1986

Semiotica 62, 1/2 : 3-28

Some reasons for studying gesture*

ADAM KENDON

Introduction

Gesture has received comparatively little systematic attention in recent years. In the annotated bibliography edited by Davis and Skupien (1982) entitled *Body Movement and Nonverbal Communication*, 1411 references are described from the years 1971–1981. Of these, only 39 are listed under 'Gesture' in the index. Facial expression, gaze, and interpersonal space, however, together account for nearly 600 of the references reported. This neglect of gesture may seem surprising, in view of the great growth of interest in 'nonverbal communication' that has occurred in the last thirty years. However, as an examination of the Davis and Skupien bibliography makes clear (as well as a consideration of other representative survey publications; see, for example, Harper, Wiens, and Matarazzo [1978] Knapp [1978]), the interest has been mainly in those aspects of human action that are considered expressive or reactive or in those that serve as a means by which people provide evidence for one another of their feelings and intentions in the absence of explicit statements, and in how relationships between participants in interaction are regulated. Such a range of interests does not include gesture because this has been regarded as being too closely associated with explicit intentional communicative action. Indeed, Jurgen Ruesch, who was probably largely responsible for formulating the concept of 'nonverbal communication' in the first place (see Ruesch 1953, 1955; Ruesch and Kees 1956), regarded gestures, like words, as symbolic actions and, as such, they were treated rather differently from other aspects of behavior where, as Ruesch suggests, we find action serving both as an implementation of something as well as having communicational significance. From the perspective of 'nonverbal communication' studies, therefore, gesture has been regarded as somewhat separate and not directly relevant for the main issues of concern here.

It might perhaps be expected that gesture would be of interest to

students of speech and language. Within a tradition that stems from rhetoric, we do find an interest in gesture that flourished from the seventeenth to the nineteenth centuries but which disappeared by the twentieth century. The study of speech has developed as a highly specialized subject where the concern has been largely with phonetic and physiological questions. The study of language has been dominated by the attempt to develop a linguistic science in which language is approached as a purely formal system which may be considered in almost total disconnection from its employment by speakers (Harris 1980, 1981). Modern linguistics has been preoccupied with finding ways in which the formal properties of language can be stated in the most economical and abstract way possible. Gesture, although often given a passing mention as a companion of speech, has not been regarded as a treatable aspect of the formal system of language and has therefore rarely been of much interest to linguists (Bolinger 1946).

Psychologists have also been little interested in gesture. Until relatively recently, theoretical psychology has been dominated by the doctrines of behaviorism and psychoanalysis. To a considerable extent, behavior has been studied either because it can be treated as symptomatic of hidden motivations beyond the comprehension and immediate control of the individual or because it can be treated as an index by which the operation of quite general processes of learning or motivation may be monitored. Since 1957, however, with the emergence of psycholinguistics, the study of complex mental processes has become more and more evident and, today, cognition and symbolic representation are major areas in psychology. As will become apparent below, some psychologists now recognize the relevance of the study of gesture in their field — a relevance long ago recognized, it might be added, by such luminaries as Condillac (Aarsleff 1976), Diderot (1911), Tylor (1878) and Wundt (1972 [1900]) but which ceased to be appreciated by the beginning of this century.

It is also to be noted that, although the formalist ambition of linguistic science is still very much in evidence, there is a growing trend to question this (Harris [1981] is merely representative). The study of discourse and conversation is now becoming much more prominent (recent survey treatments include Gumperz [1982] and Levinson [1983]) and there is a growing recognition from those interested in language use in interaction that we do *more* than form strings of words. We also employ our bodies in visible actions that have an indissoluble connection with what is said. The possibility that systems constructed in graphical expressions or gestural expressions are, or may be, autonomous language systems, is also much more widely accepted. In addition, the old question of language origins has once again come into prominence. The possibility that gestural

expression was the precursor for spoken expression in the evolution of language is now very widely entertained (Hockett 1978).

It should be clear from these developments that the phenomena of gesture will soon be perceived as having great relevance for what have long been considered to be the questions of greatest centrality in the study of the human species. Gesture can throw light upon the nature of thought, it can serve in the investigation of the production of utterances, and it may throw light upon the processes by which the formal properties of language become established, for the study of gesture enables us to find examples where the process of codification may be observed.

In what follows I shall outline some of the ways in which the study of gesture may be relevant to some of these central themes. Most of these issues are reflected in the papers included in this Special Issue. The following is written with the intention of surveying them and setting them in relation to one another, although it should be clear that this discussion is selective and I have not dealt with all of the papers that follow.

What is a gesture?

The answer to this question involves more than just the establishment of criteria for the use of a word. As Goodwin will point out, people in face-to-face interaction are in a position to gain a great deal of information from one another by observing as well as listening to one another. Yet, not everything that a person may be observed to do in an interaction is relevant to the talking that may be in progress. Participants must breathe, they must maintain comfortable postures, they must maintain an orientation and spacing that will make differential attention to another possible. Furthermore, they may, and often do engage in such actions as smoking, drinking, eating, knitting, and the like, even as they are also engaging with others in an occasion of talk-focused interaction. Thus, participants must be able to distinguish visible action in each other that is relevant to the talk in progress, from that which is not relevant. One important line of inquiry is to find out how this distinction is made.

In a study that I have discussed elsewhere (Kendon 1978), people were asked to report, in their own words, the kinds of movements they observed in a film of a man making a speech. It was found that such observers readily and consistently distinguish between actions that they classify as deliberately communicational and other behavior that they do not consider in this way — behavior which is either ignored altogether, or discounted as relevant for the activity of communicating. Goffman (1974) has also drawn attention to the differential way in which people in

interaction attend to each other's behavior when he speaks of the various attention tracks a participant in interaction must sustain in respect to another's behavior. Action that is treated as belonging to the 'story' line of the interaction is what belongs in the domain of gesture. Action that is ignored, disattended, or treated as irrelevant, belongs outside this domain.

Goodwin raises the question as to how we are to establish how the participants themselves make this distinction. He is able to show, by a close study of the patterning of visual attention in interactional episodes, that some kinds of visible action draw the visual attention of a coparticipant; other kinds (such as self-touching, especially in the facial region) seem to drive visual attention away. Goodwin is able to show, from a close study of how participants attend and disattend to each other's actions, that they are, in practice, drawing a distinction between relevant, irrelevant, and disattendable action.

Goodwin also raises a further very important issue for students of gesture. This is one that appears to be much more difficult to deal with. It arises from 'the fact that very often recipients to a gesture do not make a subsequent move to it that deals with the gesture as a distinct event in its own right' (p. 29). Goodwin continues:'It is thus difficult to establish what consequences the gesture has for the organization of their [i.e. the recipients'] action'. He adds in a footnote that the attempt to uncover specific ways in which gestures are consequential for recipients in interaction is one of the key tasks that an analysis of gesture must face. Goodwin and Goodwin provide a good illustration of one way in which one may proceed in doing this when they show how the gesture of a 'thinking face' plays a part in allowing participants to define a current speaker's pauses as word search pauses rather than, for example, as turn endings. A careful collection of instances of gestural usage and the analysis of how they contribute to the way in which co-participants make sense of the interactional move of which they are a part, can provide us with a rich understanding of the diverse ways in which gesture is important to participants.

The question 'What is a gesture?' is best answered then, by carefully analyzing the way in which participants in interaction differentially attend to each other's behavior and by delineating that aspect of it which they treat as being a relevant part of the utterance of their coparticipant. Action so treated can be referred to as 'gesture'. Our question should be, then, not 'How can we establish clear criteria by which observers may agree as to what is and what is not a "gesture"?', but 'What are the ways in which interactants in practice effectively classify behavior in others?' That is, we should seek to find out the distinctions that participants

themselves employ, and then investigate the features upon which such distinctions are based.

Such an approach can provide us with a principled way by which the boundaries of the phenomena of gesture may be delineated. It might also reveal a range of types of gestural phenomena that are recognized within a given communication community. It is clear, indeed, that 'gesture' is not a unitary phenomenon. The word, as commonly used, covers a wide range of actions which, though all showing the characteristics of being recognizable as utterances, show a great variety of ways in which action can be employed.

Most writers on the topic of gesture have recognized a number of different types and have offered classifications. There is much variation in terminology, but, as a review of the different systems proposed suggests, there is much underlying agreement.

All writers recognize that gesture may function as utterance autonomously, independently of speech, and most have proposed a special class of gesture to cover this. There is also recognition that gesture that occurs in conjunction with speech may relate to what is being said in a variety of ways. Most draw a distinction between speech-associated gesturing that somehow provides a direct representation of some aspect of the content of what is being said, and gesturing that appears to have a more abstract sort of relationship. Efron (1972), for example, distinguishes as 'physiographic' those speech-related gestures that present a kind of picture of some aspect of the content of the utterance; he terms 'ideographic' those speech-related gestures which, he says, are 'logical' in their meaning and portray not so much the content of the talk as the course of the ideational process itself. More recently, Freedman has proposed a distinction between 'representational' gestures and non-representational or 'speech-primacy' gestures (Freedman 1972, 1977); Wiener (Wiener et al. 1972) distinguishes 'pantomimic' gestures from 'semantic modifying and relational' gestures; McNeill (McNeill and Levy 1982) distinguishes 'iconic' and 'metaphoric' from gestures which seem to relate only to the rhythmic structure of speech. These he refers to as 'beats'. This distinction is also recognized by Ekman (1977) who uses the term 'illustrator' to cover all the phenomena of gesticulation that he then subdivides into no less than eight different types, including a purely rhythmical type which, following Efron, he refers to as 'batons'.

For my present purposes I shall refer to all gesturing that occurs in association with speech as *gesticulation*. The particular kinds of relationship between gesticulation and the speech associated with it will be discussed on their merits. At the present time there seems little value in following any writer's particular classification scheme. Gestures which are

standardized in form and which can be quoted and glossed apart from a context of spoken utterance may be referred to as *autonomous gestures* or, perhaps better, *quotable gestures* (this includes, of course, those forms that are often referred to as *emblems*).

It will also be recognized that gestures may become organized into *gesture systems* and *sign languages*. The term *gesture system* will be employed where the number of distinct forms in the system is limited and the functional domain is restricted. Examples of gesture systems include systems employed by grain merchants (Davidson 1950), skin divers (West [1960] contains references), truck drivers (Loomis 1956), baseball umpires (Broeg 1957), hitchikers (Ciolek 1973), and the like. The term *sign language* will be used to refer to systems which have many forms in their repertoire and which are not restricted in their domains of function. Included here are the primary sign languages of the deaf, both so-called 'home sign' systems of isolated deaf and the sign languages of deaf communities; also included are alternate sign languages such as those found among certain Aborigines of Australia (Kendon 1980b), Trappist monks in Europe (Barakat 1975) and the women of Armenia (West 1960). Systems such as that developed in the sawmills of British Columbia (Meissner and Philpott 1975) and, perhaps in Naples (di Jorio 1832) could also be included here, although they are probably best regarded as transitional between gesture systems and sign languages proper.

Gesture, mental representation and utterance production

Although, as we have just suggested, one approach to the question of 'what is a gesture?' is to investigate how, in the course of interaction, participants differentially attend to one another's behavior, it is also possible to rely upon an observer's recognition of actions in others for a working definition. As my own study showed (Kendon 1978), observers will readily and spontaneously recognize an aspect of another's visible action as being clearly part of the activity of utterance — part of what a person is trying to say. Other investigators, offering an explicit definition in advance, have likewise been able to show that observers can discriminate 'gesture' with a high degree of consistency (see, for example, Freedman and Hoffman 1967; Friesen et al. 1929). Such actions, typically of the forelimbs, but also of the head and face, which co-occur with speech may be referred to as 'gesticulation', as already suggested. These movements are referred to as 'gestures' by McNeill (1979), 'object focused movements' by Freedman (1977) and include 'illustrators' in Ekman's terminology (e.g. Ekman 1977). My own preference is for the term

'gesticulation' on the grounds that, unlike the other terms that are sometimes used, it does not presuppose anything about the nature of its relationship to the speech it accompanies.

The most salient fact about gesticulation is its close integration with speech. Close analysis of the phrasal organization of such movements and how these phrases are patterned in relation to units of speech show that the coordination of gesticulatory phrases and speech phrases is so close that it is clear that they are under the governance of the same guiding principle.[1]

Gesture and the mental representation of knowledge

Freedman (1977), McNeill (1979) and also Butterworth and Beattie (1978) have proposed that by studying the relationship between gesture and its concurrent speech, light may be thrown upon the processes involved in the translation of 'thought' into 'utterance'. McNeill also suggests that the study of how gesticulation and speech are associated can provide a way to learn about the nature of the mental representation of knowledge (see below). We will discuss this point first.

The question of how knowledge is stored mentally has been widely discussed in recent years. A major point at issue has been an argument between those who believe that storage is in terms of discrete elements organized in relation to one another in a finite number of discrete ways and those who believe, to the contrary, that storage is in terms of structures that are analogically related to external forms (Anderson 1978, Chafe 1977). That is to say, the question is whether mental representation is organized in a form that would allow it to be 'read off' directly into the propositional structures of spoken language, or whether it is organized in complex structures that are image-like or structured as the schemata of actual manipulatory action.

The observations of the close relationship between gesture and speech would appear to have some bearing on this issue insofar as an examination of the forms of gesticulation often shows them to have a pictorial character in which some aspect of the content of what is being said is being given visual representation. As McNeill points out, we may observe gestures which give a direct pictorial representation of content or which provide a pictorial depiction of abstract relations. McNeill refers to these as 'iconic' and 'metaphoric' gestures, respectively. He points out that, in both cases, the gesture represents the content 'all at once' or 'globally' and that this is quite different from the way in which content is represented in words. To represent content in words requires that it be organized so that

it may be expressed in propositions and that the elements by which such propositions are expressed must be organized in a temporal linear order.

Yet gestures representational of content are fully organized at the outset of speech units that also express that content. Evidently then, meanings are not transformed into gestural form by way of spoken language formats. They are transformed directly, and independently. This means that meanings, in whatever way they are stored, are stored quite separate from the formats of spoken language, however abstractly these may be conceived. The evidence from gesture thus provides a separate and rather different line of support for the position argued by Chafe (1977), that knowledge is stored in complex configurational structures and not in systems of finite relationships between elementary propositional units.

The study of gestural form in relation to the content of speech may thus be approached from the point of view of the light it may throw on the nature of mental representation. As McNeill puts it, 'The iconic gesture channel can be used as a second channel of observation onto the speaker's mental representations during speech; the first channel being speech itself. These channels can be compared: a kind of "triangulation" onto the speaker's mental representation. Thus, an interest in studying gestures is to obtain an enriched view of the internal mental processes of speakers' (p. 108).

Of particular interest in this connection, is the way in which a developmental study of gesticulation and its relation to speech may throw light upon the changing relationship between speech and mental representation. Both McNeill and Freedman et al. show that the way in which gesture is related to speech in very young children is quite different from the way in which it is related in adolescents and adults. McNeill, who examines how gesticulation and speech co-occur in the retelling of stories presented by means of a cartoon, and Freedman, who observes the gesticulations children make as they offer definitions of words, observe that in very young children, gestural representation and representation in speech are different and separate. McNeill's young children engage in a kind of dramatic presentation, putting themselves in the center of an imaginary space in which events they are recounting occur. Freedman's young children 'surround themselves with imagery'. In contrast, with Freedman's fourteen-year-olds, like McNeill's adults, gesture and speech are much more closely coordinated. Furthermore, as McNeill's description makes clear, adult gestures are tokens of purely mental actions, that is, they are fully symbolic. In young children, however, images are externalized and actions are thus re-enactments rather than symbolic representations.

Gesture and the translation of 'thought' into 'utterance'

Let us now briefly consider the possibility that the study of gesticulation may throw light on the processes by which 'thought' gets translated into 'utterance'. In particular, it seems that Freedman, at least, believes that the production of what he terms representational object focused movements (which presumably refer to the same kinds of gesticulation that McNeill terms 'iconic' and 'metaphoric' gesturing) plays a role in the process by which words are related to mental images. Thus he sees such gesticulation as playing a role in the process by which specifically *verbal* utterances are constructed.

Freedman proposes that the process of utterance proceeds with an alternation between what he terms *focusing*, in which the material to be presented in the utterance is selected, and *representing*, in which the material selected is shaped so that it can be encoded into linguistic formats or into some other format that is constructed from a shared code. He suggests that these alternating processes may be tracked through observations of the ongoing bodily activities of the speaker. He shows that what he calls body-focused movements in which the person touches himself in various ways occur during periods when speech is not occurring or during periods when speech is disrupted or hesitant. Object-focused movements, on the other hand, occur in coordinated association with speech. Body-focused movements, according to Freedman, serve the functions of self-stimulation and this, he believes, facilitates the process of focusing because it reduces the interferences of external stimulation. Stimulation from external events is unpredictable. Self-stimulation is predictable and under the individual's own control. Focusing is facilitated presumably because through self-stimulation, input from the external world is now controlled and so does not require the engagement of processes that select and organize it. These processes are now freed to attend to internal input from imagery. In object focused movements, on the other hand, we may witness an externalization of material selected for utterance but in a form that has not yet been organized for linguistic encoding. Freedman suggests that by such a process of externalization the linkage between word and image is reinforced. Thus, he has said: 'Through confirmation of the image, and through the work of connecting the image to the world, object focused activity ensures the continuity of representing' (Freedman 1977: 113). It is not wholly clear from this just how the connections referred to are reinforced by gesture, but one may venture, perhaps, that what may be involved is that the gestures permit the image to be 'held' for a longer period and is thus made more directly available as the processes of linguistic formulation are in progress.

Gesticulation, speech and communication

Both McNeill and Freedman approach the study of gesture from a purely psychological viewpoint. They do not consider the possible functions gesticulation may have for recipients. Even Freedman, who, as we have said, sees gesticulation as arising as a part of the effort of utterance construction, regards its function wholly in terms of its role in possible feedback processes that are internal to the speaker. We have already quoted Beattie's remark, referred to by Goodwin that, except in very restricted cases, 'no demonstrable benefit from nonverbal "signals" has been found to accrue to the listener'. Some indeed have suggested that gesticulation is a kind of automatic by-product of speaking and has no communicative function at all, except as a kind of index of an individual's level of arousal.

For my own part, I do not find such a view tenable. On the contrary, I believe gesticulation arises as an integral part of an individual's *communicative* effort and that, furthermore, it has a direct role to play in this process. Gesticulation is often an important component of the utterance unit produced, in the sense that the utterance unit cannot be fully comprehended unless its gestural component is taken into consideration. In many instances it can be shown that the gesticulatory component has a complementary relationship to what is encoded in words, so that the full significance of the utterance can only be grasped if both words and gesture are taken into account. In my view, this applies to all gesticulation, even to that which, in the words of Bucci and Freedman (1978), comprises 'rhythmic spatial patterning, without informational content and often with no apparent communicative function' which, they assert, constitutes most speech-related gesticulation that may be observed. For Freedman and his colleagues, as we have seen, such movements are explained in terms of the functions they serve in the process of language production. However, here I suggest that they actually constitute part of the complex of action that a person takes as he endeavors to represent meaning for another. Gesticulation does not constitute an externalization of the internal process of the encoding of 'thought' into spoken language. Rather, it constitutes a consequence of the process of the translation of 'thought' into utterance, of which speech is another consequence. In gesticulation we do not observe a representation of the same material that is also, perhaps later, represented in words. We observe, rather, components of the utterance content that are *not* represented in words but which the utterer nevertheless is striving to represent. What this includes may vary according to what the utterance is being organized to represent, and according to the interactive circumstances in which the utterance is being

produced and the kind of role in the interaction the utterance is to have. Sometimes the utterer finds he is able to transpose everything he wishes into verbal form, but may wish to make his presentation more vivid, assist the listener in 'chunking' what he has to say. In such cases we may find that gesticulation may not be more than 'beat'-like in character, perhaps differentiating parts of the discourse spatially. Here it serves the function of providing a visual analogue of the phonological 'chunking' carried out by stress, intonation and pausing. Some of the repetitive raise-hold-lower manual movements described by Creider (1978a, 1978b, and below) for Luo and Gusii speakers would perhaps exemplify this. In such instances the speaker may be thought of as simply marking visually the successive segments of his utterance. At other times, however, the speaker may shape these movements in such a way as to suggest that he is depicting aspects of what he is referring to. The 'iconic' gestures described by McNeill are of this sort. Here it may often be noted that the speaker appears to be providing a visual representation of aspects of content that are not referred to in the verbal component of the utterance. In yet other cases, the speaker may employ gesture as an alternate to speech, letting the gesture do the work of the utterance. The different ways in which gesture may be deployed in relation to speech is thus quite various and complex. An approach to the study of the relationship between gesture and speech which looks upon it from such a pragmatic point of view seems certain to yield a far richer understanding of the nature of gesture than one which takes a purely 'symptomatic' approach to the phenomenon and overlooks what the utterer is employing gesture for.

We referred above to the methodological difficulties which attend the study of gesticulation from a communicative point of view. As Goodwin remarks, 'very often recipients to a gesture do not make a subsequent move to it that deals with the gesture as a distinct event in its own right. It is thus difficult to establish what consequences the gesture has for the organization of their action'. It is because of this and other methodological difficulties, perhaps, that we find very little systematic work that can be quoted which supports the view taken here: that gesture is best looked upon as an integral part of the utterance in complementary relationship to speech.[2] A few experimental studies (Cohen and Harrison 1973; Cohen 1977) that show that pointing gestures are more frequent in face-to-face situations than when communication is via an intercom system, and there is one study (Graham and Heywood 1976) that shows that the way in which a speaker constructs an utterance that describes the visible appearance of something will be different depending on whether he is permitted to use gesture as part of his utterance or not. Graham and Argyle (1975), Walker and Nazmi (1979), and Riseborough (1981), have

shown experimentally that the gestures speakers use to describe the appearance of something to another affect the accuracy with which recipients grasp that description. Marslen-Wilson et al. (1982), in a study of the procedures speakers use in constructing coherent discourse when telling a story, show in some detail how the employment of reference devices — such as names, descriptive statements, pronouns and zero anaphors, and including deictic gestures — is adjusted in relation to the presuppositions the listener may be regarded as to be entertaining. In observational studies, Sherzer (1973, 1982), has shown how pointing gestures may be fully integrated into speech in ways that show quite clearly that it plays an integral role in utterance construction. Slama-Cazacu (1976), has also drawn attention to the phenomena of what she has termed 'mixed syntax' in which gesture and speech are deployed in alternation, gesture sometimes 'filling in' when speech has ceased. In such cases the gesture must be taken with the speech before a full analysis of the utterance can be performed.

In observations of my own (Kendon 1984a) I have argued that the range of communicative functions of gesture is considerable. I have collected examples which show how gesture may be used as a substitute for speech when others are talking; how it may be used for 'subordinate' or 'side' exchanges without threat to the participant status of those using it in this way; how it may be used to disambiguate potentially ambiguous words; how it may be used as a device for completing a sentence which, if spoken, might prove too embarrassing to the speaker; and, as we have already mentioned, how it may be used as a device to convey aspects of meaning that words convey only in part. In many examples it appears possible to show how the speaker appears to divide the task of conveying meaning between the two expressive modalities in such a way as to achieve either economy of expression or a particular effect on the recipient.

From a consideration of such examples it would appear that many people show considerable skill in the deployment of gesture and speech. In several cases it is possible to see how speakers adapt their utterance from moment-to-moment as the structure of the communication situation changes — referred to as 'recipient-design' by practitioners of Conversation Analysis (see Sacks et al. 1974, Goodwin 1981) — and by looking at gesture as well it is often possible to show that gesticulation is likewise deployed skillfully in conjunction with speech, indeed as its partner, in the task of achieving the aim of the utterance.

It is clear, however, that our understanding of the employment of gesture is still rudimentary and much careful systematic work is needed in which audio-visual records of interactions are analyzed in detail.

Goodwin, and Goodwin and Goodwin offer examples of one kind of work that is needed through which a more detailed picture may be built of how gesture is employed in interaction.

Experimental approaches also suggest themselves. Graham and Heywood (1976), Graham and Argyle (1975) and Riseborough (1981), in somewhat different ways, offer the model of varying the resources that are available to an utterer — use of gesture is permitted in some conditions, not in others. Cohen and Harrison (1973) and Cohen (1977) attempt to vary the conditions under which utterances are produced — whether or not in the visual presence of the recipient. The work of Freedman, McNeill, and Marslen-Wilson suggests that it would also be very well worthwhile to explore the consequences for utterance construction of systematic variations in features of the communication task the utterer is faced with. The ingenious experiment of Walburga von Raffler-Engel (p. 00) suggests yet another possibility. In this study observers of an interaction were asked to re-enact it and the extent to which they re-enacted the gestures employed by the persons observed was studied. Her results suggest that this might be a very useful way to explore the extent to which people find the gestures of others salient, which gestures have salience, and under what circumstances.

Cultural differences in gesture

Cultural variation in the extent and manner of gesturing has been very widely noted (Birdwhistell 1970, Ekman and Friesen 1969, Kendon 1984b). Somewhat surprisingly, systematic comparative studies of gesturing are, nevertheless, very few. The best known such study, and still almost the only one to date, is by David Efron (1972 [1941]). His findings have been widely quoted, deservedly, as the definitive demonstration that gestural style is a matter of cultural not biological inheritance. In his study he compared the gesturing style of East-European Yiddish-speaking Jews with that of Southern Italians and he found that while Italians employed many pictorial gestures, depictive of the content of what was being said, the Yiddish speaking East-European Jews used gestures which, in Efron's terms, were 'ideographic' in character, depicting the logical structure of the talk, but not, as with the Italians, providing anything like concrete illustrations of the content. Efron further reports that whereas the Southern Italians employed a good many standardized emblematic gestures and were also good at pantomimic improvisation, the Yiddish speakers did not excel in this way at all. Efron does not venture to explain these differences. It was his concern to demonstrate them and then to

show, by a study of second generation immigrant descendants of these two groups (who were much more fully assimilated to the American mainstream culture), that their gesturing styles had likewise been modified in the direction of the larger culture to which they had become assimilated. Efron himself said that the 'question as to what specific factor may have been operative in patterning each of the gestural characteristics described ... calls for a separate and probably very difficult inquiry' (Efron 1972: 160). It is clear that such an inquiry needs to be embarked upon. The mere demonstration of cultural differences in gesture is insufficient in itself, except for the point that Efron wanted to make.

Creider, in a series of studies (1978a, 1978b, and below) has offered some detailed examples of how gesticulation differs from one language group to another, and, in doing this, he has described the patterning of gesture in relation to speech for several different languages in some detail. He shows, in this work, in the first place, that the packaging of gesture into phrases that are coordinate with speech phrases at the level of the tone unit is common to all the language groups studied (three Nilotic languages, a Bantu language and an Eskimo language). However, he also shows that the way in which the pattern of movement in the gesture phrase is organized in relation to speech may differ according to how linguistic stress is employed in the language. Thus, he shows that the gesture phrases of Kipsigis speakers (a Southern-Nilotic language) are more variable and less tightly organized in relation to tone units than is the case for either speakers of Luo (a Western-Nilotic language) or Gusii (a Bantu language). In Kipsigis the stroke of the gesture phrase does not have a consistent position within the speech phrase as it does for Luo or Gusii speakers because in Kipsigis, in contrast to either Luo or Gusii, stress does not serve in a consistent way to demarcate speech phrases. Creider suggests, then, that some of the differences in gesticulatory style that may be observed between Kipsigis speakers and speakers of Luo or Gusii may be attributable to differences in the characteristic rhythmicity of the language in question.

One line of research that is definitely needed, is extensive and detailed descriptions of gesticulatory patterning in speakers of very different languages in which detailed attention is paid to linguistic organization. To the extent that gesticulation is organized in relation to the prosodic structure of a spoken language, some differences in gesticulation may be attributable to such differences.

However, attention must also be paid to the patterning of action in the gesticulation and the extent to which this is elaborated into representations of content, the extent to which deictic gestures are employed or the extent to which metaphoric or discourse organizing gestures are used.

Such limited data as there are available suggests that there may be substantial differences between different cultural groups in this regard. Efron's findings have already been mentioned. These remain the best we have that bear on this question.

It is possible that differences in the extent to which iconic, metaphoric, deictic and discourse organizing gestures are used may be related in some way to differences in modes of expression in different languages. This is a possibility that is at least worth further exploration. However, it would also seem that further light would be thrown on these differences if close attention were paid to the way in which gesture was used communicatively in different cultures. For example, the kinds of differences that Efron demonstrated between Jewish and Italian gesturing style suggests that the way in which gestures are relied upon for information about what is being said may differ between these two groups. There is a small amount of experimental evidence that indeed supports this notion (Graham and Argyle 1975, Walker and Nazmi 1979; comparisons in these cases were between people of British or British-derived culture with those of Italian culture) but much more systematic work is called for.

So far I have only discussed gesticulation. Most writers on gesture, as we have seen, distinguish a class of gesture that functions independently of speech and which serve as complete utterances in themselves. They are standardized in form and they often can be given a gloss in words. Such gestures have been termed 'emblems' by Ekman, following Efron's phrase 'emblematic gesture'.

A number of lists of emblematic gestures have been published for several different parts of the world (Southern Italy: Efron 1941; Italy: Munari 1963; France: Wylie 1977; Spain: Kaulfers 1931, Green 1968; Iran: Sparhawk 1978; Columbia and the United States: Saitz and Cervenka 1972; Arabic countries: Barakat 1973; Kenya: Creider 1977). The techniques by which these lists have been collected have varied widely and in most cases almost no information has been provided about the representativeness of the gestures described, in what circumstances they are employed, and by which segment of the population they are used and which segment of the population knows them. Despite these drawbacks, comparative studies of these lists might be worthwhile, although almost none have been undertaken. However, in one comparison of the glosses of these gestures from six of these lists, it was suggested that such gestures appear to have a quite limited set of functions, confined for the most part to the domains of interpersonal regulation, display of current mental or physical condition, or evaluative comments on the actions or appearances of others (Kendon 1981). Creider (1977) offered some comparisons in terms of both form and function between emblematic gestures he

collected in East Africa from four different language groups and the emblematic gestures listed by Saitz and Cervanka (1972) for Columbia and the United States. From this comparison it was clear that although there are a limited number of gestural forms that appear to have a very widespread distribution, most of those he recorded are peculiar to the East African culture area where he collected them and for each language group there was some proportion that were peculiar to them.

The only large scale comparative study of emblematic gestures to have been carried out is that by Morris et al. (1979) who compared the distribution and attributed meanings of twenty gestural forms in forty different locations evenly distributed from Northern to Southern Europe. They found that although there were one or two gestures that were shared throughout the entire range, most of them were highly local in use, and that, although the same gestural forms might be found to occur in many different parts of Europe, the meanings attributed to them were in many cases found to be quite diverse. To give just one example, the well known 'ring' gesture, in which the hand is held up with the thumb and forefinger flexed so that their tips are in contact, though given the meaning of 'OK' in Northern Europe and parts of France, in other parts of France it is interpreted to mean 'zero', while in Greece and Turkey the gesture is employed as an obscene homosexual invitation.

Morris et al. (1979) also found that the number of gestures known was far greater in Southern Europe than in Northern Europe, thus confirming the widely held view that gestures are more commonly employed in Southern Europe than in the North. By plotting the geographical distribution of gestural forms and meanings, Morris et al. were able to offer some discussion of the processes by which gestures may spread. In many cases, although the gestures are characteristic of an area which shares a common cultural history, they are not linked to specific languages.

Morris et al. also provide evidence that some gestural forms, at least, may persist for very long periods of time unchanged. Most remarkable, perhaps, is their finding concerning the head gesture used for negation in Northern as compared to Southern Italy. In Italy, north of a line that crosses the penninsula just fifty kilometers south of Naples, the head-gesture for negation that is used is the headshake. In the rest of Italy a backward toss of the head is commonly used instead. An examination of just where the head-toss gesture is used shows that its distribution coincides with those parts of Italy that were colonized by the Greeks some 2000 years ago. The head-toss negation gesture, widely used in Greece and Turkey to this day, still persists in Southern Italy, it appears, as a legacy of quite ancient Greek influence, even though the Greek colonists

departed many centuries ago. Morris et al. also provide evidence for a number of other gestures — the 'horns' gesture, the 'nose-thumb', the so-called 'fig', and a number of others — that shows that they were well established centuries ago and have shown little change.

Such persistence appears to be in contrast to the changes that are observed in linguistic forms, including forms that occur in sign languages. Possibly, emblematic gestures may persist unchanged for long periods because they do not occur as elements in an organized system. If they did occur as elements in a system we might expect that changes in one part of the system would spread and affect other parts. Such persistance may also arise because the gestures are only in occasional use. Finally, we may note that when they are used they serve as complete acts of utterance in themselves and they do not recombine with other elements, which might also contribute to their stability.

Emblematic gestures, though very familiar, are little understood. Some quite fundamental questions about them seem to be without answers at this stage. It is unclear what leads to the precipitation of gestures of this sort, for instance. We also have little systematic information about when they are used and what functions they fulfill when they are used. The glosses attributed to them really tell us very little. Although it seems that many of them can be given 'translations' into a word or two or a phrase, it is certainly not the case that they can be considered gestural equivalents of such words or phrases. Exactly what kinds of interaction situations prompt their use, why a gestural form should be selected in such situations rather than a verbal expression, and just what communicative work they do when they are selected, all of this is *terra incognita.*

What is needed are careful studies of the occurrence of emblematic gestures in contexts of use and an analysis of the communicative work they do in such contexts. Sherzer (1982) provided one example in which the use of the 'thumbs-up' gesture is explored, as observed among urban Brazilians. He distinguishes at least seven different types of usage, many of them quite different from one another — ranging from a gesture of greeting, to a request, or from an indication that the gesturer has understood what is expected of him to an indication of thanks to another who has performed one a slight service (such as telling you that you have left the lights of your car on). Sherzer's study shows that a gesture like the thumbs up has a general or thematic meaning of positiveness for urban Brazilians, but the exact communicative function it serves depends upon how it occurs within context. He furthermore suggests reasons why urban Brazilians should choose to select the thumbs-up gesture for widespread use: he suggests that this may be connected with a widely held value that face-to-face interactions between strangers should be harmonious and

positive and should be seen to be so. The thumbs up gesture has been adopted as a means of publicly displaying the positiveness of encounters between strangers in public places.

Gesture and word: Processes of lexicalization

We have seen that gesture appears in such intimate association with the activity of speaking that it must be considered an integral part of the process of utterance. We have argued, along with Freedman and McNeill, that the analysis of how gesticulation is organized in relation to speech will throw much light on the processes that underly the production of utterances. McNeill, as we have seen, regards gesticulation as a kind of overt symptom of the action schemata that he believes comprises the fundamental formats in terms of which language is organized. Freedman regards the activity of representational gesturing as part of the process by which images are organized and brought into relationship with words. We have also argued, however, that gesturing is not to be accounted for only in such psychological terms. Gesture also plays a role in the organization of utterance when considered from a communicational point of view. That is, the utterer's employment of gesture is not just a symptom of the process of utterance production. It is part of the process of utterance production in the sense that utterers *employ* gesture as one of the resources available to them for getting their meaning across. From this point of view, then, we may examine gesture for how it encodes meaning and what aspects of meaning it encodes.

It is generally supposed that the gestural component of a spoken utterance is organized quite differently from the spoken component. One does not have a stock of gestural forms that can be organized into sentences in the way one has with words. The prevailing view has been, indeed, that gestures are 'spontaneous' or 'improvised' and that they are governed by 'no rules' so that the best we can hope for in explaining gestures is some sort of purely psychological account. I make no appeal to psychology to account for the sequence 'The cat is on the mat' and to explain why this is what one gets and not 'The on is cat mat'; the rules of language explain this well enough. To attempt this for gesture, however, does not seem appropriate.

Here I wish to argue that no sharp line may be drawn between 'spontaneous' gesturing which represents meanings in a holistic or global manner and gestures which, like 'emblematic gestures' are not 'spontaneous' but which are established coded forms within a communicative community or which, like the signs of sign language, are analytic (i.e. have a morphology, see Newport 1982), rather than holistic and which function in ways that are really no different from the ways in which lexical items function in a spoken language.

In arguing for this view of gesture I am suggesting also that we may, in gesture, be able to witness the processes by which gestural forms may be transformed progressively into lexical form and be organized into being employed in groupings organized systematically that are comparable to the sentential organizations of spoken language. Because of this, we may be able to make observations on the *conditions* which encourage such lexicalization of gesture. In the study of gesture, then, we may be offered the opportunity to observe how communicative action becomes organized as language. If this is so, the study of gesture takes on an added significance: it permits us an insight into the processes by which systematic communicative codes become established. This may have implications for the view espoused by some (e.g., Givón 1979) that linguistic structures are shaped by the communicative functions they serve. In gesture we may be able to observe this shaping process directly.

McNeill points out that a gesture such as the raising of the hand which, in his example, accompanied the phrase 'up the pipe' expresses the idea of someone or something climbing or moving up something. This is expressed within a single configuration of action. As he puts it, gestures of this sort express content in a global, holistic way. Such gestures are, as McNeill also shows, initiated concurrently with the onset of speech units in which the associated content is expressed. The gesture phrase, therefore, cannot be analyzed into constituents, each one of which contributes to the total expression, as can a verbal utterance. It expresses a complex idea in a single unit of action.

Gestures of this sort are quite unlike words in their function. They play a variety of roles in association with spoken utterance, often adding a dimension of meaning to what is being said in words that cannot be found there. For example, a woman was telling someone about her brother who left early in the morning for a vacation with a large canoe strapped to the top of his car. She said: 'And he left this morning with the canoe'. As she did so, she raised both her hands above her head and then separated them laterally as if to depict the long canoe on top of something. The visual image of the canoe on the car which the woman sought to convey in her gesture was not mentioned in the words she uttered at all. In the same way, a psychiatrist, who was discussing some difficulties he had had in taking a history from a patient, said: 'and she moved very rapidly from one area to another'. As he did so he moved his spread hand back and forth rapidly (Kendon 1980a). His hand movement gave a visual representation not just of moving from one place to another, but of moving

back and forth, of vacillation between topics. In such cases gestures of this sort are organized in a way that shows that they are fully part of the utterance plan, yet they encode aspects of the meaning quite differently from words and, furthermore, they encode aspects of the meaning that are not even alluded to in the words. The sentence produced by the speaker is linguistically complete and we can have the impression of completeness of information without the gesture, even though the gesture adds to the total meaning of the utterance. In other instances, however, gestures can be observed to occur in alternation with speech. Here the spoken phrase is linguistically incomplete and unless we take the gesture phrase into account we can make no sense of what is said. This phenomenon, noted by Slama-Cazacu (1976) as 'mixed syntax', may be illustrated by the following instances. A young girl was discussing some other young people she knew. She indicated that these people were not very desirable, at least not in her view. She said: 'Their parents are professors but the kids are /GESTURE/' — completing her sentence by rapidly moving both hands forward, splaying out her fingers to their fullest as she did so, and concurrently producing a 'disgust' facial expression. In another example, a host suggests to a guest, too early in the evening, that it is time to drive him home. He says to the guest, after offering him a second cup of coffee, but declining to pour one for himself: 'I was up much too late last night, so may be we oughta /GESTURE/' — for the gesture putting up his two index fingers and holding them parallel to one another, moving them together in an up–down movement in the direction of the door (Kendon, 1984a). In both cases it will be seen that the gesture completed the sentence and any analysis of its structure would have to incorporate it as part of the structure of the sentence.

In the examples just given, the gestures could not be analyzed as replacements for single words. In both cases they provide us with a complex image. In the first case, for instance, the speaker could only have replaced her graphic rendition with a complex description if she were to convey, in words, anything like the view of the people she was talking about that she succeeded in conveying in gesture. A consideration of instances of this sort suggests that this is usually the case. Although these speech-alternate gestures do the work of lexical items in a sentence, they are more complex: they convey a complex image which could be glossed in words only by an extended phrase. They rarely replace single words. They are gestural renditions of complex constructions.

However, some kinds of speech-alternating gestures occur where they serve in a way that is much more like words. This may be observed where the speaker wishes to refer to something for which a verbal label is not available. For example, a videotape of a student choreographer working

with a small troupe of dancers I have been studying shows how she may sometimes use partial enactments of the movement patterns she wants her dancers to employ as if they are verbal labels. Thus, in one instance she says to one of her dancers: 'Oh Eve, you do a um /DEMONSTRATION/ like that ... facing the audience you do a /DEMONSTRATION/ that kind of thing' — the empty slots in the sentence being filled with a demonstration of the movement patterns required. Later in the rehearsal the movement patterns acquire verbal labels and the choreographer no longer uses enactments.

In an earlier section of this paper mention was made of autonomous gestures. These are usually well coded and they may be used as complete utterances on their own. Such gestures, as has been noted for example by Ekman (1976), do not occur in sequences, as a rule. They occur as single acts and serve as the functional equivalent of complete speech acts. We may recall Sherzer's (1982) analysis of the thumbs-up gesture as used by urban Brazilians. As we saw above, the gesture can serve in many different ways, but it never occurs as if it is the gestural equivalent of a single word. Its use accomplishes a complete statement.

However, it must be observed that gestures of this sort are highly standardized in form and their performance only allows for minor variations. Unlike the speech-alternate forms referred to earlier, such standardized, autonomous gestures do not refer to complex images. They have come to have standardized meanings. Although they are not, thus, fully lexicalized, they are, in some respects, much more like words than anything we have considered so far.

Full lexicalization of gestures appears to occur only where gesture is used to replace spoken utterance entirely and on a routine basis. When this happens what may emerge are repertoires of gestural forms that come to function in organized sequences, very much as words do in spoken languages. The emergence of such *gesture systems* has been documented in a few cases (see especially Meissner and Philpott 1975) although a closely analyzed longitudinal study would be very worth while.

Lexicalization of gestures can be observed in Washabaugh's (1984) study of the sign language of isolated deaf on Providence Island, a small island administered by Columbia, lying off the coast of Nicaragua. The deaf on this island are 'isolated' because they do not form their own community, but are largely isolated from one another, living in their own families of hearing persons. The gestural forms they employ in their sign language are borrowed extensively from the gestural forms they observe from the hearing. These gestural forms as used by the hearing to serve as the equivalent of complete speech acts. Washabaugh, in an analysis of these emblematic gestures of the hearing, shows that they are over-

whelmingly predicational or regulatory in function and they do not serve as nominals. When the deaf take them over, however, and use them in their own discourse, the functions of these gestures change. In particular, Washabaugh has noted how emblematic gestures used by the hearing as a way of making a standardized comment on something come to have a much more abstract and general use in the discourse of the deaf. Likewise, gestures that are used by the hearing serve to refer to a complete activity, such as driving a car and come to be used by the deaf as a nominal, simply as a label for the concept 'car'. Thus we see that where gestures only are available they become organized into constructions and, once this happens, the way they function shifts and they come to take on far more of the character of words.

Finally, I will mention the Warlpiri of Central Australia (see Kendon 1980b). Among these people it is the custom for a woman, when bereaved of spouse or child, to remain silent for a long period as a mark of mourning — in many cases several months, in traditional times for as long as a year or more. There is no other restriction on their communication, however, and as a result a complex sign language has been developed which makes it possible for those who know it to engage fully in conversation. This sign language, it turns out, might best be compared to a writing system, for the signs are devised to match words in the spoken language for the most part. There has been no extensive development of modes of expression in which special advantage is taken of the spatial properties of the gestural medium, as may be observed extensively in primary or deaf sign languages. Although, to some degree, modes of expression peculiar to the gestural medium may be observed, the sign language of the Warlpiri is mainly a gestural rendition of the semantic units the words in the spoken language refer to. The gestural units in this sign language are fully lexicalized.

The women of the Warlpiri do not only use their sign language when they are in mourning. It is used at other times as a convenient alternative to speaking. It is also used simultaneously with speech. In conversation, in story telling, it is not uncommon for a woman to sign as she is speaking. Indeed, this is the only kind of gesturing I have observed. The highly coded lexical gestures of the sign language often appear to have replaced speech-concurrent gesturing almost entirely.

Gesture, thus, may encompass a full range. It may serve as a means of representing aspects of a complex image in a single global action. It may serve to replace single words in spoken sentence. It may sometimes serve to replace a complex component of a spoken sentence. It may also operate on its own and in that case it tends to become standardized in form as well as in meaning. However, unless gesture is to be used in discourse, isolated

gestures do not serve as the equivalent of single words, but as the equivalent of complete sentences or speech acts. By a careful examination of the circumstances in which gestures come to be used as an exclusive mode of discourse, we may observe how the transition is made to full lexicalization and just what the circumstances are that bring this about.

Our theory of utterance, therefore, should not begin with a division between 'speech' and 'gesture' and assume that these are quite different from one another. It should begin, rather, with a consideration of the range of modes of representation varying from picturing to lexication. It so happens that all of the modes of representation are observable in the gestural medium, whereas only a lexical mode is observable in speech. This, however, is inherent to the nature of the respective media and does not arise because of a fundamental difference between the two.

Notes

* I would like to acknowledge support from the John Simon Guggenheim Memorial Foundation during the preparation of this paper. I would also like to thank Connecticut College for graciously permitting me to use their facilities during my tenure of a Fellowship from the John Simon Guggenheim Memorial Foundation.

1. This conclusion has been arrived at separately by Kendon (1972, 1980a), McNeill (1979), and Cicone et al. (1979). See also the observations of Marslen-Wilson et al. (1982: 356–358).
2. See Kendon (1983) for a summary of work done in support of this view.

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Adam Kendon (b. 1934) has been a Visiting Professor of Anthropology at Connecticut College and a Fellow of the John Simon Guggenheim Memorial Foundation during 1983–1984. His principal research interests are in face-to-face interaction, the uses of gesture and the structure of sign languages. His current work is concerned with an Aboriginal sign language from Australia. Among his publications are 'The study of gesture: Some observations on its history' (1982) and 'Gesture and speech: How they interact' (1983).

Gestures as a resource for the organization of mutual orientation*

CHARLES GOODWIN

During face-to-face conversation participants are present to each other as living physical bodies in a particular situation. This has a number of consequences. First, with their bodies those present are able to provide and glean a great deal of nonvocal information about the substance of the talk in progress and the alignment of those present to it (see, for example, Goodwin 1980). However these same bodies have a range of needs and capacities — for example breathing, relieving itches, ingesting food, drinking, smoking, in short a wide variety of body cares — that fall outside the scope of the talk in progress. Thus, if participants are to use each other's bodies as sources of information about their talk they are faced with the task of distinguishing relevant body behavior from that which is not. Indeed, as will be seen in more detail later in this paper, such classification is not simply a hidden cognitive process, but one that has visible consequences for the actions of the party doing that analysis. For example while talk-relevant behavior may be a focus for visual attention, body cares not related to the talk may call for systematic disattention. In short, while access to each other's bodies provides a resource for the display of meaning, it also imposes constraints on behavior making use of that access. The effect is that the organization of a relevant and appropriate framework of mutual visual orientation becomes a practical problem for participants, a problem that they must work out together in the course of their interaction. The present paper will investigate some ways in which gesture might be used in this process. Data for this analysis consists of videotapes of actual conversations recorded in a range of natural settings.[1]

Before turning to empirical data it must be noted that the study of how gesture operates within conversation is beset with a number of methodological problems. Perhaps the most central is the fact that very often recipients to a gesture do not make a subsequent move to it that deals with the gesture as a distinct event in its own right. It is therefore difficult to establish what consequences the gesture has for the organization of

Semiotica 62–1/2 (1986), 29–49. 0037–1998/86/0062–0029 $2.00