

CHAPTER 5

GESTURE

5.1. What is Gesture?

Gesture is seen accompanying speech. Man makes gestures without speech also. Gesture is symbolic action by which a thought, a feeling or intention is voluntarily expressed in a conventionalized (established by general agreement/acceptance, or accepted usage) form. Gesture is different from the real act. For example, the real act of drinking when performed for a drinking purpose is action per se, whereas when the act of drinking is mimicked, or performed symbolically as in the case of Holy Communion in the Christian church, it becomes a gesture. The real act of smoking is action, whereas the movements that one makes as if one is smoking is gesture. In the examples given, there is some similarity between real acts and the "gestures" that indicate these real acts. There are very many instances in which gestures do not have any similarity between themselves and the acts or objects they stand for. For instance, in the sign language used by the Red Indians (American Indians), the sign for a laddle, which is made keeping the palm curved like a laddle, comes to denote drinking and from this meaning it ultimately stands for 'water'. There is no similarity between 'water' and this gesture. Thus, the gestures become not only

conventionalized but could also be holding a relationship of arbitrariness between themselves and the acts and objects they refer to.

Gestures are formed by movements of the facial muscles, head, limbs or body. These movements may express or emphasize a thought, feeling or mood. They may accompany speech or may be used in the place of speech as found among deaf-mutes, among people who do not know each other's language or among those who have taken a vow of silence and so on. In addition to their use as an accompaniment to speech and their use as an independent means of communication (in place of language) between individuals and groups, gestures are also frequently used in the aesthetic acts, in the theatre and dance, and in religious and/or secular ceremonies.

There are at least three major divisions -- use of gesture as an accompaniment to oral language; use of gesture by itself as the language, as in the case of deaf-mutes; use of gesture as an independent means of communication, an addition to the use of oral language, as in the case of sign language used by American Indians. There is also yet another category in which use of gesture either as an accompaniment to oral speech or as an independent system of expression is elevated to the aesthetic level and is exploited in aesthetic arts. Finally, use of gesture in all the above is resorted to for both social purposes and purely individual goals. Under social purposes, use of gesture for expression relates to establishment of interpersonal ranking, good manners, communication/communion with gods, maintenance of social identity, etc. The purely individual goals include maintenance and exhibition of the level of intimacy between individuals, secret communication, etc. While these are exploited at the aesthetic levels,

use of gesture itself in the aesthetic arts not only accentuates the effects but also creates and maintains the effects; in other words, it conducts the episodes in several cases.

Gesture is, indeed, present and exploited in every walk of human life. Poyotos' definition of gesture (Poyotos, 1975) brings out the salient features of gestures clearly: 'By gesture, one understands a conscious or unconscious body movement made mainly with the head, the face alone, or the limbs, learned or somatogenic, and serving as a primary communicative tool, dependent or independent from verbal language; either simultaneous or alternating with it, and modified by the conditioning background (smiles, eye movements, a gesture of beckoning, a tic, etc.)'.

Gesture is characterized in literature in very many different ways. Each one of these characterization focuses on one or the other aspect of gesture. Gesture is described as follows:

- 1) It is a silent language.
- 2) It is talk without talk.
- 3) It is mother utterance of nature.
- 4) It is natural.
- 5) It is universal.
- 6) It is figurative.
- 7) It is picturesque.
- 8) It has clarity.
- 9) It has picturesque novelty.
- 10) It is metaphorical.
- 11) It is poetic nature.
- 12) It is iconic.
- 13) It is pantomimic.
- 14) it is cheiromimic.
- 15) It is affective.
- 16) It is a surrogate for spoken language.
- 17) It is a substitute for spoken language.
- 18) It is a lexical ideograph.

- 19) It is speech by gesture (gesture speech of mankind).
- 20) It is visual language.
- 21) It consists of the visual attitudes of the soul.
- 22) It is innate language.
- 23) It is an air picture.
- 24) It is an essential adjunct to human language.
- 25) It is a great human accomplishment.
- 26) It is hand talk.
- 27) It is syntalk.

The body parts and other items of processes that are generally involved in the production and communication of gestures are as follows:

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| 1) Face, | 15) Moustache, |
| 2) Head, | 16) Chest, |
| 3) Eyes, | 17) Breast, |
| 4) Ears, | 18) Place of heart, |
| 5) Skin, | 19) Arms, |
| 6) Breath, | 20) Elbows, |
| 7) Mouth, | 21) Hair, |
| 8) Lips, | 22) Forehead, |
| 9) Palm, | 23) Throat, |
| 10) Hands, | 24) Nose, |
| 11) Fingers, | 25) Legs, |
| 12) Tongue, | 26) Shoulder, |
| 13) Chin, | 27) Back, and |
| 14) Cheeks, | 28) Torso. |

It is the upper extremities of the body that are more frequently used for the production and communication of gestures. Utilization of the back of the body is rare and when the back is used, the gesturer would turn and present the back to the one being addressed to make the gesture seen. There are at least three variables employed in the production of gestures involving these body parts. The body parts may be combined with one another or may be used singly. Some body parts are more frequently used and/or combined. Thirdly, the gestures are more generally produced clearly away from the

body rather than on the body itself.

Since gesturing is a communication mode, we find that animals also have some sort of gesturing mechanisms. From ants to highly developed vertebrates all exhibit the ability to produce and functionally use gestures. They make signs for various purposes: to mark their geographical territory, possessions, and even to communicate their 'mental' states. The wagging of tail by dogs of all kinds, signs by pointer dogs, the begging for food by various kinds of dogs, the signs made by cats, horses and other animals are all familiar to us. The dance of the bees for communication is another well known phenomenon. However, there is a qualitative difference between the gestures of animals and the gestures of humans. The gestural communication in the humans is a product of and a stage in the development of expressive motions. It is a specifically human product in several ways. The gestures in humans reveal a variety of complex structures which is not found in the animals. In the humans there is the simple indicative gesture with great many functions; there are both imitative and symbolic gestures, some very close to the shape or function of the object and event they denote and some very much removed from the object and event they connote. There is symbolic meaning, there is the extension of meaning of one gesture to another, there is also the internal extension of the meanings of a particular gesture; there is arbitrariness in addition to conventionality; there is also a 'syntactic' order governed by certain rules. All these are not found in the gestures of animals. The gestures of the animals are very much linked with their biological and routine needs, whereas the gestures in man, along with the biological and routine needs, are also elevated into a system fulfilling certain poetic and social functions in human life.

Gestures are as natural as human speech. They precede human speech in the ontogeny of language, coexist with human speech and continue to be in existence and use even when the human speech is lost in the individual. In their phylogeny, one finds gestures in some form or the other among all animals, performing the function of both individual and social steering mechanisms, and also gestures appear to have preceded vocal language in the phylogeny of communication systems. A child starts employing gestures much earlier than her use of language; the early stages of language acquisition does in fact consist in the acquisition of a variety of communicative 'gestures' that cannot be clearly distinguished as completely vocal. While vocabulary choice, in later years, is and could be taught, instruction in the comprehension and use of gestures is generally minimal, most societies taking these as more natural than speech and leaving these to be mastered unaware. Their (the societies') function is seen more in reshaping the 'natural' gestures, to keep these under some social regulation rather than teaching the gestures, per se. Regulation and suppression appear to be crucial processes in so far as the use of gestures is concerned. The child is governed in her early attempts at communication more by the gestures and facial expressions of the caregivers than by the vocal language of the latter. The gesture-like elements of oral speech, such as the tone of voice and intonation patterns, come to aid the child in its comprehension slowly. This recovery of information via gestures continues all through life, and where speech is proscribed, or is not yet made when the interaction begins between two individuals, or when the interactants are in difficulty to use speech, it is the gestural expressions that reveal the state in which the interactants are placed. In the most intimate moments, speech takes a back seat and gesture

has the total control. Also when an individual has not the particular word at his command at a particular moment in his own language, he resorts to gesture. He may resort to gesture for effects as well, even when he has the word. The foreign/second language learners and users, and those who are placed in an environment whose language they do not know or know only partly often resort to gestural communication, in a very natural manner. When a gesture is made more often than not, we tend to reply to it in some appropriate gesture, rather than in speech. We switch over to gestural communication, on our own, when we start conversing with the deaf and dumb. We may have never done it before; we may have never used gestures under such contexts, but, in spite of the novelty of situation, we do choose signs that are in some way concrete and picturesque. We try to interpret the sign language of the deaf-mutes also based on the assumed similarity of the outlines they make with the objects around and/or objects known to us. People disordered from their normal status or those congenitally disordered, and have disabilities of various sorts are also known to engage themselves in some sort of gestural communication. When individuals remain in solitary confinement, either voluntarily or by force, or by forces of circumstances, often start communication via gestures when they come out of their solitary confinement. The individuals who have lost their speech (the aphasics) are known to use gestures, however, for communication. Thus, there is some gestural communication potential in every one of us latent and ready to be used as and when the occasion arises.

Gestures are found in all the cultures and in all the stages of growth of cultures. Secondly, gestures are found used by the disordered people

also. Thirdly, even when the language is lost, as in aphasic conditions, people do use gestures for communication. Fourthly, gesture is used by the congenital deaf-mutes who are not exposed to language at all. Thus, gesture may accompany speech or may be used as a communication mode independently, and is found in all people. While gestural communication, thus, is found among all the people, social conventions regulate the quantum, quality, the frequency and contexts of occurrence of gestures. In some societies, gesturing is associated with lower social status; in some societies, if gesturing is not made, communication is not considered spirited and appropriate. Education and higher social status require measured tones, clear utterances, soft voice and less gesturing in many Indian societies. Imitation of another's idiosyncratic behaviour is allowed in the absence of the other for ridicule, humour and identity purposes. In the presence of the individual who is imitated, imitation is generally frowned upon especially when such imitations provoke laughter in others. Demonstrative gestures (indicating objects and individuals, who are placed away from the interactants) are avoided. Children are advised to avoid using gestures while talking. Man has assigned differential functions for both oral language and gesture in his communication activities. We shall see the details as we proceed. It is sufficient here to state that, in the humans, gestures get very much involved in the conduct of social behaviour.

5.2. Processes of Gesturing

When gestures accompany speech, they may or may not convey specific meanings. Many individuals have the habit of exhibiting gestures which may have no meaning in themselves or bear any meaningful relation to the utterances in speech.

These generally have the function of indicating that a speech utterance is in progress. These individuals will use some gestural movement or the other whenever they speak. A vast majority of us do this without ourselves being aware of the gestural motions we make. In another dimension, when gestures accompany speech, they may have the function of supporting the meanings conveyed by an utterance in speech or may even express a meaning which will be deliberately left out by the utterance in speech, to be expressed only by the gestural expression. Thirdly, a gestural motion or a series of gestural motions alone will form the 'utterance' in a communication, with speech playing no part at all, that is, the speech is absent and the communication is carried on only with and by the gestural motions.

In the categories where gestural motions do convey a meaning of their own, the processes of gesturing take several forms. We give below some of the forms that are generally identified in Indian contexts:

1) Indication by gesturing at the object. We point at the object, we indicate the cardinal directions, regions, body parts, colours, personal and demonstrative pronouns using this process. These objects are generally present everywhere. Indication is a very basic gesture and is a very useful and effective process for identification. This basic gesture is not found in most animals, perhaps because the gesture requires some cognitive identification skill, although the process of gesturing itself is made simple by the physical presence of objects indicated. Note further that both at the religious and social levels, gesturing at is very much regulated and kept under control. We have already pointed out as to how the socialization processes in Indian contexts insist on children producing their speech utterances without resort to gesture at objects they try to refer to in their speech utterance.

Gesturing at is taboo in certain ritual practices, whereas gesturing at is considered showing disrespect to the individual gestured at, at the social level of interaction. There is a parallel also in the speech wherein the superior is expected to be 'addressed' not in second person, but in third person, converting the pronoun of reference in the particular context into a pronoun of address. The second person pronoun has the function of gesturing at, indicating at the individual directly, whereas the third person pronoun has only the function of reference. Since gesturing at/indicating at is showing disrespect, even the speech utterances demand that a pronoun of reference (3rd person) and not a pronoun of address (2nd person) be used when the superiors are 'addressed'. This is prevalent in most Indian communities.

2) Indication at or gesturing at the locality of occurrence. For thinking we indicate at the head; for love, we gesture at the place where heart is located. In these cases gesturing at the supposed place of occurrence of an act comes to indicate the act itself.

3) Outlining an object. We draw the outlines of an object, or a part of the object by our gesture in air or on some surface. This gesture communicates successfully what is intended if both the interactants are already familiar with the object. There are also outlines drawn in a conventional and arbitrary manner which may not bear any similitude to the object in reality. In aesthetic arts a mix of both the categories is used. The same object may be outlined in different ways in different cultures; also the choice of the feature or features that will be outlined differs from one culture to another on the one hand and from one individual to the other within the same culture, on the other hand. Also note completion of the outline may or may not be required -- at times even a few steps in the outlining process will be adequate enough by which the other interactant would have fully comprehended the meaning of the outline in process. As already pointed out, one may either draw a whole

outline of the object in the air, or draw an outline of the characteristic part of the object. Even in the case of drawing the outline for the whole object, the outline drawn in the air may focus only on the characteristic shape of the object and not on all its details. The distinguishing marks will be focused even when the object is fully drawn. There is yet another subcategory within the process of outlining. A distinguishing part of the action is generally imitated and produced and this distinguishing imitation stands for the entire action.

4) Imitation of action. We may mimic or imitate the action, motion, etc., of an object. Beckoning with hands/fingers is made. The fingers/hands gesture to the individual addressed to come towards the individual making the gesture.

5) Substitution. A body part, for example, the fingers, forehead, etc., is used as substitute for the object. The index fingers are so placed on both sides of the head to indicate the horns. The forehead is so hung that it represents the trunk of an elephant. The left hand in a closed fist fashion is kept by the hip and the right hand, again in a closed fist fashion, is kept near the left hand to assume a posture of holding a sword and its sheath.

6) Instrument imitation. The imitation of the action performed with an instrument communicates the meaning of the action intended. We can imitate the sawing action to convey the meaning of sawing. Swinging the sword in a fighting posture, holding the flag aloft, plucking fruits or flowers all can be mimicked.

7) Imitation of preparation process. We can also imitate the process of preparation. Often the process of preparation of tea in a tea stall, in particular the manner by which the tea maker mixes the brew with sugar and milk, is mimicked in plays. Preparation processes of several other items such as bread, roti, pots, cloth are all indicated by appropriate gestures which exhibit

the processes at least partly.

8) The imitation of taste. By an appropriate facial expression, and exhibition of tongue, etc., the tastes are gestured. For example, the hot taste is gestured by keeping the mouth open and by letting the breath out through the mouth. While doing so the tongue is let hanging with a tinge of water. For the expression of sour taste, the cheeks are raised, wrinkles are made and the eyes are momentarily closed and opened. The teeth are also shown.

9) Imitation of posture and other conditions through substitution. We may indicate the height and the erect posture of the objects also. Erect index finger indicates a tall and erect object. An inclined index finger indicates leaning, falling, etc. We may imitate the condition of the object or the being. The size of the object is also indicated. All this may be done either by direct mimicry or by substitution. In the former we act out the state/condition directly. For example, to indicate an old man we may walk with a hunch, leaning posture, pretending to have a supporting stick in our hand. In the latter, the posture may be enacted by our index finger, in which the index finger comes to represent the old man by a process of substitution.

10) Imitation of counting. The processes of counting is imitated to gesture counting. The fingers in the left hand are touched by the finger/fingers in the right hand one by one to indicate the process. This gesturing is used to mean, not the actual numbers involved, but generally for the act of counting, and the overall numerous nature of/multiplicity of the act/object referred to.

11) Comparison by gesture. The relative position and movement of fingers are generally used for the purpose. The gesture by the gaps created between the two hands or fingers may indicate the size of the object. A tall finger by the side of a shorter finger will bring out the comparison; the heights may be indicated by the hands

one after the other giving a comparison. The rapidity and slowness of motion performed by the gesturing part also brings out a contrast in the motions of actions.

12) Gesturing of repetitiveness. Repetition of the same gesture several times indicates the action that may be performed more than once, in steps and/or in jerks. Rapidity or slowness of the repetition as well as the pauses in the repetition of the gesture also add to the demonstration of the repetitiveness of the action performed. Note that a similar technique is adopted in the spoken language in the production of utterances. In addition, the spoken language also employs the process of reduplication in which the whole or part of the word is repeated to demonstrate the repetitiveness of action. Repetition of the gesture, as well as the repetition of the word, is employed also for the collectivity of objects. When the gesture for an object is repeated several times, the repetition indicates that there are many objects of the same type; in other words, it indicates the plural number of the same object. This is usually achieved when the gesture is repeated, not in the same space, but in closely adjacent space of demonstration in the air. When the gesture is repeated in the same space with forward movements, it indicates the objects of the same species follow one another in succession, in a procession.

13) Imitation and addition of distinguishing marks. Along with the presentation of an outline one may also add certain distinguishing marks, marks that would certainly distinguish the present object of gesture from several other objects which may have some similar outline.

14) Sounds. Sounds can be used both as gestures in their own right and as an accompaniment of some other gestures, elucidating the meaning of the gestures they accompany. Snapping of the fingers and the clapping of the hands come under the first category whereas the sound that accompanies the gesture expressing the hotness of an eatable just eaten comes under the second category. The sounds of interjections also come under

the second category.

15) Gesturing at place of occurrence. In order to indicate the whiteness one may gesture at teeth.

16) In order to express complex ideas, the gesturer may combine one or more signs with another. This process is governed by several patterns: (a) A generic sign may be combined with a specific sign to bring out a combined meaning. Woman is expressed through a generic sign in American sign language. This is combined with the specific sign for begging to express the meaning for beggar woman. Likewise, attributes of a condition may be combined with a generic sign to express another meaning of the condition. The sign for woman is combined with sign for offspring to mean daughter. The sign for man is combined with the sign for offspring to indicate son. The designation of birds, flowers and plants also are expressed through combination of signs. Note that this feature of combining a generic sign with an attributive sign to derive new meanings is also found in oral language for several words, and in the kinship terminology. (b) While specifying a complex idea, the gesturer may use several signs indicating the several characteristics of the complex object/phenomenon. To mean the paddy field, the square of the field, water, walking on a bund, shortness of the plant may all be signed. (c) Origin or source, and the use of the object for the object itself. (d) Effects for causes. (e) Drawing of the form of the object and indication of its use. A good example in the American sign language is the sign for **hospital**, which consists of the signs for house, sick and many. (f) Another method is to draw the outline of the object and indicate the place where it is found. Horns drawn on the head gestures an animal. The outline drawn in the air of the forest and the dancer making the movements characteristic of the deer indicate the deer in the jungle. (g) Shape and one or more specific marks may also be used. (h) Way of using and specific marks of the objects. (i) Another combination is shape, mode of using and specific marks. (j) End for which an object is used, or its make, and the place where

it is found. (k) Place and specific mark. (l) Place, manner of using, or mode of arrangement. For example, the pantomime of putting on shoes or stockings indicates those articles. (m) Negation of the reverse. Fool-no is wise; good-no is bad. (n) Opposition. A principle of opposition as between right and left hands, and between the thumb and forefinger and the little finger; between loudness and softness; between rapidity and slowness; between continuity and interruption/faltering and hesitation, etc., operates in the signation of complex ideas as well as in depicting dynamic (mobile) objects/events.

5.3. Oral Language and Gesture Language

We have already classified gestures into four major categories based on the contexts of their occurrence: (i) Occurrence of gestures designating that speech is in progress, (ii) Occurrence of gestures as a meaningful accompaniment to speech, (iii) Occurrence of gestures as an independent means of communication whether the individuals have speech or not, and (iv) Occurrence of gesture in the deliberately elevated levels of performing arts. Note that, in all these categories of occurrence of gesture, even where gestural communication is sought to be worked out as an independent means of communication as found among the Red Indians or Australian aboriginals or among the deaf-mutes, there is always some correspondence maintained between speech and gesture language. While in the former the correspondence is manifest very often, in the latter, the institutional languages of the deaf-mutes are based on oral speech around them and are comprehended as such even by the deaf-mutes in course of time.

Even where societies insist upon less gesturing as decent manners, we find that the individuals, when excited, make use of their hands in gesturing postures, whether such gesturing has any meaning

or effect for the addressed. We clap our hands for approbation, rub the hands in delight, go on manipulating fingers while in a fidgety state, wring our hands in distress, raise it in wonderment and astonishment, snap the fingers for calling attention of the other, use the palm of the right hand for blessing, with index finger erect and other fingers of the right forming a fist, we warn others, we shrug the shoulders for showing that we are not responsible, we wink at others in collusion and glare at others and exchange meaningful, understanding and conspiratorial looks and connivance. We raise our brow in frown and in wonder, use our fist to threaten and raise the hand with the fist to convey solidarity; we bite the lips to acknowledge our errors and in vexatious circumstances, fold the palms to greet the others and pray to gods, fall flat on our stomach with hands stretched over the head, and legs also stretched out to surrender ourselves to the one before whom we fall flat; we bend our knees and worship. In this manner we speak also through gestures -- while the oral language has a sway over our communication efforts, there are niches which are specifically meant for nonverbal communication, and gesture is an integral part of this process. We use gestures for many purposes -- to promise, call, dismiss, threaten, supplicate, express abhorrence and terror, question and deny; express joy and sorrow, doubt, confession, repentance, measure, quantity, number and time; gestures are used by us to encourage, console, restrain, convict, admire, respect and condemn. The list is, indeed, an open-ended one. There are communities in which gesturing as an accompaniment of speech is demanded; in most Indian communities, gestureless speech is "lifeless" speech, dispirited; it indicates non-involvement and reluctance; it may also mean insulting and showing disrespect to the addressed. Also in all human societies where noise is to be

avoided, oral language gives place to whisper and/or gesture. Thus, the relationship between oral language and gesture is one of complementary distribution of emphasising the content of what is stated in oral language, of supplying what is left out in oral speech, and of indicating and conducting the oral speech itself.

While the ordinary language can be used in its written medium even when the addressee is absent, performance of gesture requires an audience. Even when the addressee's attention is distracted, oral language does and could reach the addressee, whereas for gesture language to be effective the attention of the addressee is essential. Gestural communication cannot be resorted to in the dark, whereas oral communication is possible in the dark. Gestural communication can be employed when voice cannot be or is not desired to be employed. When secrecy is desired gesture communication is resorted to. When silence is desired or required, gesture communication is exploited. Where the ear cannot but the eyes can reach, gestural communication is found effective. Human language, through its writing medium, can convey messages, to distant places and future times. While the gestures themselves and the mechanics of gesturing can be and are transmitted from one generation to another, transmission of contents via gestural communication from one generation to another is generally restricted to aesthetic acts only and not for other types of knowledge.

Oral speech and gestural communication differ in terms of the parts engaged in their production. Whereas the oral speech is produced manually, this manual production of speech is different from the manual production of gestural signs. In the case of gestural signs, the medium is manual in the sense that manipulation of hands, fingers,

palms, elbows and other body parts is made. The choice would differ from region to region, from society to society. In the case of oral speech, uniformly the speech is produced by vocal organs and is mostly egressive (produced with the help of breath of air sucked in through the mouth to the lungs). There have been attempts, however, to compare and relate the speech production mechanisms with the mechanics of gestural communication. For example, Ljung (1965) makes the following comparison: 'In sign language articulation, the analogue of the movable articulator in speech (the tongue) is the hand or hands. These may adopt several basic shapes: open, clenched, one or more fingers extended with the others closed, one or more fingers curved, etc. No other part of the body is used as an articulator: even the rare full arm motions are accompanied by a distinctive hand gesture, and signs for actions characteristic of the feet, such as walking and dancing are made with the hand. The hands may be used in a stationary position or moved up, down, forward, back, to the left, to the right, in concert, parallel to each other, or crossing over each other. Motion may be distinctively rapid and tense, slow and lax, or neither; proceeding, again distinctively, in straight lines, through curves, in circles, trembling or wagging from the wrist. The analogue of the place of articulation in verbal speech (for example, the palate, the upper teeth) is the point at which a gesture is made or to which the hand moves during the gesture. In most cases, the place of articulation is a place on the signer's own body; head, hair, forehead, ear, eye, nose, upper lip, mouth, chin, chest (heart), lower arm, leg, etc. Utilization of the back of the body as a place of articulation is rare, both because of its general inaccessibility to the articulator and because of its invisibility to the interlocutor. When this part of the body is used, as in the sign for tail,

the signer must turn so as to present his profile while signing. The place of articulation is often not actually touched; instead the hand is only brought into close proximity to the relevant body part. When the place of articulation is not a part of the body, it is somewhere in the space nearby, as in indicating a height in front of the body in the sign for *child*. Signs are generally formed in a continuous flow, but sentences and longer segments of discourse may be set off by brief pauses, when the hands and arms are dropped to the speaker's sides or lap or are used for some other nonsignalling purpose'. Those who are familiar with the description of the processes of speech production in humans will find in the above passage a close parallel between the processes of sign production and speech production. This parallel between the production of signs and production of speech has been sought not only in the phonetic level as given above, but also in the other levels of human language, such as phonemics, morphemics and syntax. Even when parallels in the processes are not attempted to be established, it is assumed that the only way to describe gestural communication is to use the concepts that are employed in the description of human language. This point will be taken up further below. However, it is pertinent here to point out, especially since we have above presented a point of view which claims a parallel between the processes in the production of speech and gestures, that the sign language communication does not really have much of the characteristics of phonetic script (discreteness) as we find in human vocal language. It is more or less similar to an extreme form of ideographic writing. But even in the latter there is more discreteness than in the gestural communication. The gestural communication has a large pantomimic element and has the directly representational characteristic which is rather absent in vocal

language. All the same gestural communication is not also a language of pictography which we find in Early Man's caves wherein pictures were reproduced for communication purposes. There is also an element of arbitrariness in gestural communication which is qualitatively lacking in Early Man's pictographic writing of various sorts. In the gesture language there is a transfer from actual objects to symbolic objects such as an erect index finger standing for man (Mallery, 1880). Conventionality of this nature is not always found in picture writing. Moreover, picture writing could be both communicative on the one hand and decorative ritual and ceremonial on the other hand, whereas gestural act as normal human communication is communicative and is used as such with the intent to communicate.

In oral speech there is hierarchical and systemic organization of the elements that are used in speech. Such a hierarchical and systemic organization is not found in the sign language, even though several studies have attempted to demonstrate such a hierarchical and systemic organization (for example, West, 1963). Gesturing is more like a telegraphic system of writing (but without any conventionalized 'sentence' consciousness). The gestures are, more or less, independent 'words' used either as words in a 'construction' consisting of several gestures interlinked with one another in some sense, just as morphemes in a sentence in vocal speech are interlinked with one another, or independent 'sentences' by themselves. The gesture communication system operates only on one level, say the level of morphemes or words or content words, rather than on a system which incorporates within itself several systems. For example, the sounds in a language can be viewed as constituting phonemes at another level. The phonemes go into the making of morphemes

(minimum meaningful units; the word *dogs* has two morphemes, **dog** and the morpheme **-s** meaning plurality of the object). Morphemes go into the constitution of words and the words into sentences and sentences into a text. While each level/state/unit is related to the other, each of these could still maintain itself as some sort of a self-contained system. These combinatory characteristics/systems, one built upon another, are not found in gestural language, although there are several significant findings to the effect that gesture communication, like human language, is also a system of systems (West, 1963). Note also that the elaboration and categorization of linguistic units based on their co-occurrence conditions are not found in gestural communication. That is, theoretically speaking, one gesture is combinable with another gesture more freely than one word with another. Thus, the gestures cannot be generally divided into categories based on their co-occurrence behaviour, such as verb, adjectives, adverb, noun, etc., in any strict manner. Also a gesture which is viewed as a subject in the grammatical sense in the human vocal speech could be both subject and predicate within the same "gestural sentence". To split a series of gesture, or to do a parsing of series of gestures produced is, indeed, a difficult process since what is a 'subject' in a gesture sentence could be the object simultaneously of the immediately preceding gestures.

Like the words in the oral language, one could attempt to decipher the meaning of a gesture based on gestural and nongestural contexts. And yet the gestures are more transparent than the words in the sense that in many cases the gestures directly represent objects/events and these have in some sense less arbitrariness about them. We have, in the earlier section, elaborated the close linkage between the objects and events in the

external world, and the gestures. The gestures become symbolic transfer of the objects and events in the external world, but, even when some of the gestures are purely arbitrary in some gestural symbols, there is some physical similarity in the shape, size and motion of the gestures produced, thus revealing the lack of the characteristic of arbitrariness in a vast majority of the gestures produced and used. We have also referred to the pantomimic nature of majority of gestures used in communication. This fact also reveals the limited nature of arbitrariness found between the gestures and the objects and events in the external world. There is a clear separation in vocal speech, in most cases, between sound and sense, and this separation is not found to the same extent between gesture and the object or event it represents. Gestural communication makes greater use of iconicity and this enables individuals who do not know each other's language to communicate with one another using gestures. There are several words and constructions in the oral language also which are figurative, outlining the objects, imitating the events and pantomiming the whole episode of communication. There are also words which focus on only one aspect of an object but lead to the comprehension of whole object or event. Onomatopoeic words in vocal speech clearly indicate linkages between the external world and the linguistic words. In this sense, onomatopoeia in natural languages comes somewhat closer to gestural communication. And yet these onomatopoeic words are also built upon the elements of both arbitrariness and conventionalization. These also exhibit cultural variation. The link between the external world objects and events, the onomatopoeic words in a human language exhibit more arbitrariness than we find between the iconic gestures in gestural communication and objects and events in the external world.

The scope and size of the gesture lexicon is very much limited. The referents of gesture communication are much less than the referents of spoken language in all human societies. It is unlikely that all concepts found in speech could be expressed in manual gestures with ease, precision and effectiveness. It is but natural that when conversion of information from one medium to another medium is attempted, there is both loss and gain of information, effectiveness, ease and precision. Hence, there cannot be complete correspondence retaining all these features when conversion takes place or is resorted to. So, when speech is sought to be converted into gestures, naturally there are changes made in the nature and quantum of information.

The gestures that accompany speech and the gestures that stand for words in a stretch of oral utterance are generally more limited in their quantum and breadth of semantic coverage than the gestures that are employed independent of oral communication. Even in this latter category whether the gestures are used in addition to oral language as in the case of the aboriginal sign languages used by Red Indians or by the Australian aborigines, or the gestural communication is resorted to as *the* means of communication as found among the deaf-mutes, only a few thousand signs have been found to be in use. Washburn, as quoted in Taylor (1978), finds 750 signs to be basic signs and others derived. Fant (1964), as quoted in Taylor (1978), considers that out of the several thousand signs that are used by the Red Indians, etc., only 500 signs are basic. In normal oral language communication also, estimates fix the basic vocabulary anywhere from 850 words to 1500 words. Thus, the basic words and basic signs in both oral language and gestural communication appear to be not very much different in

their quantum (West, 1963). However, the quality of human language lexicon, as a system, is much more open-ended and incorporates the essence of entire language not only in terms of vocabulary items but also in terms of the rules of grammar. Human language lexicon is the microcosm of all that is found in human language -- the rules of formation, derivation, inflection and use. This microcosmic element is still elusive in gestural communication.

While in the spoken language we could converse more or less with equal ease upon all topics (the medium itself does not constrain the expressions of any topic, but rules of social competence and performance do constrain the facility), in the case of gestural communication, the medium in several cases does not lend itself easily for the expression of certain contents. For example, 'spatial relationships, physical activities, enumeration, specification and comparison are easily expressed. Animal names and descriptions of their characteristics and movements are abundantly represented. Frequent also are personal and place names. Plants and shrubs are little represented as named species, and other terms for non-living nature are also relatively few in number. Difficult to express are cause-and-effect statements, and emotive and evaluative terms are scanty. True synonymy seems to be rare' (Taylor, 1978).

Note that words as well as gestures can and do change their meanings (in terms of their implications, if not their literal meanings) from context to context. However, there is no one to one correspondence between a gesture and a word. A single word may express an idea which is complex and which can be communicated only by a battery of gestures. Likewise a single gesture may signify an idea which can be communicated only by a

battery of words. Also note that in a human language the use of words is often marked by a syncretic understanding of what they stand for. Although a word is uttered more or less alike and may have an overall meaning shared by all those who use that word, the focus or the feature of a particular object or event meant in a particular context by individuals may differ. Furthermore, one may even use a word without fully understanding the meaning of that particular word. On the other hand, one cannot use a gesture in communication without understanding what the gesture stands for, when one wants to communicate through the use of that gesture. Even the most familiar and appropriate of signs to the objects or events being gestured cannot be understood by the others outside the context. 'Successful signs must have a much closer analogy and establish a concord between the talkers far beyond that produced by the mere sound of words. The merely emotional sounds or interjections may be advantageously employed in connection with merely emotional gestures, but whether with or without them, they would be useless for the explicit communication of facts and opinions of which signs by themselves are capable' (Mallery, 1882).

Gesture lexicon is spontaneous and use of gestures in our Indian societies is not much conventionalized in interpersonal communication, in the sense that one could easily identify more numerous idiosyncratically performed gestures than conventionally agreed upon gestures and that avoidance of gestures is generally desired. Gestures are elevated to aesthetic arts wherein there is both conventionalization and arbitrariness. Both these features are kept to the minimum in the gestures made in interpersonal communication contexts. In other words, the interpersonal communication in most Indian communities does

not institutionalize gestural communication and leaves them to the idiosyncratic and less consciously executed modes of expression. As such, the gesture lexicon is not as elaborate as that we find among the Jews, or among some European communities. This does not, however, mean that we do not use gestures at all or that there is no conventionalized and institutionalized gesture lexicon in most Indian communities. It only means that the quantum is of a limited number and its use is also relatively more limited and fixed.

Gestural communication is generally conceived to be a substitute for speech. We have already referred to the facts that gestural communication is often resorted to in contexts wherein oral communication is to be avoided for various reasons; that gestural communication often accompanies performing a supplementary role to oral communication. In the case of the Red Indians sign language takes on the role of a language for inter-tribal communication and for communication with those who do not know their language. It takes on the role of a ritual among the speakers of the same oral language. In all these cases and in aesthetic arts level also, the power to interpret, and sharpen further the gestural communication lies with the oral language. Even in the case of the deaf-mutes, once institutionalization of their gestures takes place, their gestural communication is placed upon the foundations of oral speech of others. The concepts represented by gesture are already there in the human language in almost all the cases, and these concepts (even if their origins are rooted in an overall ability for communication and not simply on a propensity for *language use*) come to be based on concepts developed and used in vocal language as soon as there begins a contact between gesture communication and language use. Often, in the case of

normals who habitually use oral language for communication, gestural language becomes a conversion from the spoken medium to a silent medium of gestural motions, with several underlying processes and motivations. There is pure gestural language, a manifestation of prelinguistic thought in early childhood; it is nurtured into an art in several directions, sometimes for interpersonal and intergroup communication as found among the Red Indians and Australian aborigines. It also matures into an effective medium for performing arts. There is also non-language gestural communication as found among deaf-mutes on the one hand and other congenitally disordered population which could be made with some difficulty, to be in consonance with vocal speech; it could also be regulated by vocal speech. There is also post-language gestural communication in which gestures may accompany oral language in a supportive role. There is yet another post-language gestural communication in which language is totally, or in some severe fashion, lost and the affected is led to the use of gestural communication.

Unlike the oral language, there is less generalization and abstraction in the gestures used. While the oral language is characterized by concatenation, gestural communication is characterized by a use of more than one means. Concatenation is used, but rather in a loose fashion; apart from concatenation of gestures, vocal signs may also be interspersed. Also apart from hands, other body parts also may be used. And feelings, emotions expressions on face also may be used. Thus, there is a multidimensional exhibition of signs in gestural communication, whereas in oral communication, communication via the vocal organs occupies the centre stage. Also note that the concatenation of the sign language is of a varying type. As already pointed out, the order in which gestures

occur in a communication (wherein only gestures are used, for instance, in the Red Indian sign language or in the gestural communication of the deaf-mutes) is not uniformly followed by the same individual using gestural communication. Furthermore, each gesture can act as an independent sentence in the sense that it communicates a complete sense, having subject and predicate implied by the same sense. In a series of gestures, a gesture may be the subject of a following gesture and it could also be the predicate of a preceding gesture. There is also a different view which finds some order in the occurrence of elements in gestural communication. For example, Taylor (1978) suggests for the Red Indian sign language the following order of occurrence of elements in an utterance: 'topics precede qualifiers and complements (nouns precede modifiers and verbs); logical objects precede or follow their governing sign, the exact position in each case possibly being idiomatic; obligatorily the sign for question begins an interrogative sentence, and the sign for negative follows directly the sign it modifies'. Taylor also finds some order in the formation of a word sign in the Red Indian sign language: 'Words in sign language consist of from one to several sign morphemes. When two or more sign morphemes function together as a word, it is highly characteristic that the first morpheme announces a topic, which is then followed by comments about the topic that become progressively more specific and that eventually define it. Negro: Whiteman + black; infantry: Whiteman + soldier + walk; sister-in-law: brother + possess + wife; bachelor: man + marry + no; cheat: lie + steal'. Taylor further points out that the order of constituents in a 'word', that is, in a gesture word, is generally fixed. The order of words in the sentence, on the other hand, is fairly, though not totally, free'. There are variations in the order,

'but when the variations were resubmitted to the informant at a later time, he often rejected some as substandard or meaningless, thus indicating that there are preferred word orders'.

We have given, in the above lines, some salient features of vocal and gestural communication and their inter-relationships. We have presented a general overview of the features without distinguishing between systems of sign communication that operate almost independently of oral language and those systems of gestural communication that depend on oral backdrop and accompany oral speech. There appears to be some differences between the two when we investigate the matter in terms of their internal organization, the choice and combinatorial possibilities of occurrence of gestures. For example, although the aboriginal sign languages exhibit both natural and conventional sign relations, iconic and indexical elements are found to be exploited more than the symbolic relations by them, in comparison to the oral language which exploits symbolic relations more than the iconic and indexical relations. Since one of the important reasons for the emergence and retention of sign languages as an independent system along with oral language is their usefulness in communicating among those who do not know each other's language, the sign languages are more flexible in accommodating new signs for the repertoire of the interactants. It has been reported that the Red Indians were in the habit of imitating the gestures of whitemen even if the latter were performing the signs wrongly and/or interpreting their (Red Indians' gestures) incorrectly. Communication rather than correctness of gestures appears to be an important motivating factor in the conduct of sign languages. On the other hand, in performing arts, correctness, elegance and spectacle dominate the use of gestures.

We may conclude this section by giving two important features of the inter-relationship between spoken language and sign language presented by Umiker-Sebeok and Sebeok (1978). One is on the intersemiotic translation from the spoken language to sign language and vice versa: 'There is transmutation or intersemiotic translation, which is the interpretation of verbal signs by means of signs of nonverbal sign systems'. Umiker-Sebeok and Sebeok (1978) suggest that this intersemiotic translation is to a certain extent a barrier to attainment of fluency in the use of sign language. Note that this, indeed, is a factor in attaining fluency in the second/foreign language. To the extent one is occupied with the transmutation of the utterances of one language into another, the fluency in the target language is always affected, and is often defective as well. 'The greater the degree of conventionalization and standardization and the less the individual signer has to rely upon translation from spoken language, the greater the fluency of sign language performances'. Another point is that Umiker-Sebeok and Sebeok (1978) suggest that we look at the use of sign language along with spoken language as similar to the use of illustrations in written texts. In written texts, illustrations have very many functions to perform. In a broad, general sense, an illustrator is always dependent on the author; all aspects of the illustrations should also be textually accurate. But in most cases we find this not to be so. There is always a dialectic, antithetical relationship between the author's work and the illustrator's work, so long as the illustrator also assumes some creative role. Even, if he does not assume any creative role, and wants to be thoroughly faithful, the level of his understanding of the author's work and the actual processes of semiotic transmutation, transfer from one code to another, automatically brings in variation (Thirumalai, 1984).

5.4. Schools of Gestural Communication

Gesture as a form of communication has been studied for a long time. Explanation of the process of gesture is of great antiquity. Gestures were considered to be an effective accompaniment of rhetoric by the Greeks and Romans. They form an integral part of study and performances of performing arts all over the world. In Indian Theatre, for over 2000 years, insightful analysis of use of gesture has been made. There are theories that gesture preceded human language. There are also attempts to codify gestures, prepare inventories and develop independent communication modes using exclusively gestures.

If in the Western sciences there has been some sort of continuity of interest in the study of gestures from the Greco-Roman times to Darwin and present day sciences and its elevation to art, in Indian culture we find that gesture has been elevated in ancient times to aesthetic levels on the one hand and has been exploited for social identity, ranking and status purposes on the other hand. Thus, gesture in Indian contexts finds a place in purposive communications in a marked fashion, in the aesthetic arts, in religion, in sculpture and in interpersonal and social group communication. Use of gesture is marked by a continuity ensured by their use in arts. We shall see all these subsequently in this section. However, the primary purpose of this section is to present a few modern Western approaches to the study of gestural communication. The contributions covered are those of Col. Mallery, Wundt, Efron, Poyotos, and Ekman and Friesen.

5.4.1. Mallery and Sign Language

Of the several studies on gestural communication

in the past, the studies by Col. Garrick Mallery stand out as the most important contributions to an understanding of gestural communication in general and Red Indian sign language (Plains Sign Language of the American Indians) in particular. Mallery's major contributions are reprinted and available in Umiker-Sebeok and Sebeok (1978). Writing on Red Indian sign language over 100 years ago, Mallery brought in several insights into the study of gestural communication. His study, according to him, is intended to be an exposition of the gesture speech of mankind, thorough enough to be of suggestive use to students of philology and of anthropology in general (Mallery, 1880). He also compared the sign language used by North American Indians with that used by other peoples and deaf-mutes (Mallery, 1882). In the past, during Mallery's time, the major emphasis was on the collection and description of signs used by various American Indian communities. He found that 'many of the descriptions (of signs) given in the lists of earlier date ... are, too curt and incomplete to assure the perfect reproduction of the sign intended, while in others the very idea or object of the sign is loosely expressed, so that for thorough and satisfactory exposition they require, to be both corrected and supplemented, and therefore, the cooperation of competent observers, to whom this pamphlet (Mallery's 1880 work) is addressed, and to whom it will be mailed, is urgently requested'. The publication is 'a collection; in the form of a vocabulary, of all authentic signs, including signals made at a distance, with their description, as also that of any specially associated facial expression, set forth in language intended to be so clear, illustrations being added when necessary, that they can be reproduced by the reader. The description contributed, as also the explanation or conception occurring to or ascertained by the contributors, will be given

in their own words, with their own illustrations when furnished or when they can be designed from written descriptions, and always with individual credit as well as responsibility. The signs arranged in the vocabulary will be compared in their order with those of deaf-mutes, with those of foreign tribes of men, whether ancient or modern, and with the suggested radicals of languages, for assistance in which comparisons travellers and scholars are solicited to contribute in the same manner and with the same credit above mentioned ... Intelligent criticisms will be gratefully received, considered, and given honorable place'. The above quote clearly indicates the scope and methodology Mallery adopted in his work. Mallery's methodological soundness was not matched by any other contemporary scholar of his; most of his contemporaries engaged themselves in the collection and description of signs. Mallery went beyond everyone and offered several theoretical insights as well as structural descriptions of the general processes of gestural communication, most of which have been adopted as the basis of later research in the discipline of gestural communication. Mallery's classification of signs, and the identification of elements and movements that constitute signs in North American Indian sign language have been generally repeated in almost all works with some changes in order and terms, until the influence of modern structural linguistics was brought to bear upon the study of sign language by scholars beginning with A. L. Kroeber. Even with the influence of modern structural linguistics on the study of gestural communication, the basic concepts of Mallery and his approach towards the study of sign language continue to exhibit a modernity even today. For, in essence, Mallery had a comprehensive view of what communication is.

Mallery recognizes the superior generalizing

and abstracting powers of oral language, while emphasizing, at the same time, that gestures could excel in graphic and dramatic effect applied to narrative and to rhetorical exhibition. Mallery presents an insightful analysis of the inter-relationship between oral and sign languages, and points out the mutually exclusive and mutually complementary areas of their use. Their relative merits as modes of communication occupy a great deal of his work. Spoken language can be interpreted only by another spoken language, whereas gestural language does not require such interpretation. Gesture speech cannot be resorted to in the dark, nor can it be resorted to when the attention of the person addressed has not been otherwise attracted. However, when the voice would not be or shall not be used, gesture speech can be used. When highly cultivated, the rapidity of gesture speech on familiar subjects exceeds that of speech and 'approaches to that of thought itself'. Oral speech is wholly conventional, whereas gesture speech is both natural and conventional. Mallery, however, finds that there is 'no need to determine upon the priority between communication of ideas by bodily motion and by vocal articulation. It is enough to admit that the connection between them was so early and intimate that the gestures, in the wide sense indicated of presenting ideas under physical forms, had a direct formative effect upon many words; that they exhibit the earliest condition of the human mind; are traced from the farthest antiquity among all people possessing records; are universally prevalent in the savage stage of social evolution; survive agreeably in the scenic pantomime, and still adhere to the ordinary speech of civilized man by motions of the face, hands, head and body, often involuntary, often purposely in illustration or emphasis'.

Signs are originally air pictures of the outline

or chief features of the objects. In course of time this similarity may be lost and the signs become abbreviated (become arbitrary) and conventionalized. With the growth of conventionalization and arbitrariness and with groups choosing different and varied features of the same object or event to produce signs for the same object or event, variations between signs and sign languages increase and difficulty in communication using the sign language as a medium increases. However, the elements of the sign language are natural and universal in the sense that there is a general system, instead of a uniform code. This general system admits generic unit while denying the specific identity of signs employed -- 'the common use of sign and of signs based on the same principles, but not of the same signs to express the same ideas, even substantially' marks the universal characteristic of sign language. Mallery also divides the signs into innate (generally emotional) and invented; into developed and abridged; into radical and derivative, and into indicative (as directly as possible of the object intended), imitative (representing the object by configurative drawing), operative actions, and facial expressions. Mallery also brings in notions from grammar and prosody, such as tropes of metaphor, synecdoche, metonymy, and catachresis. Another classification is formal, into single and compound, which Mallery considers as the most useful distinction.

Mallery also distinguished between signs and signals, signs and symbols, and signs and emblems. Signal is some action or manifestation intended to be seen at a distance. This does not allow for minute details (and as such symbols may have a form and structural complexity different from signs). Signals are executed exclusively by bodily action and also using some object as implement. They may also be executed by various devices,

such as smoke or fire across. The symbols are mostly conventional. Mallery suggests that symbols are less obvious and artificial than signs. Symbols need convention, and are not only abstract but also metaphysical. They also need explanation from history, religion and customs. On the contrary, signs, as viewed by Mallery, do not possess these characteristics. Emblems do not require that there be any analogy between them and the objects; these may be simply accidental.

Mallery finds that the sign language/gesture utterance presents no other part of grammar besides syntax. Syntax of sign language is the grouping and sequence of its ideographic pictures. While in the oral language meaning does not adhere to the phonetic representation of thought, in the sign language it adheres to signs. In the gesture language there is no organised sentence similar to ones we find in oral language. There are no articles, grammatical particles, passive voice, case, grammatical gender, not even the distinction between substantives (nouns) and verbs. Nor is there a distinction between subject and predicate, qualifiers and inflections. The sign radicals have the characteristic of being everything, 'without being specifically any of our parts of speech'. Mallery also suggests that this state of conditions offers an interesting comparison with the syntax of vocal language of early humans.

In the analysis of sign language syntax, we must consider, according to Mallery, both the order in which the signs succeed one another and the relative positions in which they are made, 'the latter remaining longer in the memory than the former'. The order of occurrence of signs shows the natural order of ideas in the aboriginal mind and 'the several modes of inversion by which they pass from the known to the unknown, beginning

with the dominant idea or that supposed to be best known'. The sign language gives first the principal figure and then adds the accessories successively. The expressions follow the order of ideas, according to Mallery. He also suggests that signs do not represent words, they do not even suggest words, for 'a simple word may express a complex idea, to be fully rendered only by a group of signs, and *vice versa*, a single may suffice for a number of words'.

One of Mallery's chief contributions lies in his focus on the relationship between gesture and oral language in their phylogeny. In his view there was a time in which Man had no oral language but only gesture language. Oral language evolved, among other things, from the primordial roots of gestural communication. Although people can speak without pause in their own language without a single gesture, speech has not eliminated the need for gesture. 'The signs survive for convenience, used together with oral language, and for special employment when language is unavailable'. Another characteristic is that the signs may be understood even when they are produced for the first time. While these facts reveal the inter-relationship between, as well as the common phylogeny of gesture communication and oral speech, it is also true, Mallery suggests, that there is a progression away from the use of gesture language in societies materially more advanced. (This is not what Mallery exactly says but one could safely arrive at this implication.) Thus, Mallery proposes that 'the further a language has been developed from its primordial roots, which have been twisted into forms no longer suggesting any reason for their original selection, and the more the primitive significance of its words has disappeared, the fewer points of contact can it retain with signs'. The subsequent grammatical studies of American

Indian languages have shown that these languages do have a very complex grammar and as such Mallery's suggestion that in the American Indian languages 'the connection between the idea and the word is only less obvious than that still unbroken between the idea and the sign', and that these languages are 'strongly affected by the concepts of outline, form, place, position, and feature on which gesture is founded, while they are similar in their fertile combination of radical', is not supported by linguistic research. All the same the position of Mallery as regards the ancestry of gesture communication as the progenitor of oral language and his position that there may be a correspondence between advancement of material culture and reduction in use of gestures are still wide open for further investigation.

5.4.2. Wundt and Gestural Communication

For Wundt, sign language is simply a primitive form of ordinary language and as such it may reveal something of the essential nature of natural language. Also gestural systems might uniquely reflect characteristics of the innate human language capacity. Wundt also suggests that gestural communication is a kind of universal language in spite of varied gestures and conditions. Because of this universal nature people are able to understand one another when they make use of gestures without great difficulty. There is a tendency among people to combine word sense with affective expressions even when speaking the same language and also to resort to gestures when they interact with other people who do not know their language. The growth of the spoken word had its impact in the development and preservation of gestures. Gestures are formed based on emotion, affective tendency, and temperament. Although different conditions of culture may have some influence

on the formation and use of specific signs, these do not alter the character of certain concepts such as I, you, he, here and there, large and small, sky, earth, clouds, rain, walking, standing, sitting, hitting, death, sleep, etc. The universal nature of gestural communication must be sought in these characteristics.

Wundt identifies two basic forms of gesture, namely, demonstrative and imitative. The demonstrative gesture was the original way of expressing emotion. The imitative gestures are descriptive gestures. They are divided into two subclasses, mimed and connotative. The mimed gestures are pure imitation. Connotative gestures posit a connection between themselves and the objects. This connection is to be imagined and cultivated. There is also another class of gestures, symbolic gestures. Demonstrative gestures are natural gestures and are unpremeditated. The imitative gestures or the descriptive gestures are greater in size and more variegated than the demonstrative gestures. Mimed gesture is the primary form of the imitative gesture. In miming one may either draw the outline of the object in the air by the index finger or imitate the image of the object three dimensionally with the hands. Both can also occur together. In the production of connotative gestures, one singles out arbitrarily a secondary characteristic of the object and uses it to represent the object. The symbolic gesture is a sign of some sort that calls to mind a mental concept 'whether the connection between them is concerned with an ordinary external object or with a more subtle relationship'. The gesture itself is not the idea as in the demonstrative gesture, or in the imitative mimed gesture. The symbolic gesture is not also connected with the idea by any natural similarity between it and the idea it represents. There are obscure links

between the symbolic gesture and the idea it represents. The symbolic gesture implies a completely distinct idea whereas the connotative gesture maintains some link with the idea through the former's reference to at least the secondary characteristics of the object it represents. The demonstrative, mimed and connotative gestures all refer directly to their meaning. In the composition of the symbolic gesture there is always one intermediate idea between the gesture and the ultimate idea implied. For example, a hand cupped like a laddle is directly associated with its meaning 'drinking gourd'. Originally the gesture suggests the laddle or gourd which later comes to refer to water, the content held by the laddle or water. Thus, the concept of laddle or gourd expresses an idea, water, different from itself. Note that this technique is resorted to also in oral language. For example, the word **pozhotu** in Tamil refers to *time* and *portion of time* which comes to mean *Sun*. Indian traditional grammars have identified this phenomenon in the spoken word and deals with them under **ākupeyar** in Tamil and **paryāyapadam/lakṣanārtha** in Sanskrit. In any case note also that the symbolic gestures can be replaced by or paraphrased into direct indicative gestures (either mimed or connotative) in gestural communication. Thus, the symbolic gesture of a hand cupped like a laddle or gourd meaning water can be easily replaced by a gesture pointing directly at nearby water, or through other imitational gestures.

Wundt finds that the natural gestural communication focuses mostly on the concretely perceptible. It covers three basic logical categories: objects, qualities, and condition. Since the same gesture may be used for several meanings, the gestural process provides for various nuances and movements for the same gesture to refer to different meanings.

For example, the deaf-mute touching a tooth can have four interpretations: the first meaning is tooth; then the two qualities of whiteness and hardness might have been implied; fourthly it may connote *stone*. Distinctions are made this way: Touching the tooth alone indicates 'tooth'; touching the whole row of teeth indicates 'whiteness'; the eyes beam at the same time. A tap on the incisors expresses 'hardness'; and adding a throwing motion after tapping the teeth indicates 'stone'. In spite of these qualifying devices, Wundt finds two instances which generally are marked by unsolvable ambiguity. One and the same gesture may have a different logical sense, depending on whether it is preceded by a principal gesture or a qualifying one. (Distinction between principal and qualifying gestures is also difficult to make.) In another instance of ambiguity, gestures may be used in limitless different ways to represent an object so long as the action represented by these gestures have something to do with the objects. Wundt finds that in general signs are more ambiguous than words are.

One important contribution Wundt made was his insistence that gestural communication does not merely consist of individual signs, but of sentences. Only by viewing signs as sentences we will be able to make complete sense out of gestural communication. There are no connectors in gesture sentences as we find in oral language sentences. We have to infer these features from the complete context of the expression. Also because the sign functions more or less as independent sentences, identifying them as subject, object or predicate, or as passive or active, or as substantive, verb, etc., also becomes a problem. The syntax of gestures may be reduced to the principles of logic, temporal and spatial functionality. The temporal and the spatial characteristics are the

vivid part of gestural communication. They are preponderantly in operation in gestural communication. The concrete reality and direct comprehensibility of the individual signs derive their strength from their operation. There is also successivity as in oral language. Logical operations depend upon and derive their strength from the feature that each sign could be considered a separate sentence. Gestural communication, according to Wundt, reports events exactly in the order in which they occur. It describes objects in the order in which they are perceived. Because of this reason, inversions of events, as found in oral language through various transformations, are not found in gestural communication. Cleft sentences and various other stylistic deviations from the norm are not attested in sign language. Wundt also suggests two conditions -- one, we have already cited. That is, the individual gestures follow one another in the order in which they are perceived; and the second is that because of the slow succession of individual signs, a gesture may take its meaning through preceding and not succeeding signs. Note that this need not be necessarily so in oral language expressions, where a crisscross pattern is easily found often. Because of these two reasons, Wundt finds that the gesturers are compelled to express first of all those images which have a greater affective meaning than others.

Wundt was viewing gestural communication in the overall framework of communication that is specifically human. Gestural communication is *not* a communication shared by both animals and humans. It is a specifically human act, a human product, a natural product of the development of expressive emotions. The forms of gestures, their developmental growth, extension of meaning, semantic change and syntactic order all distinguish it from the animal communication systems.

5.4.3. Efron and Racial Origin of Gestures

David Efron in his 1941 work (reissued in 1972) made a 'tentative study of some of the spatio-temporal and "linguistic" aspects of the gestural behaviour of Eastern Jews and Southern Italians in New York City living under similar as well as different environmental conditions'. This study done under Franz Boas was 'part of a somewhat extended investigation of the influence of race and environment upon bodily development and upon behaviour'. That was the time in which, some scholars, under the influence and milieu of developments in Germany, were inclined to make studies aimed at establishing the supremacy of one race over the other. Efron's study aimed at identifying whether there was any truth in such assumptions and convincingly proved the hollowness of these scholars by providing evidence from an area, performance in which was often sought and provided as proof for the supremacy of the pure Aryan. Boas found that every so-called race contained a great many individuals of distinct genetic characteristics and analogous genetic characteristics occurred in various 'races'. Boas identified two approaches to tackle this complex problem -- on the one hand, the behaviour of genetically identical individuals living under different conditions could be studied and on the other hand one could 'study the development and behaviour of large groups of individuals and of their descendants in markedly different environments'. Efron's study thus marks a significant departure from the by and large observational studies of American Indian sign language to a combination of both observation and experiment, in selected, and significant contexts of communication. Efron's study is, indeed, today comparable to any systematic sociolinguistic investigation. His is a forerunner to the study of gestural communication in social

and psychological terms. Unfortunately, this has not attracted the attention of scholars in any effective manner in the past. Currently with interest in sociolinguistics, and in the inter-relationship between verbal and nonverbal communication, both within the semiotic context and outside it, Efron's study is reissued in the last decade and is found completely in consonance with the research methods and trends in sociolinguistics. To us it appears that Efron's study is a perfect model for students of linguistics in India, whose training in adjacent sciences, such as psychology, sociology and anthropology is practically and wholly inadequate to undertake interdisciplinary experimental investigations involving complex and difficult statistical tools, and who would, all the same, like to pursue their research on nonverbal communication, and linguistic identities and functions based on nonverbal communication.

Efron makes an experimental investigation of the gestural behaviour of two so-called racial groups, Eastern Jews and Southern Italians in New York City, living under similar as well as different environmental conditions. The object of his investigation was to discover whether there were any standardized group differences in the gestural behaviour of these two different racial groups. If there were, indeed, differences, he aimed at finding out what became of these gestural patterns in members and descendants of these groups under the impact of social assimilation. In order to pursue his studies, Efron resorted to two, what he called, legitimate ways -- the experimental and the historical. His material on the historical side came from documents of the past, such as newspapers, novels, etc., which gave descriptions of the use of gestures and which convincingly proved that even in the societies (in Europe) which now abhor/avoid overt gestures

in the interactions of their members there were times in which gestures were considered natural, fashionable and so on. The experimental approach revolved around obtaining materials in 'absolutely spontaneous situations in the everyday environments of the people concerned who never knew that they were subject of an investigation'. He carried out the investigation by means of a four-fold method -- direct observation of gestural behaviour in natural situation, sketches drawn from life by a contemporary American painter under the same conditions, rough counting, and motion pictures studied by observations and judgements of naive observers and graphs and charts with measurements and tabulations of data obtained. In other words, Efron had all the elements of present day empirical methods of investigation employed. Moreover, Efron elevated the study of gestural communication from its basic roots in inventory making to an understanding of social communication processes.

Efron's study dealt with the gestures with regard to their spatiotemporal aspects as well as with regard to their referential aspects. In the former category he studied the "movements" and in the latter category he studied the use of gesture as language. Efron focused primarily upon hand movements and to a lesser extent on head movements, with occasional consideration of trunk position. He did not consider facial expression, posture, gait, or eye movements.

Just as Efron was innovative in using data from gestural communication for social sciences research, he was innovative also in providing a classificatory model for the description of gestures. Efron offered a neat classification, which is as follows:

Spatio-temporal:

Gestures are considered simply as movement in

this place. These are treated as independent from interactive or referential aspects. Under the spatio-temporal aspects, we have radius, form, plane, body parts and tempo dealt with. Radius of the gesture is the size of the radius of movement. Maximum radius is the most distant point from the shoulder axis, reached by the wrist in an outgoing movement; minimum radius is the nearest approach of the wrist to the body in the course of the continuing gesture. Form refers to the type of movement -- sinuous, elliptical, angular or straight, whereas plane refers to sideways posture or posture towards auditor (frontal), up or down, vertical, away from speaker and auditor, etc. Under body parts, Efron includes the following as involved in gesticulation -- head gestures (area movement, rate and frequency, and whether used as substitute for hands), digital gestures (variety of positions and shapes of hands), unilaterality versus bilaterality in handmovement, ambulatory gestures (sequential transfer of motion from one arm to the other), and tempo (abrupt, dischronic versus flowing transitions from one movement to another). Note that dynamic parameters are used to capture the spatio-temporal aspects of gestural communication. In categorizations offered by Mallery and his contemporaries, the emphasis was on finding what constituted a gesture, that is, the emphasis was on the identification of elements that constituted a sign.

Interlocutional Aspects:

These aspects are concerned with the behavioural conduct of the individuals in the interaction via gesture. Efron focuses on four items under this head. These are familiarity with the physical person of the interlocutor (interruption; capture of attention; physical contact), simultaneous gesturing of all interactants, conversational grouping (use of

space and distance between speakers and auditors) and gesturing with objects using an inanimate object as an arm extension.

Linguistic Aspects:

These deal with aspects of gesture in relation to language -- whether the gesture has meaning independent of or only in conjunction with speech. Efron provides a very significant classification of signs under this. There are two major divisions -- logical-discursive and objective. Under logical-discursive, the aspect of sign that follows the course of the ideational process and not the object or the thought itself is emphasized. Batons are gestures that give the successive stages of referential activity. The ideographic gestures trace or sketch out in the air the path and direction of thought. The objective gestures are divided into two major groups -- deictic and physiographic. The deictic gestures point out objects whereas the physiographic gestures show what they mean. The physiographic pictures are again of two types -- the iconographic gestures depict the form of a visual object whereas the kinetographic gestures depict a bodily action. The third major category of gestures, apart from those of logical-discursive and objective gestures, are the emblematic or symbolic gestures. The emblematic or symbolic gestures have a standardized meaning within a culture. These are culture-specific. The emblematic or symbolic gestures represent a visual or a logical object by means of pictorial or non-pictorial form which has no morphological relationship to the thing represented.

Efron finds very many interesting features of gestural communication that are motivated by processes in other behavioural patterns of the community to which the gesturers belong.

For example, he identifies a number of gestural acts which he terms as hybrid gestures. This is the combination of elements peculiar to the gestures of traditional individuals of Jewish or Italian communities with elements found in the gestures of Americans of Anglo-Saxon descent. From these findings, Efron concludes that 'the same individual may, if simultaneously exposed over a period of time to two or more gesturally different groups, adopt and combine certain gestural traits of both groups'. Efron compares a hybrid gesturer to a bilingual person who retains the characteristics of their first language in their performance in the second language. He finds that both the assimilated Eastern Jews and Southern Italians in New York City differ from their respective traditional groups and resemble each other. The gestural characteristics found in the traditional Jews and Italians disappear with the social assimilation of the *individual* Jew or Italian into the Americanized community and resemble gesturally the specific American group to which these individuals have become assimilated. Also they acquire the gestural characteristics of the social stratum of the Americanized community to which they get assimilated. Efron concludes that 'gestural behaviour, or the absence of it, is to some extent at least, conditioned by factors of socio-psychological nature ... (the findings) do not bear out the contention this form of behaviour is determined by biological descent'.

Efron's contribution, thus, is significant in several ways. Firstly, it presents a classification of gestures under actual communicative contexts and describes the role and function of gestures in modern society. While the earlier studies focused on the composition of signs, their primordial roots and the universal nature or otherwise of the gestures, mostly with an anthropological bias, Efron's study

takes the focus on gestural communication to a plane of sociological research. Gesture is now seen as another important sociological index. It shows how sociological processes could influence the repertory and use of gestures to meet various social ends. Secondly, Efron's study focuses on the inter-relationship between language expressions and gestures. Thirdly, Efron's study focuses on the dynamic nature of the gesture institution and shows how culture influences the use, retention and modulation of gestural communication. Fourthly, the methodology adopted is very significant since it combines both observation and experimentation, collects and collates data and arrives at conclusions based on empirical procedures and data. The method also breaks a new ground in social science research involving both linguistic and nonverbal variables. Finally, gestural communication is studied not for its own sake but as an aid for sociological inquiry. From a mere descriptive, and at times anthropology-oriented study, gestural communication now becomes a proper tool to understand modern societies as well. Thus, Efron's study paved the way for the social psychological studies of gestural communication.

5.4.4. Recent Studies of Gestural Communication

In this section we propose to present two types of studies as sample of recent studies of gestural communication. Both these studies operate around empirical data and methods of experimentation within the overall framework of principles of psychological experiments. In fact, one of the studies, that of Poyotos (1975), discusses problems of gestural inventories, raising issues of theoretical importance. Thus, this study is not directly based on any experiment, but is dealt with here because of its interest in preparing the inventories, from a modern point of view.

Poyotos argues in favour of bridging a gap between the teaching of linguistic structures and the association of these linguistic structures with the nonverbal patterns of behaviour in order to arrive at a total communicative competence. Poyotos asks for the inventories of gestures which almost exclusively accompany verbal behaviour, those which replace it, those which perform both functions, essential physical movement and are easily recognized by an untrained observer, specialized group gesture systems, heavily iconic gestures, body configuration and stance varying geographically as well as among communities, autistic gestures and erotic gestures. Poyotos suggests that we should differentiate between gestures, manners and postures, from the cultural point as well as considering the pedagogical possibilities.

There are three elements in the description of nonverbal communication, according to Poyotos -- gesture, manner and posture. By gesture Poyotos means 'a conscious or unconscious body movement made mainly with the head, the face alone, or the limbs, learned or somatogenic, and serving as a primary communicative tool, dependent or independent from verbal language; either simultaneous or alternating with it, and modified by the conditioning background (smiles, eye movements, a gesture of beckoning, a tic, etc.)'. Manner is seen similar to gesture, but 'is more or less dynamic body attitude and socially codified according to specific situations, either simultaneous or alternating with verbal language (the way one eats at the table, greets others, coughs, stretches, etc.)'. Posture is a conscious or unconscious general position of the body, more static than gesture, learned or somatogenic, either simultaneous or alternating with verbal language, modified by social norms and by the rest of the conditioning background, and used less as a communicative

tool, although it may reveal affective states and social status (sitting, standing, joining both hands behind one's back while walking, etc.).

Poyotos suggests that gesture study should take into account not simply the gesture itself but also linguistic, paralinguistic, kinesic (other than gestural), proxemic, and chronemic features. That is, gestural study takes into account other linguistic as well as non-linguistic (nonverbal) aspects of communication. Linguistic aspects have been covered in all previous studies since there have been always attempts to establish correspondence between linguistic signs and gestural signs. Use of other nonverbal features, in fact, a comprehensive coverage and use of all other nonverbal aspects for an understanding of gestural communication and for the preparation of gestural inventories appears to be a contribution of Poyotos. Likewise a gesture may also determine both linguistic and other nonlinguistic signs. In this way, all nonverbal aspects, five of them listed above, are dependent on one another.

Ekman and Friesen, two important contributors to the study of nonverbal communication in the contemporary scene of ours, propose five classes of nonverbal behaviour (Ekman and Friesen, 1969): facial expressions of emotion, regulators, adaptors, illustrators and emblems. Note that emphasis of gestural communication is now shifted from the study of constitution of signs to a study of the psychological bases of gestural communication. There is a predominant role assigned to psychological performance of gesture, although the classification offered does talk of constitutional elements as well as of the social functions. For the former, emblems are a fine example and for the latter the regulators are a good example. Of the five, emblems are more or less gestures: 'Emblems

are those nonverbal acts which have a direct verbal translation, or dictionary definition, usually consisting of a word or two, or perhaps a phrase ... An emblem may repeat, substitute, or contradict some part of the concomitant verbal behaviour; a crucial question in detecting an emblem is whether it could be replaced, with a word or two without changing the information conveyed'. In addition the meaning of the emblem should be known to most of the members of a group, class, subculture or culture. Also the emblems are used with a conscious intent to send a particular message to other persons who in their turn know that the message is deliberately conveyed. All these characteristics make gestural display a deliberate display.

Although answers are not provided, Ekman and Friesen raise several questions which link study of gestural communication directly with the concerns of theoretical developments in linguistics, psychology and psycholinguistics. For example, they raise the following questions which are currently debated within linguistics and psychology in relation to human language: What is the ontogeny of emblems? At what point do different emblems become established in the infant's repertoire? How does the acquisition of emblems interlace with the acquisition of verbal language? How are emblems utilized in conversation? Are there regularities in which messages are transmitted emblematically, and do these emblems substitute, repeat or qualify the spoken messages? Are there any universal emblems? Can we explain instances in which the same message is performed with a different motor action in two cultures? How are emblems related to American Sign Language? What is the phylogeny of emblems? While these questions link Ekman and Friesen's concerns with developments in linguistics and psychology, their

insistence on the identification of the emblem repertoire as 'the most sensible first step which enables pursuit of all the questions' (Johnson, Ekman and Friesen, 1975) takes them back to the days of Col. Mallery in which preparation of the glossary of gestural signs dominated study of gestural communication. Since gestural signs in parts of the system are, indeed, open-ended, one wonders whether it will be possible at all to have a comprehensive glossary of emblems, especially when gestures could be spontaneously and idiosyncratically formed and understood.

In conclusion of this section we present below the various methods adopted so far in the study of gestural communication. The list is not exhaustive but is indicative of the general trends.

1) Most of the early studies have been observational and descriptive.

2) Questionnaire method and informant-elicitation method have been adopted.

3) Open-ended narration by gestural signs is also encouraged.

4) Spoken language is used as an aid.

5) Use only of the sign language is also done to study gesture.

6) Comparison with the gestures of deaf-mutes, and comparison with the characteristics of spoken language are also made.

7) Anthropological tools are also used.

8) Experimental investigations are also made, wherein the functions of gestures in relation to psychological states are investigated.

9) Investigations of gesture for sociological analysis are also made.

- 10) Help of artists is also sought and made use of.
- 11) Identification of gestures presented is also sought.
- 12) Linguistic models are also used: phonological, syntactic and semantic analyses are simulated in the analysis of gestural signs.
- 13) Research based on developments in linguistics as regards grammatical structure is undertaken with regard to gestural signs.
- 14) Collection and analysis of gestures as found in literary works and other texts is also done.
- 15) Formal learning of gestures is yet another method of study of gestures.

5.4.5. Gesture in Aesthetic Arts

We restrict our discussion of gestural signs in aesthetic arts to the use of gestural signs in Indian elitist dances in general and Bharata Natyam in particular.

Dances in literate communities of India may be broadly classified into folk and elitist dances. The occurrence of gesture is more frequent and varied in elitist dances than in folk dances. Secondly, conventionality and arbitrariness mark the elitist dances more than they mark the folk dances. Thirdly, most gestures in the folk dances are an accompaniment to the rhythmic recurrence of sounds whereas gestures in elitist dances generally accompany the 'sense' and/or is an illustration of the sense conveyed. Fourthly, the gestures in elitist dance require conscious learning, in addition to unconscious imitation, whereas gestures in folk dances are acquired more or less in an unconscious, natural manner. The learning of elitist dances is thus more institutionalized than the learning of folk dances. Fifthly, although the elitist dances are also spatially and temporally

bound, in the sense that there are specified dances for seasons and geographical conditions, and for specific themes, these elitist dances can be and are performed in other times as well purely as an aesthetic performance, whereas folk dances are generally performed in relation to the spatio-temporal set up prescribed. Once they cross the set up and are performed, they attain the value of pure entertainment just as elitist dances. In these latter conditions, a transmutation of the functions take place. Gestural communication, which spatio-temporally bound as in folk dances, is less conventional and arbitrary and more iconic and indexical. When folk dances, bound to certain spatio-temporal conditions, are performed outside these conditions, they begin to usurp the functions of elitist dances. Elitist dances function more as a code in the sense that they lend themselves for manipulation through addition, deletion, change, etc., in deliberately contrived processes initiated by individuals, whereas the folk dances generally focus more on preservation and their function as a code is found in their deliberate constraints not to function as a code of manipulation. Once folk dances are treated as a code, or only as a form that could be manipulated in form as well as content, they begin to emerge as elitist dances, individually designed. Some forms/stages of elitist dances also could acquire this characteristic but will still be considered elitist because in the latter their conduct will be textbased unlike in the case of folk dances in which oral tradition regulates the conduct. Gestural communication in elitist dances is more advanced in the sense that the gestures employed in them are more numerous than the gestures employed in folk dances. Also, the gestures in elitist dances are more closely connected with affect displays than one finds in folk dances. While the upper limbs play a more crucial role in elitist dances to further

accentuate the gestural communication processes, it is the whole body and the movement of the whole body that dominate performances in folk dances. Affect display via face always is an essential part of gestural communication by other parts of the body, in elitist dances. Gestures used in elitist dances are explained/explainable by the performers, which cannot be said for the performance of folk dances. In other words, those who perform elitist dances are almost always aware of their use of gestures. Learning processes give the 'rationale'. These people know the 'meaning' of the gesture, as conveyed to them by their teachers and the text and/or interpreted by them. They can repeat the gestures when asked to do so. The use of gestures in elitist dances is an intentional, deliberate effort to communicate, but the focus in folk dances appears to be more of self-expression and participatory nature, not only in enjoyment through sight but also in the act itself. In the elitist dances audience participation through act in the dances is not generally provided for, but in the folk dances there is always such an opening. Most Indian elitist dances are religion-based in the sense that music and dance have been traditionally seen as a medium to please gods. In other words, the ultimate goal of dances in the elitist tradition is to worship gods. This cannot be said of folk dances. The Vedas and Puranas are full of instances which narrate the dances of gods, dances of elitist nature. The 'dances' of the demons are described/portrayed as crude dances.

The creator of the dance (that is, Bharat Natyam) and the chief dancer is God Himself -- Siva. He is worshipped, among other forms, in His dancing posture as well. Vishnu, another supreme Godhead, is also known for his dances. Krishna dances with girls around. He also danced on the head

of Serpent Kālinga in the Yamuna river and kept him under control. In heaven, in all the celebrations of gods, beautiful dames dance and please the gods. In short, Hindu mythology is full of dances, danseuses and gestures employed in dances. Since there is, in traditional Indian view, a direct correspondence between all aesthetic arts, notions as regards gesture, classifications of gesture, and their function in aesthetics and general communication are governed in a manner similar to notions in poetics, dramatics, sculpture, painting and so on. There is a unity in arts and there is a unity of purpose for all the arts. We present below, however, only the gestural communication in Bharata Natyam as a representative sample of use of gesture in all arts.

In India, there is a long and ancient tradition of study of gesture via dance and drama. The earliest treatise available now on dance and drama (in fact on aesthetic arts including enjoyment of literature) is the work in Sanskrit **Nāṭyaśāstra** by Bharata Muni (certainly of pre-Christian era; around 500 B.C.?) Apart from a number of commentaries on **Nāṭyaśāstra**, there are several other works in Sanskrit, such as **Abhinaya Darpaṇam** which discuss theories of drama and present gesture employed in both dance and drama. We present here an overall description of the use of gestures as found mainly in **Nāṭyaśāstra**.

To begin with we should point out that gestures used in dance and drama form more or less a closed system, that both natural and conventional gestures are used in the Indian dance and that, since these gestures form a more or less a closed system, most gestures are polysemous. The gestures are mostly an accompaniment to either a poetic composition sung or a pantomime of a well known story and thus the polysemous ambiguity is resolved.

Gestures are stylized and lend themselves to some variations in their exhibition by individuals belonging to different schools/disciples of a teacher and geographic regions. The dance uses both upper and lower limbs, but the gestures by parts of upper limbs dominate. There is always an insistence on the use of appropriate facial expressions for each gesture. Use of facial expressions further contributes to a resolution of ambiguity inherent in the use of the same single gesture for several meanings. Gestures are not stationary in the sense that every gesture has a movement; without movement gesture cannot be seen. Also the concatenation of sense and events is not possible without the movement. The Indian dance consists mostly of hand gestures and (whole) bodily movements, although other parts may also be used. Costume is important, but does not play a direct role in gestural communication. Gestures are given frontally, although the back of the body may be shown and used for gestural communication. Both the front and back of the hand may be used for gesturing. For the same physical gesture, various meanings can be ascribed based on directions of the movement of the gesture. Some of the geometrical movements used are front/back, left/right, straight line/curved line, straight line/zig-zag line, facing one another/back to back, gestures with one hand/gestures with both hands, one side of the body/both sides of the body, congruence between hand and leg of the same side of the body/congruence between hand and leg of opposite sides of the body.

According to **Nāṭyaśāstra**, **abhinayas** (use of gestures, etc.) are devised by experts for drawing out the sense of songs and speeches in a play (IV:265). [The reference is made to Dr. Manmohan Ghosh's translation of **Nāṭyaśāstra**, (Ghosh, 1967). The Roman numeral refers to the chapter and

the Arabic numerals to the verse.] While this might or might not have been the original focus and functions of gestures used, in actual current practice in Bharata Natyam the gestures do not have, in the main, an expository function in relation to the texts sung; it is the texts that are sung that perform the expository function for an understanding of the gestures used. Since **abhinaya** is **devised** by individuals (experts), in its origin **abhinaya** becomes artificial and thus it is conventionally produced. And yet the conventionality is not based exclusively on artificially created gestures only, but is given to gestures drawn from natural expressions as well, since Bharata Natyam makes use of natural gestures for conventionally fixed meanings. To the extent the language of the text is not understood by the spectators one may say that the gestures of dance come to illumine the content of the text and enable the spectators to comprehend the text. If the language of the text is understood and if the content of the text is understood through the language in which it is composed, the singing of the text then takes on the role of illumining the gestures of the dance and the gestures themselves bring to life the text in a dynamic spectacular form. Since gestures are an integral part of dance we reach a point that without gestures there is no dance. Thus, gestures become a mark of identification of dance as a distinct aesthetic form. Note that our suggestion that it is the oral text that performs the expository function in relation to gestures employed in a dance is further supported by Bharata Muni's dictum (IV:280; Ghosh, 1967) that instrumental music should not be played when there is any song to be delineated by gestures, perhaps because the instrumental music may drown the song and thus will deprive the gestures their explanation by the oral text. Whatever be the interpretation and delineation of different roles of oral texts

and gestures, they have only a complementary role, a complemental semiotic relationship. Note that the function of gesture is to make a transmutation of the sense of the oral medium into vision medium and by doing so it forms an aesthetic genre. For Bharata Muni clearly states (IV:285-287; Ghosh, 1967) that a song is to be sung and the female dancer should delineate the meaning of the song by suitable gesture and translate the subject matter into a dance. Again (IV:298, Gosh, 1967), the entire words of the song should be represented first by gestures and then the same should be shown by a dance. Thus, a codification process in the progression of transmutation of sense from the oral medium to vision medium and from there to the elevation of the same into an aesthetic form is suggested here. In addition, these steps of progression indicate that there was some distinction made between the composition of gesture and their integration in dance. Gestures, in addition to their expository function as regards songs, are also used as an expository and spectacular device for all other words. Current practice generally links the gestural poses with dance, although in some parts of the dance, the dancer could remain stationary and make gestures appropriate to the words of the oral text. Bharata Muni (in IV:303; Ghosh, 1967) gives a dictum that when in course of a song some of its parts are repeated, the parts uttered first should be delineated by gestures and the rest are to be translated into dance. This dictum, while bringing out the complementary roles of gestures and oral text, also points out that in the performance of a dance a progression from presentation of individual gestures to a concatenation of the same is aimed at. When concatenation takes place, the pantomime of oral text is accomplished and herein both gesture and oral text get entwined to lose their separate existence and merge into a single aesthetic form -- in other

words, the original transmutation from one to the other, from oral text into gesture is no more significant and together they are transmuted into another world of existence. Thus, the use of gesture in arts perhaps has an extra stage of transmutation over and above the transmutation taking place between oral and gestural semiotic systems of communication. The word **abhinaya** is generally translated as histrionic representation and it means carrying the performance of a play to the point of direct ascertainment of its meaning (VIII:6; Ghosh, 1967). Further, **abhinaya** is so called because in the performance of a play it explains the meaning of different things (VIII:7; Ghosh, 1967). Note that in these two verses also the expository function of gesture is emphasized. **Abhinaya**, histrionic representation via gesture, etc., was meant originally to clarify the song.

Histrionic representation is known to be four fold: Gestures (**āṅgika**), Words (**vācika**), Dresses Make-up (**āhārya**) and the **Sattva** (manifestations of mental states). The gesture is of three kinds, namely, that of the limbs (**śārīra**), that of the face (**mukhaja**) and that related to different movements of the entire body (**ceṣṭakṛta**). Dramatic performance in its entirety relates to six major limbs and six minor limbs. The six major limbs are called **aṅga** and these are head, hands, breast, sides, waist and feet. The six minor limbs are called **upaṅga** and these are eyes, eyebrows, nose, lower lip and chin. Note that the body parts that are considered to be involved in gestural communication in dance are chosen for their mobility/flexibility for use in movement and that the chosen body parts have a greater visibility.

The gestures are called the **sākhā** and pantomiming through them is called **aṅkura**. While these technical terms are not immediately relevant

to our discussion, assignation of roles to these two types by some scholars is of some consequence in our work. For some scholars **sākhā** stands for gesture and posture in general and for some others it stands for the flourish of the gesticulating hand (**kara-vartana**) preceding one's speech. **Aṅkura** stands for the flourish of the gesticulating hand following speech. In the former, one finds a greater emphasis on the supporting role of the words for an interpretation of gesture and in the latter one finds a greater emphasis on the supporting role of the gesture for an interpretation of words.

Nāṭyaśāstra and subsequent works list gestures of various numbers and sorts for each major and minor limb. The numbers vary from limb to limb and there does not seem to be any particular reason for this variation except the functional use to which each limb is put. Along with the gestures produced by the limbs, **Nāṭyaśāstra** lists sixtyseven gestures of hands. Of these, gestures of single hands are twentyfour in number, those of combined hands are thirteen in number, and 'dance-hands' are thirty in number. The gestures of dance-hands, 'as their name implies, are obviously to be used in dance; but in course of acting too they are often to be used along with other gestures (single and combined) to create an ornamental effect. Unlike the single and combined hands which must represent one single idea or object, the hands in the dance-hand gestures are to be individually moved, not for representing any idea or object, but for creating an ornamental effect in acting as well as in dance' (Ghosh, 1967). Note further that **Nāṭyaśāstra** distinguishes between the realistic (natural) and conventional gestures: 'If a play depends upon natural behaviour (in its characters) and is simple and not artificial, and has in its (plot) profession and activities of the people and has (simple acting and) no playful

flourish of limbs and depends on men and women of different types, it is called Realistic (**lokadharmi**). If a play modifies a traditional story, introduces super-natural powers, disregards the usual practice about the use of languages, and requires acting with graceful **Aṅgahāras**, and possesses characteristics of dance, and requires conventional enunciation and is dependent on a heavenly scene and heaven-born males, it is to be known as **nātyadharmi**'. (XIV:62-65; Ghosh, 1967). The distinction between the natural and conventional gestures is recognized by Bharata Muni in several contexts. For example, while discussing the different kinds of head gestures (which are considered conventional), **Nāṭyaśāstra** also reports that there are many other gestures of the head which are based on popular/natural practice. This distinction between the natural and conventional gestures and the provision made to make use of the same in drama and dance, change the closed system characteristics of gestural communication in this aesthetic form to some sort of an open system. As an example of **lokadharmi** gesture we may cite the use of **Padmakosa** hand used to represent lotus and similar flowers, and for **nāṭya dharmi** gesture most of the gestures employed in Bharata Natyam can be cited. **Nāṭyadharmi** gestures are often aimed at creating an ornamental effect. In the actual use of gestures and their concatenation, the open-ended elements of the gestural communication system come to the fore. Also exigencies of the aesthetic art form facilitate this use. Bharata Muni recognizes this condition, while giving guidelines for the choice of hand gestures: 'In acting, hand gestures should be selected for their form, movement, significance, and class according to the personal judgement of the actor. There is no hand gesture that cannot be used in indicating some idea. There are besides other popular gestures connected with other ideas, and they are also to be used along with

the movements inspired by the Sentiments and the States. These gestures should be used by males as well as females with proper regard to place, occasion, the play undertaken and a suitability of their meaning' (IX:153-157; Ghosh, 1967). (Note that the assertion 'there is no hand gesture that cannot be used in indicating some idea' is counter to assessment of some present day scholars, for example, Taylor, 1978.) From the reference to popular gestures it is clear that although gestures form a closed system in dance, the provision to include gestures from **lokadharmi** makes the dance an open system to a certain extent.

Gestures come to be alive because of their movements. Their representation and concatenation depend on the movements, and the movements have a connection with different Sentiments and States on the one hand, and on the other, are manifested physically in three ways: Upwards, sideways and downwards. The movements of hands should be used with embellishments by means of appropriate expressions in the eyes, the eyebrows and the face. The gestures may have both conventional and natural movements. One should use the hand gestures according to the popular practice (IX:161-163; Ghosh, 1967). The movements of gestures are governed also by the social status of individuals. In histrionic representation of gestures, the social status of individuals, according to **Nāṭyaśāstra**, determines the quantum as well as the placement of gestures. (This notion, it may be noted, is found in real world also, even today in some form or the other. We shall see this in the next section.) The hand gestures of individuals of the superior category/status move near their forehead, whereas the gestures of the individuals occupying a middle social status (rank) move around/at about their breasts. The individuals of inferior social rank move their hand gestures

in regions below the breasts. Also note that **Nāṭyaśāstra** prescribes that persons of superior rank will have very little movement in their hand gestures, whereas the individuals of inferior rank should be portrayed as having profuse movements of hand gestures. In the case of individuals occupying a middle social rank, the movement of hand gestures should be of a medium frequency. In addition, **Nāṭyaśāstra** prescribes that the hand gestures of persons of superior and middle levels of social rank should conform to the characterization of gestures as given in the **Śāstra** (thus ascribing to these gestures learned, institutionalized and elitist status along with a dose of conventionality) in contrast to the hand gestures of persons of inferior rank which follow popular practice and the individuals' own natural habit (IX:61-66; Ghosh, 1967). However when occasions demand, wise people would make contrary uses of hand gestures to suit the occasions (IX:167, Ghosh, 1967). There are also certain restrictions as to the use of hand gestures for the expression of certain emotions. That is, for representation of certain emotions hand gestures are not seen proper and thus other means are to be used (IX:168-171; Ghosh, 1967). (Compare this with the dictum in IX:153-157 cited above.) This, indeed, is a very interesting and significant allocation of functions. In it we find an implicit recognition that the parts of the body are generally allotted differential functions in the conduct of nonverbal communication involving the use of gestures. This provision makes the use of gesture in aesthetic arts as well as in natural, realistic world different from the use of gesture as an independent mode as found in American sign language or in the language of deaf-mutes. Finally, hand gestures in the acting are dependent on the expression of the face, the eyebrows and the eyes. There should be a proper coordination between hand gestures and the look of the gesturer

in the sense the gesturer's eyes and the look should be directed towards the points at which the hand gestures are moving, and there should be proper stops so that the meaning may be clearly expressed (seen) (IX:207, 172; Ghosh, 1967).

The gestures of other major limbs are as follows, according to **Nāṭyaśāstra**. The breast is of five kinds (slightly bent, unbent, shaking, raised and natural) and thus has five kinds of uses. The sides are of five kinds (bent, raised, extended, turned round and drawn away). The uses are also of five kinds. The belly is of three kinds (thin, depressed and full) and its uses are also classified into three kinds. The waist is of five kinds (turned aside, turned round, moved about, shaken and raised). Their significance is also classified into five types. The thighs have five kinds (shaking, turning, motionless, springing up and turning round). The shank has five kinds (turned, bent, thrown out, raised and turned back). The feet are of five kinds (touching the ground with heels, placed on an even ground, heels thrown up, heels on the ground, middle of the feet bent). The thighs, shanks and feet form a single category with each having five different kinds and five different uses.

Among the gestures of minor limbs, the gesture of the head is of thirteen kinds. There are thirtysix kinds of glances identified. Note that the most numerous gestures are formed by hands (sixtyseven as already reported) followed by eyes (thirtysix). Eyeballs have gestures of nine kinds and eyelids have nine kinds of gestures and follow the movements of eyeballs. The gestures of eyebrows, another minor limb, are in accordance with those of the eyeballs and eyelids. They are seven in number. The gestures of the nose are of six kinds. There are six kinds of gestures of cheeks, six

of lower lips and seven of chin. The gestures of the mouth are six in number. Colour of the face is also treated as gesture and there are four kinds of gestures concerning the colour of the face. That gestural communication in dance (of the elitist type) is dependent on facial expression is made clear by the dictum in **Nāṭyaśāstra** that the colour of the face should be used to represent the States and Sentiments; and although the acting is done with gestures and postures (**sākhā**), and the major and minor limbs, without proper colour of the face it will not be charming (VIII:161, 162; Ghosh, 1967). The colour of the face is the basis of the States and the Sentiments (VIII: 164, 165; Ghosh, 1967). The gestures of the neck are of nine kinds. Gestures of the neck are all to follow the gestures of the head and the head gestures also are reflected in those of the neck. Note that **Nāṭyaśāstra** clearly stipulates the dependence of gestures based on their proximity of origin on the one hand and their relevance for interpretation, rather mutual interpretation, on the other. While head and neck gestures are of the former type, the contribution of facial expressions for an interpretation of gestures of other limbs is of the latter category.

5.5. Social Relevance of Gesture in Indian Societies

Throughout this chapter, and indeed throughout this book, for the description of every nonverbal communicative mode we had an eye on its implications for social and interpersonal conduct. We have demonstrated the social bases and social functions of nonverbal communicative acts. Just as human languages become an integral part and indices of social rank and behaviour, gestural communication, apart from its use as a mere communication channel and an art form in itself, is also used to exhibit implicitly the underlying

social relations. We shall present below some of these functions of gestural communication in Indian communities.

First of all, verbal communication becomes appropriate and is considered dynamic, and 'living' in some sense only if gestures are made along with speech. Proper intonation takes this role in speech in Indian communities. Having no gestures at all with one's speech signifies something negative/defective -- it could mean reluctance, non-involvement, non-cooperation, anger, disobedience, revolt, etc., on the part of the individual who produces speech without gestures. It could also mean an attempt to insult the addressee. At the same time, use of abundant gestures along with one's speech is not also looked upon favourably. Abundance of gestures is allowed as a mark of individuality, but when abundance is placed within a social rank matrix it takes on a negative function and as such while the abundance of gestures is discouraged, use of appropriate gestures is demanded in the contexts in which social ranks are kept consciously. Use of gestures in speech also has the function of announcing that speech is in progress and that the individual speaking is in a state of deliberate act of expression. Thus the gestures, when they accompany speech, have the function of announcing that a semiotic act is in progress.

Another important characteristic of gestural communication in Indian communities seems to be the phenomenon of suppression of gestures/avoidance of gestures in oral communicative acts. This suppression is again socially motivated and is a consequence of demands made by factors, such as level of education, locality of residence (urban/rural) and socialization processes of individual castes. These factors may either work in concert with one another or independent of one another.

Suppression of gestures in interpersonal communicative situations finds correspondences in several other communicative modes. For example, in speech by suppression of one's own social and regional characteristics, the individual attains the mastery of standard speech which carries with it greater acceptance and prestige. In the use of colours, gaudy and bright colours, more often than not, are associated with people of ethnic/religious groups, with a sense of superiority on the subdued colour; in other words, suppression of the brilliance of colours becomes the hallmark of some higher education and social status. Same is the case in the choice of fragrance, flowers, and application of hair oil. In the last mentioned item, we include both the quantity of oil and fragrance of oil applied on hair. Also note that brevity of speech and a less quantum of oral expression are considered a virtue. In all these communicative modes, suppression appears to be a dominant phenomenon. This phenomenon of suppression, thus, is found in a correspondingly natural manner in gestural communication as well, and is linked with the factors listed above.

An important variable that appears to regulate the use of gestures in Indian communities is the superior/inferior opposition. Under this binary opposition, several relations, such as those of master/servant, elder/younger, male/female, husband/wife, and father/mother are also covered, in addition to assumed/projected superiority/inferiority between castes. Use of gestures, particularly those of indexical nature referring to the addressee, is prohibited or taken to be an insult to the addressee and as revolt, etc. Gestures for beckoning become the privilege of the superior. Note that these restrictions are found also in the use of oral language. In normal communication contexts it seems to be the privilege of the superior

to use the gestural communication. Use of gestural communication itself by the persons of inferior category appears to be of a much less quantum.

There also appears to be difference in the quantum of gestures employed by men and women. In the rural context presence of individuals of certain status of the male sex encourages use of nonverbal means for communication by the females. In the most urbanized context, while such compulsions do not generally exist, resort to gestures is made as a mark of one's education and westernization by females. In general, use of gestures as an adjunct to oral communication is found more among the females of urbanized contexts with an inclination towards 'westernization' than among others.

This takes us to the question of conscious incorporation of gestures in the oral communication processes, that is, borrowing of gestures from contexts not one's own. Borrowing of gestures from folk traditions, rural traditions and from people of lower socioeconomic strata is rare and this corresponds to behavioural patterns on other planes, including oral communication. However, unlike the borrowing of words from English and use of the same very frequently and continuously all through one's life, borrowing of gestures is not a continuing and cumulative process. Gestures are borrowed; they become a mark of identity. They may even be a permanent fixture in one's communication activity. And yet they are more transitory in some sense than the words borrowed from English. Further, these borrowed gestures have lesser penetrating power than the words borrowed in the sense that the borrowed words reach even the deepest rural centres and the people of the lowest social and economic strata, whereas the borrowed gestures, for some reason or the other, do not go that far.