

THE POTENTIAL OF NONVERBAL COMMUNICATION RESEARCH
FOR RESEARCH IN DANCE

by Martha Davis

edited by Lois Andreasen

Presented at the CORD Meetings, June 13, 1973, Duke University

There is a growing body of knowledge about movement behavior (as it is variously called--kinesics, nonverbal communication, expressive movement, body language, etc.). Increasingly anthropologists, psychologists, researchers in child development, etc. are attending to body movement. One could argue that although this is still a relatively underdeveloped area of research and that studies we have now will probably be rendered quite obsolete in five years, there is enough of a picture of what can be done and may be discovered to talk about it as a field in its own right. Further, one could argue that the preliminary research techniques and findings of movement research may, even at this point, be useful and relevant to research in dance. As an introduction to the topic a survey of some of the most important behavioral studies of body movement will be presented, followed by a discussion of a dance film and then implications of a practical, methodological, empirical, and theoretical nature that may be of interest to dance researchers.

For purposes of discussion, this survey is divided into three parts according to those studies which deal with (1) movement and expression of emotions, (2) movement style (from individual to cultural), and (3) movement in interaction.

It seems that the most common assumption about body movement is that it reveals inner emotions or attitudes. Darwin first made this idea the subject of serious scientific study in 1872 when he published The Expression of the Emotions in Man and Animals. This is still the most comprehensive work on body movement with its reports on movement patterns of animals, infants, mental patients, various cultural groups, Englishmen and Darwin himself. Imagine Darwin grimacing in front of a mirror, taking a walk and noting the pleasure

Martha Davis, clinical psychologist in private practice, has had some ten years experience writing, teaching and studying about the psychology of movement. She is currently developing a research project on movement and personality at Roosevelt Hospital in New York City.

in the prance of his dog, or lying down on the pampas of Argentina and shaking his legs to attract the attention of a passing animal (Darwin, 1965 ed. by Moorehead, 1969). Darwin presents minute analyses of the nature and origins of facial expressions in particular and since his work one finds a long tradition of studies of facial expression: on how well observers agree on what emotions are expressed by the face, whether blind-deaf children have normal facial expressions, whether there are facial expressions which are universally recognized, etc. Paul Ekman's recent work on facial expression is in this tradition. He has found, for example, that people of very different cultures will agree on the emotion expressed in certain facial displays. He has also found that one may have a persistent facial expression which blends with other expressions when he is animated and is visible when his face is in repose (Ekman, et al, 1969; Ekman, et al, forthcoming).

From a rather different angle--in this case from the psycho-analytic literature--there are a series of studies concerned with gestures and postural shifts as expressing unconscious wishes and attitudes. Here the focus is on the specific action and what it indicates or symbolizes. Freud (1938) himself discusses "chance acts" such as bumping into someone on the sidewalk, as expressing unconscious conflicts and feelings. A psychoanalyst, Felix Deutsch, recorded the positions and gestures of his patients on the couch and compared them with what the patient was saying. He felt that certain ways of crossing the legs reflected conflicts in sex identity, certain ways of turning over on the couch were associated with problems with ones mother, and so on. (Deutsch, 1947).

The writers who have been cited talk about specific body movements or facial expressions reflecting inner emotions and attitudes. The next group under discussion are probably strange bedfellows--they wouldn't ordinarily be lumped together because some are concerned with personality, some with social role behaviors, and some with cultural patterns. They are grouped together because they all attend to style, to repeated and consistent patterns of movement whether observable in a given individual, social group, social role or culture. As such these studies have typically generated lists, profiles, capsule descriptions of the movement characteristics of their subjects. The Chart on page 12 may provide a visual aid of how the individuals under discussion complement each other and constitute a "total picture" of any given movement style.

At the top of the Movement Style Analysis Chart the choreometrics project of Lomax, Bartenieff and Paulay (1968) is listed. In the early stages of this project preliminary analysis and profiles of the movement characteristics of large cultural divisions were obtained from films of dance and work movement. In effect this

MOVEMENT STYLE ANALYSIS

<p>CHART I: WORLD REGIONS</p>	<p>Lomax, Bartenieff and Paulay (1968)--crosscultural dance and work movement styles Hewes (1955)--postures and positions around the world</p>
<p>NATIONALITY</p>	<p>Efron (1941)--Jewish and Italian gestural characteristics Jablonko (1968)--movement styles of the Maring of New Guinea Stone (1973)--gestural styles of Kalahari Bushmen and Blackfoot Indians Birdwhistell (1970) and Hall(1966)--diverse observations of regional and national nonverbal behaviors</p>
<p>SOCIAL GROUP</p>	<p>STATUS Mehrabian (1969)--position and eyecontact indicators of status Henley (1970)--touch patterns</p> <p>SEX Jourard (1966)--touch patterns Fortier' (1973)--male and female movement differences</p> <p>AGE Gunther and Richards (1973)--adolescent movement patterns. Gesell et al (1940)--early stages of posture, prehension and locomotion Kestenberget al (1971)--early stages of movement rhythm, spatial and postural development</p>
<p>INDIVIDUAL</p>	<p>Reich (1949)--expressive style and muscle "armoring" Lowen (1958)--characteristic postures and muscle tension patterns North (1971)--movement styles and personality in schoolchildren Davis (1970)--psychodiagnosis and movement "disturbances"</p>

Adapted from Davis, 1973, p. 83.

became listing and comparing the elements of different movement styles, with dance movement regarded as a distillation of the salient patterns of the group's everyday movement patterns. Lomax, Bartenieff and Paulay started with elaborate lists of movement variables which in time became reduced to a couple of pages. In fact one of the most important findings was that one could "divide" the world movement-wise according to a few broadly defined parameters such as types of body attitude and spatial transition, and number of body parts actively articulated. So at the level of large cultural differences in movement style we have the Choreometrics research and perhaps one other study, Hewes' (1955) analysis of the distribution of sitting and standing postures around the world.

When it comes to national and regional styles of movement, the literature is still quite sketchy. In 1941 David Efron did a classic study of how first generation Italians and Jews characteristically gestured on the lower east side of New York City, and E.T. Hall (1966) has presented various observations about spacing and touch patterns in different nationalities. But we really need a great deal more research on cultural and national movement styles. Hopefully in-depth analysis of the movement characteristics of a given culture such as the work of Allison Jablonko (1968) on the Maring people of New Guinea and the investigation by Wendy Stone (1973) on the Blackfoot Indians and the Kalahari Bushmen will be added to in the next decade. At present we have only enough to hint at how rich and diverse these are. The anthropologist and kinesiologist, Ray L. Birdwhistell (1970), has suggested with a few examples that movement patterns may vary from local region to region with the same nationality. Not only do we need far more research on the movement languages of the world but on local dialects as well.

Moving down the chart, the next division is loosely termed "social group" differences and within it are listed status, sex and age differences in movement style.

Researchers such as Mehrabian (1969) have found that certain patterns of eye contact and positioning reflect the relative status of two people conversing with each other. For example if you are the interviewer and boss you are likely to smile less, look around more, sit with a wider spread of arms and use up more space in moving than if you are interviewee who wants the job. Henley (1970) has found that those who have higher status tend to initiate touch more than are touched themselves. She points out that this is a marked male-female distinction. Jourard (1966) has also noted that in families daughters exchange contact far more than sons with their fathers. In terms of male-female differences in movement, Cheryl Fortier (1973) found that the men in her sample of subjects consistently used more space, stressed width in arms and upper trunk,

sat or stood with legs wider, showed more incidence of strong movements and initiated activities more than the women. When together the female was likely to adjust her position to the male's e.g. turning or tilting toward while he was likely to assume a position "higher" and "larger" than hers. It's worth noting that these subjects were adolescents dressed in slacks just taking it easy in a park. One has only to look at TV commercials and ads to see how far-reaching and persistent these nonverbal patterns are even today.

In the third category are listed age differences. Most studies of body movement in development are to be culled from the child development literature, particularly the work done by Gesell and his colleagues on the various stages of normal development of posture, prehension and locomotion (Gesell et al, 1940). There are some studies of the development of facial expression but rarely ones on stages of gesticulating in childhood. Of special note here is the work of Kestenberg and her colleagues (1971) on developmental stages in movement in terms of patterns of tension, spatial stress, posture and rhythm or intensity of the movement. Kestenberg proposes that there are stages of movement development which parallel and reflect psychosexual stages in the first years of life.

Beyond age six movement development studies seem to focus on motor skills appropriate for a given age. Studies of the movement characteristics typical gestures, or interaction styles of latency age, adolescent, middle age or elderly groups are virtually nonexistent. For example, to my knowledge, the pilot study by Gunther and Richards (1973) at Hunter College this year is the first attempt to analyze the movement styles of adolescents.

Finally we get to the section which has a considerable literature, the study of individual movement characteristics and personality. It was Wilhelm Reich (1949) who began a serious psychoanalytic look at the possibility that how you move says a great deal about you. For him the analysis of character had to include an assessment of how one walked, gestured, sat, fidgeted, etc. One's expressive style--breathing patterns, characteristic postures, etc. were integral to one's character structure. Alexander Lowen (1958) extended Reich's work to an analysis of the physical behaviors, patterns of muscular tension, and physique characteristics of various personality types. Applying her training in Laban's approach to movement analysis, Marion North (1971) has demonstrated how we can define individual movement patterns by attending to subtle aspects of intensity, rhythm, spatial design, weight placement, etc. In the work done at Bronx State Hospital, it became clear that we may also be able to discriminate various psychodiagnostic groups through movement (Davis, 1970).

Finally there are the studies--all of them recent--on the role of body movement in interaction. Birdwhistell seems largely to have initiated the current renaissance of interest in body movement research

and with this he has made two radical departures from pre-1952 work on the subject. First he rejected the assumption that movement primarily reflects emotional states and proposed that the greater part of facial and body movement patterns we see everyday are actually one channel of a culturally derived communication system, comparable in some ways to language organization and structure. For example, he presents samples of how intricately small displacements in space of head, eyes, hands etc. are synchronized with speech units, stress and phrasing (Birdwhistell, 1970). Secondly Birdwhistell drew attention to what happens between people. Almost all of the work cited so far attends to the individual mover or what is common to a group of movers. But what if one looks between movers to the variety of relationships between bodies, the patterns of spacing, synchrony, complementarity, formation etc. observable in groups. For example, Birdwhistell reports the intricate series of pushes, pulls, reaches and holds that went on between a mother and her infant over just one and one-half seconds (Birdwhistell, 1970). Birdwhistell's colleague, Albert Scheflen (1965), has shown that a small group interacts with a program-like regularity, with postural shifts marking changes in theme or stage of the interaction, mirroring of postures and synchrony between people reflecting subgroups alliances, actions like nose-wiping or turning the head away serving to regulate and "monitor" the interaction, etc. He had noted in particular how various preening and flirtatious behaviors serve to maintain rapport and role relationships (Scheflen, 1965). Condon (1968) has focussed on the dimension of movement synchrony--within the body of the mover himself and between movers. He shows that normal interaction is characterized by movement synchrony so subtle and perfect that two people may change direction exactly together, as seen from one film frame to the next in stop motion analysis. Duncan (1970) studies turn-taking behaviors among people conversing. He noted that there are certain movements which signal, "I'm finished speaking and you may now speak" or "I'm not yet finished." The area of interaction patterns and "programs" is one of the most interesting frontiers in movement research.

A surface scimming like this makes the blindmen's problem seem more manageable. At least they took time to feel the elephant. But to pursue this analogy, this collection of different views and approaches is not actually as piecemeal and fragmented as it may seem at first. In fact they actually complement each other to a great extent (Davis, 1973). The reason for this is that different studies focus on different aspects of movement or define the same general dimension in different ways. For example, characteristic posture or body attitude is a general category used by Lomax, Bartenieff and Paulay to discriminate cultural divisions and by Reich to distinguish individual differences, but in choreometrics it is defined in terms of spatial stress and one unit vs two unit articulation of the trunk, while Reich discusses it

AR 16 THE POTENTIAL OF NONVERBAL COMMUNICATION RESEARCH FOR RESEARCH IN DANCE

in terms of areas of muscle tension, constriction, faccidity, etc. In fact there are details one can focus on in movement--body part articulation, posture, intensity, spatial pattern, group formation, synchrony, etc. It seems that the dimensions you pick and how you define them gives you particular information.

Usefulness for Dance Research

But of what relevance and value is this research to research in dance? It seems useful to divide a discussion of this question into four parts, i.e., what practical, methodological empirical, and theoretical applications have these studies to a dance researcher.

Practical:

Practically speaking, one can glean a number of useful tips for a dance research project from the nonverbal communication research. Most of the technical innovations and equipment -- such as new videotape systems and advanced film moviolas or slow motion analyzers--have greatly facilitated the movement in the past 15 years. In fact they seem to have made it possible. One could argue that for most movement research, film or videotape is essential. It is my impression that universities usually have fairly advanced video equipment and consultants on how to use it, but rarely the kinds of film projectors that I have seen movement researchers use. Depending on how much money you have, it would be good to do in-depth, slow and stop motion analysis of dance with either the moviolas used for film editing or a few especially constructed slow motion stop frame silent projectors such as the LW which costs about \$2,500. If you don't want to spend that much, you can do very well I think with the new Bell and Howell "Filmosound-Autoload" 16mm sound projector with its manual frame progression device (costs about \$800) or simply the Kodak Instamatic Super-8 projector for around \$100. I may be old-fashioned, but I prefer even super-8 film to video for practical and image-quality reasons. One can do a lot of good research for well under \$300, including filming.

Perhaps film is easier to study than videotape but a 16mm film is far more difficult and expensive to make than a video tape. One has to balance the advantages and disadvantages of both. It seems videotapes have a way of getting erased, so chances are films will last longer, even when not being studied. They are also easier to replay for demonstration purposes. I recommend an article by Jacques VanVlack (the research cinematographer who has collaborated with Birdwhistell for years), which appears in a book entitled Methods of Research in Psychotherapy to Gottschalk and

Auerback, 1966. Van Vlack really knows about equipment, filming processing and professional issues such as obtaining releases and protecting subjects. For example, he strongly insists that the master copy be stored in a special vault and used only for making prints. Of course some of these researchers have been known to spend four years on a film. It is also good to have frame numbers put on the film. Although this is expensive it greatly facilitates any in-depth research. There are ways for making photos from single film frames or from videotape for illustration or detailed study. Recently I saw a teaching film made by Chris Beels and Jane Ferber at Bronx State Hospital in which they superimposed graphs on the film and lit up key figures in the group to better illustrate the nonverbal interaction.

Whatever equipment you use and however fancy your analysis, it is important that the camera hold on the whole figure or figures for the duration of the situation being filmed. At least film the entire movement phrase. Add another camera for face or close up details. Most film is virtually useless for movement research purposes because of changes in focus made on the spot by the cameraman and later cutting done by the film editor.

Methodological:

For some dance research the formal procedures and techniques of behavioral research would seem useful. Actually movement researchers as a whole are not very rigorous when it comes to accurate sampling procedures, well-designed correlational studies, appropriate statistical analyses, and perhaps most serious of all, establishing observer agreement and reliability. As for controlled experimentation, maybe there are five studies in five hundred that can claim that! So far most behavioral studies of movement are either single, descriptive cases, pilot studies of small samples, tallies of specific movements in a given population, etc. or one finds very detailed examples of movement patterns such as Birdwhistell's blow-by-blow analysis of linguistic and kinesic variations within a single sentence.

There have been developments in recording measures, profiles, and pattern analysis which might be useful to the dance researcher. Perhaps the simplest and most sensible way to start a study of a dance is to do what is done in a number of behavioral studies: develop a checklist or coding sheet of the features which seem relevant to the dance under study. That is, decide what aspects of movement one is interested in, or what features seem outstanding in the dance, or what parameters look most useful for comparative purposes, and list them in a systematic way. Usually this involves an initial inventory stage where a number of variables or terms are tried and a smaller number are found to be useful according to the needs of the study.

If one simply lists the salient features of a dance one has a descriptive statement about it rather like enumerating the elements of the dance style. To further refine this, especially when comparing two or more dances (or dancers, or movements within the same dance), each item or feature may be rated on a scale such as from zero to four. This yields profiles which show, for example, that feature A is prominent, B slightly stressed, and C absent for one dance, while A is absent and B and C are predominant in another. I recommend the chapters on the choreometric coding book and profiles (in Lomax, Folk Song Styles and Culture, 1968) for good examples of how this can be done.

In a sense, checksheets and profiles indicate what is there and to what degree, but to analyze how the movement is organized and patterned becomes a much more intricate and difficult problem. For example, if you want to analyze the characteristic phrases or "leit motifs" of a dance, then you might first determine the outstanding elements of the dance style and study how they are typically put together. One can either do actual recordings of the dance such as with Labanotation or Eshkol-Wachmann notation or one can systematically abstract recurrent patterns. This was the exercise Claire Schmais and I set for ourselves when we analyzed Doris Humphrey's "Water Study", the results of which were reported at a 1967 CORD Meeting. In effect this was an attempt to systematically analyze the theme and variation and the composition of the dance much like a music theorist might do with a composition (Davis and Schmais, 1967).

Perhaps the most elaborate analysis of nonverbal behavior patterns was done by Scheflen in 1965--and his procedures could prove useful to the dance researcher. Scheflen (1965) looked over and over again at a 30 minute film of a group of four people talking together. He meticulously examined the film and evolved what he calls a "context analysis" method. Scheflen advocates repeated viewing over and over until one sees repetition of specific behaviors, followed by examination of when and in what clusters these occur to determine natural behavioral units. He then examines how clusters of smaller units group into larger ones, and determines how the various behaviors alternate in regular ways. He illustrated how the members of this group behaved in regular, program-like ways, each person's behavior complementing, contrasting and in some way interrelating with each other.

There have been relatively few behavioral studies of movement which have attempted careful analysis of "pattern" and "composition". Efron took to drawing various wavy and angular lines to show how differently the phrasing of Jewish gestures was from Italian (Efron, 1941). Birdwhistell employed dash and accent-like symbols similar to those used by structural linguists to analyze the patterns of stress, accent, start and stop in the movement accompanying speech

(Birdwhistell, 1970). Condon (1968) has used detailed graphs with the vertical dimension for various body parts and the horizontal for time, and thick lines for onset and duration of movement in each part.

Ways of graphing or illustrating patterns are probably as good as ones imagination. However, advances in pattern analysis will require a very rich and systematic terminology. While these behavioral studies give dance researchers many ideas worth examining procedures for systematic study, they have as yet a rather limited movement terminology and there is little attention to standardizing terms. In this sense dancers have a great advantage, because they have several highly sophisticated, tested and logical dance notation systems, each of which provides sets of clearly defined movement terms. In fact there is growing indication that behavioral researchers are turning to the dance notation systems for concepts, terms and techniques for analyzing movement.

If one shifts ones focus away from the nature of the movement to the processes of movement observation, one is concerned with questions of how observers judge movements, how differently they perceive, how various movements elicit different reactions, etc. Early American psychologists did a number of studies on whether observers interpreted facial expressions in consistent ways. There is also evidence that people interpret various postures and group positioning in specific ways (Mehrabian, 1968; Machotka, 1965). Dittmann et al (1965) found that psychotherapists tend to interpret emotion and affect from the face, but dancers attend to the body when judging pleasant and unpleasant affect. Recently Jill Richards (1973) did a fascinating study of the various stages of her perception of the same five minute film sequence. She observed the sequence ten times, each time writing down her perceptions in an observer's log. She found that she attended to different details at different times and her perception of the nonverbal events gradually unfolded and became richer in a distinct way. I suspect we all have characteristic ways of perceiving movement. I know that after all these years there is no such thing as being able to see what no one else can see--it's just a matter of persistence, motivation to really get into the observation, and readiness to see new details each time you look. Applying research techniques for determining observer judgment and reactions, there are unlimited possibilities for researching the nature of the observer's or audience's responses to a dance.

Empirical:

I thought that it would be best to bring this discussion to life by showing how a dance film might be analyzed. I propose to discuss how I see the dance and make sense out of it in the light

AR 20 THE POTENTIAL OF NONVERBAL COMMUNICATION RESEARCH
FOR RESEARCH IN DANCE

of the reading I have done, my own research experience, and my training in movement analysis. So this is my view and any resemblance to researchers living or dead may be coincidental (or will be noted).

The film is Doris Humphrey's "Song of the West", first choreographed in the 30's, and seen in a research film made in the 50's by her Connecticut College repertory class. I know virtually nothing about this dance except what is suggested by the title. I also have not heard the music that goes with it, all of which may or may not be a good idea! I would like to follow the outline I presented in the literature survey. That is, I will first talk about the dance in terms of expression of emotions or attitudes; then analyze aspects of its style; and then discuss repeated patterns and the interaction of the dancers.

Expression of emotions:

The first thing that might strike one interested in expression of emotion is that there are no perceptible facial expressions. This may be because the camera is so far away and the film is old, but I doubt it. As is common knowledge to dancers, facial expression seems rare in American modern dance and this is true of this dance as far as I can tell. Of course in the transition from looking at "everyday" movement to dance movement, one appreciates that many small movements and nuances such as in facial expression would be lost on stage. Still it adds to the austerity of the movement which is perhaps not incompatible with what is apparently a dance to frontier American. (I do not mean here to imply that no facial expression, therefore no emotion.)

There are also few actions which are mime-like or sufficiently concrete that one can clearly parallel them with everyday gestures or actions which traditionally are associated with specific emotions. Notably at one point the dancers raise their fists to their heads in a rocking motion akin to wailing in grief. The opening moves on the floor seem like wary stalking. The dancers at times march in lines like one sees at state funerals--slowly and regally. Beyond these concrete actions one might look at more abstract symbolism in the dance movements such as all the expansive running and galloping which covers a great deal of space or the hitting and cutting actions Freudians might view as "phallic" or aggressive. But I think Jungian psychologists might have more to say about this dance with its ritual death, "dream-walking" and burial in the midst of all that drive and expansive motion.

Style:

Stylistically, the movement is primarily large body units, like whole arm or leg, large extensions in straight or arc paths. The

trunk of the dancer is held with little bending or twisting, and often the posture is thrust forward on an angle, whether the dancer is walking or running. The shoulders and head are often held while the limbs move in large sweeps clearly articulated from the trunk. Often the movements are repetitive ones back and forth in a given direction or plane. Transitions from one direction to another are usually simple reversals back and forth or occasional angular changes. The dancers rarely make movements inward close to themselves, everything is either full reach or a kind of "medium" distance from the body as when they maintain the flat, stylized positions with angles created at wrist, elbow and knee. The movements and these stylized positions are very flat and angular, spatially speaking, and there are numerous pauses or holds. In fact there is a repeated pattern of a movement--pause--then continuation in the same direction. The movement is primarily quick, strong and direct or it is slow and even and controlled in the mourning scenes.

Culturally speaking, it is safe to say this style isn't like Efron's Italian or Jewish movers. It is in some ways similar to the "hunter-gather" movement features described by Lomax, Bartenieff and Paulay in choreometrics, e.g. one unit trunk, simple reversal transitions, straight paths, few body parts actively articulated, stress on quickness and strength etc. In this sense perhaps it is related and in some ways consonant with Western European groups and a kind of "American gothic" style. But of course the dance is not a literal performance of true folk styles of moving. This is particularly clear if one looks at the various positions the dancers assume--they are rarely to be found in everyday life.

It is difficult to discern status relationships among the dancers except to the degree that the woman death figure is revered, carefully tended to, and literally put on a pedestal. But of course this is symbolic. However it does make for a lead dancer as the focus of the group much of the time.

It is interesting to see if there are any sex differences in the dance movement here. Notably the four men do all the carrying and one movement--the slow walk with arms raised high, wrists flexed and body tilted forward--was primarily done by the men. (As a matter of fact I would guess the one time it's done by a few women is for reasons of an imbalance in the number of women to men). But these differences are relatively minor compared to the differences one sees in everyday movement, or in ballet. Roughly speaking, the dancers are equal in amount and vigor of activity, space covered, size of movements, etc., perhaps reflecting the more liberated state of American modern dance and/or the social structure out West where all had to work together.

AR 22 THE POTENTIAL OF NONVERBAL COMMUNICATION RESEARCH
FOR RESEARCH IN DANCE





Age-wise, they are definitely young to middle-age adults with all the vigor, activity and expanse plus control, precision and spatial accuracy.

It is very difficult to determine individual differences on this film partly because of the distance of the camera and the state of the film. There are perceptible differences in how sharply a dancer changes direction how accurately she holds a position, etc. but these would take a lot of time to tease out.

While I'm on style considerations I'll venture a psychological interpretation of this movement style. I suppose if someone actually moved in this way, they might be rather compulsive and in the extreme potentially paranoid. All that control, holding, isolation of parts, pausing, single directionality, angular and linear spatial designs, segmentation in the movement and evenness of intensity within phrases, I have seen occasionally in very compulsive or paranoid individuals.

Pattern Features and Group Interaction:

In terms of the characteristic phrases and rhythmic patterns of this movement, it seems that no matter how intense or rapid, the phrasing is often rather even, That is, a given series of movements persist at a certain level of intensity and repeat at this level until there is a change of phrases. The running and walking is like this, and can for purposes of discussion be illustrated as:

	rapid, even run
	galloping
	"mourning" walk
	"dream" walking of woman

Often movements within a phrase or sequence may begin with a sharp or explosive accent but overall the phrasing is even, neither "crescending" or "decreasing" noticeably. Somehow consistent with this are the movements which are characterized by pauses between single directions. Thus the dancer may either explode and hold the position, explode and again pause, etc., as in the opening movements on the floor, or may sustain a move, pause, and continue it as in the "mourning" group circling the body of the woman. While very different in dynamics, these are also phrases which overall represent

an even level of intensity and therefore a particular kind of control. Again the rhythmic patterns seem consistent with the angular, austere, controlled way the dancers move through space. It is interesting that the one movement sequence in which the dancers vary the dynamics (rushing to the stairs, doing "handstands", then slowly turning and returning to a run offstage), occurs just before the "mourning" scenes, as if to provide a brief transition and anticipation of the slow movements which follow.

While the movement phrases themselves have this even character, the overall composition of the dance has a definite development with contrasting themes, dramatic peaks, and as near as I can determine from one day's viewing, a three-part sequence roughly distinguishable as (1) the expansive, rapid covering of territory, (2) the slow, mournful death and burial of the woman, followed by (3) the group's gradual "recovery" from the mourning and a brief restatement of the first theme. It is noteworthy that not only do the tempo changes of the dance reflect these phases, but certain patterns of the group formation. For example, the formations become increasingly more complex and differentiated with the diagonal sweeps of three and four across the floor giving way to strict rows and circles within areas of dancers. As the mourning scene progresses, the roles of the dancers and interrelationships between them become most articulated. That is, they go from two lines and the woman, to subgroups with different relationships to each other such as the arcs of dancers holding the stylized position in a backdrop to the circle around the woman.

I could not do a very careful analysis of the overall development of the dance in a short time, of course, but I am sure that plotting the progression of group formations is a tremendously valuable way to begin an analysis of the dance. (This can be done very easily and graphically in Labanotation). It provides a way of defining the structural "frame" of the dance which seems meaningful and valid.

Finally a comment about the interrelationship of rhythm, group formations, and role, spatial pattern and so on, or how the dance itself is an organic composition; each movement and part integrated subtly with every other. This seems the most difficult pattern for analysis, one which would take considerable time, but to give an example of one possible detail of this, it appears that as the mourning ritual develops, the dancers progress from a rather free wheeling mass of people, going on and on and on into the mourning scene which literally brings them into contact with each until the peak of the dance which seems to be the point in which the dancers embrace in a circle and become one, one collective mourner whose body bends and cries over the dead. At this point the formation is most differentiated,

AR 24 THE POTENTIAL OF NONVERBAL COMMUNICATION RESEARCH
FOR RESEARCH IN DANCE

the movement patterns most varied in level and spatial line, the touching is most "personal", and the dancers themselves are both closer to each other and to themselves. While it seems a unique moment in the dance, the essential style of the dance, e.g. sparseness of line, evenness of dynamics, etc. is not lost.

Concluding Remarks

Certainly much that has been described here is not new to the dancer and much of the nonverbal communication literature would seem common sense to those whose medium is movement. For example, it would come as no surprise that movement synchrony between people is being more and more attended to as an important aspect of group cohesion or rapport. Synchrony is critical to the dance, like the one seen here (and probably in all dances). Dancers move together and when they don't--as they sometimes do not in several ways in this film--it may be the dancers are not "getting it together", being one with the music and in time with each other. What is new perhaps is the degree to which researchers like Condon are showing how much synchrony there is in everyday encounters. We tend to think of casual conversation as rather loose and unstructured and yet these researchers are finding it may be as organized, synchronous, regular and rhythmic as dance. And when it isn't something is "wrong". Ultimately some of the findings of research and the theoretical formulations about nonverbal behavior may be relevant to dance. Theories as to the evolution, development and function of certain movement patterns such as the sex differences may interest the dancer, both as a source of ideas for choreography and as a different slant on the dance works themselves. I realize there is a danger in confusing psychological insights and theory with aesthetic and artistic concerns, but perhaps writing such as Reich's on the defensive functions of postures and expressions can enrich the dancer's understanding of her medium. Occasionally one finds scientific writing on the nature and function of dance, usually in the anthropological literature. Most notably, the choreometrics researchers have articulated the theory that dance is a crystalization of what is most redundant and important in the everyday movement, social organization and values of a given culture, a confirmation and reiteration of their life style. Implicit in this view is the notion that what a given group considers beautiful or aesthetic in movement is what is most true and essential in its movement-life style. But apart from a few references like this in the nonverbal communication literature, the dance researcher interested in behavioral literature useful for artistic and aesthetic studies of dance would probably have to turn to the general psychological literature on creativity and aesthetics.

I have tried to indicate ways in which nonverbal communication research--and the particular organization of it into expression, style and interaction aspects--may be useful to the dance researcher. To an extent this has involved "stretching" existing work a bit, because, of course, there are still huge gaps in this research and it is far from well-established and mature. What I haven't talked about is the increasing influence of dancers on the non-verbal communication research, as these researchers discover the potential of dance notation systems and theoretical writing on dance for their work, as former dancers become dance therapists and participate in research, and as dancers and anthropologists collaborate in increasingly more sophisticated studies of dance ethnology. And one detects also a subtle process occurring in the movement research literature, the more refined and immersed in movement the researcher seems to become, the more he or she seems to end up talking about how people dance together.

REFERENCES

- Bartenieff, Irmgard and Davis, Martha. "Effort-Shape Analysis of Movement: The Unity of Expression and Function." 1965; Reprinted in Research Approaches to Movement and Personality, Martha Davis (advisory editor), New York: Arno Press, 1973.
- Bartenieff, Irmgard and Paulay, Forrestine. "Choreometric Profiles." in Folk Song Style and Culture by A. Lomax, 248-261, Washington, D. C.: AAAS Publication No. 88, 1968.
- Bartenieff, Irmgard; Davis, Martha; and Paulay, Forrestine. Four Adaptations of Effort Theory in Research and Teaching. New York: DNB Publications, 1972.
- Birdwhistell, Ray L. Kinesics and Context. Philadelphia: University of Pennsylvania Press, 1970.
- Condon, William S. "Linguistic-Kinesic Research and Dance Therapy." American Dance Therapy Association Proceedings, 21-44, 1968.
- Darwin, Charles. The Expression of the Emotions in Man and Animals. Chicago: The University of Chicago Press, 1965.
- Davis, Martha and Schmais, Claire. "An Analysis of the Style and Composition of 'Water Study'." In Research in Dance: Problems and Possibilities, Richard Ball, ed., 105-113, New York: CORD Publications, 1967.
- Davis, Martha. "Movement Characteristics of Hospitalized Psychiatric Patients." In Proceedings of the Fifth Annual Conference of the American Dance Therapy Association, 1970 a.
- _____. "An Effort-Shape Movement Analysis of a Family Therapy Session." DNB Publications, 1970 b.
- _____. Understanding Body Movement: An Annotated Bibliography. New York: Arno Press, 1972.
- _____. "Towards Understanding the Intrinsic in Body Movement." Ph.D. dissertation, Yeshiva University, 1973.
- Deutsch, Felix. "Analysis of Postural Behavior." Psychoanalytic Quarterly. 16(1947): 195-213.

- Dittmann, Allen T.; Parloff, Morris B. and Boomer, Donald S. "Facial and Bodily Expression: A Study of Receptivity of Emotional Cues." Psychiatry 28(1965): 239-44.
- Duncan, Starkey. "Towards a Grammar for Floor Apportionment: A System Approach to Face-to-Face Interaction." In Proceedings of the 2nd Annual Environmental Design Research Association Conference, 1970, 225-235.
- Efron, Davis. Gesture and Environment. New York: King's Crown Press, 1941. (Reprinted as Gesture and Culture, The Hague: Mouton Publishers).
- Ekman, Paul; Sorenson, E. Richard; and Friesen, Wallace V. "Pan-Cultural Elements in Facial Displays of Emotion." Science 164(1969): 86-88.
- Ekman, Paul, Friesen, Wallace V. and Ellsworth, P. Emotion in the Human Face. New York: Bergamon Press, forthcoming.
- Fortier, Cheryl E. "Male-Female Differences in Movement." Unpublished Masters Thesis, Hunter College, 1973.
- Freud, Sigmund. "Symptomatic and Change Actions." In The Basic Writings of Sigmund Freud, trans. and ed. by A.A. Brill, 129-140. New York: Random House, 1938.
- Gesell, Arnold, et al. The First Five Years of Life. New York: Harper and Row, 1940.
- Gunther, Phyllis Frant and Richards, Jill. "Movement Characteristics of Urban Adolescents." Unpublished Masters Thesis, Hunter College, 1973.
- Hall, E.T. The Hidden Dimension. New York: Doubleday and Company, 1966.
- Henley, Nancy M. "The Politics of Touch." Presented at a meeting of the American Psychological Association, 1970.
- Hewes, Gordon W. "World Distribution of Certain Postural Habits." American Anthropologist 57(1955): 231-244.
- Jablonko, Allison. "Dance and Daily Activities Among the Maring People of New Guinea: A Cinematographic Analysis of Body Movement Style." Ph.D. Dissertation, Columbia University, 1968.
- Jourard, Sidney M. "An Exploratory Study of Body-Accessibility." British Journal of Social and Clinical Psychology 5(1966): 221-231.

Kestenberg, Judith S. et al. "Development of the Young Child as Expressed through Bodily Movement. I. Journal of the American Psychoanalytic Association 19(1971): 746-764.

Matchotka, Pavel. "Body Movement as Communication." In Dialogues: Behavioral Science Research, Vol. 2. Boulder, Colo.: Western Interstate Commission for Higher Education, 1965.

Mehrabian, Albert. "Inference of Attitudes from the Posture, Orientation, and Distance of a Communicator." Journal of Consulting and Clinical Psychology 32(1968): 296-308.

_____. "Significance of Posture and Position in the Communication of Attitude and Status Relationships." Psychological Bulletin 71(1969): 359-372.

Moorehead, Alan. Darwin and the Beagle. New York: Harper and Row, 1969.

North, Marion. Personality Assessment through Movement. London: Macdonald and Evans, 1971.

Richards, Jill. "Variations on a Theme by Margaret: The Process of Seeing." Unpublished paper, Hunter College, 1973.

Reich, Wilhelm. Character-Analysis. 3rd. ed. Trans. by T.P. Wolfe, New York: Farrar, Straus and Giroux, 1949.

Schefflen, Albert E. The Stream and Structure of Communicational Behavior: Context Analysis of a Psychotherapy Session. 1965a Revised Ed. Bloomington, Ind.: Indiana University Press, forthcoming.

_____. "Quasi-Courtship Behavior in Psychotherapy." Psychiatry 28(1965): 245-257.

Stone, Wendy. "Gesture Styles of the Kung Bushmen and the Blackfoot Indians." Unpublished Masters Thesis, Hunter College, 1973.

Van Vlack, Jacques. "Filming Psychotherapy from the Viewpoint of a Research Cinematographer." In Methods of Research in Psychotherapy. L. Gottschalk and A. H. Auerback, eds., 15-24. New York: Appleton-Century-Crofts, 1966.