

THE EVOLUTION OF SPEECH.¹

BY PROF. TH. RIBOT.

IN passing from the origin of speech² to the study of its development, we enter upon firmer ground. Although this development has not occurred uniformly in every race, and the linguists—who are here our guides—do not always agree in fixing its phases, it is nevertheless the surest indication of the march of the human mind in its self-analysis in passing from extreme confusion to deliberate differentiation; while the materials are sufficiently abundant to admit of an objective study of intellectual psychogenesis, based upon language.

This attempt has nothing in common with the “general or philosophical grammar” of the beginning of this century. The Idealogues who founded this had the pretension, while taking language as their basis, to analyse the fundamental categories of intelligence: substance, quality, action, relation. A laudable enterprise, but one which, by reason of the method employed, could only be abortive. Knowing only the classical or modern languages, the products of a long civilisation, they had no suspicion of the embryonic phases; accordingly, they made a theoretical construction, the work of logicians rather than of psychologists. Any positive genetic investigation was inaccessible to them; they were lacking in material, and in instruments. If by a comparison borrowed from geology, the adult languages are assimilated to the Quaternary layer; the Tertiary, Secondary, and Primary strata will correspond with certain idioms of less and less complexity which themselves contain the fossils of psychology. These lower forms—the semi-organised or savage languages which are a hundred times more numerous than the civilised languages—are now familiar to us; hence there is an immense field for research and

¹ Translated from the French by Frances A. Welby.

² See the April *Open Court*.

comparison. This retrogression to the primitive leads to a point that several linguists have designated by a term borrowed from biology: it is the protoplasmic state "without functions of grammatical categories" (Hermann Paul). How is it that speech issued from this undifferentiated state, and constituted little by little its organs and functions? This question is interesting to the linguist on certain sides, to the psychologist on others. For us it consists in seeking how the human mind, through long groping, conquered and perfected its instrument of analysis.

I. At the outset of this evolution, which we are to follow step by step, we find the hypothesis of a primitive period, the so-called *roots*, and it is worth our while to pause over this a little. Roots—whatever may be our opinion as to their origin—are in effect general terms. But in what sense?

Chinese consists of 500 monosyllables which, thanks to varieties of intonation, sufficed for the construction of the spoken language; Hebrew, according to Renan, has about 500 roots; for Sanskrit there is no agreement. According to a bold hypothesis of Max Müller, it is reducible to 121, perhaps less, and "these few seeds have produced the enormous intellectual vegetation that has covered the soil of India from the most distant antiquity to the present day.¹ Whatever their number may be, the question for us reduces itself into knowing their primitive intellectual content, their psychological value. Here we are confronted by two very different theses. For one camp, roots are a reality; for the other, they are the simple residuum of analysis.

"Roots are the phonetic types produced by a force inherent in the human mind; they were created by nature," etc., etc. Thus speaks Max Müller. Whitney, who is rarely of the same mind, says, notwithstanding, that all the Indo-European languages are descended from one primitive, monosyllabic language, "that our ancestors talked with one another in simple syllables indicative of ideas of prime importance, but wanting all designation of their relations."

In the other camp it is sustained that roots are the result of learned analysis, but that there is nothing to prove that they really existed (Sayce); that they are reconstructed by comparison and generalisation; that, e. g., in the Aryan languages, roots bear much the same relation to Sanskrit, Greek, and Latin words as Platonic ideas to the objects of the real world" (Bréal). It has been calculated that the number of articulate sounds which the

¹ This list may be found in *The Science of Thought*, p. 406.

human voice is capable of producing amounts to three hundred and eighty-five. These sounds, for physiological reasons, constitute a fundamental theme in the various words created by man. Later on, linguists in comparing the vocables used in different languages, established the frequent recurrence of certain sounds common to several words. These have been isolated, but we must not see in them aught besides *extracts*. Moreover, "the first stammerings of man have nothing in common with phonetic types so arrested in form and abstract in signification, as *dhâ*, to place, *vid*, to see, *man*, to think, and other analogous words."

To sum up. In the first thesis roots come into existence, *ub initio*; words are derived from them by reduplication, flexions, affixes, suffixes, etc.; there is the trunk upon which a whole swarm of languages has proliferated.

In the second thesis, words come first; then the common element, disengaged by analysis, but which never really existed in the pure and primitive condition.

Whether the one opinion or the other be adopted, I see no conclusion to be drawn from it save that the first terms designated qualities or manners of being, varying with the race. The first thesis seems the more apt in revealing to us the primitive forms of abstraction and generalisation. If it be selected, despite its fragility, one finds in the list of roots (even when most reduced) an extraordinary mixture of terms applied to the most disparate things (e. g., tears, break, measure, milk, to choose, to clean, to vomit, cold, to fear, etc.). To assert with Max Müller (from whom I borrow the preceding terms) that "there are the one hundred and twenty-one original concepts, the primitive intellectual baggage of the Aryan family" is to employ an unfortunate formula, for nothing could less resemble concepts than the contents of this list. If the second thesis be adopted, the root then being nothing but "the exposed kernel of a family of words," "a phonogram," analogous to composite photographs, formed like these by a condensation of the similarities between several terms, then clearly primitive abstraction and generalisation must be sought in words, and not in roots.¹

¹ How were primitive terms (roots or words) formed? A much-debated and still unsolved question. Man had at his disposal one primary element, the interjection. By all accounts this remained sterile, unfertile; it did not give birth to words; it remained in articulate language as a mark of its emotional origin. A second proceeding was that of imitation with the aid of sound onomatopœia. From antiquity to the present time, it has been regarded as the parent, *par excellence*. This was accepted by Renan, Whitney, Taylor, H. Paul, etc.; rejected by M. Müller Bréal, P. Regnaud, etc. No one disputes the formation of many words by onomatopœia, but those who question its value as a universal process say that "if in certain sounds of our idioms

II. Leaving this question which, from its relation to that of the origin of speech, shares in the same obscurity, we have further to ask if the primitive terms (whatever nature be attributed to them) were, properly speaking, words or phrases? Did man initially give utterance to simple denominations, or to affirmations and negations? On this point all linguists seem to be in agreement. "Speech must express a judgment." In other words it is always a phrase. "Language is based on the phrase, not on the single word: we do not think by means of words, but by means of phrases."¹

This phrase may be a single word,—or composite, formed by confusion of words as in the so-called agglutinative, polysynthetic, holophrastic languages,—or two words, subject and attribute; or three distinct words, subject, attribute, and copula; but beneath all these forms the fundamental function is unalterably to affirm or deny.

The same remark has been made of children. "We must," says Preyer, "reject the general notion that children first employ substantives, and afterwards verbs. My son, at the age of twenty-three months first used an adjective to express a judgment, the first which he enunciated in his maternal tongue; he said *heiss* (hot) for 'the milk is too warm.' Later on, the proposition was made in two words: *heim-mimi*, 'I want to go home and drink some milk' (*heim*=home, *mimi*=milk). Taine and some others have cited several observations of the same order.

According to some authors, all language that has reached complete development has perforce passed through the three successive periods of monosyllabism, polysyntheticism, and analysis; so that the idioms that remain monosyllabic or agglutinative would correspond to an arrest in development. To others, this is a hypothesis, only, to be rejected. However this may be (and it is not a question that we need to examine), it seems rash to assert, with Sayce, "that the division of the phrase into two parts, sub-

we seem to hear an imitation of the sounds of nature, we must recollect that the same noises are represented by quite different sounds in other languages, which are also held by those who utter them to be onomatopœia. Thus it would be more just to say that we hear the sounds of nature through the words to which our ear has been accustomed from infancy" (Bréal). I have observed that those who study the spontaneous formation of language in children, claim for them little onomatopœism. On the other hand, a word created by undoubted onomatopœia is sometimes by means of association, or of strange analogies, transferred successively to so many objects that all trace of the transformations of meaning may be lost, and the imitative origin actually denied. Such was Darwin's case, before cited, where the onomatopœia of the duck finally served to designate all liquids, all that flies, all pieces of money. If the successive extensions of the term had not been observed, who could have recovered its origin?

¹ Sayce, *loc. cit.*, IV., §§ 3-5.

ject and predicate, is a pure accident, and that if Aristotle had been Mexican (the Aztec language was polysynthetic), his system of logic would have assumed a totally different form." The appearance and evolution of analytical language is not pure accident, but the result of mental development. It is impossible to pass from synthesis to analysis without dividing, separating, and arraying the isolated parts in a certain order. The logic of a Mexican Aristotle might have differed from our own in its form; but it could not have constituted itself without fracture of its linguistic mould, without setting up a division, at least in theory, between the elements of the discourse. The unconscious activity by which certain idioms made towards analysis, and passed from the period of envelopment to that of development, imposed upon them a successive order. Polysynthetic languages have been likened to the performance of children who want to say everything at once, their ideas all surge up together and form a conglomeration.¹ Evidently this method must be given up, or we must renounce all serious progress in analysis.

To sum up the psychological value of the phrase, independently of its multiple forms, we may conclude by the following remarks of Max Müller :

"We imagine that language is impossible without sentences, and that sentences are impossible without the copula. This view is both right and wrong. If we mean by sentence an utterance consisting of several words, and a subject, and a predicate, and a copula, it is wrong. . . . When the sentence consists only of subject and predicate, we may say that a copula is understood, but the truth is that at first it was not expressed, it was not required to be expressed; in primitive languages it was simply impossible to express it. To be able to say *vir est bonus*, instead of *vir bonus*, is one of the latest achievements of human speech."²

* * *

The evolution of speech, starting from the protoplasmic state without organs or functions, and acquiring them little by little, proceeding progressively from indefinite to definite, from fluid to fixed state, can only be sketched in free outline. But the successive points of this differentiation, which creates grammatical forms, and

¹ There is in Iroquois a word that signifies, "I demand money from those who have come to buy garments from me." Esquimaux is equally rich in terms of this sort. Yet we must recognise that these immense composite words, themselves formed from abbreviated and fused words virtually imply the beginning of decomposition.

² *Lectures on the Origin and Growth of Religion*, ed. 1891, p. 196.

parts of discourse, are under an objective form the history of the development of intelligence, inasmuch as it abstracts, generalises, analyses, and tends towards an ever-growing precision. The completely developed languages—and we are speaking only of such—bear throughout the print of the unconscious labor that has fashioned them for centuries: they are a petrified psychology.

We must return to the roots or primitive terms, whatever may be their nature. Two distinct categories are generally admitted: pronominal or demonstrative roots, verbal or predicative roots.

The first form a small group that properly indicate rather the relative position of the speaker, than any concrete quality. They are equivalent to here, there, this, that, etc. They are few in number, and very simple in their phonetic relations: a vowel or vowel followed by a consonant. Many linguists refuse to admit them as roots, and think they have dropped from the second class by attenuation of meaning.¹ Possibly they are a survival of gesture language.

The second (verbal or predicative) is the only class that interests us. They have swarmed in abundance. They indicate qualities or actions; that is the important point. The first words denominated attributes or modes of being; they were adjectives, at least in the measure in which a fixed and rigid terminology can be applied to states in process of forming. Primitive man was everywhere struck with the qualities of things, *ergo* words were all originally appellative. They expressed one of the numerous characteristics of each object; they translated a spontaneous and natural *abstraction*: another proof of the precocious and indispensable nature of this operation. From its earliest developments intelligence has tended to simplify, to substitute the part for the whole. The unconscious choice of one attribute among many others depends on various causes; doubtless on its predominance, but above all on the interest it has for man. "A people," remarks Renan, "have usually many words for what most interests them." Thus, in Hebrew, we find 25 synonyms for the observance of the law; 14 for faith in God; 11 for rain, etc. In Arabic, the lion has 500 names, the serpent 200, money more than 80; the camel has 5,744, the sword 1,000 as befits a warrior race. The Lapp whose language is so poor, has more than 30 words to designate the reindeer, an animal indispensable to his life.² These so-called syno-

¹ Whitney, *The Life and Growth of Language*, Chap. X. Sayce, *op. cit.*, VI., 28, rejects them absolutely.

² Renan, *Histoire générale des langues sémitiques*, pp. 128 and 363.

nyms each denominate a particular aspect of things ; they witness to the abundance of primitive abstractions.

This apparent wealth soon becomes an embarrassment and an encumbrance. Instead of 100 distinct terms, one generic substantive, plus one or two epithets, would suffice. But the *substantive* was not born of the deliberate desire to obviate this inconvenience. It is a specialisation, a limitation of the primitive meaning. Little by little the adjective lost its qualificative value, to become the name of one of the objects qualified. Thus in Sanskrit *dēva* (shining) finally signified the god ; *sourya* (the dazzling) became the sun ; *akva* (rapid) the name of a horse, etc. This metamorphosis of adjective into substantive by a specialisation of the general sense occurs even in our actual languages ; as, e. g., when we say in French *un brilliant* (diamond) ; *le volant* (of a machine) ; *un bon* (of bread, counting-house, bank, etc.). What is only an accident now was originally a constant process. Thus the substantive was derived from the primitive adjective ; or rather, within the primitive organism, adjective-substantive, a division has been produced, and two grammatical functions constituted.

Many other remarks could be made on the determination of the substantive by inflexions, declensions, the mark of the gender (masculine, feminine, neuter) ; I shall confine myself to what concerns *number*, since we are proposing to consider numeration under all its aspects. Nothing appears more natural and clear-cut than the distinction between one and several ; as soon as we exceed pure unity, the mother of numbers, plurality appears to us to be homogeneous in all its degrees. It has not been so from the beginning. This is proved by the existence of the dual in an enormous number of languages : Aryan, Semitic, Turanian, Hottentot, Australian, etc. One, two, were counted with precision ; the rest was vague. According to Sayce, the word "three" in Aryan language at first signified "what goes beyond." It has been supposed that the dual was at first applied to the paired parts of the body : the eyes, the arms, the legs. Intellectual progress caused it to fall into disuse.

At the close of the period of first formation which we have been considering, the sentence was only a defaced organism reproduced by one of the following forms : (1) that ; (2) that shining ; (3) that sun, that shining.¹ The verb is still absent.

With it we enter on the period of secondary formation. It was long held to be an indisputable dogma that the *verb* is the word

¹ P. Regnaud, *Origine et philosophie du langage*, p. 317.

par excellence (*verbum*), the necessary and exclusive instrument of an affirmation. Yet there are many inferior idioms which dispense with it, and express affirmation by crude, roundabout processes, with no precision,—most frequently by a juxtaposition: snow white = the snow is white; drink me wine = I drink (or shall drink) wine, etc. Plenty of examples can be found in special works.

In fact, the Indo-European verb is, by origin, an adjective (or substantive) modified by a pronoun; *Bharami* = carrier-me, I carry. It is to be regretted that we cannot follow the details of this marvellous construction,—the result of unconscious and collective labor that has made of the verb a supple instrument, suited for all expressions, by the invention of moods, voices, and tenses. We may note that, as regards tenses, the distinction between the three parts of duration (which seems to us so simple) appears to have been established very slowly. Doubtless it can be asserted that it existed, actually, in the mind of primitive man, but that the imperfection of his verbal instrument failed in translating it. However this may be, it is a moot point whether the verb, at the outset, expressed past or present. It seems at first to have translated a vague conception of duration, of continuity in action; it was at first “durative,” a past which still continues, a past-present. The adjective notion contained in the verb, indefinitely as to time, only became precise by little and little. The distinction between the moments of duration did not occur by the same process in all languages, and in some, highly developed, otherwise like the Semitic languages, it remained very imperfect.¹

The main point was to show how the adjective-substantive, modified by the adjunction of pronominal elements, constituted another linguistic organ, and losing its original mark little by little, became the verb with its multiple functions. The qualificatory character fundamental to it makes of it an instrument proper to express all degrees of abstraction and generalisation from the highest to the lowest, to run up the scale of lower, medium, and higher abstractions. Ex., to drink, eat, sleep, strike;—higher, to love, pray, instruct, etc.; higher still, to act, exist, etc. The supreme degree of abstraction, i. e., the moment at which the verb is most empty of all concrete sense, is found in the auxiliaries of the modern analytical languages. These, says Max Müller, occupy the same place among the verbs, as abstract nouns among the substantives. They date from a later epoch, and all had originally a more

¹ On this point, consult especially Sayce, *op. cit.*, II., § 9, and P. Regnaud, *op. cit.*, pp. 296-299.

material and more expressive character. Our auxiliary verbs had to traverse a long series of vicissitudes, before they reached the desiccated, lifeless form that makes them so appropriate to the demands of our abstract prose. *Habere*, which is now employed in all Roman languages to express simply a past time, at first signified "to hold fast," "to retain."

The author continues, retracing the history of several other auxiliary verbs. Among them all there is one that merits particular mention on account of its divagations: this is the verb *être*, verb *par excellence*, verb substantive, unique; direct or understood expression of the existence that is everywhere present. The monopoly of affirmation, and even the privilege of an immaterial origin have been attributed to it.¹ In the first place, it is not met with under any form in certain languages which supplement its absence by divers processes. In the second, it is far from being primitive; it is derived, according to the idioms, from multiple and sufficiently discordant elements: to breathe, live, grow (Max Müller); to breathe, grow, remain, stand upright (*stare*) (Whitney).

Hitherto we have examined only the stable, solid parts of speech. There remain such as are purely transitive, translating a movement of thought, expressive of *relation*. Before we study these under their linguistic form, it is indispensable to take up the standpoint of pure psychology, and to know in the first place what is the nature of a relation. This can the less be avoided inasmuch as the question has scarcely been treated of, save by logicians, or after their fashion, and many very complete treatises of psychology do not bestow on it a single word.²

"A relation," says Herbert Spencer, "is a state of consciousness which unites two other states of consciousness." Although a relation is not always a link in the rigorous sense, this definition has the great advantage of stating it as a reality, as a state that exists by itself, not a zero, a naught of consciousness. It possesses intrinsic characters: (1) It is indecomposable. There are in consciousness greater and less states; the greater (e. g., a perception)

¹ The word *être* is irreducible, indecomposable, primitive, and wholly intellectual. I know no language in which the French word *être* is expressed by a corresponding word representing a sensible idea. Hence it is not true that all the roots of the language are in last resort signs of sensory ideas." (V. Cousin, *Histoire de la phil. au XIII. siècle*, 1841, II., p. 274.)

² For the psychology of relation consult Herbert Spencer, *Psychology*, I., p. 65, II., pp. 360 et seq.; James, *Psychology*, I., pp. 203 et seq. The latter gives the history of the subject, which is very brief, and remarks that the ideologues form an honorable exception to the general abstention. Thus Destutt de Tracy established a distinction between feelings of *sensation* and feelings of *relation*.

are composite, hence accessible to analysis; they occupy an appreciable and measurable time. The lesser (relation) are naturally beyond analysis; rapid as lightning, they appear to be outside time. (2) It is dependent. Remove the two terms with which it is intercalated, and the relation vanishes; but it must be noted that the terms themselves presuppose relations; for, according to Spencer's just remark, "There are neither states of consciousness without relations, nor relations without states of consciousness." In fact: to feel or think a relation, is to feel or think a change.

But this psychical state may be studied otherwise than by internal observation, and the subsequent interpretation. It lends itself to an *objective* study, because it is incarnated in certain words. When I say, red *and* green, red *or* green, there are in either case, not two, but *three* states of consciousness; the sole difference is in the intermediate state which corresponds with an inclusion or an exclusion. So, too, all our prepositions and conjunctions (*for, by, if, but, because*) envelop a mental state, however attenuated. The study of languages us that the expression of relations is produced in two ways, forming, as it were, two chronological layers.

The most ancient is that of the cases or declensions: a highly complex mechanism, varying in marked degree with the idioms, and consisting in appositions, suffixes, or modifications of the principal theme.

But these relations have only acquired their proper linguistic organ, specialised for this function, by means of prepositions and conjunctions. They are wanting in many languages; gesture being then substituted for them. The principal parts of the discourse are solitary, juxtaposed without links after the manner of the phrases used by children. Others, somewhat less poor, have only two conjunctions: *and, but*. In short, the terms on which devolved the expression of relations are of late formation, as it were, organs *de luxe*. In the analytical languages, prepositions and conjunctions are nouns or pronouns diverted from their primitive acceptation, which have acquired a value expressive of transition, condition, subordination, co-ordination, and the rest. The psychological notion common to the greater number, if not to all, is that of a movement. "All relations expressed by prepositions can be referred to repose, and to movement in space and time, i. e., to those with which the locative, accusative (movement of approximation) and ablative (movement of departure) correspond in declension."¹ It may be admitted that this consciousness of movement, of change,

¹ Regnaud, *op. cit.*, pp. 304 et seq.

which is no more, fundamentally, than the sense of different directions of thought, belongs less to the category of clear notions than to that of subconscious states, of tendencies, of actions, which explains why the terms of relation are wholly wanting, or rare, and only conquered their autonomy at a late period.

With these, the progressive work of differentiation is accomplished. Discourse has now its materials and its cement; it is capable of complex phrases wherein all is referred and subordinated to a principal state, contrary to those ruder essays which could only attain to simple phrases, denuded of connective apparatus.

We have rapidly sketched this labor of organo-genesis, by which language has passed from the amorphous state to the progressive constitution of specialised terms and grammatical functions: an evolution wholly comparable with that which, in living bodies, starts from the fecundated ovule, to attain by division of labor among the higher species to a fixed adjustment of organs and functions. "Languages are natural organisms, which, without being independent of human volition, are born, grow, age, and die, according to determined laws." (Schleicher.) They are in a state of continuous renovation, of acquisition, and of loss. In civilised languages, this incessant metamorphosis is partially checked by enforced instruction, by tradition, and respect for the great literary works. In savage idioms where these coercive measures are lacking, the transformation at times occurs with such rapidity that they become unrecognisable at the end of a few generations.

Spoken language, as a psycho-physiological mechanism, is regulated in its evolution by physiological and psychological laws.

Among the former (with which we are not concerned), the principal is the law of phonetic alteration, consisting in the displacement of an articulation in a determined direction. It is dependent on the vocal organ; thus, after the Germanic invasion, the Latin which this people spoke fell again under the power of physiological influences which modified it profoundly.

Among the latter, the principal is the law of analogy, the great artisan in the extension of languages. It is a law of economy, the basis of which is generalisation, the faculty of seizing on real or supposed resemblances. The word remains invariable, but the mind gives it different applications: it is a mask covering in turn several faces. It suffices to open a dictionary to see how ingenious and perilous is this unconscious labor. Such a word has only a few lines; it has no brilliant record. Such another fills pages;

first we see it in its primitive sense ; then—from analogy to analogy—from accident to accident—it departs from it more and more, and ends by having quite a contrary meaning.¹ Hence it has been said that “the object of a true etymology is to discover the laws that have regulated the evolution of thought.” Among primitive people, the process that entails such deviations from the primitive sense, is sometimes of striking absurdity ; or at least appears to us as such by reason of the strange analogies that serve the extension of the word. Thus : certain Australian tribes gave the names of mussels (*myum*), to books because they open and close like shellfish ; and many other no less singular facts could be cited. Much more might be said as to the rôle of analogy, but we must adhere to our subject.

In conclusion : it is to be regretted that linguistic psychology attracts so few people, and that many recent treatises on psychology, excellent on all other points, do not devote a single line to language. Yet this study, especially if comparative, from the lowest to the most subtle, would throw at least as much light on the mechanism of the intelligence as other highly accredited processes. Physiological psychology is pursued with ardor, on the right supposition that if the facts of biology, normal and morbid, are studied by the naturalists and the doctors, they may be so also by the psychologists, after their mode. So too for languages ; comparative philology has its aim, psychology another proper to it. It is impossible to believe that any one, armed with sufficient linguistic instruction, who consecrates himself to this task, will expend his labor in vain.

¹ It is superfluous to give examples of such a well-known fact. See Darmesteter, *The Life of Words*.