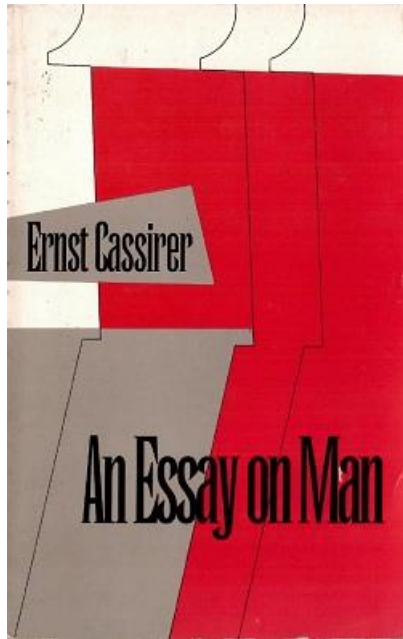


Ernst Cassirer, *An Essay on Man: An Introduction to a Philosophy of Human Culture* (1944; Yale UP 1972)



LANGUAGE and myth are near of kin. In the early stages of human culture their relation is so close and their cooperation so obvious that it is almost impossible to separate the one from the other. They are two different shoots from one and the same root. Whenever we find man, we find him in possession of the faculty of speech and under the influence of the myth-making function. Hence, for a philosophical anthropology it is tempting to bring both of these specifically human characteristics under a common head. Attempts in this direction have often been made. F. Max Müller developed a curious theory by which myth was explained as a mere by-product of language. He regarded myth as a sort of disease of the human mind, the causes of which are to be sought in the faculty of speech. Language is, by its very nature and essence, metaphorical. Unable to describe things directly, it resorts to indirect modes of description, to ambiguous and equivocal terms. It is this inherent ambiguity of language to which, according to Max Müller, myth owes its origin and in

which it has always found its mental nutriment "The question of mythology," says Müller,

has become in fact a question of psychology, and, as our psyche becomes objective to us chiefly through language, a question of the Science of Language. This will explain why ... I called [myth] a Disease of Language rather than of Thought. . . . Language and thought are inseparable, and ... a disease of language is therefore the same as a disease of thought ... To represent the supreme God as committing every kind of crime, as being deceived by men, as being angry with his wife and violent with his children, is surely proof of a disease, of an unusual condition of thought, or, to speak more clearly, of real madness. ... It is a case of mythological pathology. ...

Ancient language is a difficult instrument to handle, particularly for religious purposes. It is impossible in human language to express abstract ideas except by metaphor, and it is not too much to say that the whole dictionary of ancient religion is made up of metaphors. ... Here is a constant source of misunderstanding, many of which [109] have maintained their place in the religion and in the mythology of the ancient world.¹

But to regard a fundamental human activity as a mere monstrosity, as a sort of mental disease, can scarcely pass muster as an adequate interpretation of it. We need no such strange and farfetched theories in order to see that for the primitive mind myth and language are, as it were, twin brothers. Both are based on a very general and very early experience of mankind, an experience of a social rather than of a physical nature. Long before a child learns to talk it has discovered other and simpler means of communicating with other persons. The cries of discomfort, of pain and hunger, of fear or fright, which we find throughout the organic world begin to assume a new shape. They are no longer simple instinctive reactions, for they are employed in a more conscious and deliberate way. When left alone the child demands by more or less articulate sounds the presence of its nurse or mother, and it becomes aware that these demands have the desired effect. Primitive man transfers this first elementary social experience to the totality of nature. To him nature and society are not only interconnected by the closest bonds; they form a coherent and indistinguishable whole. No clear-cut line of demarcation separates the two realms. Nature itself is nothing but a great society—the society of life. From this point of view we can easily understand the use and specific function of the magic word. The belief in magic is based upon a deep conviction of the solidarity of life.² To the primitive mind the social power of the word, experienced in innumerable cases, becomes a natural and even supernatural

[*An Essay on Man: An Introduction to a Philosophy of Human Culture* [1944] (Yale UP 1972), Chapter VIII: Language, pp.109-36. Pagination in the original is set at the top-of-page and given here in square brackets marking the point where each page ends. The notes have been transposed from foot-of-page to end-of-text. [BS 07.05.2023.]

force. Primitive man feels himself surrounded by all sorts of visible and invisible dangers. He cannot hope to overcome these dangers by merely physical means. To him the world is not a dead or mute thing; it can hear and understand. Hence if the powers of nature are called upon in the right way they cannot refuse their aid. Nothing resists the magic word, *carmina vel coelo possunt deducere lunam* [songs can even reach the moon].

When man first began to realize that this confidence was vain—that nature was inexorable not because it was reluctant to fulfil his demands but because it did not understand his language—the discovery must have come to him as a shock. At this point he had to face a new problem which marked a turning point and a crisis in his intellectual and moral life. From that [110] time on man must have found himself in a deep solitude, subject to feelings of utter loneliness and of absolute despair. He would scarcely have overcome these had he not developed a new spiritual force, which barred the way to magic but at the same time opened another and more promising road. All hope of subduing nature by the magic word had been frustrated. But as a result man began to see the relation between language and reality in a different light. The magic function of the word was eclipsed and replaced by its semantic function. The word is no longer endowed with mysterious powers; it no longer has an immediate physical or supernatural influence. It cannot change the nature of things and it cannot compel the will of gods or demons. Nevertheless it is neither meaningless nor powerless. It is not simply a *flatus vocis*, a mere breath of air. Yet the decisive feature is not its physical but its logical character. Physically the word may be declared to be impotent, but logically it is elevated to a higher, indeed to the highest rank. The Logos becomes the principle of the universe and the first principle of human knowledge.

This transition took place in early Greek philosophy. Heraclitus still belongs to that class of Greek thinkers who in Aristotle's *Metaphysics* are referred to as the "ancient physiologists" (*οἱ ἀρχαῖοι φυσιολόγοι*). His whole interest is concentrated on the phenomenal world. He does not admit that above the phenomenal world, the world of "becoming," there exists a higher sphere, an ideal or eternal order of pure "being." Yet he is not content with the mere *fact* of change; he seeks the *principle* of change. According to Heraclitus this principle is not to be found in a material thing. Not the material but the human world is the clue to a correct interpretation of the cosmic order. In this human world the faculty of speech occupies a central place. We must, therefore, understand what speech means in order to understand the "meaning" of the universe. If we fail to find this approach—the approach through the medium of language rather than through physical phenomena—we miss the gateway to philosophy. Even in Heraclitus' thought the word, the Logos, is not a merely anthropological phenomenon. It is not confined within the narrow limits of our human world, for it possesses universal cosmic truth. But instead of being a magic power the word is understood in its semantic and symbolic function. "Don't listen to me," writes Heraclitus, "but to the Word and confess that all things are one."

Early Greek thought thus passed from a philosophy of nature to a philosophy of language. But here it encountered new and grave [111] difficulties. There is perhaps no more bewildering and controversial problem than "the meaning of meaning."³ Even in our own day linguists, psychologists, and philosophers entertain widely divergent views upon this subject. Ancient philosophy could not grapple directly with this intricate problem in all its aspects. It could only give a tentative solution. This solution was based upon a principle which in early Greek thought was generally accepted and which appeared to be firmly established. All the different schools—the physiologists as well as the dialecticians—started from the assumption that without an identity between the knowing subject and the reality known the fact of knowledge would be unaccountable. Idealism and realism, although differing in the application of this principle, agreed in acknowledging its truth. Parmenides declared that we cannot separate being and thought, for they are one and the same. The nature philosophers understood and interpreted this identity in a strictly material sense. If we analyze man's nature we find the same combination of elements as occurs everywhere in the physical world. The microcosm being an exact counterpart of the

macrocosm makes knowledge of the latter possible. “For it is with earth,” says Empedocles, “that we see Earth, and Water with water; by air we see bright Air, by fire destroying Fire. By love do we see Love, and Hate by grievous hate.”⁴

Accepting this general theory, what is the “meaning of meaning”? First and foremost meaning must be explained in terms of being; for being, or substance, is the most universal category which links and binds together truth and reality. A word could not “mean” a thing if there were not at least a partial identity between the two. The connection between the symbol and its object must be a natural, not a merely conventional one. Without such a natural connection a word of human language could not accomplish its task; it would become unintelligible. If we admit this presupposition, which originates in a general theory of knowledge rather than in a theory of language, we are immediately faced with the onomatopoeic doctrine. This doctrine alone seems capable of bridging the gap between names and things. On the other hand our bridge threatens to break down at our first attempt to use it. For Plato it was sufficient to develop the onomatopoeic thesis in all its consequences in order to refute it. In the Platonic dialogue *Kratylus* Socrates accepts the thesis in his ironical way. But his approval is only intended to destroy it by its own inherent absurdity. [112] Plato’s account of the theory that all language originated in sound imitation ends in a travesty and caricature. Nevertheless the onomatopoeic thesis prevailed for many centuries. Even in recent literature it is by no means obliterated, though it no longer appears in the same naive forms as in Plato’s *Kratylus*.

The obvious objection to this thesis is the fact that when analyzing the words of common speech we are in most cases completely at a loss to discover the pretended similarity between sounds and objects. This difficulty could, however, be removed by pointing out that human language has from the first been subject to change and decay. Hence we cannot content ourselves with its present state. We must trace our terms back to their origins if we are to detect the bond uniting them with their objects. From derivative words we must go back to primary words; we must discover the etymon, the true and original form, of every term. According to this principle etymology became not only the center of linguistics but also one of the keystones of the philosophy of language. And the first etymologies used by Greek grammarians and philosophers suffered from no theoretical or historical scruples. No etymology based upon scientific principles appeared before the first half of the nineteenth century.⁵ Up to this time everything was possible, and the most fantastic and bizarre explanations were readily admitted. Besides the positive etymologies there were the famous negative ones of the type *lucus a non lucendo*.^{*} As long as these schemes held the field the theory of a natural relation between names and things appeared to be philosophically justifiable and defensible.

[**lucus a non lucendo* means an absurd etymology—lit. “a wood that gives no light” being based on the purely accidental resemblance of the Latin word *lucus* (a ‘wood’; viz., *bosque*) and *lux, lucis; lucere* (viz., *luz*). The expression is attributed to Quintilian. BS.]

But there were other general considerations which from the first militated against this theory. The Greek Sophists were in a sense the disciples of Heraclitus. In his dialogue *Theaetetus* Plato went so far as to say that the sophistic theory of knowledge had no claim to originality. He declared it to be an outgrowth and corollary of the Heraclitian doctrine of the “flux of all things.” Yet there was an ineradicable difference between Heraclitus and the Sophists. To the former the word, the Logos, was a universal metaphysical principle. It possessed general truth, objective validity. But the Sophists no longer admit that “divine word” which Heraclitus held to be the origin and first principle of all things, of the cosmic and moral order. Anthropology, not metaphysics, plays the leading role in the theory of language. Man has become the center of the universe. According to the dictum of Protagoras, “man is the measure of all things, of those which are, that they are—and of those which are not, that they are [113] not.” To look for any explanation of language in the world of physical things is, therefore, vain and useless. The Sophists had found a new and much simpler approach to human speech. They were the first to treat linguistic and grammatical problems in a systematic way. Yet they were not concerned with these problems in a merely

theoretical sense. A theory of language has other and more urgent tasks to accomplish. It has to teach us how to speak and to act in our actual social and political world. In Athenian life of the fifth century language had become an instrument for definite, concrete, practical purposes. It was the most powerful weapon in the great political struggles. Nobody could hope to play a leading role without this instrument. It was of vital importance to use it in the right way and constantly to improve and sharpen it. To this end the Sophists created a new branch of knowledge. Rhetoric, not grammar or etymology, became their chief concern. In their definition of wisdom (*sophia*) rhetoric maintains a central position. All the disputes about the “truth” or “correctness” (*ὀρθότης*) of terms and names became futile and superfluous. Names are not intended to express the nature of things. They have no objective correlates. Their real task is not to describe things but to arouse human emotions; not to convey mere ideas or thoughts but to prompt men to certain actions.

So far we have arrived at a threefold conception of the function and value of language: a mythological, a metaphysical, and a pragmatic one. But all these accounts appear in a sense beside the mark, for they all fail to note one of the most conspicuous features of language. The most elementary human utterances do not refer to physical things nor are they merely arbitrary signs. The alternative φύσει ὄν or θέσει ὄν does not apply to them. They are “natural,” not “artificial”; but they bear no relation to the nature of external objects. They do not depend upon mere convention, upon custom or habit; they are much more deeply rooted. They are involuntary expressions of human feelings, interjections and ejaculations. It was not an accident that this interjectional theory was introduced by a natural scientist, the greatest scientist among the Greek thinkers. Democritus was the first to propound the thesis that human speech originates in certain sounds of a merely emotional character. Later on the same view was upheld by Epicurus and Lucretius on the authority of Democritus. It had a permanent influence on language theory. As late as the eighteenth century it still appears in almost the same shape in thinkers like Vico or Rousseau. From the scientific point of view it is easy to understand the great advantages of this interjectional thesis. Here, it seems, we no longer need to rely on speculation alone. We [114] have uncovered some verifiable facts, and these facts are not restricted to the human sphere. Human speech can be reduced to a fundamental instinct implanted by nature in all living creatures. Violent outcries— of fear, of rage, of pain or joy—are not a specific property of man. We find them everywhere in the animal world. Nothing was more plausible than to trace the social fact of speech back to this general biological cause. If we accept the thesis of Democritus and his pupils and followers, semantics ceases to be a separate province; it becomes a branch of biology and physiology.

And yet the interjectional theory could not reach maturity until biology itself had found a new scientific basis. It was not enough to connect human speech with certain biological facts. The connection had to be grounded in a universal principle. Such a principle was provided by the theory of evolution. When Darwin’s book appeared it was hailed with the greatest enthusiasm not merely by scientists and philosophers but also by linguists. August Schleicher, whose first writings show him to have been an adherent and pupil of Hegel, became a convert to Darwin.⁶ Darwin himself had treated his subject strictly from the point of view of a naturalist. Yet his general method was easily applicable to linguistic phenomena, and even in this field he seemed to open up an unexplored path. In *The Expression of the Emotions in Man and Animals* [1872] Darwin had shown that expressive sounds or acts are dictated by certain biological needs and used according to definite biological rules. Approached from this angle the old riddle of the origin of language could be treated in a strictly empirical and scientific manner. Human language ceased being “a state within the state” and became herewith a general natural gift.

There remained, however, a fundamental difficulty. The creators of the biological theories of the origin of language failed to see the wood for trees. They set out with the assumption that a direct path leads from interjection to speech. But this is to beg the question, not to solve it. It was not the mere fact but the structure of human speech which called for an explanation. An analysis of

this structure discloses a radical difference between emotional and propositional language. The two types are not on the same level. Even if it were possible to connect them genetically, the passage from one type to the opposite must always remain logically a *metabasis eis allo genos*, a transition from one genus to another. So far as I can see, no biological theory ever succeeded in obliterating this logical and structural distinction. We have no psychological evidence whatever for the fact that any [115] animal ever crossed the borderline separating propositional from emotional language. The so-called “animal language” always remains entirely subjective; it expresses various states of feeling but it does not designate or describe objects.⁷ On the other hand there is no historical evidence that man, even in the lowest stages of his culture, ever was reduced to a merely emotional language or to the language of gestures. If we wish to pursue a strictly empirical method, we must exclude any such assumption as, if not quite improbable, at least dubious and hypothetical.

[*μετάβασις εἰς ἄλλο γένος, to change into another genus (kind)—identified by Aristotle in his *Posterior Analytics* (1.7) as an error of understanding since any thing that becomes something else is, in a generic sense, that thing in another state.]

As a matter of fact a closer examination of these theories always brings us to a point where the very principle on which they rest becomes questionable. After a few steps in this argument the defenders of these theories are forced to admit and to stress the same difference which they at first sight seemed to deny or at least to minimize. To illustrate this fact I shall choose two concrete examples, the first taken from linguistics, the second from psychological and philosophical literature. Otto Jespersen was perhaps the last modern linguist to retain a keen interest in the old problem of the origin of language. He did not deny that all the former solutions of the problem had been very inadequate; in fact he was convinced that he had discovered a new method which held forth promise of better success. “The method I recommend,” states Jespersen,

and which I am the first to employ consistently is to trace our modern languages as far back in time as history and our materials will allow us. ... If by this process we arrive finally at uttered sounds of such a description that they can no longer be called a real language, but something antecedent to language—why then the problem will have been solved; for transformation is something we can understand, while a creation out of nothing never can be comprehended by the human understanding.

According to this theory such a transformation took place when human utterances, which at first were nothing but emotional cries or perhaps musical phrases, were used as names. What originally had been a jumble of meaningless sounds became in this manner suddenly an instrument of thought. For instance, a combination of sounds sung to a certain melody and employed in a chant of triumph over a defeated and slain foe could be changed into a proper name for that peculiar event or even for the man who slew the enemy. And the development could now proceed by a metaphorical transference of the expression to similar situations.⁸ It is, however, precisely this “metaphorical [116] transference” which contains our whole problem in a nutshell. Such a transference means that sound utterances, which hitherto had been mere outcries, involuntary discharges of strong emotions, were performing an entirely new task. They were being used as symbols conveying a definite meaning. Jespersen himself quotes an observation by Benfey that between interjection and word there is a chasm wide enough to allow us to say that the interjection is the negation of language; for interjections are employed only when one either cannot or will not speak. According to Jespersen language arose when “communicativeness took precedence of exclamateness,” This very step, however, is not accounted for but presupposed by this theory. The same criticism holds for the thesis developed in Grace de Laguna’s book, *Speech: Its Function and Development* [1928]. Here we find a much more detailed and elaborate statement of the problem. The rather fantastic concepts which we sometimes find in Jespersen’s book are eliminated. The transition from cry to speech is described as a process of gradual objectification. The primitive affective qualities attaching to the situation as a whole become diversified and at the same time distinguished from the perceived features of the situation[:] “... *objects* emerge,

which are cognized rather than felt. ... At the same time, this increased conditionality takes on systematic form ... Finally, ... the objective order of reality appears and the world becomes truly known.”⁹ This objectification and systematization is, indeed, the principal and most important task of human language. But I fail to see how a merely interjectional theory can account for this decisive step. And in Professor de Laguna’s account the gap between interjections and names has not been bridged; on the contrary here it stands out all the more sharply. It is a remarkable fact that those authors who, generally speaking, have been inclined to believe that speech has developed from a state of mere interjections have been led to the conclusion that, after all, the difference between interjections and names is much greater and much more conspicuous than their supposed identity. Gardiner, for example, begins with the statement that, between human and animal language, there is an “essential homogeneity.” But in developing his theory he has to admit that between the animal utterance and human speech there is a difference so vital as almost to eclipse the essential homogeneity.¹⁰ The seeming similarity is in fact only a material connection which does [117] not exclude, but, on the contrary, accentuates the formal, the functional heterogeneity.

2

The question of the origin of language has, at all times, exerted a strange fascination upon the human mind. With the first glimmerings of his intellect man began to wonder about this matter. In many mythical tales we are informed how man learned to talk from God himself or with the assistance of a divine teacher. This interest in the origin of language is easily understandable if we accept the first premises of mythical thought. Myth knows of no other mode of explanation than to go back to the remote past and to derive the present state of the physical and human world from this primeval stage of things. It is, however, surprising and paradoxical to find the same tendency still prevailing in philosophical thought. Yet here for many centuries the systematic question was overshadowed by the genetic. It was thought to be a foregone conclusion that, the genetic question once solved, all the other problems would readily follow suit. From a general epistemological point of view, however, this was a gratuitous assumption. The theory of knowledge has taught us that we must always draw a sharp line of demarcation between genetic and systematic problems. Confusion of these two types is misleading and perilous. How is it that this methodological maxim, which in other branches of knowledge appeared to be firmly established, was forgotten when dealing with linguistic problems? It would of course be of the greatest interest and importance to be in possession of the full historical evidence regarding language—to be able to answer the question whether all the languages of the world derive from a common stem or from different and independent roots, and to be able to trace step by step the development of individual idioms and linguistic types. Yet all this would not suffice to solve the fundamental problems of a philosophy of language. In philosophy we cannot content ourselves with the mere flux of things and with the chronology of events. Here we must in a sense always accept the Platonic definition according to which philosophical knowledge is a knowledge of “being,” not of mere “becoming.” To be sure language has no being outside and beyond time; it does not belong to the realm of eternal ideas. Change—phonetic, analogic, semantic change—is an essential element of language. Nevertheless the study of all these phenomena is not enough to make us understand the general function of language. For the analysis of every symbolic form we are dependent on historical data. The question as to what myth, religion, art, language “are” cannot be answered [118] in a purely abstract way, by a logical definition. On the other hand when studying religion, art, and language we always meet with general structural problems belonging to a different type of knowledge. These problems must be treated separately; they cannot be dealt with and they cannot be solved by merely historical investigations.

In the nineteenth century it was still a current and generally accepted opinion that history is the only clue to a scientific study of human speech. All the great achievements of linguistics came from scholars whose historical interest prevailed to such a degree as almost to preclude any other

tendency of thought. Jakob Grimm laid the first foundation for a comparative grammar of the Germanic languages. The comparative grammar of the Indo-European language was inaugurated by Bopp and Pott, and perfected by A. Schleicher, Karl Brugmann, and B. Delbrück. The first to raise the question of the principles of linguistic history was Hermann Paul. He was fully aware of the fact that historical research alone cannot solve all the problems of human speech. He insisted that historical knowledge always stands in need of a systematic complement. To every branch of historical knowledge, he declared, there corresponds a science which deals with the general conditions under which the historical objects evolve and inquiries into those factors which remain invariable in all the changes of human phenomena.¹¹ The nineteenth century was not only a historical but also a psychological century. It was, therefore, quite natural to assume, it even appeared self-evident, that the principles of linguistic history were to be sought in the field of psychology. These were the two cornerstones of linguistic studies. "Paul and most of his contemporaries," says Leonard Bloomfield,

dealt only with Indo-European languages and, what with their neglect of descriptive problems, refused to work with languages whose history was unknown. This limitation cut them off from a knowledge of foreign types of grammatical structure, which would have opened their eyes to the fact that even the fundamental features of Indo-European grammar ... are by no means universal in human speech. ... Alongside the great stream of historical research, there ran, however, a small but accelerating current of general linguistic study. ... Some students saw more and more clearly the natural relation between descriptive and historical studies. ... The merging of these two streams of study, the historical-comparative and the philosophical descriptive, has made clear some principles that were not apparent to the great Indo-Europeanists of the nineteenth century ... All historical study of language is based upon the comparison of two or more sets of descriptive data. It can be only as accurate and only as complete as these data permit it to be. In order to describe a language one needs no historical knowledge whatever; in fact, the observer who allows such knowledge to affect his description, is bound to distort his data. Our descriptions must be unprejudiced, if they are to give a sound basis for comparative work.¹²

This methodological principle had found its first and in a sense its classical expression in the work of a great linguist and a great philosophical thinker. Wilhelm von Humboldt took the first step toward classifying the languages of the world and reducing them to certain fundamental types. For this purpose he could not employ purely historical methods. The languages he studied were no longer solely the Indo-European types. His interest was truly comprehensive; it included the whole field of linguistic phenomena. He gave the first analytical description of the aboriginal American languages, utilizing the wealth of material which his brother, Alexander von Humboldt, had brought back from his exploratory travels on the American continent. In the second volume of his great work on the varieties of human speech.¹³ W. von Humboldt wrote the first comparative grammar of the Austronesian languages, the Indonesian and Melanesian. Yet for this grammar no historical data were available, the history of these languages being completely unknown. Humboldt had to approach the problem from an entirely new angle and to pave his own way.

Yet his methods remained strictly empirical; they were based on observations, not on speculation. But Humboldt was not content with the description of particular facts. He immediately drew from his facts very far-reaching general inferences. It is impossible, he maintained, to gain a true insight into the character and function of human speech so long as we think of it as a mere collection of "words." The real difference between languages is not a difference of sounds or signs but one of "world-perspectives" (*Weltansichten*). A language is not simply a mechanical aggregate of terms. Splitting it up into words or terms means disorganizing and disintegrating it. Such a conception is detrimental, if not disastrous, to any study of linguistic phenomena. The words and rules which according to our ordinary notions make up a language, Humboldt asserted, really exist only in the act of connected speech. To treat them as separate entities is [120] "nothing but a dead product of our bungling scientific analysis." Language must be looked upon as an *energeia* rather than as an *ergon*. It is not a ready-made thing but a continuous process; it is the ever-repeated labor of the human mind to utilize articulated sounds to express thought.¹⁴

Humboldt's work was more than a notable advance in linguistic thought. It marked also a new epoch in the history of the philosophy of language. Humboldt was neither a scholar who specialized in particular linguistic phenomena nor a metaphysician like Schelling or Hegel. He followed the "critical" method of Kant, not indulging in speculation as to the essence or the origin of language. The latter problem is never even mentioned in his work. It was the structural problems of language which came to the fore in his book. That these problems cannot be solved by merely historical methods is now generally admitted. Scholars of different schools and working in different fields are unanimous in stressing the fact that descriptive linguistics can never be rendered superfluous by historical linguistics, because the latter must always be based on the description of those stages of the development of language which are directly accessible to us.¹⁵ From the point of view of the general history of ideas it is a very interesting and remarkable fact that linguistics, in this respect, underwent the same change as we find in other branches of knowledge. The former positivism was superseded by a new principle which we may call structuralism. Classical physics was convinced that, in order to discover the general laws of motion, we must always begin with the study of the movements of "material points." Lagrange's *Mécanique analytique* was based on this principle. Later on the laws of the electromagnetic field, as discovered by Faraday and Maxwell, tended to the opposite conclusion. It became clear that the electromagnetic field could not be split up into individual points. An electron was no longer regarded as an independent entity with an existence of its own; it was defined as a limit-point in the field as a whole. Thus arose a new type of "field physics" which in many respects diverged from the former conception of classical mechanics. In biology we find an analogous development. The new holistic theories, which have become prevalent since the beginning of the twentieth century, have gone back to the old Aristotelian definition of the organism. They have insisted that in the organic world "the whole is prior to the part." These theories do not deny the facts of evolution but they can no longer interpret them in [121] the same sense as did Darwin and the orthodox Darwinians.¹⁶ As for psychology, it had followed with a few exceptions the Humian way throughout the nineteenth century. The only method to account for a psychical phenomenon was to reduce it to its first elements. All complex facts were thought to be an accumulation, an aggregate of simple sense data. Modern Gestalt psychology has criticized and destroyed this conception; it has thus paved the way to a new type of structural psychology.

If linguistics now adopts the same method and concentrates more and more on structural problems, this does not of course mean that former views have lost anything in importance and interest. Yet instead of moving in a straight line, instead of being exclusively concerned with the chronological order of the phenomena of speech, linguistic research is describing an elliptical line having two different focal points. Some scholars went so far as to say that the combination of descriptive and historical views which was the distinctive mark of linguistics throughout the nineteenth century was, from a methodological viewpoint, a mistake. Ferdinand de Saussure declared in his lectures that the whole idea of a "historical grammar" would have to be given up. Historical grammar, he maintained, is a hybrid concept. It contains two disparate elements which cannot be reduced to a common denominator and fused into an organic whole. According to de Saussure the study of human speech is not the subject matter of one science but of two sciences. In such a study we always have to distinguish between two different axes, the "axis of simultaneity" and the "axis of succession." Grammar by its nature and essence belongs to the former type. De Saussure drew a sharp line between *la langue* and *la parole*. Language (*la langue*) is universal, whereas the process of speech (*la parole*), as a temporal process, is individual. Every individual has his own way of speaking. But in a scientific analysis of language we are not concerned with these individual differences; we are studying a social fact which follows general rules—rules quite independent of the individual speaker. Without such rules language could not accomplish its principal task; it could not be employed as a means of communication between all the members of the speaking community. "Synchronical" linguistics deals with constant structural

relations; “diachronical” linguistics deals with phenomena varying and developing in time.¹⁷ The fundamental structural unity of language may be studied and tested in two ways. This unity appears [122] both on the material and on the formal side, manifesting itself not only in the system of grammatical forms but also in its sound system. The character of a language depends on both factors. But the structural problems of phonology were a much later discovery than those of syntax or morphology. That there is an order and consistency in the forms of speech is obvious and indubitable. The classification of these forms and their reduction to definite rules became one of the first tasks of a scientific grammar. At a very early period the methods for this study were brought to a high degree of perfection. Modern linguists still allude to Panini’s Sanskrit grammar, which dates from sometime between 350 and 250 B.C., as one of the greatest monuments of human intelligence. They insist that no other language to this day has been so perfectly described. The Greek grammarians made a careful analysis of the parts of speech which they found in the Greek language, and they were interested in all sorts of syntactical and stylistic matters. The material aspect of the problem, however, was unknown, and its importance remained unrecognized up to the beginning of the nineteenth century. Here we find the first attempts to deal with the phenomena of sound change in a scientific way. Modern historical linguistics began with an investigation of uniform phonetic correspondences. In 1818 R. K. Rask showed that the words of the Germanic languages bear a regular formal relation in matters of sound to the words of other Indo-European languages. In his German grammar Jakob Grimm gave a systematic exposition of the correspondences of consonants between the Germanic and other Indo-European languages. These first observations became the basis of modern linguistics and comparative grammar. But they were understood and interpreted in a merely historical sense. It was from a romantic love of the past that Jakob Grimm received his first and most profound inspiration. The same romantic spirit led Friedrich Schlegel to his discovery of the language and wisdom of India.¹⁸ In the second half of the nineteenth century, however, the interest in linguistic studies was dictated by other intellectual impulses, and a materialistic interpretation began to predominate. The great ambition of the so-called “New Grammarians” was to prove that the methods of linguistics were on a level with those of the natural sciences. If linguistics was to be regarded as an exact science it could not be content with vague empirical rules describing particular historical occurrences. It would have to discover laws which in their logical form were comparable to the general laws of nature. The phenomena of phonetic change appeared to prove the existence of [123] such laws. The New Grammarians denied that there was such a thing as a sporadic sound change. Every phonetic change according to them follows inviolable rules. Hence the task of linguistics is to trace back all the phenomena of human speech to this fundamental stratum: the phonetic laws which are necessary and admit to no exceptions.¹⁹

Modern structuralism, as developed in the works of Trubetzkoy and in the *Travaux du Cercle Linguistique de Prague*, approached the problem from a quite different angle. It did not give up hope of finding a “necessity” in the phenomena of human speech; on the contrary, it emphasized this necessity. But for structuralism the very concept of necessity had to be redefined, and understood rather in a teleological than in a merely causal sense. Language is not simply an aggregate of sounds and words; it is a system. On the other hand its systematic order cannot be described in terms of physical or historical causality. Every individual idiom has a structure of its own both in a formed and in a material sense. If we examine the phonemes of different languages we find divergent types which cannot be subsumed under a uniform and rigid scheme. In the choice of these phonemes different languages exhibit their own peculiar characteristics. Nevertheless a strict connection can always be shown to exist among the phonemes of a given language. This connection is relative, not absolute; it is hypothetical, not apodictic. We cannot deduce it a priori from general logical rules; we have to rely on our empirical data. Yet even these data show an inner coherence. Once we have found some fundamental data we are in a position to derive from them other data which are invariably connected with them. “*Il faudrait étudier,*”

writes V. Bröndal, formulating the program of this new structuralism, “*les conditions de la structure linguistique, distinguer dans les systèmes phonologiques et morphologiques ce qui est possible de ce qui est impossible, le contingent du nécessaire.*”²⁰

If we accept this view, even the material basis of human speech, even the sound phenomena themselves, must be studied in a new way and under a different aspect. As a matter of fact we can no longer admit [124] that there is a merely material basis. The distinction between form and matter proves artificial and inadequate. Speech is an indissoluble unity which cannot be divided into the two independent and isolated factors, form and matter. It is in just this principle that the difference lies between the new phonology and former types of phonetics. What we study in phonology are not physical but significant sounds. Linguistics is not interested in the nature of sounds but in their semantic function. The positivistic schools of the nineteenth century were convinced that phonetics and semantics required separate study according to different methods. The speech-sounds were regarded as mere physical phenomena which could be described, indeed had to be described, in terms of physics or physiology. From the general methodological point of view of the New Grammarians such a conception was not only understandable but necessary. For their fundamental thesis—the thesis that phonetic laws admit of no exception—was based upon the assumption that phonetic change is independent of nonphonetic factors. Since sound change is nothing but a change in the habit of articulation—it was thought—it must affect a phoneme at every occurrence regardless of the nature of any particular linguistic form in which the phoneme happens to occur. This dualism has disappeared from recent linguistics. Phonetics is no longer a separate field but has now become part and parcel of semantics itself. For the phoneme is not a physical unit but a unit of meaning. It has been defined as a “minimum-unit of distinctive sound-feature.” Among the gross acoustic features of any utterance there are certain features which are significant; for these are used to express differences of meaning whereas others are nondistinctive. Every language has its system of phonemes, of distinctive sounds. In Chinese the change in the pitch of a sound is one of the most important means of changing the meaning of words, whereas in other languages such a change is without significance.²¹ From the indefinite multitude of possible physical sounds every language selects a limited number of sounds as its phonemes. But the selection is not made at random, for the phonemes make up a coherent whole. They can be reduced to general types, to certain phonetic patterns.²² These phonetic patterns seem to be among the most persistent and characteristic features of language. Sapir emphasizes the fact that every language has a strong tendency to keep its phonetic pattern intact:

We shall ascribe the major concordances and divergences in linguistic form—phonetic pattern and morphology—to the autonomous drift of language, not to the complicating effect of single, diffused features that cluster now this way, now that. Language is probably the most self-contained, the most massively resistant of all social phenomena. It is easier to kill it off than to disintegrate its individual form.²³

It is, however, very difficult to answer the question as to what this “individual form” of a language really means. When confronted with this question we are always on the horns of a dilemma. We have two extremes to avoid, two radical solutions, which are both in a sense inadequate. If the thesis that every language has its individual form were to imply that it is needless to look for any common features in human speech, we should have to admit that the mere thought of a philosophy of language is a castle in the air. But what is open to objection from an empirical point of view is not so much the existence as the clear statement of these common features. In Greek philosophy the very term “Logos” always suggested and supported the idea of a fundamental identity between the act of speech and the act of thought. Grammar and logic were conceived as two different branches of knowledge with the same subject matter. Even modern logicians whose systems have greatly deviated from the classical Aristotelian logic have still been of the same opinion. John Stuart Mill, the founder of an “inductive logic,” asserted that grammar is the most elementary part of logic because it is the beginning of the analysis of the thinking process.

According to Mill the principles and rules of grammar are the means by which the forms of language are made to correspond with the universal forms of thought. But Mill was not content with this statement. He even assumed that a particular part-of-speech system—a system which had been deduced from Latin and Greek grammar—had a general and objective validity. The distinctions between the various parts of speech, between the cases of nouns, the modes and tenses of verbs, and the functions of participles, were believed by Mill to be distinctions in thought and not merely in words. “The structure of every sentence,” he declares, [126] “is a lesson in logic.”²⁴ The advancement of linguistic research made this position more and more untenable. For it came generally to be recognized that the system of the parts of speech is not of a fixed and uniform character but varies from one language to another. It was observed, moreover, that there are many features even of those languages which are derived from the Latin which cannot be adequately expressed in the usual terms and categories of Latin grammar. Students of French often stressed the fact that French grammar would have assumed a quite different shape if it had not been written by the disciples of Aristotle. They maintained that the application of the distinctions of Latin grammar to English or French had resulted in many grave errors and had proved to be a serious obstacle to the unprejudiced description of linguistic phenomena.²⁵ Many grammatical distinctions which we think fundamental and necessary lose their value or at least become very uncertain as soon as we examine languages other than those of the Indo-European family. That there must exist a definite and unique system of the parts of speech, which is to be regarded as a necessary constituent of rational speech and thought, has turned out to be an illusion.²⁶

All this does not necessarily prove that we must give up the old concept of a *grammaire generale et raisonnée*, a general grammar based on rational principles. But we must redefine this concept and we must formulate it in a new sense. To stretch all languages upon the Procrustean bed of a single system of the parts of speech would be a vain attempt. Many modern linguists have gone so far as to warn us against the very term “general grammar,” thinking that it represents rather an idol than a scientific ideal.²⁷ Such an uncompromisingly radical attitude has not, however, been shared by all students of the field. Serious efforts have been made to maintain and defend the conception of a philosophical grammar. Otto Jespersen wrote a book especially devoted to the philosophy of grammar in which he tried to prove that, beside or above or behind the syntactic categories which depend on the structure of each language as it is actually found, there are some categories which are independent of the more or less accidental facts of existing languages. They are universal in that they are applicable to all languages. Jespersen proposed calling these categories “notional,” and he considered it the grammarian’s task in each case to investigate the relation between the notional and the syntactic categories. The same view has been expressed by other scholars, as, for instance, Hjelmstedt and Bröndal.²⁸ According to Sapir every language contains certain necessary and indispensable categories side by side with others that are of a more accidental character.²⁸ The idea of a general or philosophical grammar is, therefore, by no means invalidated by the progress of linguistic research, although we can no longer hope to realize such a grammar by the simple means that were employed in former attempts. Human speech has to fulfil not only a universal logical task but also a social task which depends on the specific social conditions of the speaking community. Hence we cannot expect a real identity, a one-to-one correspondence between grammatical and logical forms. An empirical and descriptive analysis of grammatical forms sets itself a different task and leads to other results than that structural analysis which, for instance, is given in Carnap’s work on the Logical Syntax of Language.

In order to find a clue of Ariadne to guide us through the complicated and baffling labyrinth of human speech we may proceed in a twofold manner. We may attempt to find a logical and systematic or a chronological and genetic order. In the second case we try to trace the individual

idioms and the various linguistic types back to a former comparatively simple and amorphous stage. Attempts of this sort were often made by linguists of the nineteenth century when the opinion became current that human speech, before it could attain its present form, had had to pass through a state in which there were no definite syntactical or morphological forms. Languages at first consisted of simple elements, of monosyllabic roots. Romanticism favored this view. A. W. Schlegel propounded a theory according to which language developed from a former unorganized amorphous state. From this state it passed in a fixed order to other, more advanced stages—to an isolating, an agglutinating, a flexional stage. The flexional languages are according to Schlegel the last step in this evolution; they are the really organic languages. A thorough descriptive analysis has in most cases destroyed the evidence on which these theories were based. In the case of Chinese, which was usually cited as an example of a language consisting of monosyllabic roots, it could be made to appear probable that its present isolating stage was preceded by a former flexional stage.³⁰ We know of no language devoid of formal or structural elements, although the expression of formal relations, such as the difference between subject and object, between attribute and predicate, varies widely from language to language. Without form language has the appearance of being not merely a highly questionable historical construct but a contradiction in terms. The languages of the most uncivilized nations are by no means formless; on the contrary they exhibit in most cases a very complicated structure. A. Meillet, a modern linguist who possessed a most comprehensive knowledge of the languages of the world, declared that no known idiom gives us the slightest idea of what primitive language may have been. All forms of human speech are perfect in so far as they succeed in expressing human feelings and thoughts in a clear and appropriate manner. The so-called primitive languages are as much in congruity with the conditions of primitive civilization and with the general tendency of the primitive mind as our own languages are with the ends of our refined and sophisticated culture. In the languages of the Bantu family, for instance, every substantive belongs to a definite class, and every such class is characterized by its special prefix. These prefixes do not appear only in the nouns themselves but have to be repeated, in accordance with a very complicated system of concords and congruences, in all other parts of the sentence which refer to the noun.³¹

The variety of individual idioms and the heterogeneity of linguistic types appear in a quite different light depending on whether they are looked at from a philosophical or from a scientific viewpoint. The linguist rejoices in this variety; he plunges into the ocean of human speech without hoping to sound its real depth. In all ages philosophy has moved in the opposite direction. Leibniz insisted that without a *Characteristica generalis* we shall never find a *Scientia generalis*. Modern symbolic logic follows the same tendency. But even if this task were accomplished, a philosophy of human culture would still have to face the same problem. In an analysis of human culture we must accept the facts in their concrete shape, in all their diversity and divergence. The philosophy of language is here confronted with the same dilemma as appears in the study of every symbolic form. The highest, indeed the only, task of all these forms is to unite men. But none of them can bring about this unity without at the same time [129] dividing and separating men. Thus what was intended to secure the harmony of culture becomes the source of the deepest discords and dissensions. This is the great antinomy, the dialectic of the religious life.³² The same dialectic appears in human speech. Without speech there would be no community of men. Yet there is no more serious obstacle to such community than the diversity of speech. Myth and religion refuse to regard this diversity as a necessary and unavoidable fact. They attribute it rather to a fault or guilt of man than to his original constitution and the nature of things. In many mythologies we find striking analogies to the Biblical tale of the Tower of Babel. Even in modern times, man has always retained a deep longing for that Golden Age in which mankind was still in possession of a uniform language. He looks back at his primeval state as at a lost paradise. Nor did the old dream of a *lingua Adamica*—of the “real” language of the first ancestors of man, a language which did not consist merely of conventional signs but which expressed rather the very nature

and essence of things—vanish completely even in the realm of philosophy. The problem of this *lingua Adamica* continued to be seriously discussed by the philosophical thinkers and mystics of the seventeenth century.³⁸

Yet the true unity of language, if there is such a unity, cannot be a substantial one; it must rather be defined as a functional unity. Such a unity does not presuppose a material or formal identity. Two different languages may represent opposite extremes both with respect to their phonetic systems and to their parts-of-speech systems. This does not prevent them from accomplishing the same task in the life of the speaking community. The important thing here is not the variety of means but their fitness for and congruity with the end. We may think that this common end is attained more perfectly in one linguistic type than in another. Even Humboldt, who, generally speaking, was loath to pass judgment on the value of particular idioms, still regarded the flexional languages as a sort of paragon and model of excellence. To him the flexional form was *die einzig gesetzmässige Form*, the only form which is entirely consistent and follows strict rules.³⁶ Modern linguists have warned us against such judgments. They tell us that we have no common and unique standard for estimating the value of linguistic types. In comparing types it may appear that the one has definite advantages over the other, but a closer analysis usually convinces us that what we term the defects of a certain [130] type may be compensated and counterbalanced by other merits. If we wish to understand language, declares Sapir, we must disabuse our minds of preferred values and accustom ourselves to look upon English and Hottentot with the same cool yet interested detachment.³⁵ If it were the task of human speech to copy or imitate the given or ready-made order of things we could scarcely maintain any such detachment. We could not avoid the conclusion that, after all, one of two different copies must be the better; that the one must be nearer to, the other farther from, the original. Yet if we ascribe to speech a productive and constructive rather than a merely reproductive function, we shall judge quite differently. In this case it is not the “work” of language but its “energy” which is of paramount importance. In order to measure this energy one must study the linguistic process itself instead of simply analyzing its outcome, its product, and final results.

Psychologists are unanimous in emphasizing that without insight into the true nature of human speech our knowledge of the development of the human mind would remain perfunctory and inadequate. There is, however, still considerable uncertainty as to the methods of a psychology of speech. Whether we study the phenomena in a psychological or phonetic laboratory or rely on merely introspective methods we invariably derive the same impression that these phenomena are so evanescent and fluctuating that they defy all efforts at stabilization. In what, then, consists that fundamental difference between the mental attitude which we may ascribe to a speechless creature—a human being before the acquisition of speech or an animal—and that other frame of mind which characterizes an adult who has fully mastered his mother tongue?

Curiously enough it is easier to answer this question on the basis of abnormal instances of speech development. Our consideration of the cases of Helen Keller and Laura Bridgman⁸⁶ illustrated the fact that with the first understanding of the symbolism of speech a real revolution takes place in the life of the child. From this point on his whole personal and intellectual life assumes an entirely new shape. Roughly speaking, this change may be described by saying that the child passes from a more subjective state to an objective state, from a merely emotional attitude to a theoretical attitude. The same change may be noted in the life of every normal child, though in a much less spectacular way. The child himself has a clear sense of the significance of the new instrument for his mental development. He is not satisfied [131] with being taught in a purely receptive manner but takes an active share in the process of speech which is at the same time a process of progressive objectification. The teachers of Helen Keller and Laura Bridgman have told us with what eagerness and impatience both children, once they had understood the use of names, continued to ask for the particular names of all the objects in their environment.³⁷ This, too, is a general feature in the normal development of speech. “By the beginning of the twenty-

third month," says D. R. Major, "the child had developed a mania for going about naming things, as if to tell others their names, or to call our attention to the things he was examining. He would look at, point toward, or put his hand on an article, speak its name, then look at his companions."³⁸ Such an attitude would not be understandable were it not for the fact that the name, in the mental growth of the child, has a function of the first importance to perform. If a child when learning to talk had simply to learn a certain vocabulary, if he only had to impress on his mind and memory a great mass of artificial and arbitrary sounds, this would be a purely mechanical process. It would be very laborious and tiresome, and would require too great conscious effort for the child to make without a certain reluctance since what he is expected to do would be entirely disconnected from actual biological needs. The "hunger for names" which at a certain age appears in every normal child and which has been described by all students of child psychology proves the contrary³⁹. It reminds us that we are here confronted with a quite different problem. By learning to name things a child does not simply add a list of artificial signs to his previous knowledge of ready-made empirical objects. He learns rather to form the concepts of those objects, to come to terms with the objective world. Henceforth the child stands on firmer ground. His vague, uncertain, fluctuating perceptions and his dim feelings begin to assume a new shape. They may be said to crystallize around the name as a fixed center, a focus of thought. Without the help of the name every new advance made in the process of objectification would always run the risk of being lost again in the next moment. The first names of which a child makes conscious use may be compared to a stick by the aid of which a blind man gropes his way. And language, taken as a whole, becomes the gateway to a new world. All progress here opens a new perspective and widens and enriches our concrete experience. Eagerness [132] and enthusiasm to talk do not originate in a mere desire for learning or using names; they mark the desire for the detection and conquest of an objective world.⁴⁰

We can still when learning a foreign language subject ourselves to an experience similar to that of the child. Here it is not sufficient to acquire a new vocabulary or to acquaint ourselves with a system of abstract grammatical rules. All this is necessary but it is only the first and less important step. If we do not learn to think in the new language all our efforts remain fruitless. In most cases we find it extremely difficult to fulfil this requirement. Linguists and psychologists have often raised the question as to how it is possible for a child by his own efforts to accomplish a task that no adult can ever perform in the same way or as well. We can perhaps answer this puzzling question by looking back at our former analysis. In a later and more advanced state of our conscious life we can never repeat the process which led to our first entrance into the world of human speech. In the freshness, in the agility and elasticity of early childhood this process had a quite different meaning. Paradoxically enough the real difficulty consists much less in the learning of the new language than in the forgetting of a former one. We are no longer in the mental condition of the child who for the first time approaches a conception of the objective world. To the adult the objective world already has a definite shape as a result of speech activity, which has in a sense molded all our other activities. Our perceptions, intuitions, and concepts have coalesced with the terms and speech forms of our mother tongue. Great efforts are required to release the bond between words and things. And yet, when we set about to learn a new language, we have to make such efforts and to separate the two elements. Overcoming this difficulty always marks a new important step in the learning of a language. When penetrating into the "spirit" of a foreign tongue we invariably have the impression of approaching a new world, a world which has an intellectual structure of its own. It is like a voyage of discovery in an alien land, and the greatest gain from such a voyage lies in our having learned to look upon our mother tongue in a new light. "*Wer fremde Sprachen nicht kennt, weiss nichts von seiner eigenen,*" said Goethe.⁴¹ So long as we know no foreign languages we are in a sense ignorant of our own, for we fail to see its specific structure and its distinctive features. A comparison of different languages shows us that there are no exact synonyms. Corresponding [133] terms from two languages seldom refer to the

same objects or actions. They cover different fields which interpenetrate and give us many-colored views and varied perspectives of our experience. This becomes especially clear if we consider the methods of classification employed in different languages, particularly in those of divergent linguistic types. Classification is one of the fundamental features of human speech. The very act of denomination depends on a process of classification. To give a name to an object or action is to subsume it under a certain class concept. If this subsumption were once and for all prescribed by the nature of things, it would be unique and uniform. Yet the names which occur in human speech cannot be interpreted in any such invariable manner. They are not designed to refer to substantial things, independent entities which exist by themselves. They are determined rather by human interests and human purposes. But these interests are not fixed and invariable. Nor are the classifications to be found in human speech made at random; they are based on certain constant and recurring elements in our sense experience. Without such recurrences there would be no foothold, no point of support, for our linguistic concepts. But the combination or separation of perceptual data depends upon the free choice of a frame of reference. There is no rigid and pre-established scheme according to which our divisions and subdivisions might once for all be made. Even in languages closely akin and agreeing in their general structure we do not find identical names. As Humboldt pointed out, the Greek and Latin terms for the moon, although they refer to the same object, do not express the same intention or concept. The Greek term (*mēn*) denotes the function of the moon to “measure” time; the Latin term (*luna, luc-na*) denotes the moon’s lucidity or brightness. Thus we have obviously isolated and focused attention on two very different features of the object. But the act itself, the process of concentration and condensation, is the same. The name of an object lays no claim upon its nature; it is not intended to be φύσει όν to give us the truth of a thing. The function of a name is always limited to emphasizing a particular aspect of a thing, and it is precisely this restriction and limitation upon which the value of the name depends. It is not the function of a name to refer exhaustively to a concrete situation, but merely to single out and dwell upon a certain aspect. The isolation of this aspect is not a negative but a positive act. For in the act of denomination we select, out of the multiplicity and diffusion of our sense data, certain fixed centers of perception. These centers are not the same as in logical or scientific thought. The terms of ordinary speech are not to be measured by the same standards as those in which [134] we express scientific concepts. As compared with scientific terminology the words of common speech always exhibit a certain vagueness; almost without exception they are so indistinct and ill-defined as not to stand the test of logical analysis. But notwithstanding this unavoidable and inherent defect our everyday terms and names are the milestones on the road which leads to scientific concepts; it is in these terms that we receive our first objective or theoretical view of the world. Such a view is not simply “given”; it is the result of a constructive intellectual effort which without the constant assistance of language could not attain its end.

This end is not, however, to be reached at any one time. The ascent to higher levels of abstraction, to more general and comprehensive names and ideas, is a difficult and laborious task. The analysis of language provides us with a wealth of materials for studying the character of the mental processes which finally lead to the accomplishment of this task. Human speech evolves from a first comparatively concrete state to a more abstract state. Our first names are concrete ones. They attach themselves to the apprehension of particular facts or actions. All the shades or nuances that we find in our concrete experience are described minutely and circumstantially, but they are not subsumed under a common genus. Hammer-Purgstall has written a paper in which he enumerates the various names for the camel in Arabic. There are no less than five to six thousand terms used in describing a camel; yet none of these gives us a general biological concept. All express concrete details concerning the shape, the size, the color, the age, and the gait of the animal.⁴² These divisions are still very far from any scientific or systematic classification, but serve quite different purposes. In many languages of aboriginal American tribes we find an astounding variety of terms for a particular action, for instance for walking or striking. Such terms bear to each other rather

a relation of juxtaposition than of subordination. A blow with the fist cannot be described with the same term as a blow with the palm, and a blow with a weapon requires another name than one with a whip or rod.⁴³ In his description of the Bakairi language—an idiom spoken by an Indian tribe in Central Brazil—Karl von den Steinen relates that each species of parrot and palm tree has its individual name, whereas there exists no name to express the genus “parrot” or “palm.” “The Bakairi,” he asserts, “attach themselves so much to the numerous particular notions that they take no [135] interest in the common characteristics. They are choked in the abundance of the material and cannot manage it economically. They have only small coin but in that they must be said to be excessively rich rather than poor.”⁴⁴ As a matter of fact there exists no uniform measure for the wealth or poverty of a given idiom. Every classification is directed and dictated by special needs, and it is clear that these needs vary according to the different conditions of man’s social and cultural life. In primitive civilization the interest in the concrete and particular aspects of things necessarily prevails. Human speech always conforms to and is commensurate with certain forms of human life. An interest in mere “universals” is neither possible nor necessary in an Indian tribe. It is enough, and it is more important, to distinguish objects by certain visible and palpable characteristics. In many languages a round thing cannot be treated in the same way as a square or oblong thing, for they belong to different genders which are distinguished by special linguistic means, such as the use of prefixes. In languages of the Bantu family we find no less than twenty gender classes of nouns. In languages of aboriginal American tribes, as for instance in Algonquian, some objects belong to an animate gender, others to an inanimate gender. Even here it is easy to understand that and why this distinction, from the viewpoint of the primitive mind, must appear to be of particular interest and of vital importance. It is indeed a much more characteristic and striking difference than that which is expressed in our abstract logical class names. The same slow passage from concrete to abstract names can also be studied in the denomination of the qualities of things. In many languages we find an abundance of color names. Each individual shade of a given color has its special name, whereas our general terms— blue, green, red, and so on—are missing. Color names vary according to the nature of the objects: one word for gray may, for example, be used in speaking of wool or geese, another of horses, another of cattle, and still another when speaking of the hair of men and certain other animals.⁴⁵ The same holds good for the category of number: different numerals are required for referring to different classes of objects.⁴⁶ The ascent to universal concepts and categories appears, therefore, to be very slow in the development of human speech; but each new advance in this direction leads to a more comprehensive survey, to a better orientation and organization of our perceptual world. [END]

Footnotes

1. F. Max Müller, *Contributions to the Science of Mythology* (London, Longmans, Green & Co., 1897), I, 68f., and *Lectures on the Science of Religion* (New York, Charles Scribner’s Sons, 1893), pp.118f.
2. See above, Chap. VII, pp.82-86.
3. See C. K. Ogden and I. A. Richards, *The Meaning of Meaning* (1923 ; 5th ed. New York, 1938).
4. Empedocles, Fragment 835. See John Burnet, *Early Greek Philosophy* (London and Edinburgh, A. & C. Black, 1892), Bk. II, p.232.
5. Cf. A.f. Pott, *Etymologische Forschungen aus dem Gebiete der indogermanischen Sprachen* (1833ff.).
6. See August Schleicher, *Die Darwin’sche Theorie und die Sprachwissenschaft* (Weimar, 1878).
7. See the views of W. Koehler and G. Révész quoted above. Chap. III, p.29.
8. This theory was first propounded by Jespersen in *Progress in Language* (London, 1894). See also his *Language, Its Nature, Development and Origin* (London and New York, 1922), pp.41S, 487ff.
9. Grace de Laguna, *Speech: Its Function and Development* (New Haven, Yale University Press, 1927), pp.260f.
10. Alan H. Gardiner, *The Theory of Speech and Language* (Oxford, 1932), pp.118f.
11. Hermann Paul, *Prinzipien der Sprachgeschichte* (Halle, 1880), chap. I. English trans, by H. A. Strong (London, 1889).
12. Bloomfield, *Language*, (New York, Holt & Co., 1933), pp.17 fl.

13. Berlin (1836-89). See Humboldt's *Gesammelte Schriften* (Berlin Academy), VoL VII, PL I.
14. Humboldt, op. cit., pp. 46 f. A more detailed account of Humboldt's theory is given in my *Philosophie der symbolischen Formen*, 1, 98ff.
15. See for instance Jespersen, *The Philosophy of Grammar* (New York, Holt & Co. 1924), pp.80f.
16. See J. B. S. Haldane, *The Cause of Evolution* (New York and London, 1932).
17. See Ferdinand de Saussure's lectures published posthumously under the title, *Cours de linguistique générale* (1915; 2d ed. Paris, 1922).
18. *Über die Sprache und Weisheit der Inder* (1808).
19. This program, for instance, was developed by H. Osthoff and K. Brugmann in *Morphologische Untersuchungen* (Leipzig, 1878). For details see Bloomfield, op. cit., chaps. I, xx, xxi.
20. V. Bröndal, "Structure et variabilité des système morphologiques," *Scientia* (Août, 1935), p.119. For a detailed account of the problems and methods of modern linguistic structuralism see the articles published in *Travaux du Cercle Linguistique de Prague* (1929ff.); especially H.f. Pos, "Perspectives du structuralisme," *Travaux* (1929), pp.71ff. A general survey of the history of structuralism has been given by Roman Jakobs on, "La Scuola Linguistica di Praga," *La cultura* (Anno XII), pp.683ff.
21. Among the languages of the Indo-European family Swedish is, so far as I know, the only one in which the pitch of a tone or the accent has a definite semantic function. In some Swedish words the meaning may be completely changed by the acuteness or graveness of the sound.
22. For details see Bloomfield, op. cit., especially chaps, v, and vi.
23. Sapir, *Language*, p.220. For the difference between "phonetics" and "phonology" see Trubetzkoy, "La phonologie actuelle," in *Journal de psychologie* (Paris, 1938), Vol. XXX. According to Trubetzkoy It is the task of phonetics to study the material factors of the sounds of human speech, the vibrations of the air, corresponding to different sounds or sound-producing movements of the speaker. Phonology, Instead of studying the physical sounds, studies the "phonemes," that is to say, the constitutive elements of linguistic meaning. From the viewpoint of phonology the sound is only "the material symbol of the phoneme." The phoneme itself is "immaterial" since meaning is not describable in terms of physics or physiology.
24. The following paragraph is based on my article, "The Influence of Language upon the Development of Scientific Thought," *Journal of Philosophy*, XXXIX, No. 13 (June, 1942), 809-827.
25. Seef. Brunot, *La pensée et la langue* (Paris, 1922).
26. For more details see Bloomfield, op. cit., pp.6ff., and Sapir, op. cit., pp.124ff.
27. See, for instance, Vendryès, *Le langage* (Paris, 1922), p.193.
28. See Hjelmstev, *Principes de grammaire générale* (Copenhagen, 1928), Bröndal, *Ordklassarne*, (Résumé: Les parties du discours, partes orationis, Copenhagen, 1928.)
29. Sapir, op. cit., pp.124ff.
30. See B. Karlgren, "Le Proto-Chinois, langue flexionelle," *Journal asiatique* (1902).
31. For further details see C. Meinhof, *Grundzüge einer vergleichenden Grammatik der Bantu-Sprachen* (Berlin, 1906).
32. See above, Chap. VII, p.72.
33. See, for instance, Leibniz, *Nouveaux essais sur l'entendement humain*, Bk. III, chap. ii.
34. Humboldt, op. cit., VII, PL II, 162.
35. Sapir, op. cit., p.180.
36. See above, Chap. III, pp.33-37.
37. See above, Chap. III, pp.84-85.
38. David R. Major, *First Steps in Mental Growth* (New York, Macmillan, 1900), pp.821f.
39. See, for instance, Clara and William Stem, *Die Kindersprache* (Leipzig, 1907), pp. 175ff.
40. For a more detailed discussion of this problem see Cassirer, "Le langage et la construction du monde des objets," *Journal de psychologie*, XXX^e, Année (1938), pp, 19-44.
41. Goethe, *Sprüche in Prosa*, "Werke," XLII, Pt. II, 118
42. See Hammer-Purgstall, Academy of Vienna, Philosophical-historical class, Vols. VI and VII (1855f.).
43. For further details see *Philosophie der symbolischen Formen*, 1,257 fl.44. K. von den Stelnen, *Unter den Naturvölkern Zentral-Brasiliens*, p.81,
44. See the examples given in Jespersen, *Language*, p, 429.
45. For more details see *Philosophie der symbolischen Formen*, I, 180ff.