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CHAPTER TWO

THE SYMBOL:
The Origin and Basis of Human Behavior

"In the Word was the Beginning . . . the beginning of Man and of Culture."

I

In July, 1939, a celebration was held at Leland Stanford University to commemorate the hundredth anniversary of the discovery that the cell is the basic unit of all living tissue. Today we are beginning to realize and to appreciate the fact that the symbol is the basic unit of all human behavior and civilization.

All human behavior originates in the use of symbols. It was the symbol which transformed our anthropoid ancestors into men and made them human. All civilizations have been generated, and are perpetuated, only by the use of symbols. It is the symbol which transforms an infant of Homo sapiens into a human being; deaf mutes who grow up without the use of symbols are not human beings. All human behavior consists of, or is dependent upon, the use of symbols. Human behavior is symbolic behavior; symbolic behavior is human behavior. The symbol is the universe of humanity.

II

The great Darwin declared in *The Descent of Man* that "there is no fundamental difference between man and the higher

mammals in their mental faculties," that the difference between them consists "*solely* in his [man's] almost infinitely larger power of associating together the most diversified sounds and ideas . . . the mental powers of higher animals do not differ *in kind*, though greatly *in degree*, from the corresponding powers of man" (Chs. 3, 18; emphasis ours).

This view of comparative mentality is held by many scholars today. Thus, F. H. Hankins, a prominent sociologist, states that "in spite of his large brain, it cannot be said that man has any mental traits that are peculiar to him . . . All of these human superiorities are merely relative or differences of degree." Professor Ralph Linton, an anthropologist, writes in *The Study of Man*: "The differences between men and animals in all these [behavior] respects are enormous, but they seem to be differences in quantity rather than in quality." "Human and animal behavior can be shown to have so much in common," Linton observes, "that the gap [between them] ceases to be of great importance." Dr. Alexander Goldenweiser, likewise an anthropologist, believes that "In point of sheer psychology, mind as such, man is after all no more than a talented animal" and that "the difference between the mentality here displayed [by a horse and a chimpanzee] and that of man is merely one of degree." [1]

That there are numerous and impressive similarities between the behavior of man and that of ape is fairly obvious; it is quite possible that chimpanzees and gorillas in zoos have noted and appreciated them. Fairly apparent, too, are man's behavioral similarities to many other kinds of animals. Almost as obvious, but not easy to define, is a difference in behavior which distinguishes man from all other living creatures. I say 'obvious' because it is quite apparent to the common man that the non-human animals with which he is familiar do not and cannot enter, and participate in, the world in which he, as a human being, lives. It is impossible for a dog, horse, bird, or even an ape, to have any understanding of the meaning of the sign of the cross to a Christian, or of the

fact that black (white among the Chinese) is the color of mourning. No chimpanzee or laboratory rat can appreciate the difference between Holy water and distilled water, or grasp the meaning of *Tuesday*, 3, or *sin*. No animal save man can distinguish a cousin from an uncle, or a cross cousin from a parallel cousin. Only man can commit the crime of incest or adultery; only he can remember the Sabbath and keep it Holy. It is not, as we well know, that the lower animals can do these things but to a lesser degree than ourselves; they cannot perform these acts of appreciation and distinction *at all*. It is, as Descartes said long ago, "not only that the brutes have less Reason than man, but that they have none at all." [2]

But when the scholar attempts to *define* the mental difference between man and other animals he sometimes encounters difficulties which he cannot surmount and, therefore, ends up by saying that the difference is merely one of degree: man has a bigger mind, "larger power of association," wider range of activities, etc. We have a good example of this in the distinguished physiologist, Anton J. Carlson. After taking note of "man's present achievements in science, in the arts (including oratory), in political and social institutions," and noting "at the same time the apparent paucity of such behavior in other animals," he, as a common man "is tempted to conclude that in these capacities, at least, man has a qualitative superiority over other mammals." But, since, as a scientist, Professor Carlson cannot *define* this qualitative difference between man and other animals, since as a physiologist he cannot explain it, he refuses to admit it— ". . . the physiologist does not accept the great development of articulate speech in man as something qualitatively new; . . ." —and suggests helplessly that some day we may find some new "building stone," an "additional lipoid, phosphatid, or potassium ion," in the human brain which will explain it, and concludes by saying that the difference between the mind of man and that of non-man is "probably only one of degree." [3]

The thesis that we shall advance and defend here is that there is a *fundamental* difference between the mind of man and the mind of non-man. This difference is one of kind, not one of degree. And the gap between the two types is of the greatest importance—at least to the science of comparative behavior. Man uses symbols; no other creature does. An organism has the ability to symbol or it does not; there are no intermediate stages.

III

A symbol may be defined as a thing the value or meaning of which is bestowed upon it by those who use it. I say 'thing' because a symbol may have any kind of physical form; it may have the form of a material object, a color, a sound, an odor, a motion of an object, a taste.

The meaning, or value, of a symbol is in no instance derived from or determined by properties intrinsic in its physical form: the color appropriate to mourning may be yellow, green, or any other color; purple need not be the color of royalty; among the Manchu rulers of China it was yellow. The meaning of the word "see" is not intrinsic in its phonetic (or pictorial) properties. "Biting one's thumb at" * someone might mean anything. The meanings of symbols are derived from and determined by the organisms who use them; meaning is bestowed by human organisms upon physical things or events which thereupon become symbols. Symbols "have their signification," to use John Locke's phrase, "from the arbitrary imposition of men." [4]

All symbols must have a physical form otherwise they could not enter our experience. This statement is valid regardless of our theory of experiencing. Even the exponents of "Extra-Sensory Perception" who have challenged Locke's dictum that "the knowledge of the existence of any other thing [besides ourselves and God] we can have only by sensation," [5] have been obliged to work

* "Do you bite your thumb at us, sir?"—*Romeo and Juliet*, Act I, Sc. 1.

with physical rather than ethereal forms. But the meaning of a symbol cannot be discovered by mere sensory examination of its physical form. One cannot tell by looking at an x in an algebraic equation what it stands for; one cannot ascertain with the ears alone the symbolic value of the phonetic compound *si;* one cannot tell merely by weighing a pig how much gold he will exchange for; one cannot tell from the wave length of a color whether it stands for courage or cowardice, "stop" or "go"; nor can one discover the spirit in a fetish by any amount of physical or chemical examination. The meaning of a symbol can be grasped only by non-sensory, symbolic means.

The nature of symbolic experience may be easily illustrated. When the Spaniards first encountered the Aztecs, neither could speak the language of the other. How could the Indians discover the meaning of santo, or the significance of the crucifix? How could the Spaniards learn the meaning of *calli,* or appreciate Tlaloc? These meanings and values could not be communicated by sensory experience of physical properties alone. The finest ears will not tell you whether *santo* means "holy" or "hungry." The keenest senses cannot capture the value of holy water. Yet, as we all know, the Spaniards and the Aztecs did discover each other's meanings and appreciate each other's values. But not with sensory means. Each was able to enter the world of the other only by virtue of a faculty for which we have no better name than symbol.

But a thing which in one context is a symbol is, in another context, not a symbol but a sign. Thus, a word is a symbol only when one is concerned with the distinction between its meaning and its physical form. This distinction *must* be made when one bestows value upon a sound-combination or when a previously bestowed value is discovered for the first time; it *may* be made at other times for certain purposes. But after value has been bestowed upon, or discovered in, a word, its meaning becomes identified, in use, with its physical form. The word then functions as a sign,

rather than as a symbol. Its meaning is then grasped with the senses.

We define a *sign* as a physical thing or event whose function is to indicate some other thing or event. The meaning of a sign may be inherent in its physical form and its context, as in the case of the height of a column of mercury in a thermometer as an indication of temperature, or the return of robins in the spring. Or, the meaning of a sign may be merely identified with its physical form as in the case of a hurricane signal or a quarantine flag. But in either case, the meaning of the sign may be ascertained by sensory means. The fact that a thing may be both a symbol (in one context) and a sign (in another context) has led to confusion and misunderstanding.

Thus Darwin says: "That which distinguishes man from the lower animals is not the understanding of articulate sounds, for as everyone knows, dogs understand many words and sentences," (Ch. III, *The Descent of Man*).

It is perfectly true, of course, that dogs, apes, horses, birds, and perhaps creatures even lower in the evolutionary scale, can be taught to respond in a specific way to a vocal command. Little Gua, the infant chimpanzee in the Kelloggs' experiment, was, for a time, "considerably superior to the child in responding to human words." [6] But it does not follow that no difference exists between the meaning of "words and sentences" to a man and to an ape or dog. Words are both signs and symbols to man; they are merely signs to a dog. Let us analyze the situation of vocal stimulus and response.

A dog may be taught to roll over at the command "Roll over!" A man may be taught to stop at the command "Halt!" The fact that a dog can be taught to roll over in Chinese, or that he can be taught to "go fetch" at the command "roll over" (and, of course, the same is true for a man) shows that there is no necessary and invariable relationship between a particular sound combination and a specific reaction to it. The dog or the man can be taught

to respond in a certain manner to any arbitrarily selected combination of sounds, for example, a group of nonsense syllables, coined for the occasion. On the other hand, any one of a great number and variety of responses may become evocable by a given stimulus. Thus, so far as the *origin* of the relationship between vocal stimulus and response is concerned, the nature of the relationship, i.e., the meaning of the stimulus, is not determined by properties intrinsic in the stimulus.

But, once the relationship has been established between vocal stimulus and response, the meaning of the stimulus becomes *identified with the sounds*; it is then *as if* the meaning were intrinsic in the sounds themselves. Thus, 'halt' does not have the same meaning as 'hilt' or 'malt,' and these stimuli are distinguished from one another with the auditory mechanism. A dog may be conditioned to respond in a certain way to a sound of a given wave length. Sufficiently alter the pitch of the sound and the response will cease to be forthcoming. The meaning of the stimulus has become identified with its physical form; its value is appreciated with the senses.

Thus in *sign* behavior we see that in *establishing* a relationship between a stimulus and a response the properties intrinsic in the stimulus do not determine the nature of the response. But, *after the relationship has been established* the meaning of the stimulus is *as if* it were *inherent* in its physical form. It does not make any difference what phonetic combination we select to evoke the response of terminating self-locomotion. We may teach a dog, horse, or man to stop at any vocal command we care to choose or devise. But once the relationship has been established between sound and response, the meaning of the stimulus becomes identified with its physical form and is, therefore, perceivable with the senses.

So far we have discovered no difference between the dog and the man; they appear to be exactly alike. And so they are as far as we have gone. But we have not told the whole story yet. No difference between dog and man is discoverable so far as learning

to respond appropriately to a vocal stimulus is concerned. But we must not let an impressive similarity conceal an important difference. A porpoise is not yet a fish.

The man differs from the dog—and all other creatures—in that *he can and does play an active role in determining what value the vocal stimulus is to have, and the dog cannot.* The dog does not and cannot play an active part in determining the value of the vocal stimulus. Whether he is to roll over or go fetch at a given stimulus, or whether the stimulus for roll over be one combination of sounds or another is a matter in which the dog has nothing whatever to "say." He plays a purely passive role and can do nothing else. He learns the meaning of a vocal command just as his salivary glands may learn to respond to the sound of a bell. But man plays an active role and thus becomes a creator: let *x* equal three pounds of coal and it does equal three pounds of coal; let removal of the hat in a house of worship indicate respect and it becomes so. This creative faculty, that of freely, actively, and arbitrarily bestowing value upon things, is one of the most commonplace as well as *the* most important characteristic of man. Children employ it freely in their play: "Let's pretend that this rock is a wolf."

The difference between the behavior of man and other animals then, is that the lower animals may receive new values, may acquire new meanings, but they cannot create and bestow them. Only man can do this. To use a crude analogy, lower animals are like a person who has only the receiving apparatus for wireless messages: he can receive messages but cannot send them. Man can do both. And this difference is one of kind, not of degree: a creature can either "arbitrarily impose signification," can either create and bestow values, or he cannot. There are no intermediate stages. This difference may appear slight, but, as a carpenter once told William James in discussing differences between men, "It's very important." All *human* existence depends upon it and it alone.

The confusion regarding the nature of words and their significance to men and the lower animals is not hard to understand. It arises, first of all, from a failure to distinguish between the two quite different contexts in which words function. The statements, "The meaning of a word cannot be grasped with the senses," and "The meaning of a word can be grasped with the senses," though contradictory, are nevertheless equally true. In the *symbol* context the meaning cannot be perceived with the senses; in the *sign* context it can. This is confusing enough. But the situation has been made worse by using the words 'symbol' and 'sign' to label, not the *different contexts*, but *one and the same thing*: the word. Thus a word is a symbol *and* a sign, two different things. It is like saying that a vase is a *doli* and a *kana*—two different things—because it may function in two contexts, esthetic and commercial.

IV

That man is unique among animal species with respect to mental abilities, that a fundamental difference of kind—not of degree—separates man from all other animals is a fact that has long been appreciated, despite Darwin's pronouncement to the contrary. Long ago, in his *Discourse on Method*, Descartes pointed out that "there are no men so dull and stupid . . . as to be incapable of joining together different words . . . on the other hand, there is no other animal, however perfect . . . which can do the like." John Locke, too, saw clearly that "the power of abstracting is not at all in them [i.e., beasts], and that the having of general ideas is that which puts a perfect distinction between man and brutes, and is an excellency which the faculties of brutes do by no means attain to . . . they have no use of words or any other general signs." [7] The great British anthropologist, E. B. Tylor, remarked upon "the mental gulf that divides the lowest savage from the highest ape . . . A young child can understand what is not proved to have entered the mind of the cleverest dog, elephant, or ape." [8]

And, of course, there are many today who recognize the "mental gulf" between man and other species.

Thus, for over a century we have had, side by side, two traditions in comparative psychology. One has declared that man does not differ from other animals in mental abilities except in degree. The other has seen clearly that man is unique in at least one respect, that he possesses an ability that no other animal has. The difficulty of *defining* this difference adequately has kept this question open until the present day. The distinction between *sign* behavior and *symbol* behavior as drawn here may, we hope, contribute to a solution of this problem once and for all.

V

Very little indeed is known of the organic basis of the symbolic faculty: we know next to nothing of the neurology of "symbolling." And very few scientists—anatomists, neurologists or physical anthropologists—appear to be interested in the subject. Some, in fact, seem to be unaware of the existence of such a problem. The duty and task of giving an account of the neural basis of symbolling does not, however, fall within the province of the sociologist or the cultural anthropologist. On the contrary, he should scrupulously exclude it as irrelevant to his problems and interests; to introduce it would bring only confusion. It is enough for the sociologist or cultural anthropologist to take the ability to use symbols, possessed by man alone, as given. The use to which he puts this fact is in no way affected by his, or even the anatomist's, inability to describe the symbolic process in neurological terms. However, it is well for the social scientist to be acquainted with the little that neurologists and anatomists do know about the structural basis of symbolling. We, therefore, review briefly the chief relevant facts here.

The anatomist has not been able to discover why men can use symbols and apes cannot. So far as is known the only difference between the brain of man and the brain of an ape is a quantitative

one: ". . . man has no new kinds of brain cells or brain cell connections," as A. J. Carlson has remarked. Nor does man, as distinguished from other animals, possess a specialized "symbol-mechanism." The so-called speech areas of the brain should not be identified with symbolling. The notion that symbolling is identified with, or dependent upon, the ability to utter articulate sounds is not uncommon. Thus, L. L. Bernard lists as "the fourth great organic asset of man . . . his vocal apparatus, . . . characteristic of him alone." But this is an erroneous conception. The great apes have the mechanism necessary for the production of articulate sounds. "It seemingly is well established," write R. M. and A. W. Yerkes in *The Great Apes*, "that the motor mechanism of voice in this ape [chimpanzee] is adequate not only to the production of a considerable variety of sounds, but also to definite articulations similar to those of man." And the physical anthropologist, E. A. Hooton, asserts that "all of the anthropoid apes are vocally and muscularly equipped so that they could have an articulate language if they possessed the requisite intelligence." Furthermore, as Descartes and Locke pointed out long ago, there are birds who do actually utter articulate sounds, who duplicate the sounds of human speech, but who of course are quite incapable of symbolling. The "speech areas" of the brain are merely areas associated with the muscles of the tongue, with the larynx, etc. But, as we know, symbolling is not at all confined to the use of these organs. One may symbol with any part of the body that he can move at will.[9]

To be sure, the symbolic faculty was brought into existence by the natural processes of organic evolution. And we may reasonably believe that the focal point, if not the locus, of this faculty is in the brain, especially the forebrain. Man's brain is much larger than that of an ape, both absolutely and relatively. The brain of the average adult human male is about 1500 c.c. in size; brains of gorillas seldom exceed 500 c.c. Relatively, the human brain weighs about 1/50th of the entire body weight, while that of a gorilla

varies from 1/150th to 1/200th part of that weight.[10] And the forebrain especially is large in man as compared with ape. Now in many situations we know that quantitative changes give rise to qualitative differences. Water is transformed into steam by additional quantities of heat. Additional power and speed lift the taxiing airplane from the ground and transform terrestrial locomotion into flight. The difference between wood alcohol and grain alcohol is a qualitative expression of a quantitative difference in the proportions of carbon and hydrogen. Thus a marked growth in size of the brain in man may have brought forth a *new kind* of function.

VI

All culture (civilization) depends upon the symbol. It was the exercise of the symbolic faculty that brought culture into existence and it is the use of symbols that makes the perpetuation of culture possible. Without the symbol there would be no culture, and man would be merely an animal, not a human being.

Articulate speech is the most important form of symbolic expression. Remove speech from culture and what would remain? Let us see.

Without articulate speech we would have no *human* social organization. Families we might have, but this form of organization is not peculiar to man; it is not *per se*, *human*. But we would have no prohibitions of incest, no rules prescribing exogamy and endogamy, polygamy or monogamy. How could marriage with a cross cousin be prescribed, marriage with a parallel cousin proscribed, without articulate speech? How could rules which prohibit plural mates possessed simultaneously but permit them if possessed one at a time, exist without speech?

Without speech we would have no political, economic, ecclesiastic, or military organization; no codes of etiquette or ethics; no laws; no science, theology, or literature; no games or music, except on an ape level. Rituals and ceremonial paraphernalia would be

meaningless without articulate speech. Indeed, without articulate speech we would be all but toolless: we would have only the occasional and insignificant use of the tool such as we find today among the higher apes, for it was articulate speech that transformed the non-progressive tool-using of the ape into the progressive, cumulative tool-using of man, the human being.

In short, without symbolic communication in some form, we would have no culture. "In the Word was the beginning" of culture—and its perpetuation also.

To be sure, with all his culture man is still an animal and strives for the same ends that all other living creatures strive for: the preservation of the individual and the perpetuation of the race. In concrete terms these ends are food, shelter from the elements, defense from enemies, health, and offspring. The fact that man strives for these ends just as all other animals do has, no doubt, led many to declare that there is "no fundamental difference between the behavior of man and of other creatures." But man does differ, not in *ends* but in *means*. Man's means are cultural means: culture is simply the human animal's way of living. And, since these means, culture, are dependent upon a faculty possessed by man alone, the ability to use symbols, the difference between the behavior of man and of all other creatures is not merely great, but basic and fundamental.

VII

The behavior of man is of two distinct kinds: symbolic and non-symbolic. Man yawns, stretches, coughs, scratches himself, cries out in pain, shrinks with fear, "bristles" with anger, and so on. Non-symbolic behavior of this sort is not peculiar to man; he shares it not only with the other primates but with many other animal species as well. But man communicates with his fellows with articulate speech, uses amulets, confesses sins, makes laws, observes codes of etiquette, explains his dreams, classifies his relatives in designated categories, and so on. This kind of behavior

is unique; only man is capable of it; it is peculiar to man because it consists of, or is dependent upon, the use of symbols. The non-symbolic behavior of Homo sapiens is the behavior of man the animal; the symbolic behavior is that of man the human being. It is the symbol which has transformed man from a mere animal to a human animal.

Because *human* behavior is symbol behavior and since the behavior of infra-human species is non-symbolic, it follows that we can learn nothing about human behavior from observations upon or experiments with the lower animals. Experiments with rats and apes have indeed been illuminating. They have thrown much light upon mechanisms and processes of behavior among mammals or the higher vertebrates. But they have contributed nothing to an understanding of *human* behavior because the symbol mechanism and all of its consequences are totally lacking among the lower species. And as for neuroses in rats, it is of course interesting to know that rats can be made neurotic. But science probably had a better understanding of psychopathic behavior among human beings before neuroses were produced experimentally in rats than they now have of the neuroses of the rats. Our understanding of human neuroses has helped us to understand those of rats; we have, as a matter of fact, interpreted the latter in terms of *human* pathology. But I cannot see where the neurotic laboratory rats have served to deepen or enlarge our understanding of *human* behavior.

As it was the symbol that made *mankind* human, so it is with each member of the species. A baby is not a *human* being until he begins to symbol. Until the infant begins to talk there is nothing to distinguish his behavior qualitatively from that of a very young ape, as *The Ape and the Child* showed. As a matter of fact, one of the impressive results of this fascinating experiment by Professor and Mrs. Kellogg was the demonstration of how ape-like an infant of Homo sapiens is before he begins to talk. The baby boy acquired exceptional proficiency in climbing in association with the

little chimpanzee, and even acquired her "food bark"! The Kelloggs speak of how the little ape became "humanized" during her sojourn in their home. But what the experiment demonstrated so conclusively was the ape's utter inability to learn to talk or even to make any progress in this direction—in short, her inability to become "humanized" at all.

The infant of the species *Homo sapiens* becomes human only when and as he exercises his symbol faculty. Only through articulate speech—not necessarily vocal—can he enter the world of human beings and take part in their affairs. The questions asked earlier may be repeated now. How could a growing child know and appreciate such things as social organization, ethics, etiquette, ritual, science, religion, art and games without symbolic communication? The answer is of course that he could know nothing of these things and have no appreciation of them at all.

The question of "wolf children" is relevant here. A belief in instances in which human children have been reared by wolves or other animals has flourished ever since the myth of Romulus and Remus—and long before that time. Despite the fact that accounts of "wolf children" have been shown repeatedly to be erroneous or unsupported by adequate evidence ever since Blumenbach discovered that "Wild Peter" was merely a half-witted boy ejected from his home at the instance of a newly acquired stepmother, this deplorable folk-tale still flourishes in certain "scientific" circles today. But the use to which these lupine wards and "feral men" are put by some sociologists and psychologists is a good one, namely, to show that a member of the species *Homo sapiens* who lives is a world without symbols is not a human being but a brute. To paraphrase Voltaire, one might say that if wolf children did not exist "social science" would have to invent them.

Children who have been cut off from human intercourse for years by blindness and deafness but who have eventually effected communication with their fellows on a symbolic level are exceedingly illuminating. The case of Helen Keller is exceptionally

instructive, although those of Laura Bridgman, Marie Heurtin, and others [11] are very valuable also.

Helen Keller was rendered blind and deaf at a very early age by illness. She grew up as a child without symbolic contact with anyone. Descriptions of her at the age of seven, the time at which her teacher, Miss Sullivan, came to her home, disclose no human attributes of Helen's behavior at all. She was a headstrong, undisciplined and unruly little animal.[12]

Within a day or so after her arrival at the Keller home, Miss Sullivan taught Helen her first word, spelling it into her hand. But this word was merely a sign, not a symbol. A week later Helen knew several words but, as Miss Sullivan reports, she had "no idea how to use them or that everything has a name." Within three weeks Helen knew eighteen nouns and three verbs. But she was still on the level of signs; she still had no notion "that everything has a name."

Helen confused the word signs for "mug" and "water" because, apparently, both were associated with drinking. Miss Sullivan made a few attempts to clear up this confusion but without success. One morning, however, about a month after Miss Sullivan's arrival, the two went out to the pump in the garden. What happened then is best told in their own words:

> I made Helen hold her mug under the spout while I pumped. As the cold water gushed forth, filling the mug, I spelled 'w-a-t-e-r' into Helen's free hand. The word coming so close upon the sensation of cold water rushing over her hand seemed to startle her. She dropped the mug and stood as one transfixed. A new light came into her face. She spelled 'water' several times. Then she dropped on the ground and asked for its name and pointed to the pump and the trellis, and suddenly turning round she asked for my name . . . *In a few hours she had added thirty new words to her vocabulary.*

But these words were now more than mere signs as they are to a dog and as they had been to Helen up to then. They were sym-

bols. Helen had at last grasped and turned the key that admitted her for the first time to a new universe: the world of human beings. Helen describes this marvellous experience herself:

> We walked down the path to the well-house, attracted by the fragrance of the honeysuckle with which it was covered. Someone was drawing water and my teacher placed my hand under the spout. As the cool stream gushed over one hand she spelled into the other the word water, first slowly, then rapidly. I stood still, my whole attention fixed upon the motion of her fingers. Suddenly I felt a misty consciousness as of something forgotten—a thrill of returning thought; and somehow the mystery of language was revealed to me. I knew then that 'w-a-t-e-r' meant the wonderful cool something that was flowing over my hand. That living word awakened my soul, gave it light, hope, joy, set it free!

Helen was transformed on the instant by this experience. Miss Sullivan had managed to touch Helen's symbol mechanism and set it in motion. Helen, on her part, grasped the external world with this mechanism that had lain dormant and inert all these years, sealed in dark and silent isolation by eyes that could not see and ears that heard not. But now she had crossed the boundary and entered a new land. Henceforth her progress would be rapid.

"I left the well-house," Helen reports, "eager to learn. Everything had a name, and each name gave birth to a new thought. As we returned to the house every object which I touched seemed to quiver with life. That was because I saw everything with the strange new sight that had come to me."

Helen became humanized rapidly. "I see an improvement in Helen from day to day," Miss Sullivan wrote in her diary, "almost from hour to hour. Everything must have a name now . . . She drops the signs and pantomime she used before as soon as she has words to supply their place . . . We notice her face grows more expressive each day . . ."

A more eloquent and convincing account of the significance of symbols and of the great gulf between the human mind and that of minds without symbols could hardly be imagined.

VIII

Summary. The natural processes of biologic evolution brought into existence in man, and man alone, a new and distinctive ability: the ability to use symbols. The most important form of symbolic expression is articulate speech. Articulate speech means communication of ideas; communication means preservation—tradition—and preservation means accumulation and progress. The emergence of the faculty of symbolling has resulted in the genesis of a new order of phenomena: an extra-somatic, cultural, order. All civilizations are born of, and are perpetuated by, the use of symbols. A culture, or civilization, is but a particular kind of form which the biologic, life-perpetuating activities of a particular animal, man, assume.

Human behavior is symbolic behavior; if it is not symbolic, it is not human. The infant of the genus Homo becomes a human being only as he is introduced into and participates in that order of phenomena which is culture. And the key to this world and the means of participation in it is—the symbol.