, and was exhibiting the expectable responses of a housewife unprepared to receive her visitors--let alone cameras and lights.

After introducing ourselves, Myers and I started to move the equipment into the house, and she hastily defined the situation by pressing upon us mugs of home brew. The exchange of social amenities was somewhat
confused by the business of setting up the recording equipment.

The "interview," of which this book is the natural history, followed immediately, while Billy intermittently played on the floor in front of us, and came and went.

A word must be said about the human problems of such photography. David Myers is singularly skillful in the art of effacing himself behind his camera most of the time, while still being able to be a participant in the group whenever this is called for. He lets children examine the camera and look through the view finder and feel that the camera is not alien to themselves. He is instructed not to shoot for any particular type of behavior but to get as complete a record as possible of what occurs. He and I rapidly made a general plan that we would try to concentrate action at one end of the living room around the couch. Beyond this, he would make no effort to have people perform for the camera or place themselves for his convenience. It was his job to record whatever happened as best he could without interfering with it.

Under these circumstances, a family rather rapidly settles down to a freedom from camera consciousness and this process is, I think, aided by me: I, too, am being photographed and I am accustomed to it. It is also worth mentioning that the film was made before I had any contact with micro-kinesic or micro-linguistic analysis. I was not aware that my smallest movement and intonation would later be examined and, therefore, I was not in a position to communicate any self-consciousness of this sort to Doris.

Doris's living room was, fortunately, rather longer than the usual so that the camera could be well separated from the action. The far end
of the room, opening to the kitchen, was provided with a dining room table at which the family usually ate. We set up camera and tripod beside this table, facing down the length of the room to the couch.

The general decor of the room was such as might be expected in the house of people with intellectual interests. There were two or three objects of Mexican art, and books, but the impression given by the room as a whole was unsettled. The family had lived there for two or three years, but I had no feeling that they liked living there or that the various objects belonged in their various positions. The living room windows opened onto a lawn where we later photographed Billy playing various games, and beyond the lawn was the railroad track. The interview, conducted in the late afternoon, was repeatedly interrupted by the noise of commuter trains, at which Doris was markedly distressed, while trying to laugh off the indignity of this interruption.

The record was also interrupted by the recurrent need to reload the camera. Doris and I simply went on talking, paying little attention to what Kyles was doing so that, while the tape record of our conversation is complete, the film record has gaps in it every 3 1/2 minutes when a new 100 feet of film had to be inserted.

About 5:30 p.m. Larry returned from work. He and I then had a conversation which was filmed while Doris prepared supper. Larry was mainly interested in talking to me about scientific theory and other impersonal matters, in the discussion of which he and I had the role of intellectual colleagues.

When supper was ready, the lights and camera were moved so as to film the family meal, and in this context Billy, for the first time, began
to play up to the camera. The record shows him holding up a leaf of salad, spreading it in his two hands somewhat in the manner of Saint Veronica, while he waits impishly to see how his parents are going to handle this misbehavior with the camera's eye upon them.

In subsequent visits, films were made of Billy playing in the garden and of Billy being bathed by his father. We also made a film of an informal party of friends gathered one evening at the house. This family, unlike the majority of the much more troubled families with whom we have worked, maintains an active informal social life with a number of acquaintances, neighbors and young married couples, most of them Larry's professional colleagues. Surprisingly, Doris's guests showed remarkably little tension under the stress of being photographed. This rather unusual situation arose in the following way. We had arranged to go over in the evening to photograph Billy being bathed and put to bed. When we arrived, we found the party in progress. We then filmed Billy's behavior with the company and later moved the camera to the bathroom.

The material from these subsequent filmings has all been a part of the background of the present study, though no part of it was actually used for micro-analysis.

In retrospect, and especially in the light of subsequent experience in filming other families, my main criticism of the collection of data is that it contains too little interaction between Larry and Doris. Interaction between Doris and Billy and between Larry and Billy are both well documented, and there is adequate documentation of each of the three family members in interaction with me. It is difficult, however, to get from the filmed material an adequate picture of the relationship
between the parents without which it is difficult to understand the total
dynamics of the family.

In its subsequent history, the family has moved into more luxurious
surroundings. They now live in the country in a house of which Doris is
proud, and in the building of which Doris and Larry did a considerable part
of the work. Their present living room does not have the unsettled appear-
ance mentioned above, and they are no longer troubled by the sound of
commute-trains. Billy now has a little sister who, Doris laughingly says,
is "spoiled rotten."

The film record was made on Eastman TRI-X film, using a 100 ft.
Auricon camera with an optical sound track. The lens used was a Pan-
Cinor "h" Reflex 70 zoom lens. We also made a magnetic tape recording
of the entire proceedings.
END

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THE NATURAL HISTORY
OF
AN INTERVIEW

(edited by Norman A. McQuown)

with contributions by

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

Part II: Chapter 6

MICROFILM COLLECTION
OF
MANUSCRIPTS
ON
CULTURAL ANTHROPOLOGY

No. 96
Series XV

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Chicago, Illinois
June 30, 1971
CHAPTER 6

Transcript, Transcription, and Commentary

Ray L. Birdwhistell
Charles F. Hockett
Norman A. McQuown
The reader who desires to get merely the general gist of the interview should read through the text focussing on the transcript alone. If he wishes to gather viva voce what the transcript fails to convey, he should listen to the tapes or to the sound-track of the film for those portions of the interview so recorded. If he wishes to gain a general visual impression of the filmed portions of the interview, he should view them first with the sound track cut out and then with it in. If he wishes to gain a more precise knowledge of vocal content, he should next listen to the tapes, short section by short section, focussing first on one set of features in the transcript, then on another. If he wishes to gain a more accurate idea of the body motion activity, he should similarly run through the film, preferably with the sound track cut out, focussing first on one aspect, then on another, first at normal speed, then at slower speeds (down to shifts from one film-frame to another). Each succeeding listening or viewing will bring additional features to his attention, and, if he attempts to tie transcription to auditory or visual reception, he will be forced to bring into conscious focus items of which he, without such aids, would be only subliminally conscious, or, in the extreme case, totally unaware.

In the discussions to follow, we shall bring into focus particular items (or constellations of items) and attempt to apply to them a variety of explanatory frames.
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* Corrected by R.L. Birdwhistle, Norman A. McCuown, etc.

END OF TABLE 1

--------BEGINNING OF TABLE 2

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# Master Score

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| Phonosemimicro | Lines 1-4, 10, 14, 20 |
| Phonomicro     | Lines 1-46, 20 |
| Kinemacro      | Lines 1-27 |
| Kine macro commentary | Lines     |
| Kinemicro      | Lines 1-11 |

## Vocal Attitude
- N normal
- E editorial
- I introspective

## Body Attitude
- interactive
- extra-personal
- intratensive

## Content Characterization
- interactive
- externalizing
- internalizing
**Activity Chart:**

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<p>| 34  | gr  | groaning |
| 35  | br  | breaking |
| 36  | bl  | belching |
| 37  | yn  | yawning |
|     | VQF | Vocal Qualifiers |
| 38  | PH  | Pitch Height |
|     | oh  | overhigh |
|     | ol  | overlow |
|     | In  | Intensity |
|     | ovl | overloud |
|     | ovs | oversoft |
| 40  | Ex  | Extent |
|     | dr  | drawled |
|     | cl  | clipped |</p>
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85 R-D Rhythmic - Disrhythmic
86 O-C Open - Closed
87 M Motion Markers
87 C Cue
88 S Selection
89 D Duration
90 A Area
91 PR Pronominal Reference
91 M Motion
92 M Microtranscription
92 He Head
93 Fo Forehead
94 Br Brows
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| 134 | LL | Left Leg |
| 135 | F | Foot |
| 136 | KJ | Kinesic Juncutures |
| 137 | Km | Kinematicsof |
| 138 | Kmk | Kinesomorphokines |
| 139 | Kmt | Kinesomorphotactics |
| 140 | TL | Time Line |
| 141 | VA | Vocal Attitude |
| 142 | BA | Body Attitude |
| 143 | CCh | Content Characterization |
| 144 | Com | Commentary |
### Symbols Used in the Transcription of Speech

#### The Score

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<td>OVERSLOW &lt;&lt;-&lt;&lt;</td>
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<tr>
<td>OTHERS</td>
<td>OVERSOFT (-) V</td>
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<td>REGISTER (3)</td>
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<tr>
<td>PHENOMENA</td>
<td>OVERT &lt;-&lt;</td>
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<tr>
<td>PHONETICS</td>
<td>MUTED &lt;-&lt;</td>
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<tr>
<td>ORTHOGRAPHY</td>
<td>A &lt;-&lt;</td>
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#### Vocal Modifiers

- OVERFAST (> > >)
- OVERSLOW (< < <)
- OVERLoud (\(-\) A)
- OVERSOFT (\(-\) V)
- OVERT (><)
- MUTED (<<)
- A (<<)

#### Boundary Phenomena (5,6)

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<td>EXHALING (h)</td>
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<td>CRESCENDO (&lt;)</td>
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<td>VOICED (a)</td>
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#### Intonation (7-9)

| INTERNAL OPEN JUNCTURE (8) | + |
| STRESS LEVELS (OVER VOWEL SYMBOLS ON 8) | PRIMARY ¹ |
|                               | SECONDARY ² |
|                               | TERTIARY ³ |

#### Segmental Phonemes (B)

| VOWELS:     | i u e a o æ ø |
| SEMICONSONANTS: | w y h |

#### Pitch Levels (7)

| Pitch Level On Syllable With Primary Stress (7) | 1 2 3 4 |

#### Phonetics (11)

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<td>WHISPERED VOWEL (g)</td>
<td>&quot;NORMAL&quot; ((_))</td>
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<td>SLIGHTLY BACKED (g)</td>
<td>LONG ((_))</td>
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<td>FRONTED (g)</td>
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<td>RAISED (g)</td>
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<td>LOWERED (g)</td>
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<td>RETROFLEXED (g)</td>
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<td>NASALIZED (g)</td>
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<td>LIGHT OR OBSOURE ARTICULATION (g)</td>
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<td>SIMULTANEOUS GLOTTAL CLOSURE (f)</td>
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#### Segmental Phonemes (B)

- i u e a o æ ø
- w y h
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<td>HEAD COCK (LEFT)</td>
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<td>NOSE</td>
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<td>HEAD RAISED LEFT</td>
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<td>HEAD THORACIC BEND</td>
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<td>TRUNK</td>
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**Modifiers**

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Cast of Characters

D = Doris          L = Larry
B = Billy          CM = Cameraman
G = Gregory

Symbology

Orthography (Tape) → Film → Phonotranscription → Kinotranscription → Phonemacro → Phonosemimicro → Phonomicro → Kinemacro → Kinemacrocommentary → Kinemicro → Phonosymptomatic Features → Kinesymptomatic Features → Kinesic Shifts
D: When you called, the last time you 1

G: (false start) 2

D: called I think you called on a Thursday 3

D: afternoon after we were just collapsing from 4

D: the whole thing and Marian said Well, 5

D: if he wants some problems, Thursday's 6

D: the day for it (laugh) (laugh)

D: wouldn't believe it. 3

CH: Does that bother you? 4

CH: I have to bring it down a little 5

CH: usually the ceiling's lighter you know 6
CM: and reflects more.

CM: Watch that; Bruce.

CM: See? See the red needle? See it?

B: M-hm.

D: I was quite

D: fascinated with the uh films that we saw in your

D: lecture class and I was amazed th-

G: Yeah, I saw--

D: (throat) Yeah.

G: I showed the three families in that class, didn't I?

D: we saw those and we were intrigued with them
D: but the thing that made me so -- I don't know.

D: whether it was because we had been.

C: Yeah.

D: at all the lectures.

D: Francisco-way special...uh...when

D: that...that Lee of course Lee had been

D: dabbling around in all the fields that you were talking.

D: about for many years and you were pulling all of

G: Yeah Yeah

D: them together for him which was making him quite

D: happy. But when--uh--there were several gals.

D: from the preschool class that had just gone to the movies.
D: and I got so darned mad with them when I went 1

D: back to school because all they were talking about 2

D: was how uh how they did or didn't 3

D: approve of what some mother or other was doing with 4

G: was doing yes, 5

D: her child, and this was about the extent of 6

G: yes 1

D: their understanding so I tried to explain to 2

D: they could...There were a couple 3

D: of them who couldn't even understand what nonverbal 4

D: communication was. I mean how can you communicate 5

D: if you're not talking, do you see? So 6
D: I stayed there through a couple of coffee warnings.

G: O yes.

D: and decided. Oh well (laugh)

G: What is the

G: a history of this whole problem.

G: business as far as you're concerned with Bruce and

G: so on.

D: Oh uhuh depends on which problem you're talking about.

G: That IS the one.

D: (laugh) There are... but

D: they're being or... it seems to me
D: That they're improving a great deal.

D: I think it stems a great deal from

D: Early infancy when uh the whole

D: General problem of interpersonal relationships and communication.

D: Around this family was very poorly loused up. And

G: Uh-huh.

D: It was very very bad.

D: And uh (sigh) he was definitely.

D: Uh Lee and I were sort of having a running battle

D: Over him. I had these great ideas that this

D: Child must not interfere with my life and Lee on

D: The other hand felt that he had to overcompensate.
D: for what I wasn't doing. It was the reverse of 1

D: what ... is usually done, you know, the usual 2

D: story about the m-cher 3

D: neglecting her husband for her child, 4

D: was, every time he cried I would feel 5

D: because I would decide well he just 6
TRANSCRIPTION
It was the reverse of what is usually done, you know, and the usual story about the
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**V.C.C.A.L  A.C.T.I.V.I.T.Y**

**Voice Base**

1. p
2. se
3. ag
4. sh
5. bb
6. fr
7. lct
8. rz
9. ts
10. n-st

**Voice Set**

11. st
12. ge
13. egz
14. hi
15. bi
16. zi
17. lct
18. mzd
19. ti
20. n-sts
PARALANGUAGE

21. pr
22. pc
23. lc
24. gc
25. ac
26. rc
27. re
28. te

Vocal Characterizers

29. la
30. sa
31. yw/cf
32. wh/cf
33. mn
34. gr
35. br
36. bl
37. yn

Vocal Qualifiers

38. PH
39. l
40. Ex
Vocal Segregates

PHONETICS

LANGUAGE

Phonemics

Morphemics

42. Pt

43. Int.

44. StrJ.

45. Sgm.

46. Int.

47. StrJ.

48. Sgm.

49. Tl

50. D

mother neglecting her husband for her child, but it was every
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### PARAMOTION

#### Motion Characterizers

| 72 | In |
| 73 | Do |
| 74 | RN |

#### Motion Qualifiers

| 75 | RN |

#### Action Signals

| 76 | U-B |
| 77 | S-G |
| 78 | R-D |
| 79 | G-A |
| 80 | F-S |
| 81 | I-F |
| 82 | I-R |
| 83 | Sp-Sc |

#### Action Modifiers

| 84 | M-P |
| 85 | R-D |
| 86 | O-C |

#### Interaction Modifiers
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<td>87</td>
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<td>S</td>
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<td>90</td>
<td>A</td>
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*Microtranscription*

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| 136. |        | Kinesics junc.
|      |        | Kinesorhics |
| 137. | Km     |             |
Kinemorphokinics

Kinemorphotactics

Vocal Attitude

141 VA (E) ...

Body Attitude

142 BA (\)

Content Characterization

143 CCH externalizing ε ...

interactive ε

defensive β

ad-personalizing β

Commentary

144 Cam (breast)

→ G (brow)
| GUN SCENE | Chr | ZERO | 0 | 3 | 6 | 10 | 11 | 16 | 25 | 26 | 2 | 51 | 60 | 62 | 66 | 68 | 3 |
|-----------|-----|------|---|---|---|----|----|----|----|----|----|---|----|----|----|----|----|---|
| 114 He.   | G   |      |   |   |   |    |    |    |    |    |    |   |    |    |    |    |    | < |
| 144 Cor.  | G   |      |   |   |   |    |    |    |    |    |    |   |    |    |    |    |    | < |
| 51 TL     |     |      |   |   |   |    |    |    |    |    |    |   |    |    |    |    |    |   |
| 137 Km.   | B   |      |   |   |   |    |    |    |    |    |    |   |    |    |    |    |    |   |
| 144 Cor.  | B   |      |   |   |   |    |    |    |    |    |    |   |    |    |    |    |    |   |

(eyes)
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<td>132</td>
<td>138</td>
<td>141</td>
<td>141</td>
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| 21 pr | D (1) |      |      |      |      |      |      |      |      |      |

| 40 Ex. |      |      |      |      |      |      |      |      |      |      |

| 41 N5g |      |      |      |      |      |      |      |      |      |      |

| 42 Et. |      |      |      |      |      |      |      |      |      |      |

| 43 Int. |      |      |      |      |      |      |      |      |      |      |

| 44 Str3 |      |      |      |      |      |      |      |      |      |      |

| 45 Sgm |      |      |      |      |      |      |      |      |      |      |

| 49 TL | 3    | 78   | 81   | 84   | 87   | 90   | 93   | 4    | 99   | 120  |

| 50.0 | time he cried | I would feel guilty because |

| 51 TL | 76   | 81   | 90   | 92   | 99   | 122  | 107  | 108  | 120  | 127  |

| 114 He | (He.) |      |      |      |      |      |      |      |      |      |

| 117 E |      |      |      |      |      |      |      |      |      |      |

| 133 RL/F. | (Ry5) |      |      |      |      |      |      |      |      |      |

| 140TL | 3    | 75   | 78   | 81   | 84   | 87   | 90   | 93   | 4    | 99   |

| 141 VA | (N-.) |      |      |      |      |      |      |      |      |      |

| 142 BA |      |      |      |      |      |      |      |      |      |      |

| 143 CCh | (Interactive) (ad-personalizing) (defensive) Br. |      |      |      |      |      |      |      |      |      |

|      |      |      |      |      |      |      |      |      |      |      |
I would decide well be just better cry I don't know what else to
Gun Scene

140 TL Chr

6  147  150  153  156  159  162  165  7  171  174  177  180  183  186  189  8  195  198  201  204  207  210  213  9

141. (E-)

142 (↑)

143 (externalizing)

144. Com

*Indicates that the heel of the shoe is allowed to drop away from the foot-the toes hold shoe.

Her shoes have a backstrap which holds above heel; protuberance.

51 TL

114. He

G (Hq) 

120 Mo

(4) 

140 TL

141 VA

142 BA

143 CCh

149 Com

(smokes)

*Rolls cigarette.

117 E

B

124 Tr

140 TL

144 Com

(blink)

(face sag)
<table>
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<td>50.0</td>
<td>do and Lee would be hovering and.............over a period</td>
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<td>114 He</td>
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*(hand) (foot)*

### 51 TL

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### 114 He

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### 140 TL

| Frame | 219 | 222 | 225 | 228 | 231 | 234 | 237 | 240 | 243 | 246 | 249 | 252 | 255 | 258 | 261 |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|

### 144 Com

*Puff*

### 117 E

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### 137 Km

| Frame | R/2, 1/2 (//1-5a) 1/4 | 2/L/3 | | | | | | | | |
|-------|-----------------------|------|---|---|---|---|---|---|---|---|---|

### 140 TL

| Frame | 219 | 222 | 225 | 228 | 231 | 234 | 237 | 240 | 243 | 246 | 249 | 252 | 255 | 258 | 261 |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|

### 144 Com

*From frame 0 to 216, the boy has remained relatively immobile, sitting with his feet lateral to his buttocks. Erect, his weight is distributed on knees, buttocks, and the medial aspects of his feet. Except in that this quiet "body alert" is a significant posture, all movements are in isolated parts of the body and are largely hidden from DuBois and Greco's. During the entire scene he never looks at (or at least never focuses on) the camera or cameraman directly in front of him.*
of time, this got to be a pretty miserable
### GUN SCENE

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| 7A   | ![Page Image](image-url) | **GUN SCENE**  

| 140 TL | Chr | ZERO | 18 | 435 | 438 | 441 | 444 | 447 | 450 | 453 | 19 | 459 | 462 | 465 | 468 | 471 | 474 | 477 | 20 | 483 | 486 | 489 | 492 | 495 | 498 | 501 | 21 |
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| 141 VA |     |      |    |     |     |     |     |     |     |     |    |     |     |     |     |     |     |     |    |     |     |     |     |     |     |    |
| 142 BA |     | (I-+) |   |     |     |     |     |     |     |     |    |     |     |     |     |     |     |     |    |     |     |     |     |     |     |    |
| 143 CC |     | (INTERNALIZING) |   |     |     |     |     |     |     |     |    |     |     |     |     |     |     |     |    |     |     |     |     |     |     |    |
| 144 Co |     |      |    |     |     |     |     |     |     |     |    |     |     |     |     |     |     |     |    |     |     |     |     |     |     |    |

*Weeps.*  
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* Doris at Gregory.
** Doris and Gregory at each other.
**Gun Scene**

51 TL  Chr. ZERO  507  513 514  518 522  532

124 He  (Hq)

140 TL  21  507  510  513  516  519  522  525  22  521  524  527  540  543  546  549  23  555  558  561  564  567  570  573  24

144 Com

*Eyes.*

**Gregory and Doris at each other.**
| Gun Scene | Chr. | Zero | 27 | 654 | 657 | 660 | 663 | 666 | 669 | 28 | 675 | 678 | 681 | 684 | 687 | 690 | 693 | 29 | 699 | 702 | 705 | 708 | 711 | 714 | 717 | 30 |
|-----------|------|------|----|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|
| 21.. pr   |      |      |    |     |     |     |     |     |     |    |     |     |     |     |     |     |     |    |    |    |    |    |    |    |    |
| 40.. Ex   |      |      |    |     |     |     |     |     |     |    |     |     |     |     |     |     |     |    |    |    |    |    |    |    |    |
| 41. V5g   |      |      |    |     |     |     |     |     |     |    |     |     |     |     |     |     |     |    |    |    |    |    |    |    |    |
| 42. Pt    |      |      |    |     |     |     |     |     |     |    |     |     |     |     |     |     |     |    |    |    |    |    |    |    |    |
| 43. Int   |      |      |    |     |     |     |     |     |     |    |     |     |     |     |     |     |     |    |    |    |    |    |    |    |    |
| 44. StrJ  |      |      |    |     |     |     |     |     |     |    |     |     |     |     |     |     |     |    |    |    |    |    |    |    |    |
| 45. Sgm   |      |      |    |     |     |     |     |     |     |    |     |     |     |     |     |     |     |    |    |    |    |    |    |    |    |
| 49.. Il   |      |      |    |     |     |     |     |     |     |    |     |     |     |     |     |     |     |    |    |    |    |    |    |    |    |
| 50.0..    |      |      |    |     |     |     |     |     |     |    |     |     |     |     |     |     |     |    |    |    |    |    |    |    |    |
| 51.. I1   |      |      |    |     |     |     |     |     |     |    |     |     |     |     |     |     |     |    |    |    |    |    |    |    |    |
| 126. RA   | (R/lch.) |      |    |     |     |     |     |     |     |    |     |     |     |     |     |     |     |    |    |    |    |    |    |    |    |
| 141. VA   |      |      |    |     |     |     |     |     |     |    |     |     |     |     |     |     |     |    |    |    |    |    |    |    |    |
| 142. BA   |      |      |    |     |     |     |     |     |     |    |     |     |     |     |     |     |     |    |    |    |    |    |    |    |    |
| 143. CCh  | (ad-personalizing) | (externalizing) |    |     |     |     |     |     |     |    |     |     |     |     |     |     |     |    |    |    |    |    |    |    |    |

so... it was... pretty bad, he uh...
| GUN SCENE | O TL | Chir | ZERO | 27 | 651 | 654 | 657 | 660 | 663 | 666 | 669 | 28 | 675 | 678 | 681 | 684 | 687 | 690 | 693 | 29 | 699 | 702 | 705 | 708 | 711 | 714 | 717 | 30 |
|-----------|------|------|------|----|------|------|------|------|------|------|------|----|------|------|------|------|------|------|------|----|------|------|------|------|------|------|------|------|------|
| 51. Ha  |     |      |      |    |      |      |      |      |      |      |      |    |      |      |      |      |      |      |      |    |      |      |      |      |      |      |      |      |      |
| 120. 5L/Pa | (L/22) |      |      |    |      |      |      |      |      |      |      |    |      |      |      |      |      |      |      |    |      |      |      |      |      |      |      |      |      |
| 121. Fl  |      |      |      |    |      |      |      |      |      |      |      |    |      |      |      |      |      |      |      |    |      |      |      |      |      |      |      |      |      |
| 144. Com |  B |      |      |    |      |      |      |      |      |      |      |    |      |      |      |      |      |      |      |    |      |      |      |      |      |      |      |      |      |
| 117. E   |      |      |      |    |      |      |      |      |      |      |      |    |      |      |      |      |      |      |      |    |      |      |      |      |      |      |      |      |      |
| 127. Ha/Pa | (R/2a2) |      |      |    |      |      |      |      |      |      |      |    |      |      |      |      |      |      |      |    |      |      |      |      |      |      |      |      |      |
| 128. Fl  |      |      |      |    |      |      |      |      |      |      |      |    |      |      |      |      |      |      |      |    |      |      |      |      |      |      |      |      |      |
| 130. Ha/Pa | (L/2z) |      |      |    |      |      |      |      |      |      |      |    |      |      |      |      |      |      |      |    |      |      |      |      |      |      |      |      |      |
| 131. Fl  |      |      |      |    |      |      |      |      |      |      |      |    |      |      |      |      |      |      |      |    |      |      |      |      |      |      |      |      |      |
| 144. Com |      |      |      |    |      |      |      |      |      |      |      |    |      |      |      |      |      |      |      |    |      |      |      |      |      |      |      |      |      |

(cigarette)

(LP a 1 ?)

(blink)
*Right hand and arm remain in this position through 1292 (almost 22 seconds. "Physical feeding" could be editorializing?"
### Gun Scene

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**Notes:**
- Threat clearing
- Limited feeding
- 3A > 3n, > LA > 3nn

**Action:**
- Fire
- Dakota

**Notes:**
- Timecodes
- Shot
- Recce
- Observation
- STG
- F1
- F2
- R5
- 1/2

**Timecodes:**
- 33, 795, 796, 804, 807, 810, 813, 34, 819, 822, 825, 828, 831, 834, 837, 35, 843, 846, 852, 855, 858, 861, 36
141 VA  (E=)  
142 BA  
143 CCh  (internalizing)  editorial  >  adpersonalizing  (eye rub)  (kinesic shift)  
144 Com  

51 TL  794  798  807-  813  815-816  819  821  828  830  856  
130 Ha/Pa  L/12  L/16  L/19  L/16  
141 VA  
142 BA  
143 CCh  
144 Com  

(smokes)  (rolls cigarette)  Gregory continues to roll cigarette to make different lip control to 921.  

51 TL  794  798  807-  813  815-816  819  821  828  830  856 
114 He  Hv2  
117 E  Oov  v  v  v  v  00  
gun  
128 Ha/Pa  R/ichs  >  
gun  
129 F1  //5  
gun  
130 Ha/Pa  
131 F1  
141 VA  
142 BA  
143 CCh  
144 Com  (blink)  **Gun falls to floor.  

12 A
41. VSG

42. Pt

43. Int

44. Strj

45. Sgm

49. TL

50.0

early

in that

I tried to nurse him and couldn't.

51. TL

862 862

885 894 904 913 -912

932 934 936

129. LA

130. Ha/Pa

131. F1

141. VA

(R-)

142. BA

(\* with tonus and active)

143. CCh

(editorial > ad-personalizing)

144. Com

(crying) (pelvis)

(toe tap) (cigarette tap)
### GUN SCENE

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<tr>
<th>51. TL</th>
<th>86° 869</th>
<th>885</th>
<th>89° 904</th>
<th>913 917 921</th>
<th>932 934 936</th>
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144. Com. *Billy's right hand "reaches" for fallen gun; the fingers move in a "searching" just above or lightly touching gun to 9:39 (approximately four seconds).*
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<td>43 Int</td>
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<td>44 StrJ</td>
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<td>45 Sgm</td>
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<td>49 TL</td>
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50.0 and was quite tired and nervous and had an

51. TL 950 959 969 972 975 981 41 987 990 993 996 1002 1005 42

124 Tr

131 VA (E-)

132 BA (W with tonus and active)

143 CCh (editorial ad-personalizing)

144 Com (kinesic shift) (kinesic shift) (toe tap) (kinesic shift) (G)
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| 42.Pt     | ... | ... | ... | ... | ... |
| 43.Int    | ... | ... | ... | ... | ... |
| 44.StrJ   | ... | ... | ... | ... | ... |
| 45.Sgm    | ... | ... | ... | ... | ... |
| 49.TL     | ... | ... | ... | ... | ... |

| 50.0      | ess of a pediatrician who said you |
| 51.TL     | 1010 1033 1053 1059 1061 1064 1066 1069 1072 1079 |

| 114.He    | H < < < < H < |
| 117.E     | 00
| 124.Tr    | Gregory |

| 135.LF    | Lyn V |
| 136.LF    | Lyn V |

| 141.VA    | N- |
| 142.BA    | - |
| 143.CCh   | externalizing > ad-personalizing |
|           | ad-personalizing (editorializing but includes Gregory specifically) |

<p>| 144.Com   | *See p. for discussion (Shrug) |</p>
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<td>44 Srg</td>
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<td>45 Vsg</td>
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<td>46 TL</td>
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<table>
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<tr>
<th>50 O</th>
<th>feed</th>
<th>that</th>
<th>child</th>
<th>every</th>
<th>four</th>
<th>hours</th>
<th>or</th>
<th>else</th>
<th>because</th>
</tr>
</thead>
</table>

| 114 He    |      | H >  | >  | H > 2 | H <  | HZ <  | <  |

| 124 Ir    | (T*>)| >2   | <  | T<   |

| 141 VA    | (N-) |      |     |      |      |      |    |

| 142 BA    | (< ->)|      |     |      |      |      |    |

| 143 CCh   | (externalizing_ad-personalizing)E | (ad-personalizing;_editorializing but includes Gregory specifically)BR |

<p>| 144 Com   | (kinesic shift) | (kinesic shift) | (kinesic shift) |</p>
<table>
<thead>
<tr>
<th>144. Com.</th>
<th>(G &gt; B)</th>
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**B**

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<th>1086 1088 1093 1098 1107 1110 1111</th>
<th>1121 1124</th>
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<td>117. E</td>
<td></td>
<td>Gregory? mother</td>
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<td>124. tr</td>
<td>(1-15&quot;)</td>
<td>T pivot</td>
<td></td>
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<tr>
<td>127. Ha/Fa</td>
<td>(R)</td>
<td>V V</td>
<td>R/LC</td>
</tr>
<tr>
<td>133. RF</td>
<td>By</td>
<td></td>
<td></td>
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<tr>
<td>135. LF</td>
<td>Ly &gt; &gt; &gt;</td>
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<td>(B &gt; D)</td>
<td>(B &gt; G)</td>
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<td>OUT OF THE WINDOW SCENE</td>
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<td>-------</td>
<td>-----------</td>
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<td>1086, 1088</td>
<td>1093, 1098</td>
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<tr>
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<td>(L/12.15&quot;)</td>
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<td>131. F1</td>
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<td></td>
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</tr>
<tr>
<td>B</td>
<td>1086, 1088</td>
<td>1093, 1098</td>
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<tr>
<td>127. Ha/Pa</td>
<td>(H/12 2&quot;)</td>
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<td></td>
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<tr>
<td>128. F1</td>
<td>(gun stock)</td>
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</table>
| 144. Com. | *Walks off quickly to stage right (off) | carrying gun, barrel down, out of camera range.
21. pr:  
23. t.c:  
28. t.e:  
34. In:  
41. VSg:  
42. Pt:  
43. Int:  
44. Strl:  
45. Smg: haw... kon...

50. 0:  how can I possibly do anything if you don't do what I

51. TL:  
114. He:  
117. E:  
124. In:  
133. RF:  
141. VA:  
142. B.A:  
143. CCh:  
144. Com:  

*Tends to include Gregory momentarily.
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<td>116. Br</td>
<td>Hf-bb</td>
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#### Text

**OUT THE WINDOW SCENE**

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**Notes**

- 132 BL/F
- 14/VA
- 144 cm.
- 142 BA
- 143 CC (continues)

**DORIS' LAST DEPRESSIVE**

Since 'zero'.
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* OUT THE WINDOW SCENE

Char G ZERO
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<td>1371 1374 1377 1380 1383 1386 1389 1401 1404 1407 1410 1413 1419 1422 1425 1428 1431 1434 1437 1438</td>
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<td>124. Tr</td>
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<td>T &lt; 2*</td>
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<td>RA &gt; &gt; &gt; &gt; &gt; &gt;</td>
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<td>129. LA</td>
<td>RA 17 - LA 1</td>
<td>&gt;</td>
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<td>144. Com</td>
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<td>* Doris' stein to table.</td>
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<td>- - - y</td>
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<td>- - - - -</td>
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<td>m_hm</td>
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<td>126 RA    stein &gt; &gt; &gt; &gt; &gt; &gt;</td>
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<tr>
<td>144 Com</td>
<td>(Gregory out of picture)</td>
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OUT THE WINDOW SCENE

39. In
40. Ex
41. Ysg
42. Ft
43. Int.
44. Strj.
45. Sgm.
49. TL
50. O
he's getting too much to eat and...............this made s,........

126. RA. (RAA)
129. LA (L/L)
132. RS
134. LL
135. F
141. VA
142. BA
143. cch
OUT THE WINDOW SCENE

21. pr.
22. te.
23. In.
24. Ex.
25. Vkg.

42. Pr. A. gl". ngs. sttlu, ed, 1. ri. Mr. 569. 8, mond, t. zan's, midd, di.

43. Int.
44. Str.
45. Sgm.

49. TL 1517 1530 1538 1560 1570

50.0 you know a real nice situation all the way around I was ready to

124. Tr. R/2 zap RA <<

126. RA A << A Ax knee A RA >>

129. LA A << A Ax knee A

141. VA (N.)

142. VA (CONTINUES)
OUT THE WINDOW SCENE

0 TL  Chr  ZERO

21 Pr
23 le  (> >)
29.1f
39  In  (45)
40 Ex

41 Vos

42 Pt

43 Int
44 StrJ
45 Sgm

49 TL

50 O

51 TL

126 RA

127 Ha/Pa

129 LA

141 VA

142 BA

143 CCH

RA< 2

RA< 2 3:30 > > > RA 23n > >

RA> 2 5n > > 33n

throw one of them out one window and one of them out the other and then

1593  1618  1614  1623  1629  1644  1634  1647  1648
<table>
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<th>Chg</th>
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<th>1593</th>
<th>1608</th>
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39. In

41. VSg

43. Int

44. StrJ

45. Sgr

50. O

Yeah, Yeah
Out the Window Scene - 1668

1668 - Pillow Scene

0. TL Chr ZERO

21 pr
(1-)

23 lc
(o-)

28 te
(2-)

39 In/In
(y-)

41 Vsg

42. Pt

43 Int

44. StrJ

45 Sgm

50 O

Hey mom do you want one of these?

51 TL

1671 1675 1689 1697 1706

141 VA
(N-)

142 BA
(+

143 CCh

EXTERNALIZING

INTERNALIZING

1659 1662 1665 1668 1671 1674 1677 1683 1686 1689 1692 1695 1698 1701 1707 1710 1713 1716 1719 1722 1725 1728
Hey mom, do you want one of these?

Pivots left (\(<\)Foot Pivot)
Out the Window Scene - 1668

1668 - Pillow Scene

| O.TL | Chr. | ZERO | 69 | 1659 | 1662 | 1665 | 1668 | 1671 | 1674 | 1677 | 70 | 1683 | 1686 | 1689 | 1692 | 1695 | 1698 | 1701 | 71 | 1707 | 1710 | 1713 | 1716 | 1719 | 1722 | 1725 | 72 |
|------|------|------|----|------|------|------|------|------|------|------|---|------|------|------|------|------|------|------|-----|------|------|------|------|------|------|------|
| 23 Lc |     |      |    |      |      |      |      |      |      |      |   |      |      |      |      |      |      |      |     |      |      |      |      |      |      |      |
| 28 te |     |      |    |      |      |      |      |      |      |      |   |      |      |      |      |      |      |      |     |      |      |      |      |      |      |      |
| 38 PH |     |      |    |      |      |      |      |      |      |      |   |      |      |      |      |      |      |      |     |      |      |      |      |      |      |      |
| 39 In/in |   |      |    |      |      |      |      |      |      |      |   |      |      |      |      |      |      |      |     |      |      |      |      |      |      |      |
| 41 VSg |    |      |    |      |      |      |      |      |      |      |   |      |      |      |      |      |      |      |     |      |      |      |      |      |      |      |
| 42 Pt |     |      |    |      |      |      |      |      |      |      |   |      |      |      |      |      |      |      |     |      |      |      |      |      |      |      |
| 43 Int |    |      |    |      |      |      |      |      |      |      |   |      |      |      |      |      |      |      |     |      |      |      |      |      |      |      |
| 44 StrJ |   |      |    |      |      |      |      |      |      |      |   |      |      |      |      |      |      |      |     |      |      |      |      |      |      |      |
| 45 Sgm |    |      |    |      |      |      |      |      |      |      |   |      |      |      |      |      |      |      |     |      |      |      |      |      |      |      |
| 50.0 |     |      |    |      |      |      |      |      |      |      |   |      |      |      |      |      |      |      |     |      |      |      |      |      |      |      |
| 51 TL |     |      |    |      |      |      |      |      |      |      |   |      |      |      |      |      |      |      |     |      |      |      |      |      |      |      |

Oh thanks honey
On thanks honey

floor boy Lcy's face to pillow

hidden by pillow to body

hidden by boy
### Pillow Scene - 1860

#### McQuown Transcription

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<tr>
<th>OTL</th>
<th>Chr</th>
<th>ZERO</th>
<th>75 1803 1804 1805 1806 1807 1808 1809 1810 1811 1812 1813 1814 1815 1816 1817 1818</th>
<th>77 1819 1820 1821 1822 1823 1824 1825 1826 1827 1828 1829 1830 1831 1832 1833 1834</th>
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#### ru

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<th>24 Ge</th>
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<th>27 Ra</th>
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<th>VQF</th>
<th>cl</th>
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<tr>
<td>30 Wh</td>
<td>39 Oyl</td>
<td>38 Ph oh</td>
<td>al</td>
<td>an &amp; ch</td>
<td>41 Veg</td>
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#### IT

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<th>49 Sil</th>
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#### L

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<th>47 Sil</th>
<th>48 Sgm</th>
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141 VA (ZERO) | 143 cch (INTERNALIZING) | 145 BA

_Infantile Voices_ | _Attempted Editorializing_

There's a lot of this I think.
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<th>42 P</th>
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<th>44 StrJ</th>
<th>45 Sgm</th>
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<tr>
<th>50.0</th>
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<th>there's a lot of this I think</th>
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Pillow Scene - 1850

O.TL Chr ZERO

57. D

59. He

92 He

h 2:00

---

10. E

95 E

to floor?

---

98 Mo

sustained to 1899

O to camera

101 Sho

107 LA

105 Ha/Pa

104 RA

2 1/2

> 2

3:00

3:00

2

2

? 1/2

v < v

2

1/2

v v

1/2

1/2

v

2

FA

nail/leg
< Palm

tightens
nail grip

108 Ha/Pa

110 RL

111 F

112 LL

113 F

1 1/2 above

r. hand

there's a...a lot of this I think
I think this is a lot of this...
<table>
<thead>
<tr>
<th>O.TL</th>
<th>Chr</th>
<th>ZERO</th>
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<tr>
<td>92</td>
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<td></td>
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<tr>
<td>93</td>
<td>Fo</td>
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<td>95</td>
<td>E</td>
<td></td>
</tr>
<tr>
<td>96</td>
<td>Fe/No</td>
<td></td>
</tr>
<tr>
<td>97</td>
<td>Cie</td>
<td></td>
</tr>
<tr>
<td>98</td>
<td>Mo</td>
<td></td>
</tr>
<tr>
<td>99</td>
<td>Chi</td>
<td></td>
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</tbody>
</table>

≥ 15°C **<< he1**

≥ 9

GO 80° cig.-ash tray...follows cig...

≥ 9

( sag...)

≥ 10 v vocal

≥ v sustained
### Post-Pillow Scene

<table>
<thead>
<tr>
<th>TL</th>
<th>Chr</th>
<th>Zero</th>
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<tr>
<td>77</td>
<td>1851</td>
<td>1854</td>
</tr>
<tr>
<td>79</td>
<td>1559</td>
<td>1902</td>
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</table>

**107 LA**
- Pa
- cig + N. box
- Cl 2/3

**108 Ma, Pa**
- 2130

**110 RL**
- 
- Doris
- 2130

**111 F**
- 

**112 LL**
- 
- ?

**113 F**
- ?

**114 Cor**
- *Read back while drinking*
- moves stein from mouth to table - change direction to stein click
- *releases stein*
OTL  Chr  zero  78  79  80  81  82  83  84  85  86  87  88  89  90  91  92  93  94  95  96  97  98  99  100  101  102  103  104  105  106  107  108  109  110  111  112  113  114  115  116  117  118  119  120  121  122  123  124  125  126  127  128  129  130  131  132  133  134  135  136  137  138  139  140  141  142  143

43 Int.  
44 est.  
45 Sym.  
46 Int.  
47 est.  
48 Sym.  
50 0  
141 YA  
142 8A  
143 CCH  

created  a  tremendous  amount  of  tension

INTERNALIZING  WITH  ATTEMPTS  AT  AS-PERSONALIZING.
Post-Pillow Scene

<table>
<thead>
<tr>
<th>0 TL</th>
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50.0 created a tremendous amount of tension
### Post-Fossil Scene

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<th>0.7L</th>
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<td>11° RL</td>
<td>1923</td>
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<td>111 F</td>
<td>1926</td>
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<tr>
<td>112 LL</td>
<td>1929</td>
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<tr>
<td>113 F</td>
<td>1932</td>
</tr>
<tr>
<td>144 cm</td>
<td>1935</td>
</tr>
</tbody>
</table>

- *kist action
- *arm action
  - (*note matchbox presentation not block)
- *weak
  - **stirs to rt. with torso
  - ***lower arm close to body
- *stirs to rt. (head)

> midline

---

**Note:** The diagram and table above illustrate a post-fossil scene with various measurements and annotations indicating anatomical positions and actions.
<table>
<thead>
<tr>
<th>Page 30</th>
</tr>
</thead>
</table>

**Post-Pillow Scene (McGown Transcription)**

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**And I've been a-m... I'm a pretty...**

**VA (I)**

**BA (W)**

**CCH (cont.)**
and I've been a m- I'm a pretty
<table>
<thead>
<tr>
<th>Chr</th>
<th>Amount of tension and I've been mm ... ... I'm a pretty .... ....</th>
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<td>A1</td>
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<td>62-71</td>
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<td>(Hx, &lt;$2) (Hf-t-b) (GH) (gph) (Hx)</td>
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<td>(Hx, &lt;$2) (Hf-t-b) (GH) (gph) (Hx)</td>
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* Increasing depression
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**POST-BEDROOM SCENE (McQueer's Transcription)**

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| 50 | <---unstable or immature character in many ways |

---

<table>
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<tbody>
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<td>142 BA</td>
<td>(L) GxD</td>
</tr>
<tr>
<td>143 CCH</td>
<td>(ours)</td>
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*INTERNALIZING*
unstable or immature character in many ways
unstable or immature character
<table>
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<tr>
<th>OTL</th>
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<th>84 2019 2022 2025 2028 2031 2034 2037 85 2043 2046 2049 2052 2055 2058 2061 86 2062</th>
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<tr>
<td>96</td>
<td>Fa/No</td>
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<td>.:5' to mid</td>
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<td>100</td>
<td>Sho/Ne</td>
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<td>nk&amp;</td>
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<tr>
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<td>F</td>
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**Small to unsigned**

*anterior movement a function of tightening at left thigh, seek pelvis bend;*

**major arm movement in right shoulder.
**Post-pillow Scene**

<table>
<thead>
<tr>
<th>0.7L</th>
<th>Chr</th>
<th>ZERO</th>
<th>84</th>
<th>2019</th>
<th>2022</th>
<th>2025</th>
<th>2028</th>
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<th>2055</th>
<th>2058</th>
<th>2061</th>
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</table>

**144 Co**

- *may be quality of strong interest (on basis of rarity)*
- *slow move of inner arm to raise cigarette*

**62°-1°**

**AM**

<table>
<thead>
<tr>
<th>73 Ir</th>
<th>74 Ds</th>
<th>75 Rn</th>
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<th>97 Che</th>
<th>98 Mo</th>
<th>99 Chi</th>
<th>100 Shc/Ne</th>
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<th>107 Ld</th>
<th>108 Ha/Pa</th>
<th>110 RL</th>
<th>111 F</th>
<th>112 UL</th>
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**Notes**:
- CO> Doris's face.
- cig. in mouth.
- wt. shift st. to L buttock.
- L wrist ≥ SN ≤ 130°
It was... much worse back in those days...
Post-Pillow Scene - 2156
2156 - First Airplane Scene

21 pr

41 Vbg
42 Pt
43 Int
44 Strj
45 Sgm

5° 0

It was. Much worse back in those days.
500

Are'n't we all?
Post-Pillow Scene

50 O

62-71*

72 In —
74 Du
75 Rn

114 He

(Hv'Hv1)(HN)
(Hf-bb-)(00)
GReg

(RA<>2>n)
(LA<2;30)n(LAShr)

TR

*apparent reduction of tension in buttocks and left leg
*NOT: sustained cig. against 

*reaches hyperactive by 2317

dep. reduced = increase

32 8
39
Post-Pillow Scene

C. TL. Ch. ZERO

He
Fo
Br
E
Fa/No
Che
Mo
Chi
Sho/Ne
Ir
Hi
RA
Ha/Pa
LA
Ha/Pa
RL
F
LL
F

---

ha 4 \( ^1 \)
\[ \text{vocalizing} \]
\[ \text{vocalizing} \]

---

\[ \text{increasing tension(?)} \]

---

weak shrug(?)

---

a

---

arist and lower arm rests on left knee

---

Starts at 2017

<table>
<thead>
<tr>
<th>11- Com</th>
</tr>
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<tbody>
<tr>
<td>*reaches hyperactive by 2117</td>
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Starts Here

---

Note sustained cig. against tray over "ways"
much worse...back in those days
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<th>Chr</th>
<th>ZERCO</th>
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<td></td>
<td>110</td>
<td>RL</td>
</tr>
<tr>
<td></td>
<td>111</td>
<td>F</td>
</tr>
<tr>
<td></td>
<td>112</td>
<td>LL</td>
</tr>
<tr>
<td></td>
<td>113</td>
<td>F</td>
</tr>
</tbody>
</table>

- **104 RA**: weak shrug
- **105 Ha/Pa**: elbow shrug
- **113 F**: toe ≤ ≤ ≥ ≥ 1 < < ? ? ?

**144 Com**
- Movement timed as Billy appears with plane v/ to Billy’s approach
- Note switch to lids from norm HC or A
- *weak sag*
First Airplane Scene

O. TL Chr ZERO

C 96 2377 2310 2313 2316 2319 2322 2325 97 2331 2334 2337 2340 2343 2346 2349 98 2355 2358 2361 2364 2367 2370 2373 99

42 Pt

2351 2367

49 TL

57.0

D

M-hm

144 Cam

* extremely oversoft; details not detectable
First, Airplane Scene

0. TL Chr ZERO 2379 2382 2385 2388 2391 2394 2397 100 2403 2406 2409 2412 2415 2418 2421 101 2427 2 3 2 4 2 3 3 3 2436 2439 2442 2 4 5 102

21 pr. (↑ —)

49 Ex

41 V8g

42 Pt

43 Int

44 Str.1

45 Sgm

50 0

117 E

141 VA

142 BA

143 CCh

144 Com

One view shown

LESTING DOWN
First Airplane Scene

21. pr
   "tt"

23. lc
   "Sq"

24. gc
   "-----"

41. VSG

42. Pt

43. Int

44. Strj

45. Sgm

50. O
   (thi)nk most of the obvious problems

141. VA
   (I)

142. BA
   (EXTERNALIZE CONTINUE)

143. cch

144. Com

NOTE: differential recording above on lines 42, 45 and 50.
**First Airplane Scene**

<table>
<thead>
<tr>
<th>0. TL</th>
<th>Chr</th>
<th>ZER0</th>
</tr>
</thead>
<tbody>
<tr>
<td>21 pr (↑-)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23 lc (Sq-)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24 gc (↓-)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>28 te &lt; &lt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 Ex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>41 VSg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>42 Pt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>43 Int</td>
<td></td>
<td></td>
</tr>
<tr>
<td>44 Strj</td>
<td></td>
<td></td>
</tr>
<tr>
<td>45 Sgm</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**50.0**

are are mechanical things such as feeding and eating

**LA**

**VA**

**cch**

**BA**

**com**

Billy fumbles with wheel to 2666
First Airplane Scene

0_TL

21_pr

24_gc

25_ac

28_te.

47_Ex

41_VSg

42_Pt

43_Int

44_Strj

45_Sgm

50_0

uh I think because of

117_E

114_VA

114_BA

143_CC

144_Com.

* extremely oversoft and overfast; next phrase even more so, so that words can be guessed at but not transcribed.
First Airplane Scene

What, honey? There you.

Billy stands before doors
Steps left slightly
Between greg and mother. Back
Partially to greg.

Billy turns left
to leave.

Plane flies by 2777

I in special voice for you
Airplane

Greg: Out of picture
First Airplane Scene - 2858

2858 - Second Airplane Scene

O TL Zero

21 pr
24 gc
41 VSG
42 Pt
43 Int

50.0
114 Mj

are...

114.6b
114.6cA

(INTERNALIZING 

CANTHUSSE)

144. Com.

*fortissimo. Sounds like a throat-clearing with nothing to clear-no friction of phlegm in pharynx.

BILLY NOSE DRIFTER

OFF BY 2856
Second Airplane Scene

21 pr  (†-)

25 ac
29 lf

ho V8q

42 Pt

43 Int

45 Sgm

50,0 the child is, making normal demands and

141 VA (N)
142 BA
143 CCA (EXTERNALIZE CONTINUES)
144 COM

BILLY WALKS PARALLEL WITH MOTHER; PLANTS TOWARD HER.
Second Airplane Scene

O TL Gr Zero 129 3799 3172 3125 3178 3111 3114 3117 130 3123 3126 3129 3132 3135 3138 3141 131 3147 3157 3153 3156 3159 3162 3165 132

21 pr (\(\text{\(\pm\)}\))
24 gc.
25 ac
29 1f (\(\text{\(\pm\)}\))
41 Vsg
42 Pt
43 Int.
44 StrJ.
45 Sgm
50 0

the adults are making normal demands and

124 TR
117 F.
126 RA
141 Ya
142 BA
143 CGH
144 com

\(\text{\(\pm\)}\) EXTERNALIZING
\(\text{\(\pm\)}\) AD-PERSONALIZING

3137 to 3139

Goes fixes plane \(\leftarrow\)
Second Airplane Scene

21 pr  (*-*)
24 gc  (^-*)
41 VSG
42 Pt
43 Int
44 StrJ
45 Sgp

50 0
124 TR
129 LA

141 VA
142 BA
143 CCH

144 Com

there's nobody to battle along with him

巣. volume level of Doris's voice diminishes here as though she were moving mouth away from microphone.
uh how are you sexed on neighbor children
<table>
<thead>
<tr>
<th>TL</th>
<th>Chr</th>
<th>ZERO</th>
</tr>
</thead>
<tbody>
<tr>
<td>135</td>
<td>3243</td>
<td>3246</td>
</tr>
</tbody>
</table>

(plane held above head)

(plane nose dives at 3270 to 3288)

\[v v v v\] levels off
<table>
<thead>
<tr>
<th>SECOND AIRPLANE SCENE</th>
<th>3323</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 TL Chr ZERO</td>
<td></td>
</tr>
<tr>
<td>42 Pt</td>
<td></td>
</tr>
<tr>
<td>49 TL</td>
<td>3314</td>
</tr>
<tr>
<td>50 0</td>
<td></td>
</tr>
</tbody>
</table>

444 Cor. (Still)
SECOND AIRPLANE SCENE — 3323

O T L  Ch  Z E R O  138
3315 3318 3321 3324 3327 3330 3333 3339 3342 3345 3348 3351 3354 3357 140
3363 3366 3369 3372 3375 3378 3381 141

42 Pt

49 T L

50 0

We're in a very poor situation, there are two.

144.8R

144 VA (N) • • • • • E

Doris smokes, watches cigarette, reaches for stein.

(cry)  (cry)  G STILL
<table>
<thead>
<tr>
<th>42 Pt</th>
<th>49 TL</th>
<th>50.0</th>
</tr>
</thead>
</table>
| 1.1.1.1. boz’s | ζİST’E. a. bap’t. Zİz’s. lėdž: | pu’. ar. veł. veğ. veğ. fagm. |}

<p>| 50.0 | little boys just about his age who are very very fine |</p>
<table>
<thead>
<tr>
<th>PLAYMATE</th>
<th>SCENE</th>
</tr>
</thead>
<tbody>
<tr>
<td>0_1L</td>
<td>Chr</td>
</tr>
</tbody>
</table>

**42 Pt**

| little boys | and | then | there is | a very very |

**50.0**

**G(Ind) G's everfollow D**

D**G MATCH BOX**

**D(G) B(eD)**
miz.zgl.bbl+

sit.lu. shy

suit'.
gme'.
kg'.ed. sk'd.t.

miserable situation here............. which has created

144 com

B(HEAD SCRATCH)

B(BLINK) (SCRATCH) (BLINK)

gorp film
an awful lot of tension and difficulties
50 D. 

[........]and (sigh) affected him an awful lot.
That is, the difficulties of
Well, it was the
42 Pt

49 TL

50 O other family's problem but (YEAH?) we got involved in it and

14h Com G↓ G(→D) D↓

(cigarette tap)
42 Pt

I'm glad it's taken out on the kids. And it took away...

49 TL

50 O

it's been taken out on the kids... And it took away...

144 Com

D TO (cigarette tap) D(8G)

(Lateral rocking)
42 Pt.

1st st. [veg.]

49.0 TL

his. very closest and best playmate.

144 Com

D (shrug) B (off)

G off film
D: And........................this

D: has been sort of rough. There's .................that

D: it's not too good either because these two kids

D: that are [INHALE] about the same age are on staggered

D: shifts in kindergarten [INHALE] and if one of them isn't

D: around the only chance to be [TRAIN] there's

D: not very much to do [TRAIN] [UNINTELLIGIBLE] He's

D: a pretty resourceful little character, in that he tends
D: to play alone a great deal and be happy about it

G: Yeah.

D: It's not-- Yeah, oh, he's lively.

G: But awfully lively.

D: There's no problem about that and he's.

D: He's pretty much on the ball.

D: In many ways... and he-tr he uuuh.

D: Plays alone and is.

D: happy about it. It isn't a withdrawal.

D: Kind of playing alone he'll create projects. That

G: Mm-mhm.

D: He will work with and if even if somebody comes

D: Around he doesn't want to be bothered. Because he's busy.
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>D:</td>
<td>There are times when he definitely wants and needs kids</td>
<td>2</td>
</tr>
<tr>
<td>D:</td>
<td>and doesn't have them........................................creates an awful</td>
<td>3</td>
</tr>
<tr>
<td>D:</td>
<td>lot of demand on me that I</td>
<td>4</td>
</tr>
<tr>
<td>G:</td>
<td>Yeah, we have an only</td>
<td>5</td>
</tr>
<tr>
<td>G:</td>
<td>kid and.....</td>
<td>6</td>
</tr>
</tbody>
</table>

| D: | You--- know--- - the situation. | 1 |
| G: | We're wrestling with that problem. | 2 |
| D: | I should suspect it would be even more [SWALLOW] of a problem | 3 |
| D: | in uh """"a family such as yours """" where your in- uh-- | 4 |
| D: | your interests are so much intellectual and you're.......... | 5 |
| D: | .........................I don't know I I would think | 6 |
Dr: that that your......................that your level 1

Dr: of eh of............................talking and stuff 2

Gi: Well, there's garden, there's always 3

Dr: would be even higher and..................higher than 4

Gi: the yard after all (laugh) 5

Dr: ours, I mean we like to s------------------ 6

Dr: oh well, you'll see when Lee gets home uh 1

Dr: what """" that that's uhh [TRAIN] can be a pretty 2

Gi: ...........what happens? Uh-huh. 3

Dr: rough time because """" he is wanting daddy...........but good 4

Dr: ..............and daddy come play cowboys and daddy do 5

Dr: this and daddy do that and daddy isn't anything 6
Di: but a little door mat. [BANG] [laugh] Uh the 1

Gi: M-hm. Whango. 2

Di: .................. problems with him. are.................. 3

Di: well eating is........................... eating is murderous. 4

Di: and it usually makes dinner times just ghastly because 5

Di: .................. uh.......................... he won't have any 6

Di: of this and he won't do that and he 1

Gi: Oh yes. 2

Di: wants this and he wants that and we try for the 3

Di: most part just to ignore it now. """"pay no attention 4

Gi: Yeah, ours, I'm 5

Di: to it well I................................. 6
<table>
<thead>
<tr>
<th>G:</th>
<th>glad to say, eats like horse we don't have a</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr:</td>
<td>keep figuring some day he'll start... he's</td>
</tr>
<tr>
<td>G:</td>
<td>bit of problem in that field.</td>
</tr>
<tr>
<td>Dr:</td>
<td>not, obviously he's not sick (laugh) how</td>
</tr>
<tr>
<td>G:</td>
<td>He will (laugh) He will</td>
</tr>
<tr>
<td>Dr:</td>
<td>he lives on what he eats I dunno. But uh</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dr:</th>
<th>uu-we uu-we've uh really don't worry too much about it</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr:</td>
<td>any more. And uh I wasn't I wasn't sure just</td>
</tr>
<tr>
<td>G:</td>
<td>M-hm.</td>
</tr>
<tr>
<td>Dr:</td>
<td>what you were interested in doing uh Bob Cantor told</td>
</tr>
<tr>
<td>Dr:</td>
<td>us to call you if we were interested in working</td>
</tr>
<tr>
<td>Dr:</td>
<td>with you and just to be able to work with you</td>
</tr>
</tbody>
</table>
Dr: and have any part in what you were doing seemed

Dr: like a very fine thought to us.

G: Well. That's uh okay by me. uh We have

G: a project..................................at the VA.................

G: with outside finances actually that pays for the film

G: from the............Macy Foundation. We're studying the

G: disruption of communication between parents and children,

G: trying to get some idea of the various gambits that

G: the two sides use, in trying to get together

G: or, the degree to which the gambits separate them

G: or bring them together. There's very little been

G: done, actually, on the actual natural history
Gi: of what does happen between parents and children. 1

Gi: I mean a thing like that three families film. 2

Gi: Nobody else has done a film like that that I 3

Gi: know of. It's very obvious, it's very........ 4

Gi: .........................accessible ready to do. And most of 5

Di: (throat cleared) 6

Gi: what is said about parents and children is on some- 1

Gi: body's report of what happens. So we're trying to 2

Gi: get in and do the natural history of it a little. 3

Di: Ah-h-h-nh-nh-nh
I think there's lots of little patterns.

*This overhigh is very overhigh.*
FILM BREAK

0 TL Chr ZERO

23 le (0-)

26 re (G1-)

28 te (G1-)

29 if L-

38 PH (↑)

40 Ex

41 VSG

43 Int

44 StrJ

50_0 and routines which go on around here a lot that's true
There are lots of them no doubt.
50.0  I've been trying to think of specific things and it gets rough when I'm
sitting here at some other time thinking about it I can see these beautiful
patterns of action which go on but, of course there is the
obvious bedtime situation where it can be at its winning
and most adorable best to where I mean it can have been a
monster all day long and it's to go to bed and it doesn't want to
And it will come out with the most sweet and idyllic and winning.
possible ways to get it and this is well this is
standard mechanism of course but it's quite effectively done
"At times you don't know what they're asking for or what"
what the need is or what the problem is
42. Pt.

43. Int.
44. StrJ.

50.0

144. Com.

* I've got it.

* To cameraman?
BOX SCENE

0 TL. CIR. ZERO. 180 4323 4326 4329 4332 4335 4338 4341 181 4347 4350 4353 4356 4359 4362 4365 182 4371 4374 4377 4380 4383 4386 4389 183

41 Vsg

42 Pt

43 Int
44 Stij

50.0
25 ac

39 In

40 Ex

41 VSt

42 Pt

43 Int

44 StrJ

50. 0

51. TL
between us

between my husband and myself
Oh, yes. You'll have that undoubtedly. Yeah.
POST-BOX SCENE

0 TL Chr ZERO 195 4683 4686 4689 4692 4695 4698 4701 196 4707 4710 4713 4716 4719 197 4722 198 4731 4734 4737 4740 1943 4746 4749

24 gc

26 rc

28 te

38 PH

39 In

40 Ex

41 V9g

42 Pt

43 Int

44 StrJ

50 0

51 TL 4690 4715

let me see
<table>
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<tr>
<th>POST-BOX</th>
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<td>0</td>
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</tr>
<tr>
<td>21 pr</td>
<td></td>
</tr>
<tr>
<td>23 lc</td>
<td></td>
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<tr>
<td>26 rc</td>
<td>-61</td>
</tr>
<tr>
<td>38 PH</td>
<td></td>
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<td>39 In</td>
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<td>41 Vsg</td>
<td></td>
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<td>42 Pt</td>
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<td></td>
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<tr>
<td>43 Int</td>
<td></td>
</tr>
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<td>44 StrJ</td>
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<tr>
<td>50</td>
<td>pre- dinner. is one pretty.</td>
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<td>BUCKET SCENE</td>
<td>0 TL</td>
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<td>--------------</td>
<td>------</td>
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<tr>
<td>40 Ex</td>
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<td>42 Pt</td>
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<td>44 StrJ</td>
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<td>50.0</td>
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<td>51 TL</td>
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<td>BUCKET</td>
<td>SCENE</td>
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<td>-------</td>
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<table>
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<th>21 pr</th>
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<table>
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<tr>
<th>28 te</th>
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<table>
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<th>39 In</th>
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<th>42 Pt</th>
<th>bi.kaz's</th>
<th>gl'-iz's</th>
<th>kan.sist.tint.li'</th>
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<table>
<thead>
<tr>
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<th>50 0</th>
<th>because</th>
<th>he's</th>
<th>consistently</th>
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<table>
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<th>51 TL</th>
<th>4988</th>
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<td>25 ac</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>40 Ex</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>41 Vsg</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>42 Pt</td>
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<tr>
<td>43 Int</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>44 Stzj</td>
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<td></td>
<td></td>
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<tr>
<td>50.0</td>
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<td></td>
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<td>51 TL</td>
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<td></td>
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<tr>
<td>BUCKET</td>
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<td>--------</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>0 TL</td>
<td>Chr</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>ZERO</td>
<td></td>
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| 216    | 5187  |
| 5192   | 5193  |
| 5196   | 5199  |
| 5202   | 5205  |
| 217    | 5211  |
| 5214   | 5217  |
| 5220   | 5223  |
| 5226   | 5229  |
| 218    | 5232  |
| 5235   | 5238  |
| 5241   | 5244  |
| 5247   | 5250  |
| 5253   | 219   |

| 21 pr  | 23 lc  |
| 26 rc  |       |
| 29 If  |       |
| 39 In  |       |
| 40 Ex  |       |

| 42 Pt  | so".  |
|        | du".  |
|        | ag".  |

| 43 Int |       |
| 44 StrJ|       |
| 50 O  | so    |
|       | do    |

| 51 TL  | 5206  |
|        | (5224)|
|        | 5238  |
|        | 5249  |
home all day I mean on a busy day it's not as
When I am sitting here with no human companionship.
50.0

But, these are the truths, after all.

51. TL

5633

5672
Talk to my Betty and she'll say very much the similar things.
It's a I mean the problems.
are certainly none or not out of the ordinary
<table>
<thead>
<tr>
<th>Scene</th>
<th>Event</th>
<th>Notes</th>
</tr>
</thead>
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<tr>
<td>07 TL</td>
<td>Ch.</td>
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<td>5931, 5934, 5937, 5940, 5943, 5946, 5949</td>
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<td>248</td>
<td>5955, 5958, 5961, 5964, 5967, 5970, 5973</td>
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</tbody>
</table>

23 lc (<<) 28 te (<<) 41 VSG 43 Int 44 StrJ 52 0 I'cept that I think that in trying to 51 TL 5933
cope. with it. our feelings are not so much as...
| 28 te | <<- |
| 39 In | \(\vee\) |
| 41 VSG | \(\vee\) |
| 43 INT | a |
| 44 STRJ | z |
| 50 O | \(\vee\) |
| 51 TL | 6089 |

some people who will just say
well the kids have their place and that's it.
Because I don't really feel this way.
FIRST MAD SCENE

0. TL Chr ZERO

21 px (↓-)
23 lc (↓-)
26 rc (G1-)
28 te (⇒)
39 In (⇒)
40 Ex

41 Vsg

43 Int
44 StrJ

50.0 We get mad sure we get mad we get darned mad

51 TL 6265 6277 6289

D 261 6267 6272 6273 6276 6279 6282 6285 262 6291 6294 6297 6300 6303 6306 6309 263 6315 6318 6321 6324 6327 6330 6333 264
you have had it and it's particularly hard on Lee who has
FIRST
OTL

MAD
©

SCENE |

©

a

the ZERO. 270 6483 6486 6489 6492 6495 6498 6501 RTL 6507 6519 6513 6516 6519 6522 6525 272 6531 6534 6537 6540 6543 6546 6549 27S _
Chr.

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25 ac.

28te

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(Pre)

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On Oe,

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HVS0ene ee, UEEEBe
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44 StrJ
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FIRST MAD SCENE

0 TL Chr ZERO 273 6555 6558 6561 6564 6567 6570 6575 274 6579 6582 6585 6588 6591 6594 6597 275 6603 6606 6609 6612 6615 6618 6621 276.

23 le

9 - 9

40 Ex

41 V5g

43 Int

44 StrJ

50 O

read his paper on something and he's he's real good

51 TL

6574.
FIRST NAD SCENE

0TL Ch ZERO 276 6627 6630 6633 6636 6639 6642 6645 277 6651 6654 6657 6660 6663 6666 6669 278 6675 6678 6681 6684 6687 6690 6693 279

39 fn

41 V5g

43 Int

44 Strl

50.0 he he won't do this

51 TL 6627
23 lc
24 gc
25 ac
39 In
41 Vsg
43 Int
44 StrJ
50 o
51 TL

He: I think goes beyond the limits of human endurance.
FIRST MAD SCENE

<table>
<thead>
<tr>
<th>0 TL</th>
<th>Chr.</th>
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50 TL..............Mommy. Johnny threw..............and break them.

51 TL..............6708..............6729..............
<table>
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<th>FIRST</th>
<th>MAD</th>
<th>SCENE</th>
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| 28. te |
| 38. PH |
| 39. In |
| 4" Ex |
| 41. VSt |
| 43. Int |
| 44. StrJ |
| 50. O |

Johnny
That's the problem. Arrghrrgrr.
What's that. Why, what's the matter with the kid next door.
Well the trouble is that there was a great deal of friction developed
between the parents. We were very good friends when we were young.

* or we've (train noise)
<table>
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<th>FILM BREAK</th>
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</table>
we've only been in Palo Alto a few months and we moved up here knowing...
FIRST MAD SCENE - 6941

21 pr
23 lc
24 gc
28 te
30 PH
39 In
40 Ex
41 VSG
43 Int
44 StnJ
50 :0
51 TL
144 Com

no one And we got too close friends

30 foot uplift G(+) D(pelvis)

IN TONES
LITTLE GREEN EARS SCENE

0 TL  Chr. ZERO.  291 6987 6990 6993 6996 6999 6002 7005 292 7011 7014 7017 7020 7023 7026 7029 293 7035 7038 7041 7044 7257 7256 7053 294

22 pc

2nd gc (B-)

27 Ex

41 VSG

43 Int

44 StrJ

57 O

51 TL

14h Com

*Pitches written phonetically; [2], [3] and [4] are about one whole tone apart.

\[ D \to G \]

INCREASING ACTIVITY TO 71/4.

D (foot sweeper) D (not sweeper)
LITTLE GREEN EARS SCENE

0 TL

22 pc

(sg-)

4° Ex

41 Vsg

43 Int

44 StrJ

5o O

her little green ears up

and................................pricking her little

51 TL

: 7067

7092

7114 7119 7123

144 Com

(foot sweep)

(pelvis)

G(HEAD) D↓
I tried to talk to her and my husband tried.
LITTLE GREEN EARS SCENE

21 pr
23 lc (O-)
28 te (>>-)
39 ln
40 Ex
43 int
44 StrJ
50 0 to talk, to her and.............the whole thing was a big fat mess and
51 TL
144 Com.

D

D (scratches nose with back of finger)
100 G

23 Ic

43 Int

44 StrJ

50 0 she is incapable of understanding much.

51 TL 7359 7367

144 cm
LITTLE GREEN EARS SCENE

G

C. TL Chr ZERO

309 7419 7422 7425 7428 7431 7434 7437 310 7443 7446 7449 7452 7455 7458 7461 311 7464 7470 7473 7476 7479 7482 7485 312

43 Int
44 StrJ
50 .0

Yeah
28 te

39 fn

41 Vsg

43 Int

44 StrJ

50.0 be herself she would be a tremendous person.

51 TL 7494 7513 7528 7557 7557
But... she can't be... well, for one thing she's got a serious hearing loss.
<table>
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<td>44 Str</td>
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<td>50 0</td>
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<td>the classic personality pattern of this but... even that</td>
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<tr>
<td>50 Tl</td>
<td>7708</td>
<td>7722</td>
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<tr>
<td>144 Com</td>
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</table>
**LITTLE GREEN EYES SCENE**

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<th>0 TL</th>
<th>Chr</th>
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</table>

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28:te

38 PH

---

-1 VSG

43 Int

44 StrJ

57:0

51 TL

7800

7819 7822

78- 7844

"After this there may be the start of a word beginning with /s-/ corrected to backfired.

**Di**

- (eyes closed)

- (brows)

- (hand)

- (head)

- (stare)
LITTLE GREEN EARS SCENE

0 TL Chr ZERO 327 7851 7854 7857 7860 7863 7866 7869 328 7875 7878 7881 7884 7887 7890 7893 329 7899 7902 7905 7918 7911 7914 7917 330

23 Jc

38 PH

(1-)

39 fn

40 Ex

41 VSg

43 Int

44 StrJ

50:0 backfired on the kids. really something terrific and now the kids

51 TL 7857 7873 7896

144 Com (D active pointing)
<table>
<thead>
<tr>
<th>LITTLE GREEN EARS SCENE</th>
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<tbody>
<tr>
<td>O.T.L.</td>
<td>ZERO</td>
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<td>327 7851 7854 7857 7860 7863 7866 7869</td>
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</table>

(Closer)

Mommy!
are taking out the parents' hostility

G > B as he enters
B: ...........................................um um...........................................um um... 4
B: Johnny thinks that something out there is poison oak. 5
B: Something that he threw dinged. 6

D: There isn't any poison 1
D: oak out there 2

B: He you mean he.................................................................3
B: ...............he got it from his yar'. 4

D: I doubt it. But let me see. (goes outside) boy's 5
D: voice in distance) But she sort of set the kids. 6
Di: to fighting her battles for her, and it's 1

Di: ...........................................it's kind of bad 2

Di: because........................................one of them is 3

Di: a great deal older........................................ 4

Di: ........well not a great deal but he's seven, compared 5

Gi: M-hm. 6

Di: to Brucie's.........................four and a half. And 7

Gi: Yeah, 1

Di: he takes........................................he-e-e fights 2

Gi: that's a long step. 3

Di: his mother's battles, very subtly. When they're 4

Di: over here it's you're not my mother you can't tell 5

Di: me what to do........................................and.............6
Dr: "t's very pointed and very obvious. 1

Dr: and I don't have to listen to you and..............2

Dr: at least Tommy and Brucie don't and........3

Dr: great..................................stuff: 4

Dr: when I..............................it's it's simmered down 5

Dr: now to a dull roar where it's copable with too 6

Dr: (laugh). Things seem to be in relatively good 1

G: M-hm, 2

Dr: shape at the moment but..................................uh 3

Dr: ...........................................(throat) that's a......................4

Dr: ................................family situation over there is really 5

Dr: miserable. The uh.............................................well 6
D: they they they figure that..........................they

D: they handle kids like playthings.................................2

D: eh-uh........................................Although we certainly do it 3

D: at times there's no question about that (laugh) 4

G: But don't we all yeah yeah yeah 5

D: Bruce.....................we uh..................we try to 6

D: figure out what we're doing to...............................some 1

D: extent..............................and uh..................they they're 2

D: incapable of it they just can't see it I mean 3

D: even when we were friends it was................................. 4

D: quite obvious their kids were to do this at this 5

D: particular time because they were to do it............... 6
Dr: and........................................there's no.........................1

Dr: relationship between the father and the children at all 2

Dr: the kids as far as we-- yeah? 3

B: MMMommy? Nn after they go...........4

B: well........................can't we go out and.........go go 5

B: out to a eating place? 6

Dr: No we're going to have dinner 1

Dr: home tonight honey I've got..................everything all set 2

Dr: for it...............................Ohhh, probably around six. 3

G: What time is dinner? 4

Dr: I can get if you want it 5

B: Mickey Mouse is on, Mommy? 6
Dr: Yeah, Mickey Mouse is......................... You want 1

Bl: What POP!! 2

Dr: to watch Mickey Mouse? That solves. Uh 3

Gl: (laugh)---------------------- 4

Bl: YES! YEAH I do. 5

Dr: (throat) uh...................................... I don't know I I I 6

Dr: feel that that.......................... well one o.................. 1

Dr: one standard thing too that's a real problem and in 2

Dr: this thing that occurs to me is this problem which 3

Dr: hasn't been nearly as evident today as it usually is 4

Dr: .................................... when I have........................ company 5

Dr: ......................................... and want to talk......................... and 6
D: don't want to be interrupted.....................this is the 1
D: time when everything goes wrong. everything. I've 2
     (TV in background:.........)
G:
     M-hm. 3

D: got..................you know......I can't.............I can't............4
D: get my crayon out of the box I can't do 5
D: this I can't do that all sorts of 6

B: candie..........cowboy 1

D: Obvious things that he of course can do but he 2
D: just plain won't because he wants to bust into this 3
D: thing and he doesn't like being left out. ((long pause)) 4

G: Damn that machine! (DORIS HAD LEFT AND GONE INTO ROOM
     WHERE THE TV SET WAS LOCATED.) 5

D: Nyaa this is particularly. 6
B: This isn't Mickey Mouse! 1

D: Brucie, Mickey 2

D: Mouse will be on in a minute! It's not quite time 3

D: that's the end of the picture, see? 4

B: Yeah. 5

D: ((long pause; she walks back)) One of the greatest 6

D: pushbuttons at the moment is no matter what I say 1

D: you're wrong (laugh). Quite specifically you're wrong... 2

D: ...........this isn't, you know, and............... 3

D: but this this business of my having ah wull........... 4

D: .................coffee in the morning or..............whenever I'm 5

D: trying to talk to anybody.....................is...............a standard 6
Dr: procedure for all sorts of dreamed-up.

Gr: Then this goes for

talking to anybody not just with talking to Lee.

Dr: No, anyone. It's uh........it's uh not....

Gr: Yeah.

Dr: I mean he.............(throat) actually well

Dr: he........he we we had just sort of....................

Dr: in many ways sort of given up..................trying

to do very much................until............bedtime................

Dr: unless it's something that he can be included

Dr: in...............whereupon he will...............usually

Dr: isn't interested for long enough to really........
Dr. carry through with it. But uh. 

Dr. I notice it particularly among my friends. 

Dr. that he can't usually just can't stand it.
50 D. he will...\ or on the telephone...

51 TL  8227  8233

144 com

D ( bottoms)
DV  D
50.0

...any of these things...and my usual

51.1

...8318 8323

144. Com

(out of focus) (Hyperactive) (D) (Out of Focus) (Hyperactive (also))

(D) (Ring feel) (Palm punish) (Palm punish)
50.0 method is why do you have to pick the time when I'm

51.0 TL 8358 8387 8395

144 Com. D (shrug) (D+)
50.P. busy (laugh) get all these problems I know what you're trying to do

51 TL

8428  8446  8487

144. Com

D (pelvic shift)  B (hat box)  G (smile)

J (shrug)
50.0

which he does. I mean it's. it's

51.0L

144.0 Com

D D (pelvis shift)

D (feels carpet)

D (pelvis)
51.0. quite obvious all the way through whether I'm work-.............

8585. 8586 8587 8602 5511.
50.0            .......... even   if   I'm working                        uh just doing, housework or something
51:TL            8646            8662            8684            8692

144 Cam          G(NO35)  G(NO3)          D→G    G→α3    G→β3
Well this is the time that he's

8761-
-8728
<table>
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<tr>
<th>INTERUPTIONS</th>
<th>SCENE</th>
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<td>0.TL</td>
<td>Chr. ZERO</td>
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<td><strong>G</strong></td>
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| 50.0        | Yeah  |
| 51.1L       | 8116  |

144. Con: G(nod)
| O.TL | Chr   | ZERQ | 366 | 8787 | 8790 | 8793 | 8796 | 8799 | 8872 | 8805 | 367 | 8811 | 8814 | 8817 | 8820 | 8823 | 8826 | 8829 | 368 | 8835 | 8838 | 88-1.8844 | 8847 | 8850 | 8853 | 369 |
|------|-------|------|-----|------|------|------|------|------|------|------|-----|------|------|------|------|------|------|------|-----|------|------|------|------|------|------|
| 50.0 |       |      |     |      |      |      |      |      |      |      |     | 8814 |      |      |      |      |      |      |     |      |     |
| 51.0L|       |      | 8814| -8822|      |      |      |      |      |      |     |      |      |      |      |      |      |      |     |      |     |
| 144L Com |     |      | G→ (dress) | D→ G↓ D↓ | G(↓) |
|        |      |      |      |      |      |      |      |      |      |      |     |      |      |      |      |      |      |      |     |      |     |
And yet on the other hand he-e-e-e he has a good sense.

D→C  G→D  6(→3)
50 O
of cooperation and responsibility in lots of ways...........

51 TL

144 Cam

D→E after film G(→D)
50.0  anything  that's  really  important.

51.0  0.074  -0.086

144 Com  D (shakes head)  D  (increasingly active to 9450)
To how does it go in outside situations if you uh do you go out

9178

381 9147 9150 9153 9156 9159 9162 9165 382 9171 9174 9177 9180 9183 9186 9189 383 9195 9198 9201 9204 9207 9210 9213 384

144 Cam

(Lip bite) (Chew)
| O.TL | Chr. | ZERO | 384 | 9219 | 9222 | 9225 | 9231 | 9234 | 9237 | 386 | 9243 | 9246 | 9249 | 9252 | 9255 | 9258 | 9261 | 386 | 9267 | 9270 | 9273 | 9276 | 9279 | 9282 | 9285 | 387 |
|------|------|------|-----|------|------|------|------|------|------|-----|------|------|------|------|------|------|-----|-----|-----|------|------|------|------|------|------|------|------|
| 50.0 |      |      |     |      |      |      |      |      |      |     |      |      |      |      |      |      |     |     |     |      |      |      |      |      |      |      |      |
| 51.0L|      |      |     |      |      |      |      |      |      |     |      |      |      |      |      |      |     |     |     |      |      |      |      |      |      |      |      | 9262 |

14th Com

D (head shake)
<table>
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<th>INTERRUPTIONS</th>
<th>SCENE</th>
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<td>9285</td>
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</tbody>
</table>

500 camping or country situations of any kind?
50.0  He's been .............................................. we don't
INTERUPTIONS SCENE

50:0  go................................................he's.

51:TL  9374  9386

144:Com...  D. (swallow)
393 9435 9438 9441 9444 9447 9450 9453 394 9459 9462 9465 9468 9471 9474 9477 395 9483 9486 9489 9492 9495 9498 9501 396.

...
<p>| | | | |</p>
<table>
<thead>
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</thead>
<tbody>
<tr>
<td><strong>D:</strong></td>
<td>around with us</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td><strong>D:</strong></td>
<td>an awful lot. Uh.</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td><strong>G:</strong></td>
<td>How does it go when</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td><strong>G:</strong></td>
<td>you go to a restaurant? and things</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td><strong>G:</strong></td>
<td>like that?</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td><strong>D:</strong></td>
<td>He's usually good in a restaurant.</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>
He's quite good at somebody else's
## INTERRUPTIONS SCENE

<table>
<thead>
<tr>
<th>O TL</th>
<th>Chr</th>
<th>ZERO</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>300</td>
<td>9579 9582 9585 9588 9591 9594 9597</td>
</tr>
</tbody>
</table>

50 0

M-hm.
<table>
<thead>
<tr>
<th>Line</th>
<th>Scene</th>
<th>Notes</th>
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</thead>
<tbody>
<tr>
<td>21</td>
<td>pr</td>
<td></td>
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<tr>
<td>28</td>
<td>tv</td>
<td></td>
</tr>
<tr>
<td>39</td>
<td>In</td>
<td>fn</td>
</tr>
<tr>
<td>40</td>
<td>Ex</td>
<td></td>
</tr>
<tr>
<td>41</td>
<td>V5g</td>
<td></td>
</tr>
<tr>
<td>43</td>
<td>Int</td>
<td></td>
</tr>
<tr>
<td>44</td>
<td>StrJ</td>
<td></td>
</tr>
<tr>
<td>50</td>
<td>O</td>
<td></td>
</tr>
</tbody>
</table>

There are certain families.
that we visit a great deal where he feels...more
| INTERUPTIONS | SCENE | 0 TL | Chr | ZERO | 408 | 9795 | 9798 | 9801 | 9804 | 9807 | 9810 | 9813 | 409 | 9819 | 9822 | 9825 | 9828 | 9831 | 9834 | 9837 | 410 | 9843 | 9846 | 9849 | 9852 | 9855 | 9858 | 9861 | 411 |
|--------------|-------|------|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 21 pr | (‡-) |      |     |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 24 gc |      |      |     |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 28 te | (<>-) |      |     |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 39 In | (¥-) |      |     |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 40 Ex |      |      |     |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 41 V5g |      |      |     |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 43 Int |      |      |     |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 44 StrJ |      |      |     |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 50 C |      |      |     |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

at home........................where the problems are
INTERRUPTICS SCENE

O TL D ZERO

21 pr (\*-) 
24 gc (\*-) 
28 te (\*\*\*) 
39 In fn (\*-) 
40 Ex 
41 V5g 
43 Int 
44 Strl 

50.0 multiplied by about ten thousand Including I

51 TL

144 Cori

G (smiles and)

411 9867 9870 9873 9876 9879 9882 9885 412 9891 9894 9897 9900 9903 9906 9909 413 9915 9921 9924 9927 9930 9933 414 9948 9951 9954 9957 9960 9963 9966 9969 9972 9975 9978 9981 9984 9987 9990 9993 9996 9999
INTERRUPTION SCENE

O TL  Chr      ZERO  414 9939 9942 9945 9948 9951 9954 9957 415 9963 9966 9969 9972 9975 9978 9981 416 9987 9991 9993 9996 9999

21 pr   (4-)   40 Ex

24 gc   (V-)   43 Int

44 StrJ

50 0    want to go home and I don't like it here and I don't want to play with her and why

51 TL

144 com  

[Handwritten notes and diagrams]
do I have to stay here and why can't I sleep in my own house
and you know the rest of that routine in a familiar situation.

144 Con. *Here there is emphatically no fade with the drawl phantetically crescendo if anything.*
Because he is but in a situation
<table>
<thead>
<tr>
<th>429</th>
<th>430</th>
<th>431</th>
<th>432</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 TL Chl. ZERO</td>
<td>1039</td>
<td>1035</td>
<td>1032</td>
</tr>
</tbody>
</table>

 Yeah.

144 com. 

\[ G(n=2) \quad G(n=3) \]
SECOND "MAD" SCENE

0 TL Ch: ZERO 438 10515 10518 10521 10524 10527 10530 10533 439 10539 10542 10545 10548 10551
440 10554 10557 10560 10563 10566 10569 10572 10575 86861 10581 441

23 tc
(B-)

24 gc
(<-)

26 te

39 In

fn

41 Vsg

44 Griff

50 0

he does beautifully

124 tr

D: Th

107 LA

VL 86

144 Com

D: (SHUDDERS & BLANCS AWAY)

Y
SECOND "MAD" SCENE

0 Tl Chr ZERO 441 442 443 444

21 pr

28 te (<<-)

32 wh

39 In (\-) 

40 Ex

41 Vsg

43 Int

44 Strj

50 . 0

He just has a fine time and is happy.

92 He

144 Com

< < < "HEAD SHAKE"
and will play along like mad
SECOND "MAD" SCENE

D

28 to (>>-)

43 Int.
44 StrJ.

50.0 as a matter of fact when they get themselves straightened out

144 com. (z) z z z D(SRATCHES) D(FIST) Z→
Oh, yes. Mmm. That's this next door family.
<table>
<thead>
<tr>
<th>Second</th>
<th>&quot;MAD&quot; Scene</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 TL</td>
<td>Ch</td>
</tr>
</tbody>
</table>

50.0 They're the ones that really need to be photographed?
They're the ones that need it.

Noono.
50.0 well............this is an interesting sort of a situation over here actually........but
uh.................. we are .................... we have a great
DEC. 20

50.0 deal to do with them and we see a great deal of them. Soooo.........

144 COM
50.0 he is almost they uh uh they practically there's practically a

144.0 com (H) > > > > > (> D: NS < > D: NS < >

D → D (HEAD SHAVE) D (HEAD SHAVE) D: ACTIVE D →
SECOND "MAD" SCENE

0.7L Chr ZERO

<table>
<thead>
<tr>
<th>483</th>
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<td>D</td>
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</table>

And ...........................................it'sss.

144 com

D
50.0

......................sort of a subtle thing to handle and cope with, because...uh......you can't handle
500.0

It like you do with friends. You can't......with children and..............

144 Com

Dv
<table>
<thead>
<tr>
<th>SECOND &quot;MAD&quot; SCENE</th>
<th>492</th>
<th>493</th>
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<tbody>
<tr>
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<td>1182</td>
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<tr>
<td>D</td>
<td>ZER0</td>
<td>493</td>
<td>494</td>
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</tbody>
</table>

50.0

...it took us a long time.

144 com

2
<table>
<thead>
<tr>
<th>SECOND</th>
<th>&quot;MAD&quot; SCENE</th>
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<tbody>
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<td>11997</td>
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50.0

Nana.  No.
| SECOND "MAD" SCENE | 1183 | 1186 | 1189 | 1192 | 1195 | 1198 | 1201 | 1204 | 1207 | 1210 | 1213 | 1216 | 1219 | 1222 | 1225 | 1228 | 1231 | 1234 | 1237 | 1240 | 1243 | 1246 | 1249 | 1252 | 1255 | 1258 | 1261 | 1264 | 1267 | 1270 |
|-------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| O IL | Chr | ZERO | 495 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 50.0 |     |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 144 com |     |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

...to realize what was going on...........and we have...........got it worked...........out....................now

DY
ACTIVE

D+   D↓
ACTIVE
and then he figures he can go home. But in other situations.

444 Com

D(HAND)  D(HAND)  DYa acting

Dy

Playing

D(YUH)
<table>
<thead>
<tr>
<th>SECOND &quot;MAD&quot; SCENE</th>
<th>Chr</th>
<th>ZERO</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 TL</td>
<td>504</td>
<td>505</td>
</tr>
</tbody>
</table>

Where he's taken somewhere, uh..............................
Dr: -12206 .......................... in general he uh he adopts 1

Dr: pretty well e e except at at night if he's 2

Dr: supposed to go to sleep he can raise all holy 3

Dr: Ned and be up till all hours wandering out and 4

Dr: saying he can't sleep.................................. all that sort 5

Dr: of stuff...............................and he has been dragged around 6

Dr: an awful lot he's in his tender age of four 1

Dr: and a half he's crossed the country seven times 2

Dr: already ..... plus...................... miscellaneous trips up and 3

Dr: down the east coast and things like that.............. so 4

Dr: he's he's had a..................... in many ways an unstable 5

Dr: ............. sort of........................ physical situation we've moved 6
Di: a great deal.............. Anand uh..........this has

G1: Yeah

Di: all contributed to sort of not being real sure of

Di: what everything is about...............(sigh) but uh...............4

Di: ...........I don't know I uh maybe it's just cause I'm

Di: in a good mood today or maybe it's because it's Thursday

Di: and you should have caught me on Friday (laugh).

G1: (laugh).

Di: Ah......................things are uh.................things seem

Di: to be better and...................................excuse me. (long pause)

Di: Hullo!

X1: (another woman in kitchen) didn't

was
(other woman): wondering if you had any cold beer

Dr: (laugh) We have a cold beer, yes (laugh)

END OF TAPE ONE

Dr: All of the time, just half

??: ................all over the place.

Dr: the time (laugh)
That's why I say maybe if you had come on Friday.
youd get a more representative situation I'm usually in a pretty
29.1f

38. PH

41. VSg

43. Int

44. StrJ

45. Sgm.

gud + muwd | shlav + | gersdij + | after + nwn

50.0

good mood, all of Thursday afternoon

144. Com

lung air giving out: -------------------------------
Maybe (be)cause you've had your session.
Yeah, I've had my session.
Aha. Who do you go to, if I may ask?
23.1c
28 te
38 PH
39 In
40 Ex
41 VSg
43 Int
44 StrJ
45 Sgm
50 0

Cantor: Yeah. (LONG PAUSE) Is Lee going to anybody
39 In

40. Ex

41. Vbg

42. Int

43. StrJ

44. Sgs

50. O.

No uh we've done much dabbling in amateur stuff such as dianetics.
and all that sort of stuff you know and fooled around with it

(coming back)
and played with it for a long time but I don't know the problems
No Bob says he doesn't think it's necessary now.
He uh I was really concerned.
about him for a while because he was doing so much finger sucking

* The end of the scene is marked by a film break.

---

(Note: The text appears to be a page from a script, possibly for a film, with some handwriting and annotations.)
21. Pl  (* *)

39. fn

41. Vsg

43. Int

44. StrJ

45. Sgm

50. 0

and seeming like such a miserable sort of a little character that I was
figuring you know it's all my fault and I'd done such a miserable job.
anyway and we talked about it and uh Bob says that
23.1c

28 te

29.1f

39 In

40 Ex

41 Vsg

43 Int

44 StrJ

45 Sgm

he doesn't really think it's necessary right now he says that that Brucie's

14th Com

(running short of
in better shape than I think he is and that it's not he
said if things get rough and if he is showing really showing strain that he
21 pr
(±)

23.1c
-

39 In
(±)

fn

40 Ex

41 Vsg

43 Int

44 StrJ

45 Sgm

kud + bij | bat + hij + dažen + aink | zithij + nijdit + naw | at + shi |

50.0

could be, but he doesn't think that he needs it now, at all
Cigarette Scene

OUT CH 510 511 512 513

21 pr

32 te

33 PH

39 ln/vn

40 Ex

41 Vsg

42 Pe

43 Int

44 Std

45 Sgm

35 0

Yeah

No I didn't see any retardation there at all

144 com

G>D

Cat D's cig.

G>D
### Cigarette Scene

<table>
<thead>
<tr>
<th>OTL</th>
<th>Chr</th>
<th>ZERO</th>
<th>510</th>
</tr>
</thead>
<tbody>
<tr>
<td>92</td>
<td>He</td>
<td></td>
<td></td>
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<tr>
<td>95</td>
<td>E</td>
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<td>RA</td>
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<td>He/He</td>
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<td>107</td>
<td>LA</td>
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<td>108</td>
<td>He/He</td>
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<td>110</td>
<td>RL</td>
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<td>LL</td>
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<td>113</td>
<td>F</td>
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</tbody>
</table>
50.0

Yeah. No I didn't see any retardation there at all.

92 He

95 E

98 Mo

101 Sho

102 Tr

104 RA

105 Ha/Pa

107 LA

108 Ha/Pa

110 RL

112 LL

113 F

match box

match box

presses lateral edges matchbox

......

114 H

115 F

177 B
CIGARETTE SCENE

29.1f

38 PH

39.1n

42 Pt

43 Int

44 Strl

45 Sgm

50.1

He's not retarded

144 Com

N--------N

G

G>D
<table>
<thead>
<tr>
<th>CIGARETTE SCENE</th>
<th>ZERO</th>
<th>513</th>
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<td>95. E</td>
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**Scene 50. O**

He's a very very bright four-and-a-half-year-old. Why that drawing that he brought in.

**Scene 92. He**


**Scene 95. E**

Doris

**Scene 96. Mo**

Doris’ hand

**Scene 101. Sho**

**Scene 102. Tr**

**Scene 104. RA**

**Scene 105. Ha/Pa**

Matchbox

match box striking surface

**Scene 107. LA**

Nod m. box to r. hand

**Scene 108. Ha/Pa**

match box

**Scene 109. RL**

**Scene 111. F**

**Scene 112. LL**

**Scene 113. F**
| O Ti | Ch | ZERO | 520 12598 | 12601 | 12604 | 12607 | 12610 | 12613 | 12616 | 12621 | 12622 | 12625 | 12628 | 12631 | 12634 | 12637 | 12640 | 522 12644 | 12646 | 12649 | 12652 | 12655 | 12658 | 12661 | 523 12664 |
|------|----|------|----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|      |    |      |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
| 23 lc |    | (1-) |          | (1-)   | (-1)   |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
| 38 PH |    |      |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
| 39 In | /in |      |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
| 41 VSq |    |      |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
| 42 Pt |    |      |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
| 43 Int | |      |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
| 44 StrJ | |      |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
| 45 Sgm |    |      |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
| 50 0 |    |      |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
| 144 COM | |      |          |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |

is very advanced for four-and-a-half
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- 2.45 cig. and match
- Greg. v 0.0
- 3.00 shoe to foot
- 90° pivot
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**CIGARETTE SCENE**

**Is very advanced for four-and-a-half**

**Lombar Pivot↑**

**Z**

**Z+5° arm pulls match x box 14 5° elbow pivot, cig. to D's eye level→200° (wrist faster than lower arm reaches zero at 309° begins action at 296)**

**match in lid x flame shows under 100° cigarette touching light from 266 through 296→D's cig./match**

**5°**

**22° 2**

**13 4°**

**Z**

**Z**
50.0

I suppose all mothers think their kids are smart but...

92. He

h & cig. and
$h > _{15}$

95. E

$v = 68$

cig. ash tray

98. Mo

cig. cig. out $\llarrow$

101. Sho

2:15 $21\rightarrow$

102. Tr

slow shift $\rightarrow$

104. RA

$\sqrt{4:15}$

105. Ha/Pa

1 $\{4:15\}

107. LA

$\sqrt{h_{130}}$ arm pivots at elbow $\rightarrow$

108. Ha/Pa

v + 3

cig.+$\rightarrow$

110. RL

$3:10$ $31\rightarrow$

111. F

$v + 10\rightarrow$

112. LL

$3:00$ $\rightarrow$

113. F

$3:00$ $\rightarrow$ pivot on toe $\rightarrow$ pivot $\rightarrow$
I have no worries about that child's intellectual development.
**CIGARETTE SCENE**

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No, that's a very smart one.

Out of focus sweep of room.

Shoulders: straight zero + one.

Elbow body.

Spread fingers 1 2 from left hand 1 2 box.

L. knee.

Releases matches.

Rt. Arm from 12756-12786. Greg...subscribes 10-5-10 frame beat in air. In air at 12786. beat changes to 20 frames. Moves cigarette anterior on 12786-12806 and 20 frame beat to superior position at 12826.
| 0 TL | Chr | ZERO | 532 | 12817 | 12820 | 12823 | 12826 | 12829 | 12832 | 12835 | 12838 | 12841 | 12844 | 12847 | 12850 | 12853 | 12856 | 12859 | 12862 | 12865 | 12868 | 12871 | 12874 | 12877 | 12880 | 535 |
|------|-----|------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----|
| 38   | PH  |      |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |     |
| 39   | In/fn |     |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |     |
| 41   | VSG |      |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |     |
| 42   | Pt  | a.b. | 1   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |     |
| 43   | Int |      |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |     |
| 44   | StG |      |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |     |
| 45   | Sgm |      |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |     |
| 50   | O   | ability |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |     |

144 Com

D <-> G

D > G

Gaff film

Well, that's that's.
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<th>CIGARETTE SCENE</th>
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| 41 Vtg          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 42 Pt           |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 43 Int          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 44 Stpl         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 45 Sgm          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |

| 50 0            |       |       |       |       |       |       |       |       |       |       |       |       |       |       |

whether, he's Whether he's happy or not.
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<th>O. TL</th>
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is another question but as to
| 0. TL | Chr | ZERO | 541 | 13927 | 13930 | 13933 | 13936 | 13939 | 13942 | 13945 | 13948 | 13953 | 13956 | 13959 | 13962 | 13965 | 13968 | 13971 | 13973 | 13976 | 13979 | 13982 | 13985 | 13988 | 13991 | 13993 | 13996 | 13999 | 14002 | 14005 | 14008 | 14011 | 14014 | 14017 | 14020 | 14023 | 14026 | 14029 | 14032 | 14035 | 14038 | 14041 | 14044 |
|-------|-----|------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|       |     |      |     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |

50.0

**Concerned about** because

I I know him...I'm...I think

144 Cm

D (smoke) D (hit tap)
<table>
<thead>
<tr>
<th>O. TL</th>
<th>Chr.</th>
<th>ZERO</th>
<th>545.</th>
<th>13692</th>
<th>13101</th>
<th>13106</th>
<th>13114</th>
<th>13112</th>
<th>13126</th>
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</tbody>
</table>

50.0

I'm ........... even though I'm prejudiced I've had enough training
<table>
<thead>
<tr>
<th>O.T.</th>
<th>Chr</th>
<th>ZERO</th>
<th>052</th>
<th>12413</th>
<th>12416</th>
<th>12419</th>
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<th>12794</th>
<th>12797</th>
<th>12800</th>
<th>12861</th>
<th>12864</th>
</tr>
</thead>
</table>

When he sits down and will talk about Jupiter, Saturn and Venus.

**144 Com**

D↓

D↓ 3→

More active
<table>
<thead>
<tr>
<th>0 TL</th>
<th>Chr</th>
<th>ZERO</th>
<th>358</th>
<th>359</th>
<th>360</th>
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</tr>
</thead>
</table>

**TELESCOPE SCENE**

59 D

**REALLY THINK THERE'S anything very much wrong with him.**

144 CAM

D (HEAD SHAKES)  D7  D" (BEAM)
So O Well this is why the telescope you see because we--
No, uh, we've done much dabbling in amateur stuff such as dianetics.
<table>
<thead>
<tr>
<th></th>
<th>TL</th>
<th>Ch</th>
<th>ZERO</th>
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</table>

Then there's nothing to worry about, no no.

144 com

D→Y

Eye click

74, 8, 9

DY LIFT 2002 FOR DEHORN

——
<table>
<thead>
<tr>
<th>O Tl</th>
<th>Chr</th>
<th>ZERO</th>
<th>570</th>
<th>1.682</th>
<th>1.685</th>
<th>1.698</th>
<th>1.691</th>
<th>1.694</th>
<th>1.697</th>
<th>571</th>
<th>1.703</th>
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<th>1.712</th>
<th>1.718</th>
<th>572</th>
<th>573</th>
</tr>
</thead>
</table>

he can't play with that whenever he wants to
obviously... on the week so this is his

And uh...
### Telescope Scene

<table>
<thead>
<tr>
<th>O.TL</th>
<th>Obs. ZERO</th>
<th>579</th>
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</table>

50.0 But he has his............
|------|-----|------|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|

50.0

---

So I'm not the least bit

144 com

D (gray)

D (increasingly active
tone), still weak

D→
worried about... that when I see him.

And uh... I'm not the least bit worried about... that when I see him.

144 cm

Dv
tense

Loud

Dv

Hands

Dv

Weak
particularly if he's sitting off in the corner whipping up some ......... he's not a genius. He's not.
|------|-----|------|-----|-------|-------|-------|-------|-------|-----|-------|-------|-------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|

500 in the super..................fabulous class but he's certainly............able to reason......

d\uparrow \downarrow flick
d\downarrow increasing
50.0. quite beautifully and..................

144 com:

D↓
tenus w.w.h.

D→

Dv D(lick)
<table>
<thead>
<tr>
<th>Telescopic Scene</th>
<th>0.7L Ch. Zero</th>
<th>598</th>
<th>4257</th>
<th>4235</th>
<th>4231</th>
<th>4237</th>
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<th>5263</th>
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<tbody>
<tr>
<td>Mostly what I've done to him emotionally that's... disturbing</td>
<td>Detective</td>
<td>D(Rev)</td>
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</table>
D (head)  D (flick)  D → D (head)
you know. It's not as black as it looks. Huh!

D(grow) \rightarrow \text{active}

\text{D(grow)} \rightarrow \text{active}
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<th>O Ti.</th>
<th>Ch.</th>
<th>ZERO</th>
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<th>618</th>
<th>619</th>
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</table>
| 50.0 | think it is.................I think because I'm........................................making

144 com. | D(weak) |

D→
TELESCOPE SCENE

0, 1L Chr. ZEro 622, 623, 624, 625

50.0 around here too. (Throat)

DV D(Fist) sag
low tonus

D(scratches) DV sag
D: ..........it's a........................we've  

D: had......................many more prob--  

G: Let's wait for Brucie to  

G: come back.  

CM: Yeah.  

D: We have had many more problems than we have now.  

Dr: That's just about the situation there are still  

D: things that...................are difficult I. I feel that  

D: part of the trouble is that we expect a heck  

D: of a lot more of........him..............thanuh..............uh  

D: ..............I think we expect too much of  

D: him......................in many ways.......................I think
D: this is generally true when you've got an only

G: This

D: child.

G: is.....................goes with the only child situation, yes.

D: That......................we expect more mature behavior..................

G: Mm.

D: than.....................he should be giving .................forth with

D: at this point.

D: And this puts.....................quite a bit of stress

D: on him. (TRAIN: = ) that train.....................everybody

D: says you get used to it.

G: You don't get used to it?

D: never gotten used to it and it gets worse

D: and worse every day. It gets.
G1: I'll be used

G1: to it in another ten minutes.

CMs: Ha ha.

D1: It's just horrible.

G1: (laugh)

CMs: It's a lot

---

D1: All day I..............

CMs: different, I'll say that. (laugh)........................

CMs: steam engines to electric. No it isn't

G1: The machine

G1: is all loaded and ready, yes? Good.

CMs: M-hm.
D: Well we sort of have a balance around here in

D: some respects. Lee tends to go overboard on the

D: intellectual aspects of things and I tend to go

D: overboard the other way. And if Brucie doesn't

G: Yeah.

D: get pulled apart in the meantime..........(laugh) it

---

D: will turn out to be all right.

CM: I don’t know

CM: whether its the heat or

D: Probably since he’s got television on...............the

D: only time...............the one thing I do put

D: strict limitations on is TV and the.................
D: you wouldn't know...............eh-uh Mickey Mouse is it.  
G: Yeah.  

D: Mickey Mouse and Disneyland. And that's...............  

D: the complete extent of it  

G: Eh, what's Mickey Mouse's timing?  

D: Mickey Mouse is from five to six but I can  

D: get him out, I think. five thirty.  
G: Well, we'll  

D: Maybe. Maybe he'll come out when Lee  
G: Doesn't he have his  

D: comes home. He might. That's it...............  
G: Yeah.
Dr: that's another thing, it's gotten so……………………………………… 1
Dr: all absorbing that………………………………………even……………………… 2
Dr: usually when Lee comes home there's a great big 3
Dr: production you know…………………………except when Mickey Mouse 4
Dr: is on if he's watching television then he doesn't 5
G: Uh-huh. 6

Dr: give a darn who's around…………………………uh…………………………I 7

Dr: have tried ta to…………………………keep a pretty close 1
Dr: clamp on that because I I just can't see 2
Dr: these kids that sit in front of a TV set 3
Dr: all day and all evening…………………………Although it is 4
Dr: a darned big help between five and si-hix (laugh) 5
Dr: there's no two ways about it. 6
Gr: There's no fooling yes 1

CMs: Don't they do a 2

CMs: lot of repeats (in) that? 3

D: I haven't watched. I wouldn't know but it hasn't 4

D: bothered him Disneyland does. 5

G: No, they don't. Well, Disneyland. 6

CMs: They don't. 1

G: repeats its ritual every time. That's 2

CMs: No, I meant uh that 3

D: No they do a lot of 4

G: (laugh) that's all 5

CMs: television. 6
D: They do-they they 1

D: have a lot of uh............. we don't uh 2

D: really use our TV very much any more. 3

G: Disneyland is 4

G: now asking to be included in your prayers. 5

C: Your in......your 6

C: intellectual, see. 1

D: Oh, no. You mean you're supposed to 2

C: What's that? 3

D: pray to mommy and daddy to take you to Disneyland? 4

G: No no, no no, for uh.........m you're supposed 5

G: to pray, you know, for mummy and daddy 6
G: and all the people we know and all the people we

G: don't know.................and..............Suzie and Betty and

G: Alphie and Billy, all the characters, the

G: children in the Disneyland thing.

D: Golly wrahhhr. That's not Disneyland that must

D: be you mean the Mickey Mouse Club.

G: No it isn't: Mickey Mou-

G: yes, Mickey Mouse Club.

D: Oh, Oh (the) Mickey

D: Mouse club's getting a quick axe (laugh) Maybe

D: I should sit and watch--I have never really--I've

D: watched it a couple of times and the thing--
Dr: things I've seen I thought were good. Such as 1

Dr: the-uh.....................children's newsreel .........................and 2

Dr: stuff like this and the cartoons are pretty good and 3

Gr: Yeah 4

Gr: the cartoons are all right and so on. 5

Dr: Oh, speak- this this reminds me of something that 6

Dr: might or might not be interesting to you in what 1

Dr: Brucie has done as a way of......................getting through 2

Dr: to us......................lots of times when.....................we're 3

Dr: mad at him or something he has a puppet................. 4

Dr: uh a little dog......................and.............................for some 5

Dr: reason this dog has been named Tuckie..................... 6
D: and I've never been able to track down any

D: relationship.............at all of the name Tuckie

G: M-hm.

D: but, if..............I'm mad at him or have

D: given him...............hell or something or have

D: punished him.............he will come out with

D: Tuckie.................and he will say Tuckie wants

D: to give you a kiss. And Tuckie will

D: give me a kiss......................and then Tuckie will

G: Yeah.

D: say all sorts of things.............and then Tuckie will

D: go back and be ignored for quite a while..............
Dr: and...things...occasionally

Dr: at bed time he will want Tuckie but this

Dr: puppet has been fascinating he's got four or five

Dr: other puppets...that have never done what

Dr: this one has done and it...does...

Dr: it does and says all the things that he would

Dr: like to do and say. And I've never I have

Gt: Yeah.

Dr: never found a...I checked around I thought

Dr: it would be interesting to see if there were any

Dr: story...that had a Tuckie in it to

Dr: see what kind of a...story would have
Dr: made this much of an impact on him but.............. 1
Dr: so far as I know I've......................never been 2
Dr: able to track it down at all. It's just 3
G: No, I don't 4
Dr: something he made up. And............(throat) 5
G: know Tuckie either. In the current child 6

G: literatuah. 1

Dr: He is not...............he's not too imaginative 2
Dr: and he doesn't tend to make up...............names, 3
Dr: he will make up...............he's .............he's good 4
Dr: in...............making up things as far 5
Dr: situations that he has or could be 6
De familiar with but in the completely imaginative realm

De he just never does so......................for this to

Gr (COUGH)

De pop up out of a clear blue sky sort of surprised me

De for him to just pull this name out of nowhere.

De But uh.................................there it stays and Tuckie

De does..........all sorts of interesting things and Tuckie

De speak-- Tuckie can get through where nobody else can.

De And then Tuckie will go away and that's the end

De of it.

Gr M-hm.

CM I had a younger brother was uh several
CM: years younger than everybody else and

CM: he was pretty lonesome and he uh............ 2

CM: found a friend he called Mr. Mann,............. 3

CM: ....and he was his constant companion.

D: An imaginary playmate?

CM: He had

CM: ---yeah. He had to be - had a place at the table

CM: and they built a house together and.............

D: I've found out that-- I've heard ra-

CM: lasted a couple of years.

D: heard and read lots about things like this but ah.....

D: this is not quite the same.........................
D: sort of thing because it's not used all the time

D: It it's a he just uses it

M: Yeah, it's just (at) crises

CM: M-hm.

D: particularly-ah-...................mostly if I've been real mad

D: with him........and...................told him....................

D: particularly at bedtime after the fiftieth time when

D: I have said: get into bed, or he has

D: been read to and..............you know, all

D: the routine and....................and more than....................

D: he and Lee usually get in there and talk for

D: about a half an hour and.....................he'n eh-uh
Dr. we figure..............you know................this should be

Dr. the end of the day (laugh) .................and he

Dr. will come out and I will say get the hell

Dr. back in there and I don't want to see you

Dr. till tomorrow morning or something along these lines

Dr. and then he will come out....................Mommy, Tuckie

Dr. wants to give you a kiss (sigh). What ya

Dr. gowa do? (laugh) But..........................he's he's

Dr. pretty tricky..............................in lots of ways or

Dr. not tricky but ah perceptive as to how he can

Dr. get through. He's ah (LONG PAUSE) m I--think of

G: Yeah.
D: some other of his................ah ..................well

D: he's getting now too so that he will do things

D: which are are pretty, good I think show........some

D: emotional growth in that.........................he will demand

D: that we..........................that Lee play cowboys or

D: that Lee do something or other and we have

D: finally gotten to the point where instead of feeling

D: guilty about the fact that we don't wanta get

D: down on the floor and play with the trucks we will

D: simply say we don't want to get down--we don't like

D: that--we don't.......................think that's very much fun.....

D: ......................and then he will really (throat) he will
Dr: really settle down........and ha................try

Dr: and figure out something that we would like to do.

Dr: He'll pull out................five or six or seven

Dr: different things well how about we play the.............

Dr: bug game or.............why don't we do this or

Dr: ......................I've got an idea why don't we have

Dr: a party or I've got another idea I know

Dr: something that will be fun.........................

G: M--hm.

Dr: Whic..............I think shows some growth......

Dr: in ah

G: Yes, that's very bright. moving
D: method of getting through because he'll really try... 1
D: .........................his darndest and the trouble is that 2
D: there---for the most part there're not too many things that 3
D: interest him and interest us too................This 4
D: is the difficulty (laugh) ((LONG)) But he's ((LONG)) 5
G: (laugh) Yeah. 6

D: he's pretty......................off on his own hook all 1
D: week too........................which is........................for no 2
D: reason I can particularly see except that..............ah...... 3
D: ................the sitter situation during the day is (throat) 4
D: really rough......................ah......................to find someone...... 5
D: ........who will..............well I have to go out 6
Dr: twice a week for an hour and.............................. 1

Dr: to get somebody who will sit for an hour is..... 2

Dr: ........real hard............and so...........................he 3

G: M-hm. 4

Dr: tends to get dragged around and popped here and..... 5

Dr: ......................taken over to somebody's house 6

G: Is he in a nursery 1

G: school or anything like that? 2

Dr: He's in this uh..................adult education program 3

Dr: the two day........................program that Bess Fulton's 4

Dr: got. Bess Fulton, you know nah-- 5

G: Best what? Oh I know 6
G: Bess, yes, sure.

D: Well, it's that program that he's in. He was

G: Oh yes.

D: in... he had a full year of

D: nursery school... regular nursery school in

D: Los Angeles... before we moved up here

D: which was

G: Wait a moment he's only four and a half

G: now.

D: Yeah.

G: Uh, you've been here.

D: Six months
G: Uh six months; from three to four he was 1
G: in regular nursery school...............Now minus 2
D: Yeah.

G: five............he's had a year on a the peninsula........ 4
G: that's right, that's this half, yes. 5
D: I'm getting 6

D: all hepped up now on what to do about schools. 1
G: Yeah. 2

D: I spent all la-- I spent one day last week down 3
D: at Peninsula (sigh--laugh) O he is? 4
G: Yeah, our boy's in Peninsula. 5

G: Yeah. And we're very pleased with it it 6
Dr: Your I'm

Dr: pleased with what I've seen I'm very pleased

G: seems to go pretty well. Yeah.

Dr: with it. I was quite interested in what you

Dr: said about............if you were going to have

Dr: to raise your son in English...............uh ........that

G: right. Through this phantastic rigmarole

Dr: to a........a........public school.

G: that the British boy goes through, yes. But I

G: don't know. It's at least worth thinking about.

Dr: That was that ah...........that impressed me very

Dr: much because of of the................ah..................
D1: you would feel that................for his own................ 1

D1: good he w................for his own................understanding 2

D1: more than his own good in the conventional sense 3

G1: Yeah, I 4

D1: that you would have to send...............send him 5

G1: think understanding is the word there. I think that's 6

D1: I don't know I suppose in lots of ways we try 1

D1: to fight the conventional standards...............just--I don't 2

D1: know some of it just I suppose for the sake of 3

D1: fighting it and some of it because we think it's 4

D1: wrong. And................................. 5

G1: Well, I was sent through this 6
Gi: whole whole rigmarole, but with careful instructions

Di: Yeah I know you were.

Gi: that of course it was the most awful nonsense (laugh)....

CM: (laugh)...

Di: But this

Di: is why what you said made---Oh you were told this!

Gi: Yeah, sure!

Di: Oh, you had this to start with! Well this

Gi: Yeah!

Di: is something.

Gi: And every time I came back from school,

Gi: my father would ask did you learn anything at school?
Gay and I'd say I didn't know. And he'd

(laugh)

Gay say of course you didn't it's all nonsense.

(laugh..........................)

D: Well you had you had one head in the game anyway....

Gay: yeah

Gay: And I was told how to pray before I went to

school.

D: Uh, that figures.

Gay: I was handed over to my older
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<th>brothers'</th>
<th>s-tell</th>
<th>little</th>
<th>Gregory</th>
<th>about</th>
<th>religion</th>
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<tr>
<td>G1</td>
<td>Hi!</td>
<td>Hi!</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B1</td>
<td>Hi!</td>
<td>Daddy!</td>
<td></td>
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<tr>
<td>DADDY:</td>
<td>Hi!</td>
<td>How are you?</td>
<td>How've you been?</td>
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<tr>
<td>G1</td>
<td></td>
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<td>We're talking and.....</td>
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<td>G1</td>
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<td>going along smooth</td>
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END

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THE NATURAL HISTORY
OF
AN INTERVIEW

(edited by Norman A. McQuown)

with contributions by

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

Part III: Chapters 7 - 10

MICROFILM COLLECTION
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Chapter 7

Communicative Base-Lines

and

Symptomatic Features

Ray L. Birdwhistell
Norman A. McQuown
Charles F. Hockett
Note: This chapter is devoted to the presentation of background data on the body-motion and the speech of the individuals who participated in the interview which we have in Chapter 6 subjected to variably intensive analysis and specification (leading to the transcript and transcription presented there). Before we can proceed to the statement and preliminary checking of interpretive hypotheses, which is the subject-matter of Chapter 9, we must of course, present the base-lines for the body-motion and for the speech of the participants, and a preliminary list of symptomatic features, combinations of which (or, on occasion single features) may represent departures from that base line. In Chapter 8, we present the psychiatric background data on the participants (to the extent that the psychiatrists were able to discover it). In Chapter 9, we combine symptomatic features and psychiatric background in an attempt to present a range of interpretive hypotheses and a range of data abstracted from body-motion and from speech which, in special combinations, may strengthen or weaken certain preliminary interpretive hypotheses.
BODY-MOTION BASE-LINES

(Ray L. Birdwhistell)
Confusion often arises as to the difference between the two concepts "zero" and "baseline". "Zero", as used in kinesic recordings, represents an arbitrary point of departure in a movement sequence from which all micro-kinesic recording proceeds. That is, following extensive viewing of a segment of film, a given set of positions for each portion of the body is assigned the value of zero and any perceptible variation from such positions is kinegraphically noted. In the case of this film, the establishment of "zero" was made easy by the fact that I had had a number of years of acquaintance with one of the actors (Gregory) and that the other two (Doris and Billy) were both from a familiar culture upon which most of my previous recording had been done. Yet such familiarity is often misleading, so I followed the procedure which I have found most reliable. I saw the film which we are analyzing in this book twelve times before I assigned each actor a "zero". This was then checked against the remaining several thousand feet of film which we had on the actors. And, while the situations varied from a therapy session to a visiting session with neighbors, I saw little reason to vary my initial impression that all three maintained fairly consistent systems. This consistency made possible the derivation of "zero" by what I call "initial scene slice". That is, having determined a scene which was to be microkinesically recorded, I established that set of positions held by the actors immediately prior to the scene as their respective "zeros". I must warn that this is not always reliable. Sometimes a given actor may vary so much situationally that he must be assigned a "scene zero".
However, this applies only to microkinesic recording. Analytic experience has reached such a stage that on the macro-kinesic level, except for one exceedingly disturbed catatonic, I have had no difficulty in establishing immediately the macro-kinesic "zero". Following an extensive and intensive analysis, the establishment of the "baseline" for an actor gives me a further check upon the validity of my "zero". I can take the baseline and recheck the "zeros" to see whether I have introduced a distortion into my formulation. Practically speaking, such a distortion seldom is sufficient to make much difference except with regard to the motion qualifiers. Twelve viewings by an experienced analyst is usually sufficient, on familiar material, to enable the analyst to compensate for idiosyncratic variation which might influence the establishment of zero.

"Baselines" are derived after the fact of micro- and macro-kinesic analysis. An actor's baseline is made up of generalizations about his idiosyncratic variation from the cultural norm. Yet, these are always generalizations which, in order to establish the idiosyncratic, contain a variety of class assignments which relate to what one might expect from someone of this particular background. A baseline of an actor, then, is a statement of the actor's apparent memberships, as measured by his consistent behavior, with modifying descriptions which indicate certain idiosyncratic tendencies.

Having completed the micro- and macro-kinesic recording which is presented in Chapter 6, I derived the list of symptomatic features shown in Figure . The categories are obviously of differing shapes and, ostensibly, of varying degrees of importance. These categories are made up of classes of events which recording and analytic experience tell
me are of importance to the assessment of idiosyncratic contributions to the interactional sequence. I have, frankly, no experimental data upon which to base their choice. Yet, because of their usefulness in other situations, I have included them and attempted to do a saturation listing of their appearance in the full couch scene. This present study is exploratory and I can only hope the research-minded reader will bear this in mind as he reviews the listing. Certainly our hope of utilizing kinesic analysis as an objective instrument for the measurement of personality must ultimately rest upon the empirical establishment of some extensive listing of categories. I must urge the reader, however, that he not be misled into believing that a sum or even a formula composed of these symptomatic characteristics is equivalent to the personality of the actor. These have been derived to give me some kind of incidence check on certain actions as evaluative of response within certain contexts. As such I have used them to evaluate the course of the interview, rather than as a measure of the individual actors. However, they did prove exceedingly useful in checking my estimation of the actors' baseline. While the baseline is an estimate of the actor as a system, these items serve as checks on delusory impression.

Having completed the data-gathering operations demanded by the recording and the listing of symptomatic features, I then engaged in set-quality analysis. It is from the combined result of all of these operations that the following baselines are derived.

Doris

The broadest possible description of Doris is that her behavior is within a range expectable in a middle majority, northern or western, suburb.
That is, there is little in her behavior which would excite comment other than approbation, if she appeared on a shopping tour to any one of the thousands of shopping centers which ring modern American cities. Her physical attractiveness is evident and her general quality behavior is congruent with her degree of attractiveness. Or, at least, her carriage and preening behavior is within the range expectable of an attractive, middle-class woman in her late twenties.

However, since our task is not that of measuring her degree of accommodation to the values of the larger community but rather of evaluating her behavior in this particular interview, somewhat finer measurement is demanded. The outstanding feature of Doris' baseline centers around Doris' trunk behavior. As is general for women of the middle class or above in northern Western European and American society, she handles her torso as a block, seldom engaging in other than sag and stiffening in the thoracic and lumbar regions. She does somewhat less cervical pivoting than is expectable and there is an almost complete absence of sacro-iliac rotation. I saw only one incident in which she seemed to perform a lateral body curvature and even this was of less than a second's duration.

I do not mean to imply that her torso was rigid. Rather, it was, while in tonus, simply uninvolved, except in its very inactivity. During the walking scene, when she goes to the door to answer Billy's plea, this non-involvement of the pelvic region is particularly manifest. While the general placement in space of her pubic region as related to her chin-point is well within the early mature feminine range, analysis reveals that, even in the presence of a male, she does not engage in customary anterior protrusion of the pelvic region. Rather she achieves the pubic-
chin complex by an anterior protrusion which starts in the mid-thoracic region. This incidentally is quite close to the slouch affected by "Vogue" models as they exhibit for females. It is not the so-called "debutant slouch" which includes the model slouch plus anterior pelvic roll.

Doris' most characteristic movement complex relates to her posterior torso movement pattern in which, without sacro-iliac involvement, she leans forward and straightens up by the revolution of the caputs of the femurs within the acetabulum. While this is often seen in upper middle and upper status women in formal movement, it is seldom so extensively employed as by Doris. There is some temptation to believe that this is a function of the intrusion of the camera but I have never seen it so consistently maintained.

Combined with the block position of the torso, Doris rolls her shoulders anteriorly in customary stance. This served to accentuate a general anterior-posterior-anterior bowing of the central body complex in which the most posterior aspect of her body is probably at about the lowest thoracic vertebra.

Her neck is consistently held, unless the context demands otherwise, in an anterior slope from shoulder line to atlas. Her chin is held high enough that neck folds would not appear, even if she were of an age to have them. Again there is evidence of upper middle-class sitting position. The fact that this complex of neck and chin tends to be constant when standing makes the position somewhat more remarkable.

Her general facial behavior, which is marked by a high incidence of a complex consisting of lip protrusion, nose wrinkling and infra-orbit involvement, is somewhat more active than might be expected from the
general torso and upper limb behavior. There is, as far as I can see, a marked reduction of eye-blink; mid-facial markers take over in situations where lid and brow markers might be expected.

Wrist and ankle bending is reduced in favor of knee and elbow but even this is less than might be expected from a girl of this age. Toes and fingers, heel and ball of foot, and palm of hand are all quite active. In fact, one might summarize Doris as having, in the lateralmost aspects of the body, extensive movement which is increasingly reduced as one moves centrally.

She engages in minimally distinguishable favoritism for parallel or mirror behavior. She tends always to be unilateral, engaging in sequential rather than simultaneous utilization of arms or legs. There is some tendency to lose parts as indicated by her extensive positioning of the right arm when holding the stein. Yet, there is no indication whatsoever of tonus loss in non-involved members.

Eye-focus is generally congruent, yet she engages in out-of-focus searching which is somewhat more characteristic of adolescent females from a comparable class background.

To summarize: While, in general physical appearance she is evidently in her latter twenties, there are a number of characteristics which project a somewhat younger woman. Part of this relates to her gender projection which resembles often a ten or eleven year old, sometimes a late-maturing adolescent, and rarely has the positive note of a mature woman. In class status it probably would not be too far off to say that she shows a mixed background, with some experience in girl's finishing-school postural training which is certainly influenced by a somewhat
lower overlay. She takes a friendly but slightly inferior position vis-a-vis Gregory, but it is so absolutely different from her stance in association with her therapist that this is not to be regarded as a patient vis-a-vis or even student-teacher reciprocal. Her physical health projection is positive, although she makes certain appeals which might be mistaken as health appeals. Largely, however, she seems to separate the emotional and physical appeals in a manner which makes this difficult to judge.

In general, her body is coherent, but it is marked by a stance complex which involves her full trunk and her upper arms and legs. While she does not engage in very much ball-of-the-A-joint-of-the-finger activity, she does use her nails in substitution. It is not merely poetic to say that Doris only peripherally contacts the external environment.

**Gregory**

The broadest general description of Gregory is that he is a tall, English upper-status male, partially overlaid by upper-middle majority American. He not only is tall, he moves tall. That is, when he slouches, he lifts his shoulders and then bows them. He projects his head but at full neck. He walks erect from the scapular region down. When he sits, he leans anteriorly, places his buttocks anteriorly on the sitting surface so that the extreme length of his lower limbs force him to telescope. All of this combines to project tallness, particularly to an American viewing group, who would expect more spinal curvature, leg extension, and chin drop in a man of this height.
Gregory's torso is flexible and throughout these scenes held in
tonus but without rigidity. In general, his behavior is marked by
considerable reduction of activity. Minimal positional adjustment,
minimal foot and leg adjustment, and reduced velocity of hand and arm
movement give the impression of considerable control. When he does
move, it is generally in a purposive and full arm and hand pattern.
His legs remain in position longer than is customary even for an
upper status male. His intra-femoral index remains within a few degrees
the same throughout the entire interview.

His face is held in auditor attention, although he seldom
focusses on Doris. In fact, his focus behavior is largely concerned
with objects before him; this allows him control over the filming
and at the same time he is enabled peripherally to view Doris. Thus,
he can evaluate any major movement without becoming involved in her
kinesic stream of discourse. This is not an unusual adjustment on the
part of an adult male in the presence of a highly active female. His
brow and mouth behavior are well within the British upper status complex,
his brows operating bi-laterally, with flick behavior and his mouth reduced
at its lateral aspects to the infra-iris position. His lid behavior is
congruent with his speech but is somewhat reduced in auditor response. I
have not had enough experience in observing Englishmen to have any kind
of cultural baseline for measuring British auditor response, but in
general I have the impression that it is somewhat more passive than
the American, even of a comparable class. It seems to have fewer "Yes,
Yes, go ahead" movements or incipient interruption movements than does
the American. At the same time, we must remember that the movement of
the American upper status auditor has less of these, too, than does that
of the middle or lower-class urban mover. This is quite regionally marked.
As a Southerner, I am quite accustomed to a high degree of auditor activity and am continually concerned with the Western New York pattern of eye-focus without a face position modification which is exhibited by my students. I linger on this point since Doris' behavior may well be influenced by Gregory's low auditor range. Her own auditor markers are so active that I must assume considerable influence from her diakinesic system.

To summarize: Gregory is throughout the films in considerable control of what is essentially an upper status English male pattern. While sitting tall, he maintains a sitting stance which keeps him on the same eye-level or below that maintained by Doris. His reduced reactivity is probably both a function of his peripheral viewing and a status-reduced auditor pattern.

His body is coherent, but the telescoped position plus reduced interactivity make it difficult to assess his involvement in the scene. In general, it is possible to say that in the interaction he introduces fewer messages than she might expect from a comparable adult American male. On the other hand, Americans adapt to status differences and diakinesic differences at times with a general "foreign" estimate which probably serves to ameliorate the influence of his reduced activity.

**Billy**

Billy is a well-coordinated little boy, whose primary baseline characteristic, at least as measured by the small amount of film footage that we have on him, is his minimally interactive behavior. This may be a function of puerile invisibility. If we use this latter criterion, we
can say that even though he engages in repetitive interruption behavior with his mother, the primary characteristic of large sections of his behavior is that it is organizedly reduced to the point that the adults will let him remain when tabooed subjects are discussed. His self-involve-
ment is more apparent than real.

Behaviorally, he holds his trunk very much in the same kind of pattern as that used by his mother, a fact which is masked by the minimal movement engaged in by face, hands and feet. Two things stand out in Billy's baseline. One of these is the tremendously reduced eye-wink behavior, even when he is facing the lights. His eyes are customarily over-wide. This would not be unusual in a somewhat younger child who would combine over-wide with non-projected focus. Billy's eyes are in focus but he seems to hold all movement to the minimum except as related to objects. He seldom focusses on people's faces, tending to use peripheral movement-measurement rather than center-vision shape-emphasis.

Of special interest is Billy's handling of his legs. His hip and knee joint movements evidence considerable flexibility--beyond that customary for even an exceedingly limber five-year-old. The fact that he can sit with apparent ease with his heels against the lateral aspects of his buttocks and with his buttocks and knees on the floor evidences this plasticity. Further, and this must be discounted because of the brevity of material for study, there is some tendency in Billy's behavior to move away from certain parts of his body. That is, he will take a position in space and then move the remainder of his body at a greater velocity than one of the members, usually an arm or a leg. While I think that this
is probably critical to the comprehension of Billy's baseline, I also think that it must be put into proper perspective. One of the things that characterizes the behavior which we sum up as "he left reluctantly" is this differential movement velocity of parts. This is particularly apparent in early adolescents, but probably also appears in the behavior of four and five-year-olds. Yet, it differs from that behavior which mothers call "dawdling", which is made up of generally decreased velocity of full body movement, foot-shuffling, head wagging, and hand-dragging. Only extensive research in developmental behavior will put this retarded body-part movement into perspective.

In summary, then, Billy is a coordinated little five-year-old who is obviously from a middle-class family. There seems to be no gender confusion here, and, if anything, his coordination is advanced for his age except for some extravagance of leg movement, represented by plasticity when seated and lateral leg swinging when walking and running. His movement pattern is reduced but this may very well be a function of his attempt to be invisible around adults.
Vocal Activity Base-Lines

(Norman A. McQuown)

Doris' American English speech does not stand out as peculiarly regional — in large stretches of the middle and western states she would "disappear", as not markedly Southern, Northeastern, or Northern. Her use of "standard" English grammar marks her as reasonably well educated, as does her choice of vocabulary even when discussing non-technical subjects. Indeed, vocabulary choice when discussing technical matters, such as her own psychotherapy, is reasonably precise and reasonably appropriate. Her paralinguistic range is not extreme in the choice of paralinguistic features — indeed, it is somewhat restricted. Certain sequences of features, both linguistic and paralinguistic, such as 2 ↓ 2 →, are with her, however, so abnormally frequent, and so surrounded by what is otherwise a not sharply marked linguistic and paralinguistic environment, that such features, for her, must be considered a part of her baseline. Departures, therefore, from her baseline, particularly those in the direction of non-middle western, non-academic, linguistic forms, and those in the direction of more numerous, more varied non-neutral paralinguistic variants, will be readily apparent to a paralinguistically neutral middle western academic. Such departures have been noted in the listing of symptomatic features in Doris' speech.

Gregory's English speech is basically British, not of a localized British regional variety, but rather of the educated upper-status product of public school and university. It is not only lacking in British regionalisms — it likewise lacks the extremes of the Oxford-
Cambridge status-distinguishing varieties; it is not snobbish in its mannerisms, merely well-bred. His use of "standard" English grammar and his choice of vocabulary strengthen the impression conveyed by his pronunciation -- the overall effect is one of well-controlled and well-integrated use of language. His paralinguistic range is extremely restricted, much more so than Doris'; indeed, he rarely departs from neutral middle ground. Departures, therefore, in the direction of American English, either in pronunciation or in vocabulary choice, are easily noted, by reason of their great incongruity with the general background of his speech. Although for the most part the character of Gregory's speech does not mark him as anything but an academic, to a middle-western American academic, rank Briticism stand out sharply. Increasing frequency of these is readily noted. Departures, then, either in the direction of American English, or in the direction of specifically British English, in pronunciation, grammar, or vocabulary, have been noted in the listing of symptomatic features in Gregory's speech.

Billy speaks so infrequently that it is difficult to establish his baseline. In general, it is that of a small boy, alternating paralinguistically between the muted and the boisterous; linguistically it is uniformly unmixed, either by non-General American regionalisms, or by any special indications of social status. His general pattern would disappear within that of his mother (except for 2 → 2 → , which in Billy's speech is nowhere to be found). Symptomatic features in Billy's speech, therefore, are infrequent or, possibly, in the brief stretches we have, totally absent.
Kinesymptomatic Features

(Ray L. Birdwhistell)

[Charts] 16, 17, 18
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<th>Symptomatic Features</th>
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**Stratification No. 00**

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<th>Hand Slice Mod</th>
<th>Hand Sheath (Lateno)</th>
<th>Hand Wave</th>
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Phonosymptomatic Features

(Norman A. McQuown)

[Charts]
### Doris' Symptomatic Features

**Figure No. 00**

**Paralanguage**

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### Overvoicing

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### Undervoeicing

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Gregory's Symptomatic Features
Figure No. 00

PARALANGUAGE

Laughing
8517

Overloud (♂)
2972

Clipped (♀)
3211

Vocal Segregates

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Language Phonemic

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Morphophonemic

p. 33 Transcript
ga/h/den

5645 aft/ah
p. 146 Transcript
literatu/ah

Lexical

p. 31 Transcript
only kid
p. 33 Transcript
garden
Billy's Symptomatic Features

Paralanguage

Narrowed Register (♯)
1675

Openness (○)
1675

Overfast Tempo (鹬)
1675

Overloud (¶)
1675

Overhigh (†)
1675
CHAPTER 8

The Psychiatric Overview

of the

Family Setting

Henry W. Brasin, M.D.
Acknowledgements

In an experiment in which the transactions between members of a family are the object of study, the investigators owe a considerable debt to the family for their interested cooperation because without them there would not be available the material essential for analysis. We want to take this opportunity to thank all of the families participating in Mr. Bateson's studies and particularly the family called Clarence in this chapter for their permission to use this data publicly. Their intelligent and sensitive appreciation of the needs of the project and charming helpfulness made this work a pleasure.

Method of Obtaining the Films and Historical Data

These families became acquainted with the project through Mr. Bateson's public lectures in which he invited interested families to participate. After preliminary discussions of the hypothesis involved and the nature of the filming procedure, Mr. Bateson and his camera man visited the home on two occasions to photograph the family during May/June, 1956.
The scenes consisted of

(1) Doris, Billy and Gregory in the living room. The

score analysis of data presented is from this film.

(2) Larry, Billy and Gregory in the living room.

(3) Larry, Billy and others in the bathroom.

(4) Doris, Billy, Larry and the neighbors.

(5) Doris, Billy, Larry at dinner —

(6) Another film (of 50 minutes duration) of Doris and her

therapist was made by Mr. Bateson in June, 1956.

The biographical material was obtained by Drs. Frieda Fromm-Reichmann and Henry Brosin in the following visits:

(1) Four visits with the therapist of Doris—
(2) One visit with Doris and Billy in their home.

(3) Conferences with Gregory Bateson.

Since our material is necessarily limited and discretion is essential, no attempt will be made to round out or complete the personal histories or the psychodynamics as we know them. The brief outlines which follow provide sufficient factual data to serve the reader his background information for some understanding of the setting of the linguistic-kinesic analysis. The principal aim of this book is to illustrate the theories and methods of this analysis and not to furnish an exhaustive study of the psychodynamics of this family. Numerous problems relating to the protection of participants in research in psychotherapy and the intrusion on their privacy are discussed in detail by Sternberg, Chapman and Shakow, and need not be repeated here.


An attempt will be made after some of the major biographical facts and
emotional relations are described to fit together the interactions, between
the members into a coherent picture of a three-person system as contrast-
ed with three 2-person systems.

The Father

Larry is a thirty-four year old, white native American male of Protest-
ant origins who was born on a farm in one of the plains states. He was the
only child of this marriage. He is a handsome man of medium height and
slender built, with a charming social manner, although he can be direct in
his approach. Obviously well educated, he likes to discuss abstractions.
He wears his clothes casually but gives the appearance of being well groom-
ed. He has ample reserves of free energy, without being forbidding. He
has no physical disorders or complaints. His father was an itinerant
school teacher, farmer and businessman, who shifted jobs frequently
in an effort to make a fortune quickly, but who was always poor. Larry's
mother died while he was quite young and he was reared principally by his
father's second wife who apparently was a good stepmother. She finally
divorced Larry's father because of his ambitions, ideas and improvident habits. Larry worked hard at the usual jobs to get through his school and it was a real recognition of his abilities for him to be admitted to one of the best Eastern colleges in spite of the handicaps which he suffered while living in the mid-west. He graduated with a Master's degree and has had no trouble holding good jobs in his profession. His continued devotion to intellectual adventure and the power of the intellect through the use of scientific method is apparent in his interest in communication theory as applied to human behavior, dianetics and this project. He met his wife in 1946 while he was a junior in college and she was a sophomore. They were married two years later, before either had graduated, but with a little help they lived well the first year of marriage. Since subsequent events are known principally through his wife, Doris, the development of the marriage will be continued there. His relations at work and with neighbors are excellent in so far as their milieu permits. He has friends at approximately the same social and professional level who share similar
tastes and interests. Currently astronomy is one of his hobbies and he is co-owner of a small telescope. Neither he nor his wife belong to a church, social or athletic club, fraternal or similar organizations. They depend on their professional associations and neighbors for their social life which is loosely structured. The quests for identity and social purpose in their various attempts to find more permanent ties is one of the leading themes in this family as well as for the many other families in suburbia.


Unfortunately our data does not enable us to furnish even brief summaries of some of the social systems which we observed in action.
The Mother

Doris is a very pretty twenty-eight year old white, Protestant American woman who was born on the Atlantic seaboard. She is physically healthy with abundant energy. In contrast to Larry's early life, she was reared in comfortable or even luxurious physical circumstances. Her mother came from a well-to-do family and her marriage to her husband was conventional, but the marriage was turbulent due to what Doris regarded as excesses in her father's behavior. There were three children, of which Doris was the oldest, with brothers two years and four years her junior. The mother remains a shadowy figure throughout all of our material, in contrast to the father who is in the foreground at all times. The lack of conscious attachment is all the more remarkable because her basic speech patterns are those of her mother rather than those of her peers, an occurrence which is statistically quite unusual. As Doris grew past her mid-teens, her hostile relations with her brothers altered so that she tried to form alliances with them in a search for maturity.

Her father emerges as a powerful self-made man who worked himself
up to a position of wealth and power but without as much social acceptance as the family wanted. Apparently Doris was simultaneously attracted and repelled by her strong but irascible father. At times she also tried to defend her mother. Like many young girls in comparable circumstances, Doris's first attempts to achieve feminine maturity were marked by "acting out.

She discovered that although she was supposed to be her father's favorite, he wanted his first-born to be a boy. She reports that she uses his method of rages to exert control over others. She recognizes his use of money and guilt as other methods of control but does not use them. We need more evidence to show that her hostility patterns (including the controlled rages) are powerful means to maintain health. While her body movements are not remarkable in our suburban centers the closer analysis by Dr. Birdwhistell in Chapter 7 reveals certain distinctive characteristics which invite comment. The relative non-involvement of the torso, the way she leans forward and straightens up while sitting, reduced eye blink, increased mid-face motility with occasional out-of-focus eye searching are some of the ways in which she relates to her family and society. Her voice, even
she is speaking in an animated, vivacious manner has occasionally a flat
quality which is in contrast to her total manner.

Doris was happy to escape from these acute conflicts where she was
a buffer between her mother and father, by going to a prominent eastern
college. She was able to achieve academic distinction as a psychology
major easily, but without any internal feeling of satisfaction or reward.
She continued to be lonely here, felt unattractive, having dates with only
one man until she met Larry in 1946. The first year of marriage (1948-49),
is reported as being reasonably happy, but with the passage of time she
became dissatisfied. This was augmented by Larry's working hard at getting
his Master's degree, her dissatisfaction with her job, and her belief that
Larry wanted children. She also felt she was not living up to his intellectual
expectations for her. Moving to several cites for new jobs (1949-51), did
not bring about improvement, nor did two efforts to utilize dianetic methods
of auditing in which both she and Larry were interested. The first year of the
baby's life (1951-52) was an uncomfortable one with feeding difficulties,
coli and much crying. (She did not nurse the baby.) She became markedly
depressed and Larry tried to protect the baby. In 1955 they moved to a congenial community where she began therapy and the domestic pattern became less turbulent. She is a cooperative patient who has been making steady progress.

The Son

Billy is a well formed, well nourished boy of four and one-half years, of normal height and weight, who plays actively and somewhat aggressively with his peers. He is usually impassive, blinks rarely (giving a manner described by one of the team as "looking out from behind his eyes"). This impassivity is notably altered when playing with his father, when he becomes obviously affectionate, as in the bathing scene. His movements are usually quick and graceful, with unusual flexibility of his joints, but the motility patterns are not noticeably different from his peers. He is extremely active without being warm and friendly unless he is in a special situation, as when Gregory played with him and his puppet Tucky. He is not organically sick nor does he have any physical limitations. He is obviously intelligent and this is corroborated by school tests. He has not been in therapy upon the advice of his mother's therapist. He has a pattern of returning to his mother at 2-4
minute intervals usually with a demand, which are of interest because we
see him returning to her for sustenance, but also to check up on her. He is
alert to her needs and tries to meet at least some of them as we see in the
"pillow scene". From other data, it seems that she does not really believe
he can play in a satisfactory manner by himself. While she is occasionally
annoyed by his persistent recurrence, she can be warm and supportive
when dressing him. She tries to do all that is right for his comfort and
well being. This family recognizes that they have a problem of adjustment
and perhaps the proof of it is that they are seeking outside help.

The Family

The numerous complex patterns apparent in the interactions between
the father-mother-son system do not invite easy over-simplifications. We
are able to see from the gross inspection of their overt behavior that though
they are attractive, relatively successful members of a professional
family, they are not living without strain. While we do not pretend to
the full knowledge essential to a good understanding in depth of the psycho-
dynamics we can offer a few tentative hypotheses which need much more
material for verification.

(1) Larry is a relatively self-contained man whose organization of his inner resources does not facilitate the strong sustaining support of others. With his organization his professional life absorbs enough of his interest and energy to divert him from actively engaging Doris to her full potentials. The demands and complexities inherent in a career such as Larry's clearly affect the family. Understandably enough, earning a living in a competitive field requires sufficient of his energies to prevent his occupying both parental roles. Comparably, neither her personality nor the limiting circumstances of suburban life contribute to strengthening Doris's position.

It stands to reason that the role demanded of a small child in this three-person situation will at times be difficult.

(2) In this three-person system, Doris needs support if she is to function successfully as a woman, wife and mother. Without this support she is forced into patterns which accentuate the
difficulties of her husband and child in dealing with her. Her training and interests are not enough to withstand the assaults made upon her by her complex inner needs or the external demands made by her family and community. Her continuing relationship to her father are current reminders of her buffer role in her childhood. Her penchant for triadic roles, however innocuous, may represent attempts to achieve more intimate relationships than she had perhaps, to her mother. Her identifications with her father persist and may dominate her behavior with Billy. In view of the fact that Larry is unlike her father, it is noteworthy that there are some indications that she might like to see more of her father in Larry's behavior. His failure to fit into her paternal image may contribute to her wish for him to help her with some of the maternal functions, since Larry does not compel her to occupy a strong and exclusive maternal role. This, in turn, increases her distress concerning both Larry and Billy, because of her feeling that she is
not carrying her responsibilities adequately.

(3) We are familiar with numerous transformations which occur in a family after the birth of the first child.

Ordinarily the parental bonds are sufficiently strong, particularly if good preparatory work has been done by various community influences, to include the newcomer and provide him with the manifold attentions necessary for his well-being.

It is an interesting question how different babies utilize available techniques to make known their needs and quickly establish some mastery over the parents in view of the possible reciprocal relations being in the "imprinting" process.

Early infant care requires constant alertness on the part of the mother, thus utilizing much of her time and energy and inevitably curtailing some of her other activities, unless she
has remarkable skills. The readaptation thus required is felt as a hardship by her, if she has not had good models in her own childhood and youth to help give her the basic skills needed, and if she does not have sufficient appropriate satisfactions and rewards from the husband, relatives, neighbors and friends. The husband must learn to give first priority to the wife-mother-child unit. While losing some of the wife-mistress satisfactions, he gains rewards from the new father-mother-child unit. For all three persons, this requires work over time with various changes in libidinal ties, attitudes, habits and expectations. In this family the prenatal psychological preparation did not seem adequate for the newcomer, in view of the disturbed feeding and sleeping habits reported about Billy. Although both parents worked devotedly for his welfare, he seemed to need more reassurance than is ordinarily expected by most first-born children. His patterned behavior for
maintaining close touch with his parents is well seen in the

film and is described in other chapters. His rhythmic

recurrrent return to the mother, his skill at becoming "invisible"

while in direct view of spectators, his impassivity while over-

hearing highly personal comments about himself which probably

cause for him to reflect on his part in the family, his method

of dealing with "double-bind" situations, his responding to

and reciprocally initiating activity as in the "Pillow Scene,"

are activities which can be studied on the film-tape with

advantage.

(4) Perhaps something should be said about the dynamics of the

scene in which Dr. Bateson is visiting with Doris and Billy

in the presence of the cameraman. He is in a new three-person

system which makes unusual demands upon all three participants.

A skilled interviewer with many years of experience with

schizophrenic patients and numerous pre-literate tribes in the
field, Mr. Bateson succeeds in the difficult task of being

warm, friendly, reassuring, without allowing these attitudes
to alter the visit into a therapeutic hour. He invites informa-
tion, allows Doris and Billy to choose their own topics, and,
most importantly, does not make gross comments or inter-
rogations. He does respond linguistically and kinesically to
both his and her questions and comments and thus avoids the
Scylla of deadly frozen stereotype of some professional
interviewers, as well as the Charybdis of overly loquacious,
anxiously reassuring type of interviewing. His comparative
lexical reticence makes the kinesic analysis of greater
interest, for we see that with his highly controlled imperturb,
there are many small but definite activities which became clear
markers for his non-lexical comments about the progress
of the interview. As can be seen from the data presented,

(Editor: please check this and insert a page—number if you wish)
he can express satisfaction and discomfort, skepticism and delight with relatively small movements. At times he is able to carry on the interplay in harmony with Doris and Billy at several different levels simultaneously in a highly gratifying manner which is reassuring to both. As various narcissistic, erotic or aggressive components emerge the observer can detect the interviewer's skill at either encouraging or dampening the steady flow of messages by his use of the matchbox or beer stein. If one accepts the challenge that no human interaction can be absolutely neutral, and that "intellectual" and "emotional" levels of communication are merely relative abstractions, the observer can follow the interaction from beginning to end as an intelligible continuum akin to a chess game or drama in which the opening exploratory movements can be clearly distinguished from the middle game and the end game. There
are several emotional crises evident which the interviewer keeps in check unobtrusively but with definite signals. As various figures of Doris' and Billy's past are projected upon him, he responds deftly and sympathetically, but continues to maintain his identity as a transient, scientific observer.

As discussed in other chapters, it is not obvious at this time whether such minute analyses of brief periods of 2-5 minutes, or the semi-microanalysis of longer periods are worth the effort. Perhaps little more is added compared to a conventional clinical analysis of the film-tape by several experienced clinicians. Only future experiments under controlled conditions can demonstrate the special values for the practicing clinician. For scientific recording and verification of hypotheses, this method seems to have numerous distinct advantages. For learning situations where therapists in training wish supervision of their technique, there is no doubt that small samples of behavior on film-tape offer an unusual opportunity for superior tutorial direction and advice.
Care has been exercised in presenting this data to emphasize the concrete behavior of the principals in this action as members of a stream or continuum of communication. We are aware of the theoretical and practical barriers to an analysis of a continuum as opposed to a series of discrete events. The chapters on theory present possible resolutions. There has also been a minimum of reference to models for family interaction as presented by Freud, Jung, Adler, Parsons, F. Kluckhohn, J. Spiegel, in order to focus on the data available. With greater familiarity with this data and altered concepts, numerous interpretations based upon various other conceptual models will become available.
CHAPTER 9

COLLABORATION

Norman A. McQuown
Note: Although this (9) and the following chapter (10) bear my name, they could not have been written except as the end-product of an on-going and extensive intellectual interchange among all* the contributors.

N.A.M.

*Including, for most of Chapter 9, Dr. Starkey Duncan, whose prior data-researching, and preliminary hypothesis-formulation made possible the sub-selection whose incorporation into this chapter has been my responsibility.
The previous chapters have set the stage for the collation of data deriving from a variety of approaches. The extent to which such collation, given the present state of development of the contributing approaches, is fruitful, and the degree to which it, given full maturation of the techniques for handling the bodies of substantive data handled by such approaches, can approximate fully validated interpretive results, will, I hope, here become clear.

Chapter 1 presented the general theoretical framework within which our whole operation has proceeded. Chapter 2 presented, in outline, both general and specific linguistic knowledge necessary to a structural analysis and sociocultural identification of vocal behavior. Chapter 3 presented both the theoretical background for and the specific technical detail of a system of analysis of body motion behavior. It likewise presented the conditions prerequisite to a reliable interpretation of the results of such analysis. Chapter 4 presented a brief history of past efforts, in the psychiatric field, to deal with both kinds of behavior, and an estimation of the value to psychiatry of full exploitation of the descriptive frames outlined in Chapters 2 and 3.

Chapter 5 presented the background of the specific body of interactional material which is here presented and which constitutes the interview of which we here write the natural history. Chapter 6 presents the text itself of the interview with its transcript and (in part) its transcription. Chapter 7 presents a provisional general statement of the background characteristics both of the speech and of the body motion of the participants in the interview and a specification of some of the
salient features of each which may be symptomatic of particular adaptations of the participants to each other or to their environments (both present and past). Such salient features may lend themselves both to an interpretation of the particular personal constellations of sociocultural characteristics inherent in the participants and to those momentary crystallizations of such constellations evoked by the dynamics of the interaction between them. Chapter 8 presents a general picture of the sociocultural background of each participant which may contribute to a psychiatric interpretation of the sequences of behavioral constellations.

In the present chapter we shall outline, in cross-section, the procedures which have brought us thus far in the analysis of the interview and of the participants in it. We shall present a series of questions which guided us in the preliminary analysis of selected scenes within the interview. We shall then present a series of interpretive hypotheses which might be tested with such materials, and of specific data-seeking questions whose answers might contribute toward the checking of such hypotheses. We shall list such behavioral evidence as might provide the answers to such questions. We shall, finally, present an interaction profile of portions of the interview in which the views of the dynamics provided by each of the three approaches, the linguistic, the kinesic, and the psychiatric, are checked against each other.

In the processing of the sound-filmed (and tape-recorded) interview the following stages may be noted:
(1) "Soaking" (multiple viewing-listening) (Birdwhistell and Hockett, with occasional participation by McQuown) (Bateson, Brosin, and Fromm-Reichmann)

(2) Scene selection and intensive study (Birdwhistell, with Hockett and McQuown, and Bateson, Brosin, and Fromm-Reichmann)

(3) Matching (and tagging with a frame number) of particular points in the kinesic record with their counter parts in the linguistic record (Birdwhistell and McQuown, with Brosin)

(4) Identification of symptomatic features (Birdwhistell and McQuown, with initial participation by Hockett)

(5) Specification of clusters of symptomatic features (Birdwhistell and McQuown)

(6) Uncovering of the interaction profile (Birdwhistell, Brosin, and McQuown)

Birdwhistell reconstructs the following account of these stages:

The film --- with sound --- was played through fourteen times in joint sessions before each of the analysts turned to his special medium. The linguists and the kinesicist again extensively reviewed the full collection of materials, each concentrating on those of his own medium. The psychiatrists joined them for listening or viewing, meanwhile continuing to gain perspective on the family being interviewed and on their associations with the researcher-interviewer, with the therapist, and with the neighbors who appear in several sections of the film not covered by the intensive analysis.
With the perspective gained through these experiences, the whole
group collectively selected certain scenes for special consideration.
The first of these chosen was the "cigarette" scene (12373-12,683)
which appeared to mark a critical point in the interviewer-interviwee relationship. This scene, in which Gregory "lights" Doris' cigarette, seemed furthermore to highlight the dynamic aspects of their relationship. Since it seemed likely, moreover, that this two-person transaction was to be comprehended only within the framework of a co-existing three-person system, the attention of the group was then
drawn to the initial "sofa" scene (0-1668) in which all three persons were active. In this scene, Doris and Gregory talk while Billy
"listens", his back to the adults. A startling coincidence in this scene, between Billy's movement to leave and Doris' shoulder activity prompted the team next to turn their attention to the relationship between Doris and her son. The "pillow" scene (1668-1886), in which Billy presents Doris with a pillow, and the ensuing struggle as to its placing, demanded a fine-grained analysis of their movements. The results of this analysis were so ambiguous that it was felt to be necessary to transcribe and analyze other scenes in which there was a direct exchange between mother and son. Special attention, accordingly, was given to the "airplane" scene (2938-3507). This scene involved the specification of particular features which could only be understood by contrasting them in these contexts with identical or similar features in other contexts elsewhere in the interview. Following this and other analogous analytic trials, a variety of scenes within the interview were subjected to varyingly intensive analysis.
Repeatedly, during this research period, the team as a whole sat together for a full screening of the entire interview. Only in this way was it possible not to lose perspective. It soon became evident that a topography of interaction for the whole interview might be worked out. While the film was in general at no point completely disrupted, there was clearly a series of shift points which marked off individual sections. In the cigarette scene, for example, the intimacy evoked by Doris' request to have her cigarette lit (and clearly demonstrated by the tight rhythmicity of the transaction) was effectively reduced by Gregory's shift of tempo on his own cigarette movements (12,754-12,806) which clearly (12,824) terminate the scene. The repetitive interruptions by Billy of the interaction between Gregory and Doris seemed likewise to serve some function other than that of satisfying Billy's need for attention.

It appeared not unlikely, then, that even without microanalysis of the entire interview, it might be possible to project the understandings gained from the spot-intensive analysis onto larger stretches and uncover, at least provisionally, full profiles of such stretches. As the team repetitively reviewed the film as a whole, it became clear that even though the trail of analysis, which the research problems themselves had imposed, had established some boundaries to the relations of the persons in interaction, the interaction itself contained self-regulatory mechanisms which required charting, if the interaction was to be understood and its topography established.
A series of devices aided in the fixing of change-points and in the charting of the interaction topography. The first such device was a by-product of scene-selection. The "cigarette" scene was set off from the rest of the interview because it was in this scene that Doris and Gregory achieved the greatest intimacy as evidenced by the adjustments required during the lighting of the cigarette. She, as a woman, did not light her own cigarette, and clearly (12,492-12,528) indicated that she wished the service performed. Gregory's resistance (12,492-12,528) to playing the complementary (male) role was not sufficient to withstand her demand. His cigarette as orchestral baton (12,754-12,806), however, provided us with one device which in this instance served to reestablish the interviewer-interviewee relationship which had been temporarily displaced by the male-female centered reciprocal.

Other devices serve not to mark off beginnings and ends of scenes, but to punctuate activity within them. Gregory's "sympathetic" preferring of the matchbox (1983) to Doris in her post-"pillow"-scene distress constitutes one such device. His use of the matchbox held vertically between himself and Doris in other sequences to serve as a brake on the interaction constitutes another. Such explicit actions as the boy's entrances into and exits from the transaction between Doris and Gregory constitute still others. Such devices, although punctuational from the point of view of the interaction between Doris and Gregory as a whole, may, nonetheless, likewise serve to mark the beginnings and ends of parts of that interaction or of other interactions which intersect with it.
Although the scenes and sub-scenes chosen in this manner were selected from the whole film, they are not necessarily the only scenes which might have been so chosen. It is evident that subtler factors conditioned our choice of these as critical. The agreement between psychiatrists who based their selection on clinical experience and the linguists and kinesicist who based theirs on data abstracted from their respective media was too great to be mere coincidence. The fact that the members of the research team (some native Americans like Brosin, Birdwhistell, Hockett, and McQuown, one Briton, Bateson, and one German, Froom-Reichmann) have all been immersed in American society and culture is of cardinal importance. The search for cueing items (linguistic or kinesic, of prima facie significance) led quickly to a further development, the specific recognition that such immersion enabled us to label such items symptomatic and to make use of them as special tools for working out the interaction topography.

A second consideration permitted us to add to the list of such items those items or item-assemblages which appeared as unusual. It is not relative frequency or infrequency alone which constitutes the measure of unusualness, but rather, and more importantly, the fact that some items appear as 'breaks' in a previously established pattern. Such breaks may be signalled not only by significant presence of such items, but also, and almost as frequently, by significant absence. Some of these symptomatic items, finally, if they seemed critical in the solution of problems of interpretation advanced by a psychiatrist member of our team, were labeled diagnostic.

Following upon our preliminary isolation of such items as seemed to justify the label symptomatic, we proceeded to check their significance in
a variety of contexts. Some proved subsequently to be of considerably more utility than others, either in checking the base-lines of the individual actors, or in laying out the topography of the interaction. The establishment of such utility is, for the time being at least, purely empirical. There is no theoretical justification for considering some items to be a priori more suited to particular purposes than others.

Birdwhistell's account details the happenings of our first three months of intensive study. In subsequent sessions, those specifically devoted to collation, we worked within the following frames of reference:

Bateson suggested a series of questions about a particular scene which might be asked of the linguistic and of the kinesic data, or of the general psychiatric evaluation (which makes use of all available data without consciously resolving them into behavioral sub-categories):

1. Is this a piece, part of a piece, or several pieces? (Is there only one or are there several plots?)

2. What is the map of the interaction? What is its climax structure?

3. What is the contour of this map? Is it progressive or is it stable?

4. Are the structures repetitive or is there a succession of different structures? Are there changes in the climax structures? Are there changes in their parameters?

5. What is the focus of the scene? Who is the principal protagonist? What (or who) are the props? What is the camera aim? Is there a Greek chorus?

The answers to such questions have in part been incorporated into the "stage directions" which accompany our transcript and transcription of the interview.
Bateson has pointed out, however, that the above series of questions, which he himself proposed, limit attention to certain sequences. These are the sequences in regard to which the proposed questions can be answered in a consistent manner. There are, however, numerous sequences of interchange in which it is precisely these patterns of relationship that are inconsistently defined. Such sequences he has called "double binds" (Bateson et al., 1963) and it is appropriate here to point out that inconsistencies of this kind are rather common in the interview material which is analyzed in this book.

Human beings and, indeed, mammals generally, devote a great deal of their communicational behavior to trying to define for themselves and each other the basic premises of their relationship to each other. They exchange signals which propose (or affirm or deny) that the relationship shall be characterized by such themes as dominance, submission, dependence, spectatorship, competition, cooperation, intimacy, distance, and so forth. In periods when a relationship is functioning smoothly, the signals regarding these themes may be relatively consistent throughout long sequences. But in relationships undergoing change and in various sorts of pathogenic relationship, gross inconsistencies may appear.

Individual A may signal to B that he expects respect from B, but when respect is accorded A may punish it with an appropriate contempt. B may, as a result of his own actions, be put continually in the wrong by A's continual shifting of the premises of the relationship. In such cases it is usual to find B either defending himself or taking his revenge by unexpected oddities of behavior which in turn leave A guessing as to the
appropriate themes or premises of the next step of an interchange. In their more benign form, inconsistencies of this kind may be humorous and even contribute to a progressive evolution of the relationship. In other cases such inconsistent sequences may be exceedingly painful to one or both of the persons concerned, and Bateson has suggested that sequences of this kind play a significant role in the etiology and maintenance of schizophrenic symptoms in one or both of the participants.

The analysis in this book has not been organized around this hypothesis, but it is perhaps appropriate to cite an instance in the transcript which illustrates double-binding inconsistency. Perhaps the most dramatic sequence of this kind is the episode which Doris describes as characteristic of bed-time (Chapter 6, pp. 217 AE, line 1):

Doris: "... particularly at bedtime after the fiftieth time when I have said: get into bed, or he has been read to and ... you know, all the routine and ... and more than ... he and Lee usually get in there and talk for about a half an hour and ... he's uh we figure ... you know ... this should be the end of the day (laugh) ... and he will come out and I will say get the hell back in here and I don't want to see you till tomorrow morning or something along these lines and then he will come out ... Mommy, Tuckie wants to give you a kiss (sigh). Wha' ya gonna do? (laugh) But ... he's he's pretty tricky ... in lots of ways or not tricky but an perceptive as to how he can get through."

The pathos of this passage derives precisely from the way in which inconsistencies are piled one on top of another. What is described is a child who has already discovered a quasi-schizophrenic trick of communication. He has discovered that it is safer, instead of committing himself
to an unpredictable or dangerous emotional exchange, to throw in the puppet Tuckie as a substitute for self. In this maneuver he is successful at the first level. It is with a sigh that Doris quotes his words, "Mommy, Tuckie wants to give you a kiss." She imitates him with empathy for the tragedy of his position. She then reverses herself, "Wha' ya gonna do? (laugh) But ... he's pretty tricky ... in lots of ways or not tricky but ah perceptive as to bow he can get through." It is not possible to guess what Billy's next appropriate maneuver should be. Should he disguise Tuckie's hope for a loving interchange, or should he have Tuckie kiss the bedpost?

Further general axes which might be used to characterize the behavior in the interview are these:

(1) Quality (Introspective, Normal, Editorial)
(2) Time (Lagging, "Here", Anticipating)
(3) System (Systemic, Inter-Systemic, Pigmented Systemic)

Crossing these three axes of behavior are three more which might be observed:

(1) Conscious (including Pre-Conscious) --- Unconscious
(2) In Awareness --- Out of Awareness
(3) In Focus --- Out of Focus

None of these (except for the quality axis) were systematically observed in the processing of the material, since the sound-film medium does not provide adequate access to the data. For the observation of the time axis and of the systemic axis, one must (among other things) be able to observe eye-convergence. For the observation of the systemic axis,
skin-tones must be visible. Color film is required, if we are to increase our ability to judge visceral behavior, and such judgment is essential to placing activity on one of the last three axes.

Brosin suggested the following general hypotheses (relative either to therapy in general or, less specifically, to the interpretation of any interview) which might be checked by the utilization of linguistic and kinesic data in coordination with psychiatric insight:

Most general are these:

(1) There are common factors in all neuroses.
(2) There are identifiable and specific affective (as opposed to intellectual) components of the communicative stream.
(3) The operation of unconscious factors is apparent not only in every day life but also in the behavior of patients.
(4) There are common factors in all therapeutic procedures.

Specifically focused on the therapist-patient (or interviewer-interviewee) relationship are the following general propositions:

(5) The patient has a good ego or has good therapeutic potential.
(6) The patient and the particular therapist will get along well (or poorly).
(7) The personality of the therapist as a person (in contrast to that of his official role) has entered into the therapeutic transaction.
(8) There has been essential change in the patient's behavior.
(9) The patient is working toward (or has received) insight.

With more specific reference to problems of identification or of identity are these:

(10) Evidences for particular identifications of the patient with other figures are present in the communicative stream.
(11) Change from one identity to another is clearly observable (and specifiable) in the shift from one preferred signal system to another.
(12) Evidence for the identity-confusion may be found in the speech and body-motion behavior of patients.

(13) The transactions in transference are clearly manifest in the speech and body-motion behavior both of the patient and of his therapist.

With specific reference to problems of change are the following:

(14) There is evidence in the speech and body-motion behavior of temporary change (or adaptation) of the participants in the session.

(15) Evidence for the level of organization of behavior is directly recordable and specifiable in changes in speech and body-motion behavior.

(16) Changes in degree of affect are directly observable in specifiable changes in speech and body-motion behavior.

(17) Shifts in level of literality are recordable and specifiable in the variation in a participant's speech and body-motion behavior.

(18) Adaptations to audience, accommodational shifts in meaning level, and in the use of appropriate logical types are observable and specifiable in speech and body-motion behavior.

With specific reference to problems of organization of the interchange between patient and therapist, we find these:

(19) It is possible with data derived from the speech and body-motion behavior of the participants to specify the initiators of new activity.

(20) Where such activity is regulated, the evidence for regulation and for the identity of the regulator is to be heard (and seen) in the speech and body-motion behavior of the participants.

(21) Where such initiating or regulating activity is repetitive, the evidence for cyclicity may be found in the speech and body-motion behavior of the participants.

(22) Props are important to the regulation of therapist -- patient interaction and their precise function may be specified by focusing on the speech and body-motion activity which involves such regulators.
Since the interview which was in this book subjected to analysis was not an interview between therapist and patient, but merely an attempt at recording a guided cross-section of intra-familial and interviewer-interviewee behavior, the specifically therapeutical implications of these hypotheses could not be and were not here investigated. Notwithstanding this limitation, some insight may nevertheless have been obtained into the manifestation in the speech and body-motion of the participants of the more general processes involved in interaction, as well as into the possibilities of role and status identification from signals appearing in such behavior.

Since we have in this book provided a stable notation with which it is possible to record changes in overt behavior (both of speech and of body-motion), we have, with this notation, isolated and recorded the evidence from which we here derive particularistic answers to the generalized questions posed as hypotheses by the psychiatrist.

(1) There are common factors in all neuroses. We have (and shall, for some time, continue to have) inadequate data with which to test this general hypothesis. We should need adequate samples of behavior manifesting each of a variety of neuroses. We should need complete analysis and specification of the speech and body-motion behavior found in these samples. We should, finally, need careful collation of psychiatric interpretations of the behavior in each sample with the linguistic and kinesic analyses of the sample. With the tools now available, however, there is no longer any technical reason why we could not establish a linguistically and kinesically grounded typology of neurosis.
There are identifiable and specific affective components of the communicative stream. There is little evidence that any components of the communicative stream are a priori more likely to manifest affect than others. A few such affect-manifesting components may be noted:

In Doris' body-motion behavior there are a number of instances of:

1. lip-biting

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2. swallowing without drinking

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In her speech, there occur instances of:

3. overloud (↑)

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4. over high (↑) and open (♂)

5. extra-overloud (↑) and clipped (♂)

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In her choice of words, the following appear:

6. "no human companionship"

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7. "it can have been a monster"

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8. "daddy isn't anything but a little dormat"

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Even these are susceptible of other interpretations: Lip-biting may on occasion occur as part of the suppression of a belch (1), she may be swallowing saliva (2) 6,429, she may be striving for clarity in the presence of external noise (3) (2,147-2, 152), or she may be suffering from carbon-dioxide (from the beer in her nasal passages (4) (60P-60Q).

In Gregory's speech we note instances of:

(1) spread register (ʃ) 12,547-12,568 194

(2) overlap and oversoft (v) (v) 12,575-12,580 194
12,618-12,634 195

In his choice of words, we note:

(3) "Damn that machine!" 120L, line 5

These, too, are susceptible of other interpretations: he may be concentrating on lighting Doris' cigarette (2) (12,575-12,580).

Doris' choice of "companionship" may be pathetic, her choice of "human" may be hostile, and her selection of the phrase may indicate her boredom with the routine duties of housewife and mother.

In general, it should be noted that any component, on any level, in any part of the communicative stream, may have either affective or intellectual import, multiple affective significance, or variable intellectual connotation, as well as simultaneous affective and intellectual effect.

(3) The operation of unconscious factors is apparent. Although there is relatively little evidence in our materials for the operation of unconscious factors (such as slips of the tongue, "purposeful" forgetting or contradictory action) in the behavior of the participants in the interview, the following may be noted:
Doris, in her speech, uses:

1. "adopts" for "adapts"  
2. "had one head in the game"

In her body-motion, we note:

3. a ring-finger feel  
4. an awkward scratching

The unconscious factor behind (1) may have been a previous thought with respect to possible adoption out, in (2) a bow to Gregory's intellectuality, in (3) a gesture toward the restraining influence of marriage, and in (4) a shutting out of the "other" family. Behind (1) it may, of course, have been over-reaction to earlier schooling which made a "big thing" of the lexical contrast between "adapt" and "adopt", and in (4) she may merely have been scratching an itch.

Gregory, in his speech, uses:

1. "sewed" for "showed"  
2. "sexed" for "set" and "fixed"

Although (1) seems to be garden-variety dyspraxia, (2) represents both a phonetic idiosyncracy and a Freudian slip. It is possible, on the other hand, that (1) represents an unconscious adaptation to the mother's club audience.

4. **There are common factors on all therapeutic procedures.** Since the present interview is not defined as a therapeutic session, and since Gregory does not voluntarily assume the role of therapist, it is doubtful that much data bearing on this question is to be found in it. Until we have adequate data on the therapeutic practices of a sufficient variety of therapists in interaction with a varied sample of patients, therefore, we shall be unable to test this hypothesis, or to set up a linguistically and
kinesically grounded typology of therapeutic procedures. There is now no longer any purely technical reason, however, why we cannot do so.

(5) The patient has a good ego. Although no one of the participants in the interview is defined as a patient, there is nonetheless a fair amount of evidence on the state of the interviewer's and the interviewee's egos, if not on their potential for change:

Gregory, during most of the film, preserves his

(1) hunched posture
(2) on occasion, he grins
(3) during extended period he presents the matchbox 1298-1359 19A
(4) once he wields his cigarette like a baton 1950-3486 30-52

12,754-12,824 185A

In (1) Gregory may evidence the natural withdrawal from the center of the scene of an individual who physically bulks large, or he may be projecting his support for Doris in her expose of her problems. In (2) he may be manifesting receptiveness for Doris' dry humor. In (3) the matchbox may represent solace for Doris during her tale of difficulties, or it may constitute Gregory's shield against female invasion. The cigarette-baton in (4) may evidence one of the rare occasions on which Gregory re-asserts control of a situation which has gotten out of hand, it may reflect a momentary piercing of his own ego's armor, or it may constitute an assertion of his sympathy for Billy and his impatience with the family which has mismanaged its first child.

Doris, on occasion

(1) knits her brow 2829-2852 43
(2) once (knits her brow and) looks questioningly after Billy 1816-1830 26A
(3) grimaces 473-487 7
810-843 12
Doris' brow knits (1) are frequently associated with Billy's interruptions and may indicate her concern with what motivates them. After the pillow-scene, however, with its double mis-connection, it may also indicate her distress at her own malfunction. Her look after Billy (2) may be indicative likewise both of self-distress and of puzzlement with respect to Billy's intervention. Her grimaces (3) may coincide with moments of her own psychic or psychophysical distress.

Billy, during a long scene

| (1) | manipulates a toy gun | 0-1062 | LH-15A |
| (2) | blinks his eyes, during this scene, at particular points | 184-192 | 3A |
| | | 654-659 | 10A |
| | | 745-750 | 11A |
| (3) | and, at a later point, brings his toy airplane in to be fixed | 2692-2783 | 41-42 |

Billy's manipulation of the gun (1) may be either abstracted (he is listening attentively and keeps his hands busy with the gun as a mask for his eavesdropping) or intent and planned (he is so intent on the content of the conversation between Doris and Gregory that he signs it out with fingers and gun). His eye blinks (2) constitute wincing reactions (184-192, 654-659) to his mother's verbal blows (in one case, lexical; cry, 183; in the other, paralinguistic: overload on "middle", 652), or, perhaps, sympathy for her suffering (sigh, 740). Billy brings his airplane in to be fixed by his mother (2700) just after she has referred to some of her problems with him as "mechanical things."

(6) **The patient and the particular therapist will get along.** There is some evidence of a fairly high degree of compatibility between the interviewer and the interviewee.
Gregory has unusual skill in adapting to Doris:

(1) he completes Doris' phrase ("was doing, yes")

(2) he smiles during her explanation (which winds up "happy meeting ground anywhere in the middle")

(3) he leans toward her (while she is saying "Well, this is the time that he's got to have five million things done for him.")

(4) he "lights" her cigarette (as he is saying "is very advanced for four-and-a-half")

(5) he replies reassuringly (saying "that's a very smart one.")

Doris' rhythm in the interaction and her particular gambits are designed to facilitate that adaptation:

(1) there are periodic breast-presentations
   (a) 3955-3970 58-59
   (b) 4668-4683 71-72
   (c) 5435-5477 82-83
   (d) 8350-8376 123
   (e) 11,165 -11,186 162
   (f) 12,464 -12,488 180A
   (g) 14,698 -14,870 212

(a) as she says "it took away his very closest and best playmate"
(b) just after she says "definite attempt to break up a relationship"
(c) as she says "sitting here with no human companionship"
(d) as she says "why do you have to pick the time"
(e) as she says "they're the ones that need it (laugh)"
(f) as she says "he's not retarded"
(g) just after she says "it's not as black as it looks"

* italicized items correspond to particular gambit

(2) there is an occasional hair-preen 11,017-11,052 160

(as Gregory says "that's this next door family")

(3) There is an occasional lid-flutter 14,311-14,313 206

(as she says "I'm not worried about that")

(4) there is an occasional dress-preen 13,505-13,538 195

(as she says "This is why the telescope, you see . . . ")

0 P, line 5.

603-617 9A

8782-8842 129A-130

12,641-12,668 182B

12,754-12,780 185
In Gregory, (1) seems to be an attempt to put her at her ease, (2) an effort to dampen her tension, (3) a moment of supportive communion, (4) solicitude for her concern with Billy, and (5) reassurance that Billy is all right.

There is, however, in Gregory, likewise, some evidence for occasional disorientation:

1. looking at Billy, rather than at Doris 2162-2303 33 - 35
2. failing to light Doris' cigarette 12,670 183B
3. saying "best what?", that is, misunderstanding the proper name "Bess" 217 A0, line 6
4. not looking at Doris as she says "Lee fussed..." 458 7A
5. up-ending beer-mug at end of pillow scene 1844-1886 26 - 27 (and Gregory does not again look at Doris until 2003)

In Doris, (1) (2) (3) (4) all seem to be devices for asserting her femininity; (1) seems also to constitute a control for the course of the interview, (3) reassurance to herself and to Gregory of her lack of serious concern, and (4) an indication of the precocity of her child and his potential candidacy for the circles Gregory runs in.

There is in Doris, too, some evidence for misdirection (or misfiring) of her gambits:

1. hand gestures 10,159-10,192-10,212 (although made roughly in Gregory's line-of-sight, they fail to induce Gregory to re-establish eye-contact with her)
2. drawing on her cigarette 12,417 170A (fails to get it lit)
3. saying "it's not as black as it looks" 14,639-14,662 211 (fails to elicit from Gregory anything more than "m-hm" many frames later, 14,918 - 14,955).
For the most part, however, she is quite successful:

(1) her turning to look at Gregory causes him to return her look 509-516

(2) her use of over-loud (') on "middle" elicits an "m-hm" from Gregory 621-625

(3) her laughter during "too dumb to know the difference back in those days" brings a grin to Gregory's face 1279-1335

Doris' successes show up clearly in her relations with Gregory.

In her relation to Billy, moreover, there is evidence of very close symbiosis:

(4) Doris' right shoulder starts to move forward on frame 1060, and Billy's right shoulder starts to move forward on precisely this frame (although Billy's back is toward her and he cannot see her); Doris' shoulder movement ends on frame 1087, and Billy is on his feet by frame 1110.

(7) The personality of the therapist is manifest. Although carefully refraining from assuming the role of therapist, Gregory's personality, both in its formal and informal aspects is clearly manifest. Indications of formality in the behavior of the interviewer are to be found in the following gambits:

(1) "that is the one!" (referring to the problem of which problem) 01, line 4

(2) "Well, that's uh o.k. by me." (referring to their letting themselves be filmed) 60 L, line 3

(3) "there are a lot of them no doubt - for example" referring to Doris'"patterns and routines") 60 R, 60 S

(4) "Yeah. No, I didn't see any retardation there at all," (referring to the possibility that Billy needs therapy) 12,405-12,453
Evidences of informality are:

(1) "Aren't we all?" (in response to Doris' suggestion that she was an 'immature character in many many ways")
   2098-2108 32A

(2) "Yeah, we have an only kid, and we're wrestling with that problem." (of an only child, who, like Billy makes normal
   demands on his parents, in the absence of other children to play with) 60 D, line 5,6; 60 E, line 2

(3) "Ours, I'm glad to say, eats like a horse ..." (in response to
   Doris' characterization of Billy's eating habits) 60 I, line 5, 60 J, line 1

Gregory's formality is, in general, relaxed, and controlled, his informality less so, and reassuring, rather than directive.

(8) **There has been essential change in the patient's behavior.** There is no evidence of essential change in the behavior of the interviewees.

(9) **The patient is working toward (or has received) insight.**

There is some slight evidence that the interviewee is gaining insight, (or is recalling past insights). Doris is aware of the potential value of the puppet: Tuckie as Billy's surrogate in life crises:

(1) "I know what you're trying to do." (as Billy tries to get Doris' attention) 8450-8490 125

(2) Billy brings in his puppet Tuckie to be kissed 217 U, line 1 - 3

(3) Tuckie's name is Billy's invention. 217 Z, line 2 - 5

(4) "Tuckie can get through where nobody else can." 217 AA, line 2

In (1) Doris seems to have an inkling of what Billy is "trying to do," although she has little sympathy with it. In (2) (3) and (4) she relates the story of the little dog-puppet, Tuckie, aware of the uses of a puppet surrogate, but unable either to recall or imagine the origin of its name, or imaginatively to clarify to herself Tuckie's function for Billy.

(10) **Evidences for particular identification of the patient with other figures present.** There is no doubt that such evidence is present in the communicative stream. Very little of it has gotten into the trans-
cription, however, since that is largely macro-linguistic — not microphonetic. A fair portion of the evidence for such identifications, therefore, is not present in the transcribed data. That the evidence is present in the communicative stream may be considered certain, since one experienced dialectologist, familiar not only with a wide variety of American English dialects, but also with some of their socio-cultural correlates (expressed in local geographical and social status terms), was able to identify rather precisely the origins of Doris' speech: according to Henry Lee Smith, Jr., she has four layers in her speech, the first clearly identifiable with upper New York State, the second with a highly specific environment in Baltimore, the third with an Eastern girls' finishing school, and the fourth with the Middle West. That Dr. Smith was able to produce such a characterization is attributable to a number of facts of his personal biography: (1) he happens to have specialized in English dialectology, (2) he is a native Baltimorian, (3) he has taught at a girls' Finishing School, and (4) he has a special talent for integrating bits of disparate data into such dialect-based characterizations. To uncover the pertinent data present in the interview materials we have been investigating a number of as yet unfulfilled requirements must be met: (1) fine-grained phonetic identifications of dialect variants must be abstracted from the materials of the Linguistic Atlas of the United States and Canada, (2) such variants must be perceived in and transcribed from our own interview materials, (3) sociocultural correlates of such variants must be established for Atlas informants (and for a broader range of other informants, more socioculturally diverse than those of the Atlas. Until these requirements
have been met, we must continue to rely on such biographically accidental constellations of talents as that possessed by Dr. Smith. An inspection of the portions of Chapter 8 in which Doris' biography was outlined will show how remarkably accurate Dr. Smith's characterization was.

Gregory's departures from British English are relatively easy to spot, as are his occasional introduction of hyper-Americanisms at certain points. But precise specification requires the frame outlined above.

The quantity of Billy's speech during the interview is very small and an evaluation of his dialect would be difficult even if the requirements outlined above had all been met.

(11) Change of identity is clearly observable. Although precise indication of such change would rely heavily on the descriptive and interpretive frame specified under (10) above, in the material on which we worked intensively there is some evidence for shifts in signal media indicative of shifts of identity.

Doris shifts to

(1) adult-to-infant voice on several occasions:

("Oh, thanks, honey") 1710-1725 24B
("there isn't any poison oak out there") 120A, lines 1 - 2
("No, we're going to have dinner.") 120I, line 1
"Mommy, Tuckie wants to give you a kiss.") 217 AF, line 6, 217 AG, line 1

but does not so shift, when talking to Billy during the airplane scene:

("What, honey! There you are.") 2757-2811 42

(2) A high, girlish voice, in the phrase "so darned mad" OF, line 1

(3) speechless gesturing (when talking about her neighbors)

11,058-11,077 160
In (1) she takes on the role of mother of a small child; in (2) she returns to adolescence; and in (3) she takes on the character of a housewife.

Gregory's identity is unusually stable, that of a not directly involved but nevertheless sympathetic listener. Occasionally, however, he does shift from his role of spectator to that of a more directly involved human being, as evidenced by

(1) a "softening" of the voice (웃) (Aren't we all?"

as a response to Doris' comments about her own immaturity.

Billy's identity is also quite stable, that of an unusually quiet and unobtrusive small boy, which "breaks" only when television is mentioned, when he responds with an exclamation:

(1) which is overloud (פ) ("What!" "Yes, yes!") in answer to Doris' question as to whether he wants to watch Mickey Mouse.

(12) Evidence for identity - confusion may be found. There is little evidence of identity-confusion in the speech and body-motion behavior of the participants in the interview. On one occasion, Doris finds herself in the position of having confused Gregory with her husband:

("and ... lots of times it's it ... seems to be uh a definite attempt to break up ... a relationship between us [with gesture indicating Gregory and Doris ] . Between my husband and myself (very fast )."

(13) The transactions of transference are clearly manifest. Although Gregory does not define Doris as a patient nor himself as a therapist, Doris cannot completely avoid the patient stance. There is some evidence of her attempting to cast Gregory in the role of therapist:
(1) use of psychoanalytic jargon
("a standard mechanism") 7705-7754 61
("the classic personality pattern") 115
(2) use of histrionic weeping ("pretty miserable situation."
He uh ...") (lip-bite) 419-472 6A-7A
("Lee f ... Lee fussed ...") 473-487 7A
(3) use of grimace ("he uh sigh m ... m was a uh
physical feeding ...") 817-831 12

On the other hand, she on occasion assumes another stance inappropriate to
her role as interviewee, and more appropriate to a role as wife, putting
Gregory in the position of a not uncommitted male:

(1) kitten on-the-couch stance 14,698-14,870 212-214
(2) eye-flutter 14,311-14,313 206
(3) hair-preen 11,017-11,052 160

It is clear that Doris sometimes relates to Gregory as she would to her
therapist, sometimes as she would to her husband.

(14) There is evidence of temporary change (or adaptation). Such
change is evident in Doris throughout the interview. Gradients of ego-
function are evident along these axes (among others):

<table>
<thead>
<tr>
<th>(1)</th>
<th>(2)</th>
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<tbody>
<tr>
<td>(a) coordinated : uncoordinated</td>
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<tr>
<td>(b) coherent : incoherent</td>
<td></td>
</tr>
<tr>
<td>(c) of-a-piece : split into parts</td>
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</tr>
<tr>
<td>(d) directed : undirected</td>
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<tr>
<td>(e) 'choate' : inchonte</td>
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</table>

Doris scratches awkwardly (a) (2) 10,819-10,917 157-158
Doris surges off couch (a) (2) 861-886 12A-13
Speech non-fluencies (b) (2) are to be found throughout; one such is to be noted at

\( O_{I}, \text{line 5} - O_{J}, \text{line 2} \)

(as Gregory says brightly "That is the one!"

Doris' speech and body-motion are of-a-piece (c) (1) during long stretches such as

\[ \begin{array}{ll}
1068-1661 & 15-24b \\
4471-4550 & 69-70
\end{array} \]

Doris' speech and body-motion are split (c) (2) (speech to Gregory, body-motion to Billy and to cameraman)

\[ 1763-1850 \quad 25,25A-26,26A \]

On occasion Doris seems to lose a body part (left hand lost while holding mug)

\[ 7398-7897 \quad 110-117 \]

On occasion, likewise, Doris seems to "freeze" (with a long stretch of speech with minimal body-motion)

\[ 9670-9960 \quad 142-146 \]

Both Billy and Gregory seem to be generally coordinated (a) (1).

Gregory, on occasion, holds a stance (the match-box presentation) for a very long time.

\[ 1950-3486 \quad 30-52 \]

But this seems to be directed (d) (1), as does the cigarette baton wave

\[ 12,754-12,824 \quad 185A-186A \]

(15) Evidence for the level of organization is specifiable. There is some evidence for the level of organization of behavior along these axes (and there is some evidence for shift from one axis to another):

(a) age
(b) gender
(c) status
(d) role
(e) health
Doris shows occasional age regression (a):

(1) "Ah-h-h-nh-nh-nh" (adolescent?)

(2) looks at Gregory out of the corner of her eye (adolescent?)

Neither Gregory nor Billy, on the other hand manifest age shifts.

Doris manifests her gender (b) in various ways; among these are:

(1) special "lady-like" lexical choice ("I got so darn mad")

(2) hair-preening

Doris attempts to project a status (c) which she feels will enhance her qualities in Gregory's eyes; she affects, therefore, a pseudo-intellectual vocabulary:

"classic personality pattern"

Gregory attempts to project "sympathetic peer"; he actually projects, in part, upper-status academic (with his posture throughout, and with his occasional use of a technical term), in part, attentive neighbor (with his frequent "yeah, yeah" and his wry smiles). The data which underly these evaluations are diverse and of unequal value:

"natural history"
"yeah yeah yeah"

There is, of course, no assurance that these explanatory hypotheses reflect the reality, and alternative hypotheses might be generated by other data.

Doris plays a number of roles at various points in the interview:
Billy plays the role of a pretty consistent small boy throughout, a fair part of the time abnormally quiet, the remainder of time appropriately noisy.

Gregory plays the role of professional interviewer.

"We're trying to get in and do the natural history of it a little."

"There are lots of them, no doubt. For example?"

Doris manifests generally good health, although her presentation of it is low-keyed. On occasions, genuine suffering breaks through:

"Lee f' ... Lee fussed"

On occasion, likewise, she projects heartiness:

"Hello!"
"We have a cold beer, yes!" (laugh)"

(16) Changes in degree of affect are directly observable. There is evidence both of "flattened" and of "fattened" affect in the materials through which we worked.

Although Gregory shows little such change, he, on occasion, speaks with

(1) oversoft (') voice

("N-hm")
("Yeah." "Yeah")
("Aren't we all?")

1382-1384 20A
1638-1648 23A
2098-2108 32A
or with a combination of

(2) overflow (\(\downarrow\)) and oversoft (\(\downarrow\)\) voice
    ("brought") 12,575-12,580 181
    ("four-and-a-half") 12,618-12,631 182

or, on occasion, even with

(3) spread (\(\uparrow\)) register
    ("why, that drawin'g...") 12,548-12,569 181

As manifestations of "flattened affect," (1) and (2) may indicate (a)

Gregory's depression as he thinks over Doris' presentation of her problems
with herself and with Billy, (b) his depression as his focus momentarily
shifts from her problems to his own. As a manifestation of "flattened" affect,
(3) may likewise be indicative either (a) of his desire to be supportive of
Doris, or (b) of Gregory's own affective condition.

If the wider contexts of (1) and (2) are inspected, we find that (1)
occurs periodically as Doris relates her story; (2), however, which adds
overflow register (\(\downarrow\)) to the oversoft intensity characteristic of the
first situation, occurs only when the topic of Gregory's commentary shifts
to Billy and Billy's problems. It may be that (1) indicates a perfunctory
reassurance to Doris that her audience is still with her, or, perhaps,
Gregory's own boredom with the unending tale, and that (2) (with added overflow
register) indicates a real concern for Billy's situation. It may also be,
of course, that both (1) and (2) are directed to Doris, and that (1) is
genuinely supportive of Doris in her discomfort, whereas (2) is merely
indicative of Gregory's attempt to erase his own gratuitous "I don't see
any retardation there" (12,400-12,446) and to comfort Doris in the
anxiety aroused by his remark.

Billy shows even less evidence of change. In the gun scene, however,
he shifts from
(1) relative immobility, but with his body in "quiet body alert" to 0-216
(2) concentrated activity on the gunplay to 217-1060
(3) a quick termination of participation (as he jumps up and moves off)

1060-1110 15A-16A

"Flattened affect" manifest in (1) may be indicative of (a) his depression over what he is hearing, or (b) his impending participation in Doris' narrative. (2) may be indicative either (a) of his active participation in Doris' narrative, or (b) of his boredom with the narrative and a shift of interest. (3) may be indicative either (a) of distress at the turn of the narrative, or (b) of boredom with the never-ending tale and, in either case, of his desire to leave the scene. Of these alternative interpretations, only (1) (a) and (3) (a) might be characterized as "flattened" affect. When the television program, on the other hand, is mentioned, there is a momentary surge of enthusiasm manifested as

(4) overhigh (↑) and overloud (↑)

120 J, line 2

which probably must be interpreted as "flattened" affect.

Doris shows a great many instances of behavior susceptible of interpretation as manifestations of "flattened" affect:

(1) narrowed register (↓) occurs over considerable stretches:

<table>
<thead>
<tr>
<th>Range</th>
<th>Region</th>
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<tbody>
<tr>
<td>0-184</td>
<td>1A-3</td>
</tr>
<tr>
<td>220-404</td>
<td>4-6</td>
</tr>
<tr>
<td>1,950-2,087</td>
<td>30</td>
</tr>
<tr>
<td>1774-177Y</td>
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</tr>
</tbody>
</table>

After each of these she breaks out briefly into normal register separation and then quickly returns to narrowed register. Concentration of features
susceptible of such interpretation also occurs:

(2) overlow (\(\downarrow\)) with oversoft (\(\approx\)) with squeeze (\(\mathfrak{f}\))

(a) 60 AC
(b) 2069-2067 31

(3) narrowed register (\(\mathbb{K}\)) with oversoft (\(\approx\)) with overslow (\(\mathfrak{c}\))

9690-9840 142-144

(2) (a) \(\mathbb{K}\) occurs as she talks about Billy's gambits for eliciting manifestations of affection ("this is a standard mechanism"). (2) (b), likewise, occurs when she discusses her own condition ("I'm a pretty unstable or immature character in many, many ways"). (3) occurs as she discusses Billy's behavior when they go to visit certain families where he feels at home.

The movement in and out of narrowed register (1) may be interpreted (a) as an intermittent relapse either into depression (which may indicate an active struggle against it) or into apathy (which may indicate that she feels that the battle is lost). It might, on the other hand, be interpreted (b) as an indication of Doris' own boredom with the oft-repeated story. Her even-handed use of the combination of overlow with oversoft with squeeze, (2) both to comment on Billy's attempts to elicit affection (2) (a) and on her own misery (2) (b), might be interpreted either as directing irritation or as assessing blame. The contrasting combination of features in (3) (narrowed register rather than overlow, overslow rather than squeeze) may indicate her rather attenuated relief that Billy has found a congenial environment in which to function and her considerably sympathy with his predicament.
(17) *Shifts in level of literality are recordable and specifiable.*

The contrast between literal and metaphorical handling of particular messages is occasionally clearly present:

Doris: "...depends on which problem you're talking about."

Gregory: "That is the one"

Doris tries to bring the level of discussion down to a specific problem, as they begin the interview ---- she is looking for a literal "out."

Gregory, on the other hand, with his ambiguous remark, deliberately emphasizes the metaphorical possibility that the problem is not a particular problem, but the lack of decision as to which problem is most worthy of provisional focus.

In the following exchange, however, the roles are reversed:

Gregory: "They're the ones that really need to be photographed."

Doris: "They're the ones that need it."

Gregory suggests that their state is such as to make them interesting subjects of research. But Doris will have none of that literal focus, and leaves open the possibility of metaphorical therapeutic treatment as well.

Billy terminates his gun-play as Doris' distress deepens (1074) ("you feed that child"), he rises in perfect synchrony with Doris' shoulder movement, and goes to fetch a pillow which he then proffers, literally to make her physically more comfortable, but metaphorically to alleviate her clear mental distress. Doris' inability to discern the metaphor behind the literality is clear from her look of acute puzzlement.
(18) Adaptation to audience, accommodational shifts in meaning level, and in the use of logical types are observable and specifiable. Among the bits of evidence for shift from one audience to another, we find in Doris:

(1) a change of voice-set from Doris-to-Gregory (up to 1710) to Doris-to-Billy (1710-1725);
(2) a glance after Billy (1818) and then at the camera (1831-1840) as she returns to her conversation with Gregory (1772-...);
(3) a change of voice-set from Doris-to-Gregory to Doris-to-a-neighbor-woman

In (1) Doris' voice shifts from normal to overhigh pitch, oversoft intensity, and openness, as she addresses Billy, whereas in (3) it shifts from normal to overloud intensity and drawl as she addresses the neighbor woman. During the first short stretch of her return (2) to Gregory (after the "oh, thanks, honey"), she "ah's as she looks, first after Billy, and then at the camera. Her brow-knit on 1822 evidences her focus on Billy, her palm-punish from 1824 to 1833, and her dyapragtic "thesre" for "there's" lead to her look at the camera.

In Billy, we find very obvious (even though momentary) attention to the camera man:

3635-3944 54-58

and immediately thereafter, he leaves. The sequence of events is as follows:

(1) he plays with the airplane;
(2) he goes off camera and returns, without the airplane;
(3) he walks toward the door, in front of the camera, not noticing it;
(4) he stops before reaching the door; he turns, he looks at the camera and then starts back, gawking;
(5) he makes two passes and then goes out the door.
In Gregory we note a change from treating Doris as an interviewee whose responses need to be kept flowing to treating her as a fellow parent who is in straits similar to his:

Evidence for shift in level of meaning seems to be found both in Gregory's and in Doris' behavior between 1279 and 1336:

Doris: "and I was too dumb to know the difference, back in those days" (with "laughter" from 1279 to 1282 and from 1295 to 1336)

Gregory: (smiles at 1310, on "back")

Immediately prior to 1279, the tenor of Doris' tale is grim, with Gregory being supportive with smile (1068) and nod (1147); on 1279, her tone shifts to pseudo-funny (with forced laughter), with Gregory being receptive with a smile on "back" at 1310, midway through Doris' second stretch of pseudo-laughter (1295-1336). On 1336, the tenor of her tale again becomes grim, whereupon Gregory attends to his stein (1373).

In a later shift sequence, Gregory no longer plays Doris' game.

Doris: "when I'm ... sitting here with no human companionship"

(laugh) "This is a nasty way to put it" (laugh) "Uh..."

Gregory: "But these are the truths, after all." (5592-5686)

Doris shifts from grim (5400-5486) to grim and funny (5490), to grim again 5500 - 5564, back to funny (5565 to 5587). Gregory is quiet attentiveness throughout all this period, and refrains from joining in the grim humor. As Doris hesitates (5592), Gregory interjects a philosophical statement.

In the use of different logical types, we find Doris shifting first from metaphoric to literal:
Doris: "They're the ones that need it (laugh)"

(Metaphoric) 11,161-11,200 162

"well... this is an interesting sort of a situation..."

(literal) 11,230-11,289 163

then from literal to metaphoric:

Doris: "we got to be much too close ... friends"

(Literal) 6942-7148 104-107

"the gal next door began to get her little green ears up (sigh) and ... pricking her little green eyes up."

(metaphoric) 7020-7150 105-107

We find Gregory, on the other hand, in his initial gambits, persistently pushing toward the metaphorical; an early example is:

Gregory: "what is the sort of history of this whole ... problem, business as far as you're concerned..."

Doris: "Mmh - uh it ... depends on which problem you're talking (laugh) about."

Gregory: "That is the one."

(19) It is possible to specify the initiators of new activity.

The features of speech and body motion which lend themselves to such specification are manifest on a number of occasions,

In Doris' speech, we note:

(prior topic) Thursdays are bad days

(initiating gambit) "I was quite fascinated ..."

OB. line 5
Films in Gregory's class

And somewhat later, we hear:

problems with Billy's eating

"And uh I wasn't I wasn't sure
just what ..."

what should I do in this interview?

In Doris' body motion, we note:

Gregory is looking at Billy

Doris turns her head

Gregory turns and looks at her.

She has succeeded in turning Gregory's focus onto herself (momentarily at least). Somewhat later, we observe:

Doris' problems with the pediatrician

"Except I didn't like this guy ...

(Leans forward on 1334 and turns to look at Gregory on 1341) (at which point Gregory smiles, looks down, and picks up beer mug)

Doris' problems with Larry

At 513, Doris initiates a new topic with body motion alone, whereas in the stretch 1338-1370, she combines body motion with speech. In this last
instance, both are appropriately ambiguous, arousing anxiety in all males
within earshot, her reference is ostensibly to the pediatrician, but
possibly to Billy, possibly to Larry, and possibly even to Gregory, as
evidenced by his response).

In Gregory's speech, we note:

(prior topic)  Doris is talking about coffee mornings.

(initiating gambit)  "What is the sort of history..."

(new topic)  Doris' family problems

Gregory shifts the topic from the generic and perhaps pleasantly social
to the specific and problem-relevant.

Somewhat later, we hear:

(prior topic)  Doris' internal family problems

(initiating gambit)  "How are you soxed on neighbors' children?"

(new topic)  Billy's playmates

Although Gregory's initiating gambits are ordinarily straight forward, and
unambiguous, this one, with its Freudian slip, leaves a variety of possible
openings. Doris plunges through the obvious one, but not without certain
evidence of momentary disorientation:

"Not too well."

whereupon Gregory recovers:

"Yeah."  (3314)  (smokes)  (3315-3323)

Although Doris' initiating gambits rely fairly heavily on body motion or
on a combination of speech and body motion, Gregory's rely largely on
speech, not always, as we have seen, with entirely felicitous results.
In Billy’s speech we note:

(prior topic) (overtly none) (probably Doris’ problems with incomprehending males)

(initiating gambit) "Hey, Mom. Do you want one of these?"

1671-1706 24

(new topic) (overtly none) (probably Doris’ problems with unfathomable males)

Billy’s introduction of the pillow temporarily halts the trend of Doris’ previous monologue.

It reintroduces uncertainty:

Doris: "oh, thanks, honey." 1713-1725 24B

and produces momentary dyspraxia:

Doris: "So - o that uh ... they’re ..."

1773-1846 25-26

In Billy’s body motion we observe:

(prior topic) (overtly none) (probably Doris’ problems with incomprehending males)

(initiating gambit) introduction of the pillow

1668-1815 24A-25B

(new topic) (overtly none) (probably Doris’ problems with unfathomable males)

Billy’s introduction of the pillow (between Gregory and Doris) (1700) temporarily halts the trend of Doris’ previous monologue. Doris’ subsequent actions: (1) "Oh, thanks, honey." (1713-1725) and (2) removing the pillow from between herself and Gregory, passing it across her body, and putting it behind herself on the side away from Gregory (1731-1776),
(3) looking acutely puzzled after Billy (1815), and then (4) at the camera, coupled with her dyslalia (1845), indicates that Billy has, momentarily, at least, achieved his purpose. Doris' continued monologue:

"they're ... a lot of this, I think, created a tremendous amount of tension"

1845-1942    26-28

indicates clearly, however, that it is not easy to stem the tide.

(20) The evidence for regulation and for the identity of the regulator is to be heard (and seen). Such evidence is repeatedly available in the speech and body-motion activity of the participants in the interview.

In Billy's body-motion activity, we note that his zooming of the toy airplane at the couch (3123-3188) forces Doris into over-loud (\( \frac{47}{3} \)) on the sequence "making normal demands and there's nobody to battle" (3140-3183) and into extra-over-loud (\( \frac{47}{3} \)) on "normal" (3146) which has contrastive stress in a wider context: "the child is ... making normal demands and the adults are making normal demands" (3021-3151), and makes the point that there is somebody "to battle along with them" (3175-3185).

In Doris' speech activity, the introduction of (pseudo-) laughter:

"too dumb to know"  1276-1285    18
"and get worse"  2348-2353    36
"I know what you're trying to do (laugh)"  8493-8512    126

may serve as an appeal to a fellow human being (Gregory) who at 1275 looks not at Doris, but at Billy, and at 2348 looks not at Doris, but at her cigarette. At 8487, however, he does extend a sympathetic matchbox.
If Doris' regulatory purpose is to elicit human sympathy she does occasionally succeed. Alternatively, the use of pseudo-laughter might serve to maintain a level of superficiality in the narrative which precludes a discussion of "gut" material.

Doris' use of overloud (\(\wedge\)), or, on occasion, of (painful) pause (\(\square\)),

"a definite attempt to break up"

\[
\text{(overloud) (\(\wedge\)) 4432-4471 68-69}
\]

\[
\text{(pause) (\(\square\)) 4471-4503 69}
\]
might be seen as regulatory attention-getters. Gregory, from 4407 to 4471 is looking at Billy, and from 4472 to 4481 shifts quickly back to Doris, and at 4495 they are looking at each other.

Gregory's body-motion base-line (legs together, body hunched over them) may have an unexpected regulatory function: Doris may pick it up as stand-offishness. On one of the very rare occasions on which his legs are spread (12,396-12,855) (when Gregory reaches over to non-light Doris' cigarette), the cameraman suddenly zooms in (on Doris, of course) so that we do not know precisely when Gregory's legs opened up or when they closed. Although the cameraman seems to have picked up the activity as evidence of greater intimacy, it is possible that Gregory's leg-spread is the result of his reaching over his unbending extremities in the polite male gesture.

If this last alternative hypothesis were true, then all three participants in the interview were misapprehending the reality. Gregory, indeed, leaves no doubt as to his misapprehension, when with his cigarette-baton (12,754-12,806) he quickly restores non-intimacy to the proceedings. When, at 12,807-12,824 ("whether he is happy or not"), he cocks his baton, he has returned entirely to his base-line.
(21) Evidence for cyclicity may be found. Repetitive initiating or regulating activity, as well as recurring clusters of features of speech and body-motion repeatedly give evidence for such cyclicity.

Doris' use of paralinguistic stress (ə), with relatively flat stretches in between:

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<tbody>
<tr>
<td>&quot;else&quot;</td>
<td>206</td>
<td>3</td>
</tr>
<tr>
<td>&quot;middle&quot;</td>
<td>622</td>
<td>9</td>
</tr>
<tr>
<td>&quot;ass&quot;</td>
<td>1010</td>
<td>15</td>
</tr>
<tr>
<td>&quot;hungry&quot;</td>
<td>1405</td>
<td>20</td>
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</table>

evidences periodicity with a cycle of 400 frames.

Billy's returns to Doris with:

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<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>the pillow</td>
<td>1675-1722</td>
<td>24</td>
</tr>
<tr>
<td>the airplane</td>
<td>2692-2783</td>
<td>41-42</td>
</tr>
</tbody>
</table>

show periodicity with a cycle of 1000 frames.

Gregory's interjections ("yeah," "uh-huh," and the like), recurring at roughly four to six times per minute, show periodicity with a cycle of 360 to 240 frames.

The occurrence of body-motion "peaks" in Doris:

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<tbody>
<tr>
<td>lip-bite</td>
<td>400</td>
<td>6</td>
</tr>
<tr>
<td>throat-clearing</td>
<td>817-825</td>
<td>12</td>
</tr>
<tr>
<td>lift off couch</td>
<td>863-894</td>
<td>13</td>
</tr>
<tr>
<td>laugh</td>
<td>1355</td>
<td>19</td>
</tr>
</tbody>
</table>

seem to show a cyclicity which interdigitates with the overloud stresses.

If we chart Doris' speech and body-motion cyclic turns along side Gregory's (and compare these with Billy's, as well):
We note similar interdigitation among the speech and body-motion features of these three participants in the interview. Autonomous psychobiological cyclicity and interdigitating cyclicity in interaction constitute complementary explanatory hypotheses of these regularities.
(22) The function of props may be specified. The importance of props as extensions of speech and body motion behavior is readily apparent throughout the interview.

Doris' behavior relative to the Stein (beer-mug) involves relatively little actual drinking:

<table>
<thead>
<tr>
<th>Stein</th>
<th>Frame</th>
<th>Context</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) stein in hand</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(2) stein &quot;lost&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(3) raises Stein but</td>
<td>647</td>
<td>&quot;So it was pretty bad&quot;</td>
<td>Solace</td>
</tr>
<tr>
<td>does not drink</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(4) Stein lost again</td>
<td>650-850</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(5) part of &quot;lift&quot;</td>
<td>860-900</td>
<td></td>
<td></td>
</tr>
<tr>
<td>off couch</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(6) moves Stein closer</td>
<td>1286-1360</td>
<td></td>
<td>&quot;I was too dumb&quot;</td>
</tr>
<tr>
<td>(7) puts Stein down</td>
<td>1360-1385</td>
<td></td>
<td>&quot;and I didn't</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>like</strong> this guy</td>
</tr>
<tr>
<td>(8) picks Stein up</td>
<td>3350</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As might be expected, possible interpretations vary considerably.

She engages in much flicking of cigarette into ash-tray (whether ashes are present or not):

<table>
<thead>
<tr>
<th>Flick</th>
<th>Context</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) &quot;I tried to nurse him and I couldn't&quot;</td>
<td>920-961 [13]</td>
<td>smoke screen</td>
</tr>
<tr>
<td>(2) &quot;the pediatrician was saying&quot; (plus <code>)</code> (rasp)</td>
<td>1427-1442 [13]</td>
<td>smoke screen</td>
</tr>
<tr>
<td>(3) &quot;immature character&quot;</td>
<td>2054-2108 [29]</td>
<td>smoke screen</td>
</tr>
<tr>
<td>(4) &quot;built up and got worse&quot;</td>
<td>2348-2380 [29]</td>
<td>smoke screen</td>
</tr>
<tr>
<td>2837</td>
<td>(5) (after fixing airplane)</td>
<td>2816-2852 [29]</td>
</tr>
<tr>
<td>:3237</td>
<td>(6) (while airplane is buzzing)</td>
<td>3185-3236 [29]</td>
</tr>
</tbody>
</table>
(7) (actually smokes) 3304-3313  
(8) (talking about hide) 3890-3952  

The two hypotheses here advanced are that the flicking constitutes (1) a screen for emotions, or (2) a space-filler for avoiding an uncomfortable hiatus. On occasion (3890-3952), however, either (1) or (2) are equally likely, and it is, of course, quite possible that in this case (or in others) that the organism is playing both games simultaneously.

Doris' heel-strapped low-backed shoe (the one on her right foot) is also much in evidence:

| (1) (release) | 180-184 | ("cry") | 3 (see 3A) |
| (2) (release) | 290-304 | ("time") | 5 |
| (3) (release) | 411-420 | (grimace) | 6 |

At these points, the release of the shoe seems to coincide with a surge of vocal activity. At 130 and at 370 there are also slight movements of the stein which seems to complement these shoe-releases. Alternative explanations are (1) fishing for attention (Gregory is looking at Billy from 7-530, when he finally turns to Doris), and (2) redundant emphasis at surge points. Much later in the interview, we find Doris:

(1) engaging in a low right-arm swing which just misses the heel-strap ("he's not retarded") 12,479-12,511 180A
(2) playing with the heel-strap 12,741-12,754 ("I have no worries")
(3) (after Gregory has just said "That's a very smart one"
    12,758-12,775)

seizing the strap again
("intellectual abilities") 12,762-12,804 184A

Possible explanatory hypotheses are for (1) PSEUDO-ABSTRACTION, for (2) DISCONCERN, and for (3) DISCONCERTMENT.
During a long scene (5874-5420) 74-96, a plastic bucket becomes the center of attention:

1. fiddles with the strap 5879-5009
2. squeezes the top shut 5010-5308
3. swings it 5352-5426
4. turns it on its side 5491-5567
5. picks up the side button on the strap 5396
6. sets it down 6420

Discovery of context here is complicated by the fact that not only does the cameraman zoom in, as the (for him) iconic bucket appears in Doris's hands—the over-zooming. An explanatory hypothesis deriving from the behavior of the over-zooming cameraman might be appeal:

1. first inward "shut" 5491-5567
2. looks into it 5579-5595
   —on camera 5785-5823
   camera bouncing 5926-6930
   on camera 6029-6207

A second hypothesis driving from camera-in-correspondences between bits of Doris's speech and body motion might be Bingo — ICON:

1. "he consistently wanting" 5010-5440 (squeezing top shut)
2. "and so do I" 5206 (extra tight squeeze)
3. "it's not as much of a problem as is it ... it is on a day when I'm sitting here" 5308-5440 (swinging)
   (transition to swinging 5322-5354, actual swinging 5322-5426)
4. "you have had (5411) it"
Here it may constitute genuine support for Doris as she relates her troubles. In a second presentation (8475), however, as Doris says "Why do have to pick the time ... I know what you're trying (8478) to do!", the matchbox may constitute a SHIELD for Gregory.

Similarly, during the pillow scene, Gregory makes use of his stein:

(1) picks up 1385 D: "except I didn't like
(2) drinks (at end of pillow scene) 1833 this guy" (1362)
(3) up-ended stein visible 1846
(4) sets stein down 1888

Somewhat later he:

(1) has the stein; 5808 D: "no human companion-
(2) brings stein up 5864 ship (5738)

In these two cases, as Doris is momentarily otherwise engaged, he can be found SNEAKING-A-DRINK. In view of Doris' immediately preceding remarks, however, (1), at least, might be construed as RETREAT.

Billy's use of the gun, the pillow, the airplane, and the camera as initiating and regulating props have already been fully documented under (19) and (20).

Props, as extensions of speech and body-motion activity, are, like bits of such activity, always potentially multivalent, and here, as every where else, one approaches adequate interpretation asymptotically, as contextual data compels us to strengthen or to weaken alternative interpretive hypotheses.
At our final collation session, our team was able to produce a sizeable sample of interaction topography, on which all our sub-specializations were brought to bear. Birdwhistell presents the following narrative of what took place:

**The Interaction Profile**

Throughout the analysis of the interview, the principal focus of interest of the group was on the abstraction of the relationship between the participants in it. Every attempt was made to frame the analyses, linguistic, kinesic, and psychiatric, in terms which would turn the attention of the analysts to the on-going social relationship and which would preclude the development of a set of parallel but separate biographies. A consistent effort was made to see in the individual responses not merely indices to personal systems but also indications of the developing interaction between such systems.

Nonetheless, the requirements of the basic linguistic and kinesic analysis tended to focus attention, momentarily at least, on particular individuals. The setting up for these individuals of reliable linguistic and kinesic baselines consumed much analytic effort. Much of both the micro- and macro-analysis involved the specification of units which were not immediately and directly referable to the dynamics of the interaction. The materials derived from these analyses were employed, nonetheless, in the search for solutions to interactionally framed problems. The "cigarette", the "pillow", and the "airplane" scenes, among others, provided somewhat larger contexts in which these problems could be investigated. While the group felt relatively secure in their generalized descriptions of the nature
of the interaction as seen in such contexts, these contexts seemed, nonetheless, still somewhat restricted. Close coordination between the descriptions arrived at by the various approaches had not yet been achieved and it seemed desirable to test still longer sequences and larger contexts.

In situations such as that which we had described in the cigarette scene (12373 - 12883), it is possible to pick up a clear rhythmicity which marks the interaction and which constitutes a measure of the cohesion of the members of the group. But rhythmicity is the only one of a number of abstractable characteristics of that scene, and we cannot be sure that even in that the cigarette scene is typical of any longer sequences. There is, on the other hand, some natural temptation to set up extreme rhythmicity as one pole in a bipolar continuum, along which to range and to contrast other scenes as sharply set off and as tightly organized internally as the cigarette scene, and to use such a continuum as a measure for successful "relatedness" or "closeness" among participants in one scene as contrasted with "lack of relation" or "distance" among participants in another.

In the search for a measuring instrument which might make somewhat finer discriminations among various scenes and in the behavior of participants in them possible, it occurred to me that an essentially intuitive device which I had occasion to use in previous research might meet our needs. Without any clear idea as to what criteria I was employing in the ascription of the terms, I had been labelling stretches of interaction as inter-personal, extra-personal and personal.
The scenes marked as inter-personal seemed characterized by close attention and ready adaptability of each actor to the activity of the others. In those marked as extra-personal, the actors seem to be talking to a wider audience. In those marked as personal, a particular actor appears to be talking to himself. In the first category, an inter-locutor lends full attention to the person who is addressing him, in the second his behavior might be characterized as "divided listening", and in the third the auditor listens not at all but appears to be thinking of something else.

While the behavioral descriptions covering these categories were somewhat vague and intuitive, co-workers in the research, nonetheless, had little difficulty in agreeing on the sequences. Alternation among the categories seemed to be patterned and customary, and almost all sequences observed seemed to show such alternation. It seemed, furthermore, that if either the extra-personal or the personal continued for long, there was some distress evinced by other participants in the interactional group.

It has long been clear to interview analysts that some behaviors are more "symbolic", that is, more highly abstract or generalizing than others. There have been few objective guide-posts upon which to base our judgement that some actions are especially symbolic, and nothing to indicate to us of what, in particular, they might be symbolic. The possibility of placing such symbolic actions within larger stretches of activity, these latter characterizable in terms of a larger frame, and the former, in turn, characterizable in terms of the latter, seemed attractive.
The three-way conceptual split seemed, therefore, worth a trial.

In discussing its possible application to our own interview materials, our sub-team (Birdwhistell, Brosin, and McQuown) focused on this central question: Whence, that is, from what aspects or from what levels of behavior, is the impression of variation among these three categories of activity derived? Was it a matter of lexical content, or was it the body motion, or was it the linguistic or paralinguistic behavior which resulted in the impression? Or was it only some combination of all of these in some larger context that made the labelling possible?

All three members of the team agreed that the categories seemed "reasonable," that is, did not conflict with a common-sense assessment of social interaction. Although a trial of these categories might not give us an entirely new tool for characterizing interactional sequences, such a trial would, perhaps, give us a better idea of the kinds of objective behavioral phenomena which underlay the sequences to which such differential labels had been applied.

It was agreed, furthermore, that each was to proceed in "pseudo-blind" fashion, and attempt to operate independently with his own kinds of data: McQuown was to listen to the tape, impressionistically divide the material into large segments, characterize each of the segments with one of the three labels, and then search for recurrent linguistic or paralinguistic behavioral items, or sets of such items characteristic of the three kinds of labelled stretches. Birdwhistell was to duplicate these operations for the body-motion material. Brosin's task was somewhat more complex. It was felt by the team that he should bring to bear on the sight-and-sound materials the full arsenal of his clinical experience. He had interviewed, together with Fromm-Reichmann, all
participants in the film. He had case-material and interview data derived from all of the film taken of Doris, Gregory, Billy, and his father. All of this together with any depth analyses he might choose to make of portions of the interview with respect to content were to be made use of. When the three separate analyses had been completed, the material from each would be assembled and compared and points of coincidence and divergence would be established.

Since at least thirty seconds of the materials had been previously subjected to micro-analysis, and since as a team we had viewed and listened to these and their accompanying scenes many times in the course of our research, it could not be said that the analysis now being undertaken by each of us separately was, in fact, entirely "blind." We were, however, in this, working with the tape alone, and with the silenced film, and with the sound-film plus additional background data, each of us in isolation from the others, and each focusing exclusively on the data of his own medium. We were, for the moment at least, exercising independent judgments.

The value of our experiment was enhanced, finally, by a piece of luck. Professor Erik Erikson was visiting Western Psychiatric Institute at the time and graciously agreed to participate in the test. He had seen none of the material prior to the actual experiment and had had only a conversational acquaintance with the linguistic and kinesic approaches to interview analysis prior to this session. He was asked to work with Brosin and to contribute his acquaintance with communication analysis and his extensive clinical experience to the psychiatrist's categorization
of the material. Brosin and Erikson thus formed a sub-team with Brosin accepting responsibility for the final assessment of any particular passage.

Following the preliminary segmentation of two sizeable stretches of film (and of tape) (l-3323, 12373-12863) and the categorization of the segments in terms of the interpersonal, extra-personal, and personal labels, Birdwhistell and McQuown selected certain behavioral items, recurrent in such labelled segments, as characteristic of each of the three categories. The two clinicians, although they did in part rely on certain special and characteristic items for their segmentation and segment -> labelling, agreed to utilize their non-specific clinical insights for their final judgments.

Birdwhistell set up the following outline of category-features as a guide to his final assessment:

<table>
<thead>
<tr>
<th>Category</th>
<th>Behavior*</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Interpersonal</td>
<td>Body in tonus, active**, focus on interacting respondent or on surrogate object.***</td>
</tr>
<tr>
<td>(2) Extra-personal</td>
<td>Tonus and activity variable, focus indeterminate to out-of-focus directed beside, above or below interacting respondent.</td>
</tr>
<tr>
<td>(3) Personal</td>
<td>Tonus tends to be weak, activity reduced, eyes usually dropped, so that focus or convergence cannot be determined.</td>
</tr>
</tbody>
</table>
These characteristics can only be placed, of course, after the base-line of each of the participant actors has been determined.

Activity level is arrived at only after an evaluation of motion qualifiers of intensity, duration, and range.

I am, for the time being at least, willing to describe repeatedly-glanced-at objects in the environment (shoes, cigarettes, matches, the bucket, and the like) as surrogates for the respondent. This decision is based not only on the behavior of the speaker-auditor, but also on that of the vis-a-vis. There is some reason to believe that timing in this is patterned to a point which should eventually make possible specific statements as to the etiquette governing how long one can look a vis-a-vis in the eye without seeming "too long", and, at the other extreme, how long one can look at a substitute object without causing distress.

McQuown ventures the following:

Interaction-Topography Criteria: Speech

<table>
<thead>
<tr>
<th>Category</th>
<th>Behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Normal</td>
<td>Sequences of intonation patterns of this shape.</td>
</tr>
<tr>
<td></td>
<td>2 → 2 3 2 → 2 3 1</td>
</tr>
<tr>
<td></td>
<td>Occasionally on the 2 2 complemented by squeeze (货车) and drawl (货车)</td>
</tr>
<tr>
<td></td>
<td>Occasionally on the 3 2 and the 3 1 complemented by overloud (货车) and spread register (货车)</td>
</tr>
<tr>
<td></td>
<td>Colloquial choice of vocabulary, of pronunciation, and of grammar.</td>
</tr>
</tbody>
</table>
(2) Editorial

Many sequences of intonation patterns of this shape
2 2 2
2 3 2 2 3 1
Occasionally complemented with overload (;
on the 3 2 ↑
Occasionally complemented with overslow (<<)
and with narrowed register ((" on the
2 2 2
Pseudo-intellectual choice of vocabulary,
of pronunciation, and of grammar.

(3) Introspective

Sequences of intonation patterns of this shape
2 2 2 3 2
Occasionally complemented by overload (\),
squeeze (\), and narrowed register (\) on
the 2 2
Occasionally complemented by drawl on
the 3 2
Colloquial choice of vocabulary, of pro-
nunciation, and of grammar.

Brosin reconstructs the following:

Note: After reviewing the criteria presented by the kinesicist and
by the linguist as the probable bases of their judgments, the psychiatrist
agreed to try to specify, insofar as possible, the categories on which he
based his judgments with respect to the same three categories (here labeled
by the psychiatrist ad-personalizing, externalizing, and internalizing).
Other categories which are of interest to the psychiatrist (but for which it
is even more difficult to specify the criterial bases) are:
(1) subject abstracting or engaging in defining logical propositions (with close relation of subjects to topic) (arriving at this judgment may require inspection of lexical content of subjects' prior performance or new data elicited from subject on re-examination);

(2) phantasy states (day-dreaming, myth-making, creative activity) (with loosened relation of subject to topic);

(3) reliving old experiences such as those from Wordsworth's "recollections in tranquility" up to and including active reproduction of terror states, as in some war-produced neuroses (may be anxious, euphoric, narcissistic, erotic, or aggressive) (with close relation of subject to topic);

(4) talking to one or more figures beyond those in focus or physically present at the moment (deductible from errors of everyday life, from dreams, from symptom-presentation, from defense mechanisms including life-styles and ego-identities);

(5) states of libidinal satisfaction (inferable from lexical content of prior speech, from elicited reconstruction on the part of the subject, from the subject's tone of voice and body-motion including such evidence of oral activity as licking, drinking, smoking, lisping, from visceral taps on urethral and genital activities, and on the more usual blood-pressure, pulse and respiratory rates, skin resistance and temperature, as well as blanching and blushing) (Razran, 1961);

(6) searching or scanning behavior (seeking essential feedback from or corroboration of the messages at all levels);

(7) signaling behavior (indicating satisfaction or distress regarding the current input or feedback);
(8) levels of activity (conscious, preconscious, and unconscious).

It is clear that the three categories chosen with respect to which we produced the activity profile are not a close fit to customary psychiatric categories, but constitute, rather, overlapping entities which bear a strong resemblance to many existing concepts. The names we have assigned to these three categories constitute three sets of parallel and partially synonymous terms to enable us to maintain the three-way distinction on the one hand a clear separation of the three approaches on the other. The labels should be construed only as here defined.

For the psychiatrist there is clearly a unifying theme in these three categories in the sense that ego functions for receiving, ordering, and integrating data and being able to act appropriately are seemingly progressively weaker as one goes from ad-personalizing to externalizing to internalizing. A second unifying theme is to be found in the distance in interactional terms which the subject maintains from other people at the time under consideration. In the first category, the subject is presumably maintaining customary defenses and distances, whereas in the second, the ties become looser and the distances greater, and in the third, the subject is even farther away from customary ways of dealing with people and problems. In order to attempt even this crude experiment, therefore, it was necessary to try to specify psychiatric criteria which had some reasonable correspondence to those of other workers. The working definitions used by the psychiatrist in the experiment were the following:
<table>
<thead>
<tr>
<th>Category</th>
<th>Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Ad-personalizing</td>
<td>Subject seems to be acting and talking directly to the person addressed - who is physically present and in focus; subject gives the appearance of close attention to the person addressed and his conduct varies appropriately with that person's behavior.</td>
</tr>
<tr>
<td>(2) Externalizing</td>
<td>Subject seems to be talking to a wider audience, shows evidence of &quot;divided listening,&quot; or of looking for external supports for weakened ego functions; subject seems to be uncertain about self-image or ego-identity, with searching behavior for material from other persons, past or present, often regressive in trend, with use of quotations; subject may manifest somatization, and incipient development of both hysterical and paranoid mechanisms.</td>
</tr>
<tr>
<td>(3) Internalizing</td>
<td>Subject does not appear to be listening or participating actively, but seems to be thinking of something else; subject tends toward withdrawal from the others in the scene and into the self, producing a clinical picture which is essentially</td>
</tr>
</tbody>
</table>
depressive with regressive appeals for help; subject may be silent or greatly reduce his verbal production and speed of output is markedly reduced.

Note: We have not tried to interpret this material in terms of pre-conscious or unconscious activity, nor have we tried to identify those units of behavior learned during the pre-verbal period. In this particular case, we must remember that Doris had extensive training in various therapeutic systems so that her insights may be genuinely her own or may be reflections of earlier experiences in therapy.

The transitions between these three states of being may be gradual or abrupt. For the psychiatrist using larger patterns of activity which include the lexical content, the units which he uncovers are generally larger than those discovered by his colleagues, and the transitions are not as sharply defined as they may be either in kinesic or in linguistic notations.

There may well be a real overlap in the states as judged by kinesicist, linguist, and psychiatrist, or overlap in perception of the bases of judgment, as diverse evidence shifts in and out of the investigator's focus. Comparison and contrast of these varied judgmental results will make these differences precise and expose each investigator inevitably to new foci of observation.

In a typical internal dialogue, nonetheless, in which the subject tries to reject or to fight with his conscience (his super-ego, or his internalized social values) it is essential, for the psychiatrist, to discriminate between the defiance of, mocking at, or rage against these internal forces, and these feelings as focussed on the current topic or object under discussion. Such defiance (or mocking) (or rage) may be
extremely subtle in its expression and may be accompanied by not readily apparent oral-cannibalistic need to take in so that his self-esteem will improve.

Such determination, indispensable in the diagnosis and in the therapy of such distress, if it is to be more readily made, and if it is to be more reliable in long-term relief of such distress, will continue to present a challenge to each of the approaches to the data here presented (and to other approaches which are not), and to the careful comparison, contrast, and interweaving of the various approaches in which we have here taken a first step.
Two considerations determined the choice of the extended sequences for analysis: one, the discovery of a sufficiently long sequence on the sound-film without major interruptions, and, two, the finding of a sequence which could be analyzed within the research-time available.

Reviewing the film and surveying the data previously abstracted, we concluded that the first two minutes of the film probably provided the best sequence for our initial trial (0 - 3323) (pp. 1 - 50). In all, 3323 frames (or approximately 136 1/2 seconds) of interactional material was surveyed. Prior to the test, 2256 frames had been done in kinemacro and 503 frames in kinemicro. Of the 3323 frames, 503 had been done in phono-micro and the remainder in phono-semi-micro. The material had all been fairly carefully surveyed by the psychiatrists. Alloting a week to this section of the research, the sequence was segmented, the segments were labelled, and the characteristics of the individual segments were specified.

Comparison of the results revealed that there was complete agreement as to labelling on 1331 frames (or about forty percent of the total sequence). Further breakdown showed that the linguist and the psychiatrists were in agreement on 2132 frames (or on 64.16 percent of the whole), the linguist and the kinesicist on 1615 frames (or 48.6 percent), and the kinesicist and the psychiatrists on 1526 frames (or 45.9 percent). Scanning of the segmentation indicated that part of the disagreement probably related to the size of the units employed by each of the three. It was clear that if only central periods between each notable shift were compared there was much greater agreement among the three segmentations.
A range chart was constructed in order to discover the relative durations of segments abstracted as units by each of the three approaches:
<table>
<thead>
<tr>
<th>Range by Frames</th>
<th>Kinesicist</th>
<th>Linguist</th>
<th>Psychiatrists</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 20</td>
<td>10</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>21 - 40</td>
<td>11</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>41 - 60</td>
<td>4</td>
<td>8</td>
<td>5</td>
</tr>
<tr>
<td>61 - 80</td>
<td>5</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>81 - 100</td>
<td>3</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>101 - 120</td>
<td>2</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>121 - 140</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>141 - 160</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>161 - 180</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>181 - 200</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>201 - 375</td>
<td>1</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>376 -</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

Of the 45 shifts (from one segment to another) indicated by the kinesicist, 29 (or almost 50 percent) initiate sequences of less than two seconds duration. Of the 30 shifts marked by the linguist, only 8 (or slightly more than one-fourth) initiate sequences of less than two seconds. Of the 24 shifts located by the psychiatrists, finally, only 2 start sequences of less than two seconds duration. The average duration of a kinesic sequence was 75.52 frames (the median 49), of a linguistic sequence 110.76 frames (the median 60), and of a psychiatric moment 134.29 frames (the median 104). In other words, the body-motion behavior tended to break into two-second sequences, the linguistic into three-second intervals, and the complexes evaluated by the psychiatrists into four second stretches.
by Harvey Sarles
Kinesic, Linguistic, and Psychiatric Comparative Judgments of Shifts
ILLUSTRATION NO.

FRAMES

NUMBER OF SHIFTS (equalized to kinesis)
These figures, clearly, must in some way reflect the nature of the media or the limitations of the analytic instruments employed in segmenting them. According to Dr. George L. Trager (personal communication), most sentences in conversational American English are from about 2 1/2 to 3 1/2 seconds in duration. It should not be surprising, therefore, that the durations marked by the linguist are approximately of sentence length. Since many American speakers use eye-focus (or, rather, convergence) as a means of indicating attention (or, of demanding it) within sentences, it is not surprising to find a higher incidence of sub-sentence-sized segments recorded by the kinesicist. The psychiatrist, finally, as a literate American, will tend to use the sentence as a basic unit. Such a tendency might possibly in part explain the greater agreement between the psychiatrist and the linguist as to the labelling of the segments.

Several things are evident from these data:

1. There is no one-to-one coincidence in size between the units isolable in the three media;
2. There is, therefore, no automatic coincidence in borders between the units of the different media in the stream of discourse;
3. Some units are larger than others and may be sub-divided by co-occurring but smaller units of behavior in another medium (largest are the psychiatrist's units, next largest the linguist's, and smallest the kinesicist's);
(4) where there is coincidence in borders in all three, major breaks occur; where the borders of only two match there are lesser breaks;

(5) where the borders do not coincide between any two, there may be some smear of psychic units (with lag in one or anticipation in another)

The amount of agreement in segmentation and in segment-characterization among the three approaches is heartening. It is clear, however, that neither speech data nor body-motion data alone can tell us the full story on the psychic segmentation and segment-characterization of interaction sequences. On the other hand, it is also clear that linguistic and kinesic segmentation within such sequences may reveal shifts subtler than those that are easily objectifiable by the psychiatrist.

More reliable and more satisfying interpretation of the coincidences and non-coincidences in segmentation and segment-characterization as practiced by the three sub-disciplines will, of course, require further research in each of the sub-fields. The tools for linguistic (and para-linguistic), and for kinesic (and para-kinesic) analysis must be greatly sharpened if we are to have greater confidence in our identifications. The variety of interaction sequences examined must be considerably increased. The precision of the labelling frames employed for their characterization must be very much improved and their relevance to problems of psychiatric (and other) interpretation clearly specified.
CHAPTER 10

Summary, Conclusions, and

Outlook

Norman A. McQuown

z. z. (.)
The six-man research-team through whose efforts it has been possible to put together this book was first assembled at the Center for Advanced Study in the Behavioral Sciences during the academic year 1955-1956. Its make-up was largely pre-determined by the selection committee which chose the scholars who were in residence at the Center during that year. Ralph W. Tyler, Director of the Center, played in this process a decisive role, as did Clyde M. Kluckhohn, among his advisors. Among those chosen was Dr. Frieda Fromm-Reichmann and her role in the formation of the team was the crucial one (Bateson, 1959). Two linguists (Charles F. Hockett and Norman A. McQuown) were in residence during that year, as were a number of cultural anthropologists (Alfred L. Kroeber, David M. Schneider, David Aberle) and another psychiatrist (Henry W. Brosin). Meeting in a seminar on problems of language behavior, after initial discussions among all of these, Dr. Fromm-Reichmann persuaded McQuown to attempt a linguistic analysis of psychiatric interview materials. The analysis was carried out during the months of December 1955 and January 1956 and the results (McQuown, 1957) were presented to the seminar. McQuown suggested the desirability of analyzing the body-motion activity present in such interviews and arrangements were made in February 1956 for Ray L. Birdwhistell to visit the Center and present to the seminar the techniques of kinesic research. In the search for suitable materials, Birdwhistell persuaded Gregory Bateson to show the seminar some of his sound-filmed family-interviews and Bateson, himself, became interested in the possibilities
of linguistic-kinesic analysis of his materials. In the course of planning possible research on such materials, both Charles F. Hockett and Henry W. Brosoin became enthusiastically involved and the team was complete.

Active research did not begin until these six could be freed for a fairly extended period, that is, not until June 1956. It lasted intensively for a three-month period (June, July, and August of that year). Birdwhistell was obliged to return to other duties in mid-August, Fromm-Reichmann, Hockett, and McQuown completed their year at the Center on August 31. Subsequent very brief sessions brought the team together, but never again for as intensive work as had been possible at the Center.

At the first of these subsequent sessions (held at the University of Buffalo from October 10-14, 1956), the linguists Henry Lee Smith, Jr. and George L. Trager were persuaded to take an active interest in the work of our team. A second session (Fromm-Reichmann and Hockett absent) was held in Buffalo from December 27-29, 1956 during which those present worked on a second set of family-interview materials the analysis of which was to serve them for presentation before the American Orthopsychiatric Association. A third meeting was held in Buffalo on February 28, and March 1 and 2, 1957 to complete work on these same second-family materials. A fourth session was held in Buffalo on May 3, 4, and 5 at which preparations were made for presenting samples of our first-family materials before the American Psychiatric Association. Fromm-Reichmann's death ( ) had deprived the team of one member, and the multiple obligations of the other members
forced a moratorium during the summer of 1957. A fifth meeting was held in Buffalo from October 18-20, 1957, this time without Fromm-Reichmann, with Hockett reporting on new work which he had begun with Pittenger (Pittenger-Hockett, 1960) at Syracuse, and with less active participation by Smith and by Trager. A sixth meeting (Bateson and Hockett absent) was held in Buffalo from February 28 through March 1 and 2, 1958 and a seventh was planned. At this seventh meeting, held in Pittsburgh from June 15 through 19, 1958, Birdwhistell, Brosin, and McQuown worked through a sizeable batch of first-family interview material and Erik Erikson joined forces with Brosin in some of the psychiatric evaluation of the materials covered. Hockett was obliged to withdraw from active participation in the project at this point and turned over his accumulated linguistic materials to McQuown. A second moratorium was called during the summer of 1958, since McQuown was in Mexico and Bateson, Birdwhistell, and Brosin were otherwise engaged. An eighth meeting was held in Pittsburgh from October 1958 at which the four remaining members of the team were present. McQuown, unfortunately, found himself winding up a Mexican project during the remainder of the academic year 1958-1959, terminated it on August 1, 1959, and was then obliged to return to Mexico, thus bringing about a third moratorium during the summer of 1959. A ninth meeting was held in Pittsburgh from September 1959, and in January 1960 McQuown became involved in another Mexican project. In May, 1960, he became involved in a third Mexican project, thus bringing about a fourth moratorium during the summer of 1960. A tenth meeting was held in Pittsburgh from September
Four of the original six members of the team remain active. The course of our team work was not always smooth, there was occasional distress, and rare but nonetheless real anger. That four out of the original six members had had previous extensive interdisciplinary contact, in fair part at the Josiah Macy Foundation symposia, certainly contributed to the remarkable fact that the essential disciplinary components of the original team are still represented on it.

That it has not been possible after the three all-too-brief months at the Center, to provide the team with another such sustained and intensive research experience is regrettable, but not unpredictable in a busy academic and professional world. This fact is, of course, reflected in the quantity and quality of research results, which for this volume can only be illustrative, and typical, rather than substantive, and probatory. Even though the substantive research results presented here, therefore, are limited, it has, nonetheless, been possible here to present the tools for opening up a new field and for carrying out further research in it and to illustrate their use in a number of research contexts.

The by-products of our interdisciplinary research experience have been many. I here list some of them as stated by the various members of our team:

Bateson:

(1) We have learned more about interaction as punctuated into contexts of learning and we have accumulated
empirical data on the continuity and cyclicity of the double-bind.

(2) We have discovered empirical markers for shifting logical types and have found that such markers tend to be metacommunicative.

(3) We have seen that both the digital analysis of "pip" or "bit" phenomena and the analogic analysis of total pattern or system phenomena are appropriate on every level.

(4) We have experienced both the value of micro-analysis of the structure of short sequences and the usefulness of macro-analysis of the structure of total scenes.

(5) We have both new information and new kinds of information on the resistance of systems to parametric change.

Birdwhistell:

(1) Kinesics as a research area has been revived and a new macro-kinesic recording system has been worked out and tried out.

(2) We have been forced both into technological innovation (better film focus, better sound track) and into a recognition of the need for it (good color film, a fool-proof calibration system for coordinating sight and sound).

(3) We have been obliged to explore the area of parakinesics and to devise a frame within which
to describe parakinesic phenomena.

(4) We have learned that the amount of the body involved in simultaneous language and gesture is large and we have begun to explore the extent to which they supplement or reinforce each other.

(5) We have been forced to recognize that no single channel and no single unit within any type of channel by itself means any particular thing; what is conveyed must be discovered anew in each context, and whatever it is, though it may involve ambiguity, it never gives rise to contradiction.

Brosin:

(1) Our work has strengthened the assumption of psychic determinism: we have discovered system within system within system in multilevel homeostasis.

(2) We have been provided with new tools for the study of group dynamics and their use has forced us to recognize new dimensions of complexity in group organization.

(3) Our investigations have provided new support for social matrix theories of personality (character?) (temperament?) development and have reinforced the conviction that items of behavior as such are never abnormal--only constellations are.

(4) We have been forced to suspect the artificiality of recognized physiological limens and to expand
tremendously the area of sub-recall learning (of things which happen in as little as 1/24 of a second).

(5) We have an entirely new conception of psychological time and a new appreciation of how much interaction takes place in a second of chronological time.

(6) With Fromm-Reichmann we now recognize the possibility of still further restricting the working area of unspecifiable intuition: describable and communicable bases for psychiatric intuitions are now at hand.

(7) We can now detect specifiable speech and body-motion behavior that confirms for us the adage that repression is the price of civilization and shows us the details of the mechanism for learning not to learn.

McQuown:

(1) We have seen that although the general principles of behavioral analysis are the same for both speech and body-motion behavior, there are no two cultural systems with entirely analogous structures.

(2) We have come to realize that we have no established base-lines for speech and body-motion behavior in any of our sociocultural groups (none for children, none for suburbia, none for geographical areas),
against which we might find it possible to measure individual behavior.

(3) We have been forced to recognize that without comparative studies of speech and body-motion behavior in families which would give us some idea of the norms for such behavior and its range of variation, we cannot place the behavior of any one family along that range.

(4) We have been obliged to develop the area of para-linguistics devoted to a systematic study of all those vocal phenomena which are separate from language, but in which language is embedded.

(5) We have been brought to a realization of the need for new linguistic research into larger-than-sentence-size units, into spontaneous conversational materials, and into the variability manifest in the speech of members of a much wider variety of social groups.

We have all come to recognize the central value of the new tools in behavioral analysis: the replicability of the analyses achieved through them. Uncertain though our interpretations of behavior may be, we may now produce a corpus of specified behavioral phenomena on which such interpretations are based, a corpus which is available to all for repeated examination, for correction where correction is demonstrably necessary, for refinement where refinement is desired, and for the testing of new interpretive hypotheses where the old ones have proved to be unsatisfactory.
The tools, furthermore, although they have received their initial trial on family interview materials at the hands of psychiatrists, and those interested in the etiology of mental disturbance, are multi-valent and may be employed in the investigation of behavior in a wide variety of contexts:

(1) in typical family intercourse;
(2) in the doctor-patient relationship;
(3) in psychotherapeutic interviews;
(4) in the relationship between father-confessor and parishioner;
(5) in the communication between buyer and seller;
(6) in the classroom;
(7) in "committee" work;
(8) in the courts of law;
(9) in labor-industry negotiations;
(10) in personnel selection;
(11) in the advertising field;
(12) in the motion-picture--movie viewer context;
(13) in the legitimate theatre-actor--audience relationship;
(14) in the functioning of legislative bodies;
(15) in international conferences;
(16) in unofficial international contexts (tourist, business, professional);
(17) in the relationship between anthropological field-worker and his informant;
(18) in the cross-cultural comparison of different communities;
(19) in the investigation of the relationship between different communicational systems and different world views;
(20) in the study of the functioning of human (as opposed to non-human) communication systems in general.

Application of the new tools in such a wide variety of contexts will require, of course, the training of new technicians expert in their use in describing the behavioral facts, and of new investigators skilled in the interpretation of such facts. Such application will inevitably lead to the refinement both of the descriptive tools and of the interpretive frames within which descriptive results are evaluated. As new knowledge, finally, becomes available through their application, it will force a re-examination of each of the specialized sub-fields in which they are applied and a reintegration of the total knowledge available within them.
THE NATURAL HISTORY
OF
AN INTERVIEW

(edited by Norman A. McQuown)

with contributions by

Gregory Bateson
Ray L. Birdwhistell
Henry W. Brosin
Charles F. Hockett
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, 1951). 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—kinesthetics (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 metalinguistics, identified by such terms as cerebration, encoding, voice set, voice quality, body set, and motion quality. Communication itself was divided into language, vocalizations, and kinesthetics.

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 kinesthetics. One publication has already resulted (McQuann, 1957).

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

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

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(as described) variegated other noises, not having the structure of language—

[as a background against which are measured]

voice qualities [These being termed]

and

paralanguage

[found in systematic association with]

language.

The words paralinguistic and paralanguage are self-explanatory.

Voice set is briefly discussed in 1.2 and voice qualities are taken up in 1.3. Then section 2 and its subdivisions (2.1-3) are devoted to the vocalizations.

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

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

The voice qualities noted so far are these: pitch range, vocal lip control, glottis control, pitch control, articulation control, rhythm control, resonance, tempo. Pitch range may be identified as spread upward or downward, or narrowed from above or below. Vocal lip control ranges from heavy rasp or harshness through slight rasp to various degrees of openness. Glottis control deals with sharp and smooth transitions in pitch. Articulation control covers forceful (precise) and relaxed (slurred) speech. Rhythm control involves smooth and jerky setting off of portions of vocal activity. Resonance ranges from resonant to thin. Tempo is described as increased or decreased from a norm.

These voice qualities as described seem to involve paired attributes, but the pairs of terms are more properly descriptive of extremes between which there are continuous 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 add 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 characterizers—discussed in 2.1. A second group, the vocal qualifiers, again have rather wide scope and may be combined with the characterizers; they are discussed in 2.2. The third group is composed of sounds that are much like the sounds of language, but again differ from them in scope and concatenation; these are the vocal segregates, taken up in 2.3. Symbols for all vocalizations are suggested in 4 below.

2.1. The vocal characterizers are first of all laughing and crying, which appear to be much alike and may represent extremes of a continuum, something like the voice qualities intermediate (and possibly involving other vocalizations) would be giggling, snickering, whimpering, sobbing. Then comes a group involving yelling and whispering as extremes, with muffled sounds and
Trager, PARALANGUAGE

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

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

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

It will be useful to describe in the terms just given some of the noises that are dealt with here. The usual **uh-huh** 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 **ha** is the alveolar continuant, with inspiration. The shushing sound is the palatal continuant. Coughs, snorts, sniffs, imitations of animal cries, all seem to be analyzed in these terms.


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 on 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-semiology 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 kinesic 'markers' and points of occurrence of zero-segregates. Another is the coincidence of such motions as head nods with the occurrence of vocal qualifiers.

The research projects now going on should make possible a more nearly definitive statement of kinesics before long, and should also bring added refinements to the description of 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 analyzing 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 [and] | Vz |
| Language [The whole accompanied by] | L |
| Kinesics | K |

If one is doing recording on large sheets of paper, it is probably best to
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arrange the lines so that an orthography line (Or) comes first, then L with any necessary subdivisions (Ph phonology—Ph phonetics, Phm phonemics; Np morphology—Npp morphophonemics, Npm 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>Letter Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pr</td>
<td>Pitch range</td>
</tr>
<tr>
<td></td>
<td>-f</td>
</tr>
<tr>
<td></td>
<td>-d</td>
</tr>
<tr>
<td></td>
<td>Narrowed from above</td>
</tr>
<tr>
<td></td>
<td>-i</td>
</tr>
<tr>
<td></td>
<td>Below</td>
</tr>
<tr>
<td></td>
<td>-j</td>
</tr>
<tr>
<td>Lc</td>
<td>Vocal lip control</td>
</tr>
<tr>
<td></td>
<td>-f</td>
</tr>
<tr>
<td></td>
<td>Plain</td>
</tr>
<tr>
<td></td>
<td>-g</td>
</tr>
<tr>
<td></td>
<td>Openness—slight</td>
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<tr>
<td></td>
<td>-h</td>
</tr>
<tr>
<td></td>
<td>Full</td>
</tr>
<tr>
<td>Gc</td>
<td>Glottis control</td>
</tr>
<tr>
<td></td>
<td>-x</td>
</tr>
<tr>
<td></td>
<td>Voicing—over</td>
</tr>
<tr>
<td></td>
<td>-y</td>
</tr>
<tr>
<td></td>
<td>Under</td>
</tr>
<tr>
<td></td>
<td>-z</td>
</tr>
<tr>
<td></td>
<td>Breathiness—slight</td>
</tr>
<tr>
<td></td>
<td>-h</td>
</tr>
<tr>
<td></td>
<td>Heavy</td>
</tr>
<tr>
<td>Pe</td>
<td>Pitch control</td>
</tr>
<tr>
<td></td>
<td>-f or -q</td>
</tr>
<tr>
<td></td>
<td>Sharp transition</td>
</tr>
<tr>
<td></td>
<td>-f or -q</td>
</tr>
<tr>
<td>Ac</td>
<td>Articulation control</td>
</tr>
<tr>
<td></td>
<td>-f</td>
</tr>
<tr>
<td></td>
<td>Forceful</td>
</tr>
<tr>
<td></td>
<td>-g</td>
</tr>
<tr>
<td></td>
<td>Relaxed</td>
</tr>
<tr>
<td>Re</td>
<td>Rhythm control</td>
</tr>
<tr>
<td></td>
<td>-f</td>
</tr>
<tr>
<td></td>
<td>Smooth</td>
</tr>
<tr>
<td></td>
<td>-g</td>
</tr>
<tr>
<td></td>
<td>Jerky</td>
</tr>
<tr>
<td></td>
<td>-h</td>
</tr>
<tr>
<td>Re</td>
<td>Resonance</td>
</tr>
<tr>
<td></td>
<td>-i</td>
</tr>
<tr>
<td></td>
<td>Resonant</td>
</tr>
</tbody>
</table>

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—<<—Te.

VQ is a category in which several items may appear at once, so several lines should be allowed.

The vocalisations, Vs, are subdivided into:

- Veh vocal characterisers,
- Vqu vocal qualifiers,
- Vag vocal segregates.

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

- Laughing
  - Gigling
  - Snickering
- Crying
  - Whispering
  - Sobbing
- Yelling
  - Muffled
  - Whispering
  - Muttering
- Moaning
  - Groaning
  - Whining
  - Breaking
  - Belching
  - Yawning

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

Vqu categories have these symbols:

- Intensity: overload
  - Overload
- (In-) oversoft
- Pitch height: overhigh

+ V. D. Benoit and R. Trager remark: v symbols in their text must be...
Trager, PARALANGUAGE

(PH-) overlap ⌣ ⌢ ⌢ extent: drawl ⌢ ⌢ ⌢ (Ex-) clipping ⌢ ⌢ ⌢ ⌢ ⌢ 
The symbols are placed at the beginning and end of the stretch affected: ⌟...⌟.

The Vag table is as follows:

<table>
<thead>
<tr>
<th>Closure and release</th>
<th>Continued</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spread lips</td>
<td>P P, T T T C K ⌡ V X X H</td>
</tr>
<tr>
<td>Punched lips</td>
<td>X X X X X</td>
</tr>
<tr>
<td>Alveolar</td>
<td>X X X X X</td>
</tr>
<tr>
<td>Palatal</td>
<td>X X X X X</td>
</tr>
<tr>
<td>Postal</td>
<td>X X X X X</td>
</tr>
<tr>
<td>Velar</td>
<td>X X X X X</td>
</tr>
<tr>
<td>Palatal</td>
<td>X X X X X</td>
</tr>
</tbody>
</table>

Note: The symbols are used more or less like phonetic symbols, sequentially: uh-nuh SHN, sh-nuh SHN, hm HM, BRR (referring to cold) PH, tak-tak ʁʁ, etc.

5. References:

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


Trager, George L. 1951. The theory of accentual systems. Language, culture, and personality (a mere in memory of Edward Sapir) 25:1-25 (Menasha, Wis.)


[January, 1958]
## Symbols Used in the Transcription of Speech

<table>
<thead>
<tr>
<th>The Score</th>
<th>Vocal Modifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tempo</td>
<td>Tempo 1) Overfast &gt;&gt; -&gt;</td>
</tr>
<tr>
<td>Loudness</td>
<td>Loudness 2) Overloud &gt; - &gt;</td>
</tr>
<tr>
<td>Modifiers</td>
<td>Register 3) Overhigh &gt; - &gt;</td>
</tr>
<tr>
<td>Register</td>
<td>Muted &gt; - &gt;</td>
</tr>
<tr>
<td>Others</td>
<td>Other (4; sometimes 3 when two or more occur at once)</td>
</tr>
</tbody>
</table>

### Boundary Phenomena

**Onsets:** Smooth \(\text{(no mark)}\) | Approaches Fading \(\text{&gt;}\) | Offsets: Smooth \(\text{(no mark)}\)
---|---|---
Glottal ?? | Crawling \(\text{&lt;}&gt;\) | Glottal ?
Aspirated \(\text{h}\) | Both \(\text{&lt;}&gt;\) | Exhaling \(\text{h}\)
Voiced \(\text{&lt;}&gt;\) | Interutterance Silence \(\text{&lt;}&gt;\) | Voicing \(\text{&lt;}&gt;\)
Crescendo \(\text{&lt;}&gt;\) | Voiced Inhalation \(\text{&lt;}&gt;\) | Voice \(\text{&lt;}&gt;\)

### Phonemics (7-9)

**Intonation:**
- Stopping or pausing \(\#\)
- Before completion \(\#\)
- End of intonation \(\#\)

**Internal Open Juncture (8):**
+ Internal open juncture

**Stress Levels:**
- Primary \(\text{&lt;}&gt;\)
- Secondary \(\text{&lt;}&gt;\)
- Tertiary \(\text{&lt;}&gt;\)

**Segmental Phonemes (8):**
- Vowels: \(i, u, a, e, o, æ, æ\)
- Semiconsonants: \(w, y, h\)
- Consonants: \(p t k b d j g f k l s v s f z ʒ m n ər\)

**Pitch Levels (7):**
1 2 3 4

**Pitch Level on Syllable (8):**
1 2 3 4

### Phonetics (11)

**Point of Syllable Division:**
- Nonsyllabic Voiced \(\text{g}\)
- Whispered Voiced \(\text{g}\)
- Slightly Packed \(\text{a} \_&gt;\)
- Fronted \(\text{a} &gt;\)
- Raised \(\text{a} &gt;\)
- Lowered \(\text{a} &gt;\)
- Retroflexed \(\text{a}\)
- Nasalized \(\text{a}\)
- Syllabic Contoid \(\text{n}\)
- Simultaneous Glottal Closure \(\text{t} &gt;\)
- Light or Obscure Articulation \(\text{o} &gt;\)

**Lengths:**
- Overshort \(\text{a} &gt;\)
- "Normal" \(\text{a} &gt;\)
- Long \(\text{a} &gt;\)
- Overlong \(\text{a} &gt;\)
symbols for phonetic and phonemic transcriptions
### Basic Symbols (Phonetic)

<table>
<thead>
<tr>
<th>Stops</th>
</tr>
</thead>
<tbody>
<tr>
<td>p</td>
</tr>
<tr>
<td>b</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fricatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>p</td>
</tr>
<tr>
<td>b</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Nasals</th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
</tr>
<tr>
<td>m</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Consonants</th>
</tr>
</thead>
<tbody>
<tr>
<td>s</td>
</tr>
<tr>
<td>z</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Vowels</th>
</tr>
</thead>
<tbody>
<tr>
<td>ə</td>
</tr>
<tr>
<td>æ</td>
</tr>
<tr>
<td>a</td>
</tr>
</tbody>
</table>

### 3 Pharyngeal / Laryngals

<table>
<thead>
<tr>
<th>Unrounded</th>
<th>Rounded</th>
<th>Unrounded Centralized</th>
<th>Rounded Centralized</th>
<th>Unrounded</th>
<th>Rounded</th>
</tr>
</thead>
<tbody>
<tr>
<td>i</td>
<td>ɪ</td>
<td>ɪ</td>
<td>u</td>
<td>u</td>
<td>u</td>
</tr>
<tr>
<td>l</td>
<td>v</td>
<td>t</td>
<td>v</td>
<td>y</td>
<td>y</td>
</tr>
<tr>
<td>e</td>
<td>υ</td>
<td>υ</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>æ</td>
<td>æ</td>
<td>ɒ</td>
<td>ɒ</td>
<td>ɒ</td>
<td>ɒ</td>
</tr>
<tr>
<td>a</td>
<td>a</td>
<td>ɒ</td>
<td>ɒ</td>
<td>ɒ</td>
<td>ɒ</td>
</tr>
</tbody>
</table>

#### Front / Central / Back

**Vowels**

- Point of Syllable Division
- Other “breaks” in the sequence of consonant and vowel segments
<table>
<thead>
<tr>
<th>Diacritic</th>
<th>Description</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>k</td>
<td>uncertain</td>
<td>x̂</td>
</tr>
<tr>
<td>k̂</td>
<td>certain</td>
<td>s̃ ã</td>
</tr>
<tr>
<td>p</td>
<td>pulmonic egressive</td>
<td>ŝ â glottalized</td>
</tr>
<tr>
<td>p̂</td>
<td>pulmonic ingressive</td>
<td>k̂ â backed</td>
</tr>
<tr>
<td>p̃</td>
<td>glottal egressive (“glottalized”)</td>
<td>k̂ â fronted</td>
</tr>
<tr>
<td>p̄</td>
<td>glottal ingressive (“implosive”)</td>
<td>â r̂ raised</td>
</tr>
<tr>
<td>p̄̄̄</td>
<td>velar egressive</td>
<td>â r̂ lowered</td>
</tr>
<tr>
<td>p̄̄̄̄</td>
<td>velar ingressive (“click”)</td>
<td>k̄ fortis</td>
</tr>
<tr>
<td>ā</td>
<td>voiceless</td>
<td>k̄̄̄̄ lenis</td>
</tr>
<tr>
<td>ā̄̄̄</td>
<td>labialized</td>
<td>s̄ rounded</td>
</tr>
<tr>
<td>ā̄̄̄̄</td>
<td>palatalized</td>
<td>ā̄̄̄ rounded</td>
</tr>
<tr>
<td>ā̄̄̄̄̄</td>
<td>velarized</td>
<td>ū̄̄̄̄ unrounded</td>
</tr>
</tbody>
</table>
tʰ aʰ  retroflex  á  high pitch
s  apical  ə  medium pitch
xʰ  rhotic  a  low pitch
x  smooth  4  pitch
–  flap  3
–  trill  2
–  relatively shorter (or weaker)  1
than surrounding segments
i aᵊ  syllabic vocoids
i  stressed  "k a  emphatic stress
m  syllabic contents  'k a strong stress
d  4

Stress  3
4  medium stress
3  2
2  1
1
<table>
<thead>
<tr>
<th>dl*</th>
<th>( \chi )</th>
</tr>
</thead>
<tbody>
<tr>
<td>kk</td>
<td>( \kappa )</td>
</tr>
<tr>
<td>( gg )</td>
<td>( \breve{g} )</td>
</tr>
</tbody>
</table>

**Other (Combinations)**

| \( \breve{k} \) | \( q \) |
| \( \breve{x} \) | \( \chi \) |
| \( \breve{\breve{s}} \) | \( \breve{s} \) |
| \( \breve{\breve{z}} \) | \( \breve{z} \) |
| \( t\breve{s}^r \) | \( \breve{s}^r \) |
| \( t\breve{z}^r \) | \( \breve{z}^r \) |
| \( \breve{i} \) | \( \breve{\chi} \) |
| \( \breve{r} \) | \( \breve{j} \) |
| \( \breve{y} \) | \( \breve{\kappa} \) |
| \( \breve{u} \) | \( \breve{\breve{u}} \) |
| \( \breve{\breve{s}} \) | \( \breve{s} \) |
| \( \breve{\breve{z}} \) | \( \breve{z} \) |
| \( \otimes \) | \( \breve{\kappa} \) |
| \( \breve{\breve{u}} \) | \( \breve{\kappa} \) |
Juncture  
Number  
- internal open (inter-word)  
- internal open (compound)  
- syllable  
^ close

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 phoneme, one symbol.
Microkinetic Recording

In microkinetic recording, as illustrated on pp. 60, the use of a pro-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, only the logic of kine annotation is presented below. Careful reading of this presentation should permit the reader to understand the transcript, pp. 60, below.

position from (a). (1) equals a 30 degree angle, (2) a 60 degree angle, (3) a 90 degree angle, etc., until 150 degrees from (a). Beyond (6), for convenience, recording returns to (1) and so on. To record positions of less than 30 degrees from (a), the 30 degree angle is divided roughly into 4 parts which are recorded as plus or minus 15', 30', or 45'. These (') are expressed verbally as "minutes." Combinations omit ' : 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 overlax: = and respectively.

Notation of body positions or kines

As noted on pp. 66, 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 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 intrainferior 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

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

Forehead and circum-orbit

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: .

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 .

Neck, Shoulders, Trunk, and Hips

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

The shoulders and trunk are shown in a simple figure or which indicate shoulders straight, drooped and hunched. indicates a bend at the base of the thoracic region; shows trunk bend at pelvis. indicates an involvement of the left shoulder. Arrows 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

denotes 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 a. The logic
for the hand gives the thumb a numeral 1, the forefinger 2 and so on. The
final joint is a, the second b, and the third c. The full hand without the
fingers touching and the fingers extended at a is II III. The thumb hooked,
forefinger crooked (bent at a and/or b, but no lower than the joint of b-c),
and with 3, b and 5 curved (fingers bent beyond joint b-c) is recorded Ф 2 .
8 and 1 indicating which hand is necessary only when staved paper is not
used. Ф is used to indicate palm and direction.

Left arm and hand

The same logic is used as for right hand and arm. Bi-membral and
bilateral activity may at times be signalled within a single staff as
(Ф3). 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. Ф 2 Ф 3 Ф 1 denotes the right leg. Positional and directional
notes may be added as Ф 2 Ф 3 Ф 1 Ф 1 . This indicates that the right leg is crossed
over the left leg, with the right femur 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 a. The foot and
shoe are quasi-realistically recorded. The transcript on pp. 00 contains a
number of examples from which the following is derived Ф 2 Ф 1 . This indicates
that the ankle is bent back toward the lower leg, two hours above a and the toes
are hooked, pulling the loose shoe away from the heel and sole. Ф 2 Ф 1 illus-
trates an ankle bent to four o'clock with a non-weight-bearing toe to the floor.

The heel is raised.

To show walking, Ф 2 Ф 1 is used together with Ф 1 if the walking is
continual. When staved paper is not used, right foot may be filled in
while leaving an outlined left. Ф 2 Ф 1 Ф 1 Ф 1 notes frontal
overstep when walking. Ф 1 Ф 1 would indicate back overstep. Ф 2 Ф 1 Ф 1
indicates running.

Left leg and foot

Annotational system parallels that for the right leg and foot. For
bi-membral activity, Ф 1 is used. This same figure can be utilized to
record the intra-femoral index. Ф 1 indicates a standing figure, with legs
skimo at a 90 degree angle.

Microkinesis 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 in-
cludes a sufficiently broad survey to demonstrate the logic of microkinesis
recording. Duration, repetition and direction of movement, when kinemic, is
recorded as it is for microkinesis recordings. Rhythm is indicated by Ф 1 at
best points.

The following annotational system has been designed for reproduction by
typewriter. The addition of four keys Ф 1 Ф 1 Ф 1 Ф 1 for direction is all that
is necessary for the adaptation of a business typewriter for kinemic recording.
It should be remembered, however, that the intensive analysis of a protocol
will require both kinic and kinemic recording to achieve control of both the
conventional and the idiosyncratic elements of a scene.
Macrokinetic Recording

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 macrokinetic recording. Duration, repetition and direction of movement, when pertinent, is recorded as it is for microkinetic recordings. Rhythm is indicated by / at beat points.

The following annotational system has been designed for reproduction by typewriter. The addition of four keys  

\[ \text{left} \text{ right} \text{ up} \text{ down} \]

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 kinesic recording to achieve control of both the conventional and the idiosyncratic elements of a scene.

---

Kinmorphs, in which there is a dependent relationship between kinemes, kines from more than one motion area, are noted by a fractional system: \( \frac{n}{10} \), \( \frac{n}{20} \), \( \frac{n}{30} \), \( \frac{n}{40} \).

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 indicate tempo without referring to the duration of the particular particle.

**Kinetic Macro-recording Key**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>H</strong></td>
<td>head in median sagittal plane</td>
</tr>
<tr>
<td><strong>N</strong></td>
<td>head left one, two or three o'clock</td>
</tr>
<tr>
<td>( &gt;1, 2, \text{ or } 3 )</td>
<td>head right one, two or three o'clock</td>
</tr>
<tr>
<td>( &lt;1, 2, \text{ or } 3 )</td>
<td>head up one, two or three o'clock</td>
</tr>
<tr>
<td>( \wedge 1, 2, \text{ or } 3 )</td>
<td>head down one, two or three o'clock</td>
</tr>
<tr>
<td>( \vee 1, 2, \text{ or } 3 )</td>
<td>full superior-inferior nods</td>
</tr>
<tr>
<td>( \downarrow 1, 2, \text{ or } 3 )</td>
<td>full inferior-superior nods</td>
</tr>
<tr>
<td>( \downarrow 1, 2, \text{ or } 3 )</td>
<td>half superior-medial nods</td>
</tr>
<tr>
<td>( \downarrow 1, 2, \text{ or } 3 )</td>
<td>half inferior-medial nods</td>
</tr>
<tr>
<td><strong>ES</strong></td>
<td>full head shake left-right-median</td>
</tr>
<tr>
<td><strong>ES</strong></td>
<td>full head shake right-left-median</td>
</tr>
<tr>
<td><strong>ES</strong></td>
<td>half head shake left-median</td>
</tr>
<tr>
<td><strong>ES</strong></td>
<td>half head shake right-median</td>
</tr>
<tr>
<td><strong>ES</strong></td>
<td>full head sweep left-right-median</td>
</tr>
<tr>
<td><strong>ES</strong></td>
<td>full head sweep right-left-median</td>
</tr>
<tr>
<td><strong>ES</strong></td>
<td>(with top of head as pointer)</td>
</tr>
<tr>
<td>( &gt;1, 2, \text{ or } 3 )</td>
<td>head cock left one, two or three</td>
</tr>
<tr>
<td>( &lt;1, 2, \text{ or } 3 )</td>
<td>head cock right one, two or three</td>
</tr>
<tr>
<td>( \wedge 1, 2, \text{ or } 3 )</td>
<td>head cock up one, two or three</td>
</tr>
<tr>
<td>( \vee 1, 2, \text{ or } 3 )</td>
<td>head cock down one, two or three</td>
</tr>
</tbody>
</table>

* Note 1, 2, and 3 etc., refer to points on a clock either clockwise or inverted clockwise. Thus 6 is directly opposite 1 (or normal) and is highest number used. For movements less than 1 on clock 15', 30', and 45' are used.
### Kinetic Micro-recording Key (Cont'd)

#### Face

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>0000</td>
<td>Dead pan - &quot;expressionless&quot; beyond zero</td>
</tr>
</tbody>
</table>

**Forehead**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>f507</td>
<td>forehead overlap bilateral</td>
</tr>
<tr>
<td>f507</td>
<td>forehead furrowed bilateral</td>
</tr>
<tr>
<td>f507-h</td>
<td>forehead deeply furrowed bilateral</td>
</tr>
<tr>
<td>hfb</td>
<td>bilateral brow raise</td>
</tr>
<tr>
<td>hfb-r</td>
<td>right brow raised</td>
</tr>
<tr>
<td>hfb-l</td>
<td>left brow raised</td>
</tr>
<tr>
<td>bbl</td>
<td>brows silt</td>
</tr>
</tbody>
</table>

**(If to be recorded only once when combination present)**

**Eyes**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>00</td>
<td>eyes anterior at zero</td>
</tr>
<tr>
<td>00</td>
<td>eyes in focus on object</td>
</tr>
</tbody>
</table>

- **"oo"**
- **0000**
- **s00s**
- **00L**
- **00 > (1,2,3)**
- **001111**
- **00C**
- **0110**
- **0110**
- **=00=**
- **00+**

**Nose**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>K</td>
<td>nose</td>
</tr>
<tr>
<td>-o4o</td>
<td>flared nostrils</td>
</tr>
<tr>
<td>K</td>
<td>wrinkled nose</td>
</tr>
<tr>
<td>-X</td>
<td>nose pinched or contracted</td>
</tr>
<tr>
<td>'K'</td>
<td>bunny nose</td>
</tr>
</tbody>
</table>

**Cheeks**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch</td>
<td>cheeks</td>
</tr>
<tr>
<td>-Ch</td>
<td>cheeks pucked out</td>
</tr>
<tr>
<td>dCho</td>
<td>non-smiling superior-inferior lined</td>
</tr>
<tr>
<td>xChx</td>
<td>smile-lined</td>
</tr>
<tr>
<td>eChs</td>
<td></td>
</tr>
</tbody>
</table>

#### Kinetic Micro-recording Key (Cont'd)

**Mouth**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>fLi</td>
<td>mouth opening</td>
</tr>
<tr>
<td>fL/l</td>
<td>lips compressed</td>
</tr>
<tr>
<td>fL/l</td>
<td>lips parted</td>
</tr>
<tr>
<td>fL/l</td>
<td>left minimal smile</td>
</tr>
<tr>
<td>fL/l</td>
<td>lip-pouted smile</td>
</tr>
<tr>
<td>fL/l</td>
<td>smile, upper teeth showing</td>
</tr>
<tr>
<td>fL/l</td>
<td>smile, lower teeth showing</td>
</tr>
<tr>
<td>fL/l</td>
<td>open-mouthed laugh</td>
</tr>
<tr>
<td>fL/l</td>
<td>retreating upper lip</td>
</tr>
<tr>
<td>fL/l</td>
<td>protruding upper lip</td>
</tr>
<tr>
<td>fL/l</td>
<td>pursed lips</td>
</tr>
<tr>
<td>fL/l</td>
<td>sucked in upper lip</td>
</tr>
<tr>
<td>fL/l</td>
<td>sucked in lower lip</td>
</tr>
<tr>
<td>fL/l</td>
<td>both lips sucked in</td>
</tr>
<tr>
<td>fL/l</td>
<td>tongue protrudes right</td>
</tr>
<tr>
<td>fL/l</td>
<td>tongue protrudes left</td>
</tr>
<tr>
<td>fL/l</td>
<td>tongue protrudes anterior</td>
</tr>
<tr>
<td>fL/l</td>
<td>tongue licks lips</td>
</tr>
</tbody>
</table>

**Chin**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>U</td>
<td>chin</td>
</tr>
<tr>
<td>xSt</td>
<td>chin thrust forward</td>
</tr>
<tr>
<td>xU</td>
<td>chin thrust right</td>
</tr>
<tr>
<td>Ux</td>
<td>chin thrust left</td>
</tr>
<tr>
<td>-U</td>
<td>chin tight</td>
</tr>
<tr>
<td>olo</td>
<td>chin drop</td>
</tr>
</tbody>
</table>

**Neck**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>nk</td>
<td>neck</td>
</tr>
<tr>
<td>onbo</td>
<td>neck overlax</td>
</tr>
<tr>
<td>-nk</td>
<td>neck tense</td>
</tr>
<tr>
<td>nk</td>
<td>swallowing</td>
</tr>
<tr>
<td>xnk</td>
<td>Adam's apple jerk</td>
</tr>
</tbody>
</table>

**Shoulders and Trunk**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>fT</td>
<td>shoulder and trunk</td>
</tr>
<tr>
<td>fT</td>
<td>right shoulder involvement</td>
</tr>
<tr>
<td>fT</td>
<td>left shoulder involvement</td>
</tr>
<tr>
<td>fT</td>
<td>short trunk mid - 1 hour or less</td>
</tr>
<tr>
<td>fT</td>
<td>trunk not or bow - more than 1 hour</td>
</tr>
<tr>
<td>fT</td>
<td>body right lean</td>
</tr>
<tr>
<td>fT+1,2 or 3</td>
<td>body right lean</td>
</tr>
<tr>
<td>fT&gt;1,2 or 3</td>
<td>body left lean</td>
</tr>
</tbody>
</table>
### Kinetic Macro-recording Key (Cont'd)

#### Shoulders and Trunk (cont'd)

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>x6x</td>
<td>body rigid</td>
</tr>
<tr>
<td>0/0</td>
<td>body slumped</td>
</tr>
<tr>
<td>y/y</td>
<td>chest thrust</td>
</tr>
<tr>
<td>w/w</td>
<td>belly slump</td>
</tr>
<tr>
<td>-y/y/-</td>
<td>pelvic bend</td>
</tr>
<tr>
<td>t/t</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 **LxMn** 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 *LxM3y* indicates that the left arm, numerously 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 *n*. 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
- **XAA**: arms behind back
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
<td>Right hand</td>
</tr>
<tr>
<td>L</td>
<td>Left hand</td>
</tr>
<tr>
<td>M</td>
<td>Middle hand</td>
</tr>
<tr>
<td>S</td>
<td>Special hand</td>
</tr>
</tbody>
</table>

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 tested kinesms, when used initially that a hand is bi-manual.

- **bi-manual circle**: clapping movement - right hand over 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 kinesm or as an aspect of a full hand kinesm. 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 (P) arrow 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 un-bracketed, 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 kinesmic. These are hook, crook, curl, and close which are recorded following the sign + finger number. a indicates finger straight beyond zero.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>R/27</td>
<td>Right hand's forefinger in position backward beyond n. Right forefinger hook.</td>
</tr>
<tr>
<td>R/28</td>
<td>Right forefinger bent at first and/or second joint forming angle with third joint of less than 30 degrees. Right forefinger crook.</td>
</tr>
<tr>
<td>R/29</td>
<td>Right forefinger bent at first or second joint forming angle with third joint beyond 90 degrees but without touching palm. Right forefinger curl.</td>
</tr>
<tr>
<td>R/30</td>
<td>Right forefinger bent to tight position. May or may not touch palm at portion proximal to third joint. Right forefinger close.</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>R/1731</td>
<td>Right thumb hooked, fingers 2, 3 and 4 laterally occluded at Z, finger five separate at Z.</td>
</tr>
<tr>
<td>R/17b3p</td>
<td>Right hand point. Thumb hooked.</td>
</tr>
<tr>
<td>R/14c</td>
<td>Right hand thumb at Z not touching remainder of fingers which are crooked.</td>
</tr>
</tbody>
</table>
R/1¼(PA)  Hand cup-lé¢€š¢ palm up.
// 1¼(PV)  Bi-manual cup.
R/1½(PS)  Hand shake position.
R/1½(PV)  Inverted cup.
//2X5  Hands folded.
//1½X14  Hands clasped.
//2-5a  Hands steeped-apical finger joints contracting, palms separate.
R/1¼-p  Male fist. Thumb superior and in occlusion with posterior aspect of 2b and 3b.
R/1½-p  Infantsile fist. 1 at 2 and superiorly excluding with lateral aspect of 2.
R/½a  Thumb circled fist.

Underlined small letters indicate contact with another body part or external object. The object is listed immediately below the hand record. If the object is held, that is, supported by hand, the participant hand parts are underlined and an o between the finger number-joint letter compounds signals the position of the object. Underlined P indicates palm involvement. Note the shorthand kinem below male and female cigarette examples.

R/12½c3½c cigarette  Right hand holding cigarette with 2,3,4,5 crooked and the cigarette held between joint b of fingers 2 and 3. Middle majority male American cigarette grasp.
R/½a Cigarette  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 grasp. The shorthand kinem covers cigarette placement varying alcohol intake.
//½  Male fist. Thumb superior and in occlusion with posterior aspect of 2b and 3b. 3 is separate from 4. 4 and 5 are usually separate and hook, curl, crook and close in 4 and 5 are alcohol-related.

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

R/½a3½c4½c3½c cigarette  Right hand grasps cigarette between 2a and 2b, palm out, 3, 4 and 5 in crook (or curl). European male cigarette grasp.
R/1½c2½c cigarette  Or lighting hold American or European. Palm direction may be alcohol-related.
R/½a3½c2½c or PK cigarette  Middle majority hand cup. Cigarette between 2a and 2b and held with the lighted end between curled fingers and palm. Palm direction seems alcohol-related.

In the above examples the underlined lower case letter indicates holding, e.g. (¼pa). Two other activities seem sufficiently conventionalized in western European and American culture to record then kinematically. Peeling is shown by 000 signal: e.g. (¼pa00) indicates that with the thumb at 2, 2½a's object 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 -p following member record, e.g. (/½b-p) records a thumb four finger grasp. Addition of -p indicates palm involvement, e.g., (/½a-½b) is a full hand grasp.
Hips

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

b
hip swing

T
*inverted pelvis

v
*protruding buttocks

* n for male and female middle majority American differs. n for female
involves a degree of pelvis inversion which is kinematically significant
when it appears in the male. Similarly with regard to buttock protrusion;
*n in the female, which is also made with pelvis inversion, becomes kinematically
significant only with the male's weight.

xe
bale n which is not recorded is kinematic in the female and
must be recorded.

xs__ex
buttocks shift

xx__xx
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 out-
lined below. The term LYNN describes the left leg in normal weight carry-
ing, standing position. The initial n 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 in-
ferior to and forming the base line of the joint angle. Thus, LYNN
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 ('

L

can refine the recording when it is seen to be kinematically necessary.
Since this is a macro-recording key only positions already standardized
will be described below.

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.

Y::Y

Running.

Y:Y

Walking: long stride.

Y:Y

Walking: stride overshort.

Y::Y

Stride overshort and with one foot
placed before the other: Mincing.

Y::Y

Swag: legs curve laterally at
each step.

Y:Y

Marching: foot in direct anterior-
posterior line, equal time distance
between steps.

Y:

Dancing: repetitive pattern of non-
equidistant steps.

Y

Right foot stumble.
Lag and feet (cont’d)

¥¥¥

Non clucking or scraping while walking. Clicking usually accompanied by marching.

¥¥¥

Skipping.

¥¥¥

Tipsoeing.

¥¥¥

Seated: body upright with 2 or 90 degree angle at hips, 90 degrees at knee and feet flat on the floor. (Or more for particular actor.)

¥¥¥

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

¥¥¥

Same as above, left over.

¥¥¥

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

¥¥¥

Knee over knee cross-male actor.

¥¥¥

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

¥¥¥

Ankle cross. Knees close.

¥¥¥

Ankle cross with knees spread.

¥¥¥

Legs intertwined.

¥¥¥

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

¥¥¥

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

¥¥¥

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

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

¥¥¥

Lateral leg movement seated.

¥¥¥

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

¥¥¥

Superior-inferior leg nod--less than one hour.

¥¥¥

Superior-inferior leg nod--one hour or more.

¥¥¥

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

¥¥¥

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

Inferosural 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.

¥¥¥

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

¥¥¥

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

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

¥¥¥

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

¥¥¥

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

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

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>y</td>
<td>foot</td>
</tr>
<tr>
<td>R yp</td>
<td>right foot pat</td>
</tr>
<tr>
<td>R yn</td>
<td>right foot full nod</td>
</tr>
<tr>
<td>R ym</td>
<td>right foot half nod</td>
</tr>
<tr>
<td>L y</td>
<td>right foot full sweep</td>
</tr>
<tr>
<td>R y</td>
<td>right foot half shake</td>
</tr>
<tr>
<td>R yz</td>
<td>right foot circle or curve</td>
</tr>
<tr>
<td>R - y</td>
<td>right foot bent right</td>
</tr>
<tr>
<td>-Ly</td>
<td>left foot bent right</td>
</tr>
<tr>
<td>-y-</td>
<td>foot firm on base</td>
</tr>
<tr>
<td>y</td>
<td>heel firm on base, remainder of foot up</td>
</tr>
<tr>
<td>y_</td>
<td>toe firm on base, remainder up</td>
</tr>
<tr>
<td>y?</td>
<td>toes hooked back</td>
</tr>
<tr>
<td>yc</td>
<td>toes curled or crooked</td>
</tr>
<tr>
<td>Ryle</td>
<td>Right big toe curled; toes 2, 3, 4 and 5, laterally touching and at &quot;a.&quot;</td>
</tr>
<tr>
<td>K y</td>
<td></td>
</tr>
<tr>
<td>K y</td>
<td></td>
</tr>
<tr>
<td>K y</td>
<td></td>
</tr>
<tr>
<td>V y</td>
<td></td>
</tr>
</tbody>
</table>
"A Kinetic-Linguistic Exercise"

An Expert From

The Cigarette Scene

Doris and Gregory, as the camera is reloaded and again begins to record the scene, are seated upon the sofa. Each has a stein of the homemade beer supplied by Doris. Doris looks at Greg to her 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 vocalization. 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 eighth's of a second lag between "child's" and "intellectual" was equalled by another between "intelligent" and "ability." Gregory speaks, his first words cut through 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 backward 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 ashtray. [This scene begins at (plus or minus ten frames) #12529 and is concluded by (plus or minus ten frames) #12794.]

Introduction

"The Cigarette Scene", an interactional sequence of some 18 seconds in duration, has remained a type site for linguistic-kinetic analysis throughout the decades following the original work on the Doris-Gregory films. Filming 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

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 Brosin, 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, Birkhastell and his students and by Henry Brosin until the time of this writing (June, 1967).


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

Kine to Kinesia

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 preoccupation of the "endo"-"exo" distinctions. Throughout kinesic research, every attempt has been made...
to be cautious about the abstraction of isolatable elements of body motion (kines) into manipulable classes of allocines (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 kine is:

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

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

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

The distinctions between kine and kineme, kinemorph and kinemorpheme remain useful and efficient. However, these terms are heuristic devices. Until we become much more secure as to the morphology and syntactics of kinematics, (even for American English movers) our emic assignments must be registered as tentative. The history of phonological research is reassuring to the kineticist 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 micro-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 slow 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 con-
ferences 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 Clinic7 came 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
treated 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 with-
out 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,

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 Holmgar in
the American Anthropologist, No. 67, 1965, pp. 1293-
appear to follow kinesic 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 followed by the larger cigarette movement change the audience 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 constant 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 discussion to the understanding of body shifts as messengers. His study, related to Heard and Bateson's earlier work of complimentary, of mirroring and parallel movements of participants, indicates that there is a discoverable logic which marks segments of interaction. The work of Condon on "synchrology" and "asynchrony" 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 parakinesics, 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 "metacomunicational" 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-lexical 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 beer 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 toms of her face changes. Nor can we determine whether the tight mouth-limited smile with which the scene began taken together with the toms 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 parakinesis 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 kinesis markers, these movements, which seem 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


utterance situations in conjunction with ambiguous pronounls, 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 dispair." At any rate, regardless of our rationalization, the absence of discernable 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

<table>
<thead>
<tr>
<th>Int</th>
<th>3</th>
<th>2</th>
<th>3</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>StrJ</td>
<td>∧</td>
<td>∧</td>
<td>∧</td>
<td>∧</td>
<td>∧</td>
</tr>
<tr>
<td>Sgm</td>
<td>ay + spoz + chl + maq arz + eink + &amp;er + kidz ar + smart</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

I suppose all mothers think their kids are smart but

---

Phonetic transcription omitted. Circled numbers are numbers assigned 1956. Open numbers are from edge reading of sound film 1967.
*In

VSg

In

StrJ

Sgm

*I have no worries about I

*OVERLOUD, (Troger)

*In/fn

VSg

Int

StrJ

Sgm

that childs intellectual ability

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

Chart 1a.

Chart 1b.

Chart 1c.

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 ortho-
graphy 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 re-
call 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 1a,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 pattern. The paralinguistic ream 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" 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 kinesically.

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 kinemorphology and freed kinesics from the atomic amorphy of earlier studies dominated by "gestures" and "sign" language. Moreover, when we attempted to study interactional situations, by means of context analysis, 15 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 stanzas 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 diversionary or explanatory discourse 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 *yawn* 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 analyzing 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 &quot;pause,&quot; terminates structural string.</td>
</tr>
<tr>
<td>K //</td>
<td>Double-bar</td>
<td>Superior movement of body part followed by &quot;pause.&quot; Terminates structural strings. Homomorph in initial and medial or parallel positions may be a kinesomorph which permits K# in terminal position. We have no data which illustrates coexistence of a terminal K// in conjunction with a complex kinesomorphic construction containing &quot;K//&quot; 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 Ks or K/K. However in certain instances K## may mark termination of a single item kinesic construction. e.g., in auditor response, 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 kinesic activity continues in other body areas.</td>
</tr>
<tr>
<td>K /</td>
<td>Single Bar</td>
<td>Projected held position, followed by &quot;pause&quot;. Considerable idiosyncratic variation in performance; &quot;pause&quot; may be momentary 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, p. *</td>
</tr>
</tbody>
</table>

Tentative Kineses of Juncture
The Stress Kinemes

Three of the junctural kinemes were isolated prior to the initiation of serious research and analysis designed to integrate kineme and linguistic data. K,, K//, and, although not given separate status, K(7) were easily detectable as operative forms in complex kinemorphic constructions. Only as linguistic-kinemic 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 kinemorph to kinemorph held up in a sufficiently large number of cases that the "terminal" junctures were isolated, their function in relationship to strings of kinemorphs could be postulated and a primitive syntaxics 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 interactional 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 kinemic 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 3/4 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
- K= K/
- K(7)

// 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 kinematic single bar, noted in the phonological gap between "worries" and "about", is questioned because while her head activity is the only part in manifest movement, it, 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 "dreaded", 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 kinemics 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/.

McDougan and I had insisted that the analysis of human communicational behavior was in such a primitive state that, insofar as time permitted, we could not afford either in the
linguistic or kinesic 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 microanalysis is, for our purposes, sufficiently fine-grained, if every third frame of a movie taken at 24 frames a second is recorded. 17 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 correlateable with shifts in vocalic pitch and stress and reinforced in my conclusions by introspective support as I misread the speech patterns, I, at first, dismissed such evident variations in movement as artifacts of speech production. The difficulty of matching speech and movement because of the crudity of our correlational techniques contributed to the artifact theory. It was only later when Henry Lee Smith Jr. and George L. Trager worked to strengthen my knowledge of descriptive linguistics and to sharpen my ear did it become evident that, while clearly production of speech strings requires effort or at least is not laborless, the regularities I was becoming aware of could not (because of their systematically variable appearance) be so dismissed.

Kinetic stresses are discussed at length elsewhere. 16 Suffice it to say here that four distinct variations in movement pattern, usually with the head, the hand or the brow, serve to mark the flow of speech. These have been termed "primary" / /, "secondary" / /, "unstressed" / /, and "distressed" / / At least one stress occurs between all kinesic terminal junctures. By definition this is a primary stress. The following example from a film may serve to illustrate the stresses. In response to the question //What was John's last name?//, //Does// is marked by a single movement, // / . If the emphasis is upon John (not Harry), in the question, the question itself would be marked with //John// under primary kinesic stress

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

and //last name// either has a secondary plus unaccented, two secondary, or two unaccented: 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 "unaccented" 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: //that is John you know Bill's friends last name//. The string takes on more form when the kinesis junctures are added: //that is John you know Bill's 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 kinesis stresses and junctures and the linguistic stress and intonation patterns (by the Smith-Frager conventions) which accompany them. In general, a primary kinesis 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 kinesis 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 kinesis secondary-primary or kinesis primary-secondary or

The concept "free variation", a useful one for structural analysis, may be misleading to the reader concerned with either psychological or sociological considerations of meaning. All that the term is intended to designate is the fact that forms of a given level are substitutable without special structural adaptation at that level. Throughout the structures of either linguistic or kinesis phenomena, "mix" forms are abstracted from class members, which are described as being in free variation with one another. However, there is no implication here that the choice of one of a series of alternatives (defined in structural terms) at any level of structure is not of consequence at the level of social interaction. The difference between // over / and // over / may at one level of analysis be seen as trivial but at another be of great consequence. These forms, under certain morphological or syntactical analyses may be seen as identical, but, at the semological, as well as at the phonological, as absolutely distinct. Comparably, the fact that in a stream of action, the movement of the head may be seen to transport all kinesis stress signals while in another stream a movement of the brows or, in another, the hand is utilized for this activity is of little consequence in kinemorphological analysis. However, this may be of definitive significance for questions asked of this data at the level of social interaction.

When the tentative hypothesis is established that at certain levels of analysis we may discover, as research proceeds, structural forms from kinesis which are substitutable for structural forms from linguistics, there
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 distinctions 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 stream 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 meaning. 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 varied forms of both linguistics and kinesics, 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 proportion of the arguments popular in linguistics today about "grammar", syntax and meaning are viable only because of the limited universe which is under scrutiny.
kinetic tertiary-primary, the kinetic stress may be consistent with or differ
from the linguistic stresses. To summarize, while statistically, kinetic
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
kinetic 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, kinetic 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
formulas. These are:

<table>
<thead>
<tr>
<th>Stress Kinemes</th>
<th>Suprasegmental Kinemorphemes</th>
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<tbody>
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</tbody>
</table>

* /\ / and /\ / 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 suppose all mothers think their kids are smart but

K_1 KINEMORPHIC
K_2 KINEMIC
K_3 KINIC
Charts 2a, 2b and 2c, below, will demonstrate the kinic, the kinemic and the kinemorphic 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:

//Λ//Λ //Λ//Λ. 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 stereotypic utterance. At this stage of kinemic and communica tional 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.)

* Chart 2a;

Chart 2b.

Chart 2c.

\[
\begin{align*}
K_1 & \quad \sqrt{} \\
K_2 & \quad \sqrt{} K_1 \quad \sqrt{} K_1 \\
K_3 & \quad \text{hn} ^ {\text{hn}} ^ {\text{hn}} \\
\end{align*}
\]

I suppose all mothers think their kids are smart but

\[
\begin{align*}
K_1 & \quad \text{KINEMORPHIC} \\
K_2 & \quad \text{KINEMIC} \\
K_3 & \quad \text{KINIC} \\
1c++ & \quad \varphi - \\
fn++ & < \quad \varphi - \\
VSG \varphi m & \\
\text{Int} & \quad 3 \quad 2 \quad \text{3}^* \\
\text{StrJ} & \quad \wedge \quad \wedge \quad \wedge \quad \wedge \quad \wedge \quad \wedge \quad \wedge \quad \wedge \\
\text{Sgm} & \quad ay + spoz + ohi + im \delta arz + eink + etar + kidz er + smart \\
\end{align*}
\]

\[
\begin{align*}
& \text{suppose all mothers think their kids are smart but} \\
& \begin{array}{c}
676 \ 678 \\
688 \ 691 \\
698 \ 702 \\
706 \ 710 \ 718 \\
725
\end{array}
\end{align*}
\]

\* 2, h, r, 0, m, VOCAL SEGREGATES (Trager)
\#* 2, CRESCEND (Hocket); \# DRAWLING (Trager)
\#* 2, RASP (Trager)

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.

I have no worries about that child's intellectual ability.
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 over /mother's/ or over/all/ as in // mother's // 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 /mother/ and /think/ 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 //.

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 specially denoted in either pitch or stress but is followed by a "pause" and glottal stop, and is the nasal point for the paralinguistics. /but/ is included within the rasp, which makes / think their kids are smart // 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 / 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 - 2 - 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 kinesorphic construction of "head-shaking" which extends over //I have no worries about that child//.

9. The kinesic primary stress which is pulled to a point between /child/ and /intellectual/ to give us a form parallel to /all others/ 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 overload 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 kinesicist 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 attempt 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." (p. 181)

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. 19) 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 fulfil 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

2(In 1901 only; 'a certain condition'.)

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 Freudian 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 parapraxis, 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 transactional 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 action 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 unembarrassed 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 ooze's out of him at every pore. And thus the task of making conscious the most hidden recesses of the mind is one which 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 Cs". (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 Zentralbl 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 Klein naively 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, Geory 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 loose 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. 58)

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 corres-
ponding 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 constancy, 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. 189-191)

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 oppor-
tunity 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, ruminate 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. Heid, 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 (1950) has developed a much more comprehensive concept from his earlier work on the Korperschema (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, neuro-pathology 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 core 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. Fleischer (1948) on neurotic disorders
of sensibility and body schema, E. Gostynski (1951) on a clinical contrib-
ution to the analysis of gestures, P. Greenacre (1953) on certain relation-
ships 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 (1956) 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 scheme,
D. Tellaferro (1952) on observations on the simultaneity of emotion-muscle
processes. The books by T. Braatdy (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 medi-
cine, 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, respira-
tory and circulatory apparatus (p. 309); (3) disturbed chemistry of the un-
satisfied person: here concepts of positive and negative symptoms, "actual
neurosis," "unconscious affects" such as "latent rage" 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).

V 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 Jellifte 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. 198)

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
phalanx." (Deutsch, 1952, p. 197-198),
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), Spielrien (1922), Kulovesi (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 (1959), 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, Schiller, and F. Deutsch already referred to, the most interesting "text" on clinical interpretation of linguistic-kinetic phenomena may well be Bratěj'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. Bratěj 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 undoubtedly value of "listening with the third ear" (Reik, 1954), Braasch 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 bi- 
being abandoned). The frustrating attitude of the analyst provokes 
transference through reactivation of forgotten emotions and un- 
conscious 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 phylo-
genetic 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 trans-
ference-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 pretentions 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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