Principles of writing systems within the frame of visual communication

I. J. Gelb

In this paper principles and concepts governing systems of signs, generally, and visual communication, specifically, are discussed first. Then the definition and view of the structure and typology of writing given in A study of writing and subsequent studies is dealt with. Finally my new view of writing is presented.

In order to understand the function of writing as a communicative system, it is necessary to look at it within the framework of other communicative systems or systems of signs.

Animal communication
Ever since Pavlov's findings, the possibility has been seriously entertained that the differences between human and animal communication may be quantitative rather than qualitative. The various communicatory modes observed among animals are visual (gestures, postures, facial expressions, discrete wiggle-and-dance signals of the bees), auditory (calls, whistles), olfactory (scent signals, odor trails), and tactile (touching with paws, nose, etc.). The use of visual markings by human beings may find its functional analogue in the use of urine by dogs for signaling purposes. (I believe Julian Huxley estimated that only about 10 percent of animal communication is achieved by the usual sensory modes, leaving a great deal still to be accounted for.)

Systems of signs
Like animals, man interacts communicatively by means of conventional signs. A system of signs is an assemblage of organically related signs. A sign may be a word in oral language or a written mark in writing. The most common systems of signs among human beings are oral language, received aurally, gesture language, received visually, and writing, including drawing, painting, scratching, or incising markings on objects or on any other more or less durable material, also received visually.

There is no good term to cover all the conventional means of communication through signs. French scholars at times use le langage in this sense, while calling the oral language langage parlé, langage articulé, or simply la langue. In English, "language" may be used for all means of communication through signs, and "speech" for the oral language alone.
Definition of visual communication
Visual communication may be defined as a system or device using conventional signs which are emitted by one or more individuals by any means possible—natural or artificial—and are received visually by one or more individuals.

Meaning of system of signs and devices
Communication may be achieved either by signs, such as a grin or a memorial cross, which do not form part of a well-organized system, or by signs forming part of a system, such as an alphabet. The term “device” is used for various kinds of communicative behavior that cannot easily be organized into a system, such as the body and hand motions of Neapolitans, as opposed to the gesture language of deafmutes.

Because of innumerable types, sub-types, and inter-types of communicative behavior, it is impossible to separate clearly systems of signs from devices.

Meaning of “conventional”
The term “conventionally,” used in the description of communicative behavior, implies that the signs used by some individuals can be understood and reacted to by others. Any outward expression that is not understandable is not a sign and is not part of a communicative system. Some examples are meaningless scribblings on paper by a child or “nonsense words” in the language.

Process of communication
The process of communication is composed of three elements: emission, reception, and such intervening physical features as sound or light waves. The emission of communication may be achieved by any means possible, natural (gesture, body motion) or artificial (fire, smoke, light, electronic). Because the means of emitting communication are too varied and too numerous to permit any systematic classification, the discussion of the systems must start from the point of reception, mainly visual, auditory, and, to a much more limited extent, tactile. Olfactory and gustatory signs led to no fully developed systems of signs.

Communication versus expression
Man, as a social being, finds himself or visualizes himself to be at all times in situations in which he can express himself artistically only by communicating. And, conversely, all forms of human communication serve or may serve at the same time the aim of personal artistic-esthetic expression. It seems, therefore, that the aims of communication and expression are so closely intertwined in all forms of human behavior that normally it is impossible to discuss one without being forced to consider the other as well.

The two elements, artistic expression and communication, may be exemplified in a single painting, such as Picasso’s “Guernica,” or in a series of