The Anthropology and Social Significance of the Human Hand

ETHEL J. ALPENFELS, D.Sc.[1]

A DEFINITIVE study of the anthropology of the human hand has yet to be written. Certain investigators, notably Krogman *{17),* Schultz *(28,29),* Ashley-Montagu *(2),* Clark (5), and Huxley *(13),* have done intensive work on specific aspects of the morphology of the human hand. Nevertheless, the paucity of published studies, the fragmentary nature of the research, and the failure to attempt any but the most general conclusions make it difficult to summarize in a short article the present status of the hand in human evolution. Authorities differ both in opinion and in practice as to the value of anthropometric measurements in tracing the lines along which specialization has moved in the evolution of the hand. Published materials on the social significance of the hand are, however, numerous, and the importance of the hand as an organ both of performance and of perception has been recognized in all fields of the social sciences.

Man alone has a hand. He uses it as a tool, as a symbol, and as a weapon. A whole literature of legend, folklore, superstition, and myth has been built up around the human hand. As an organ of performance it serves as eyes for the blind, the mute talk with it, and it has become a symbol of salutation, supplication, and condemnation. The hand has played a part in the creative life of every known society, and it has come to be symbolic or representative of the *whole* person in art, in drama, and in the dance. Students of constitutional types have used the hand as a means of classification, and the correlation between mental ability and manual dexterity has been the subject of much research. At the University of Pennsylvania, Krogman, using x-rays of the hand, currently is demonstrating new and important aspects of the interrelation of a child's growth and mental age. Thus the hand, perhaps because it is also dominant in the world of action, has come to be interpreted and understood best in its social aspects.

But in a sense the human hand is a paradox. Although it is said to be the highest achievement of primate evolution, research to date shows it to be no more than a variation of a primitive vertebrate plan. The successive stages of evolution give proof, if proof be needed, that our sensitive and mobile hands, with their opposable thumbs, are part of man's vertebrate ancestry.

In the suborder Lemuroidea, both recent and extinct, are found pawlike hands. The fourth digit[2] is elongated and, together with the first digit, acts like a pair of pincers to grasp a bough. Hooten *(12)* has pointed out that this is an adaptation found in all the

[1] Professor of Anthropology, New York University, New York City.

[2] Meaning that digit corresponding to the "ring finger" in man. Among anatomists generally, at least two systems for identifying hand digits are in accepted scientific usage, often interchangeably by the same writer. A common convention is to number the digits from I to V, beginning with the thumb as digit I and ending with the little finger as digit V (Fig. 1). But many competent writers, thinking of the hand as having a "thumb" and four "fingers," label the "fingers" as first, second, third, and fourth, meaning the index finger, the middle finger, the ring finger, and the little finger or pinkie, respectively. Throughout this issue of ARTIFICIAL LIMBS, it is considered that the normal hand has five digits, one of which is a "thumb," the other four being "fingers." A "digit" is here referred to with the understanding that digit I is the thumb "Fingers" are referred to as being numbered beginning with the index finger as the first finger.—ED.