have not done the semiotic or communication research necessary to establish the range of appropriate social contexts within which to measure the range of consequences (meanings) of the possible range of shapes of "smiles." I think that we know how to study "smiling" as a social act. However, I don't think we will know what a smile means until we understand, from society to society, its intrachannel role and its contextual variability.

Insofar as I have been able to determine, just as there are no universal words, no sound complexes, which carry the same meaning the world over, there are no body motions, facial expressions, or gestures which provoke identical responses the world over.* A body can be bowed in grief, in humility, in laughter, or in readiness for aggression. A "smile" in one society portrays friendliness, in another embarrassment, and, in still another may contain a warning that, unless tension is reduced, hostility and attack will follow.

Perhaps it would be useful to discuss the "smile" as a deceptively familiar facial expression. It may be possible through its analysis to make a series of points about so-called gestures and facial expressions. First, what kinds of behavior do we abstract when we say that a man or a woman has a smile on (note the preposition) his or her face? We could, if we wished, make a list of the musculature of the lips and around the mouth. Such a listing might be of interest to an anatomist or to the plastic surgeon attempting to restore expression to a mutilated face or to a neurologist searching for a way to repair the damage of a neural accident. But this is not what we are seeking. Even our most preliminary investigation reveals that the lateral extension of the corners of the mouth or the upward pull on the upper lips, or any combinations of these do not make a recognizable smile. These same activities occur with a snarl or a grimace of pain. The response of an infant to a gas pain seems to involve the same circummouth musculature as the response to its mother.

A detail from a painting which is limited to the behavior immediately associated with the oral cavity is ambiguous. It takes little observation to realize that this ambiguity arises from the fact that our abstraction is partial, that we have inappropriately sliced nature.

It is true that a child can be taught to make a large oval, put a

small circle in its center, two small parallel circles just above the central circle and an upwardly curving line below the central circle and the completed figure can be recognized as representing a face. When the abstraction is presented as a whole, the curved line in this drawing can stand for a smile. Yet, this figure is more of a statement about the conventional shorthand of cartoons or of Western European childish representation than it is proof that the smile occurs in the mouth. If one belongs to a culture that sustains this abstractional convention, the curved line stands for a smile. In other cultures which do not use this total figure for a face or recognize the curved line symbol for a mouth as a mouth, this abstraction is confusing if not downright nonsensical. The particular organization of sounds which are heard as "smile" stands for a particular facial expression only for members of those cultures which have made this arbitrary and conventionalized association between the complex of sounds "Smile" and a particular range of facial expression. Comparably, the curved line is a symbol, carrying meaning only in those societies which have this convention. However, it is very easy to be deceived into believing that because an abstraction can stand for an activity, the abstraction itself is a universal representation of this expression—that a smile, so abstracted, is an activity engaged in by the mouth.

Because artistic representation is always, if meaningful, in some sense conventionalized, we must look at faces and not at pictures of faces if we are to abstract and comprehend either "what" a smile is, how it is made up, or what it "means." That is, "smiles" must be studied in their social setting if we are to understand the ranges of meaning humans of a given society convey to each other when they display facial activity.

If a "smile" is not limited to the mouth, what are the physical involvements characteristic of its performance? If we limit our discussion to an American communicating by body motion, we can study this problem along two different but mutually contributive pathways. One of these is to take the mouth behavior which repeatedly appears in that activity which we, as members of an American, diakinesic system recognize as a smile and which our informants identify as a smile, and see where else it appears. By a few comparative operations we can quickly discover that the lips are pulled back, or up and back, in a variety of other facial expressions. That is, even though some degree of movement is required by the lips in order to smile, this same movement is utilized in expressions that could

^{*}The following section on smiles is part of a paper "The Artist, The Scientist, and a Smile" presented at the Maryland Institute of Art on December 4, 1964.