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## BODILY COMMUNICATION DIMENSIONS OF EXPRESSION AND CONTENT

### 1. INTRODUCTION

Bodily communication perceived visually or through the tactile senses has a central place in human communication. It is probably basic both from an ontogenetic and a phylogenetic perspective, being connected with archaic levels in our brains such as the limbic system and the autonomous neural system. It is interesting from a biological, psychological and social point of view and given recent developments in ICT (Information and Communication Technology). It is also becoming more and more interesting from a technological point of view.

However, interest in bodily communication is not new. There is preserved testimony of interest in the communicative function of bodily movements since antiquity, especially in connection with rhetoric and drama (cf. Øyslebø, 1989). However, the study of bodily communication has clearly become more important over the last 40 years, related to an increased interest in the communication conveyed through movies, television, videos, computer games and virtual reality.

In fact, it is only with easily available facilities for recording and analyzing human movements that the study of bodily communication really becomes possible. It is becoming increasingly important in studies of political rhetoric, psychodynamically charged communication and communication in virtual reality environments. Pioneers in the modern study of bodily communication go back to the 1930's when Gregory Bateson filmed *Communication on Bali* (cf. Lipset, 1980) or the 1950's when Carl Herman Hjortsjö (e.g. Hjortsjö, 1969) started his investigations of the anatomical muscular background of facial muscles, later to be completed by Paul Ekman and associates (Ekman & Friesen, 1969). Another breakthrough was made by Gunnar Johansson (e.g. Johansson, 1973) who, by filming moving people dressed in black with white spots on their arms and legs, was able to make a first attempt at isolating what gestures are significant in communication. Other important steps using filmed data were taken by Michael Argyle (1975), Desmond Morris (1977), Adam Kendon (1981) and David McNeill (1979). In the 1990's, another barrier was crossed when it became possible to study gestures using computer simulations in a virtual reality environment (cf. Cassell et al, 2000).

For an overview of the whole field and its development there are several introductions available. Among them are Knapp (1978 and later editions), Key (1982), Øyslebø (1989) and Cassell et al (2000).

## 2. THE PLACE OF BODILY COMMUNICATION IN HUMAN COMMUNICATION

### 2.1 *Communication*

If we try to define the word communication in a way, which covers most (perhaps all) of its uses, we get a definition of the following type:

Communication = def. Transmission of content X from a sender Y to a recipient Z using an expression W and a medium Q in an environment E with a purpose-function F.

Even if it is possible to add further parameters, some of the most important are given in the above definition. The definition could be paraphrased by saying that communication in the widest sense is *transmission of anything from anything to anything with the help of anything (expression/medium) in any environment with any purpose/function*. A definition which is as wide as this is required to capture uses of the word *communication* which are exemplified in expressions like *table of communication*, *railroad communication* and *communication of energy from one molecule to another* (cf. Allwood, 1983).

Based on these examples, it could be claimed that the word *communicant* designates a "pretheoretical concept" which needs to be made more precise and specific in order to be suitable for theoretical analysis. This could, for example, be done by analyzing the connections and relations between properties of the arguments in the definition that provide constraints and enablements, i.e. properties and relations of the content (X), the sender (Y), the recipient (Z), the expression (W), the medium (Q), the environment (E) and the purpose/function (F).

Some of these properties and relations are the following:

1. *Sender and recipient*: A first problem here concerns the terms *sender* and *recipient*. Depending on circumstances, the following terms could be used as synonyms of *sender*: *speaker*, *communicator*, *producer*, *contributor* and the following as synonyms of *recipient*: *listener*, *hearer*, *communicator*, *receiver*, *contributor*. All terms have problems since they are either too restricted, too general (no difference between sending - receiving) or give the wrong metaphorical associations – *sender* and *receiver* are too closely linked to radio signaling. A second problem concerns how the nature of senders and recipients influence their ability to communicate. Some of the most important abilities of senders and recipients have to do with whether they are living, conscious and capable of having intentions. Their abilities often relate to what types of causal and social relations they have to their environment. Different types of senders and recipients vary greatly in their ability to make use of such relations in order to convey and receive information symbolically, iconically and indexically. See section 2.2 below.
2. *Expressions and media*: Which types of expression and media are available to senders and recipients depends on the restrictions and enablements that are imposed by their nature. Through their five senses, human beings can perceive

causal influences of at least four types (optical, acoustic, pressure and chemical (taste, smell). These causal influences have usually been produced by bodily movements or secretions coming from other human beings. Normal human face-to-face communication is, thus, multimodal both from the point of view of perception and production, employing several types of expression and media simultaneously.

3. *Content*: Similarly, the content is usually multidimensional. It is often simultaneously factual, emotional-attitudinal and socially regulating. There are several interesting relations between the modalities of expression and the dimensions of content, e.g. we mostly communicate emotion using vocal quality or body movements while factual information is mostly given with words.
4. *Purpose and function*: On a collective, abstract level, the purposes/functions of communication can, for example, be physical, biological, psychological or social, e.g. "survival" or "social cohesion". On a more concrete level, most individual contributions to conversation can also be connected with (individual) purposes/functions, like making a claim or trying to obtain information.
5. *Environments*: Environment on a collective, abstract level can be characterized as physical, biological, psychological or social in a way which is similar to "purpose/functions". Each type of environment can then be connected with particular types of causal influence in communication. On a concrete level, most human environments will be complex combinations of all the four mentioned dimensions and possibly others and thus exert a fairly complex combined influence on communication.

## 2.2 *Indices, icons and symbols*

People who communicate are normally situated in a fairly complex (physical, chemical, biological, psychological and social) environment. Through their perception (i.e. at least sight, hearing, touch, smell and taste) connected with central brain processing, they can discriminate objects, properties, relations, processes, states, events and complex combinations of all of these in their environment. All information, including that originating in communication with other persons, is processed and related to preexisting memories, thoughts, emotions or desires and in this way makes up a basis for what later can be expressed in communication.

What a person expresses can normally be described as being dependent on the attitudes the person has toward the expressed information. Clear examples of this can be found in such speech acts as statements, questions and requests, which normally express the cognitive attitudes of belief, inquisitiveness and desire for some action on the part of the hearer.

Independently of what is going to be expressed, any communicator has to use one of three basic ways of conveying and sharing information (cf. C.S. Peirce,

1902). Peirce was concerned with a general basic descriptive framework for communication and sharing of all types of information (including information related to gestures), so his “semiotics” contains many concepts, which are useful in describing multimodal communication:

- A. *Indexical information*; this is information which is shared by being causally related to the information which is being perceived - the index, e.g. black clouds, can be an index of rain.
- B. *Iconic information*; this is information which is shared by being related through similarity or homomorphism to the information which is being perceived - the icon, e.g. a picture, iconically represents whatever is depicted.
- C. *Symbolic information*; this is information which is shared by being related by social convention to the information which is being perceived - the symbol, e.g. words, symbolically represent their referents.

In normal human communication, we simultaneously use a combination of these types of information. For example, as we speak to each other, we frequently let our words “symbolically express” factual information while our hands “iconically illustrate” the same thing and our voice quality and our facial gestures “indexically” convey our attitude to the topic we are speaking about or the person we are speaking to.

The simultaneous and parallel use of symbolic, iconic and indexical information is commonly connected with variation in the extent to which we are aware of what we are doing and variation regarding how intentional our actions are. Generally we are most aware of what we are attempting to convey and share through symbols, somewhat less aware of what we convey and share iconically and least aware of what we convey and share indexically. This means that most people are more aware of what they are trying to say than they are of what their hands illustrate or of what their voice quality and facial gestures express.

This variation in intentionality and awareness also leads to a variation in controllability which affects our impression of how “authentic” or “genuine” the feelings and attitudes of a person are. Usually this impression is more influenced by voice quality and gestures which are not easily controllable than by those that are more readily controllable.

If a conflict arises between what is expressed by words or by facial gestures which are relatively easy to control and what is expressed by voice quality or by the rest of the body, which is not so easy to control, we mostly seem to trust information which is not so easy to consciously control. More or less subconsciously, we seem to assume that such information puts us in touch with more spontaneous, unreflected reactions.

However, this tendency has sometimes been misunderstood in previous research on nonverbal communication (cf. e.g. Fast, 1973). The significance of what has been said above is not that 80-90% of the information that is shared in conversation is

conveyed by bodily movements. The significance is not even that information which is conveyed by bodily movements is more important than other types of information.

Rather the significance is that bodily movements and voice quality are convenient, spontaneous and automatic means of expression for emotions and attitudes. Probably, they are our most important means of expression for this type of information. As a consequence they often also become our most genuine and spontaneous means of emotional expression. However, this does not imply that information about emotions and attitudes is always the most important information. Sometimes it is, sometimes it is not - sometimes factual information is more important. Nor does it imply that genuine or spontaneous expression of emotion is always the most appropriate or the most interesting.

An emotional expression based on some effort and reflection can in certain situations be more interesting and appropriate. After all, this is what the person wants to express and leave as a lasting impression, using effort, self-control and reflection.

### 2.3 *Indicate, display and signal*

Above I have briefly illustrated that one of the interesting questions connected with the study of how body movements are used for communication is the question of how intentional and conscious or aware such communication is. Since this problem is of both theoretical and practical interest, I will now introduce three concepts which can be used to capture some of the variation in degrees of intentionality and awareness (cf. also Allwood, 1976 and 2000, as well as Nivre, 1992).

- A. *Indicate*: A sender indicates information to a recipient if and only if he/she conveys the information without consciously intending to do so. If A blushes in trying to answer a sensitive question this could indicate to the recipient that A is feeling shy or embarrassed. Information that is indicated is thus causally connected with A without being the product of conscious intention. It is totally dependent on the recipient's ability to interpret and explain what A is doing.
- B. *Display*: A sender displays information to a recipient if and only if he/she consciously shows the information to the recipient. For example, a person A can consciously use more of his/her regional accent in speaking in order to show (display) where he/she is from.
- C. *Signal*: A sender signals information to a recipient if and only if he/she consciously shows the recipient that the information is displayed. To display is to show that you are showing. Ordinary verbal communication usually involves signaling. For example, if a person A says *I am from Austin* this information is signaled, i.e. it is clear that the sender wants the recipient to notice that he/she is communicating (showing) this information.

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