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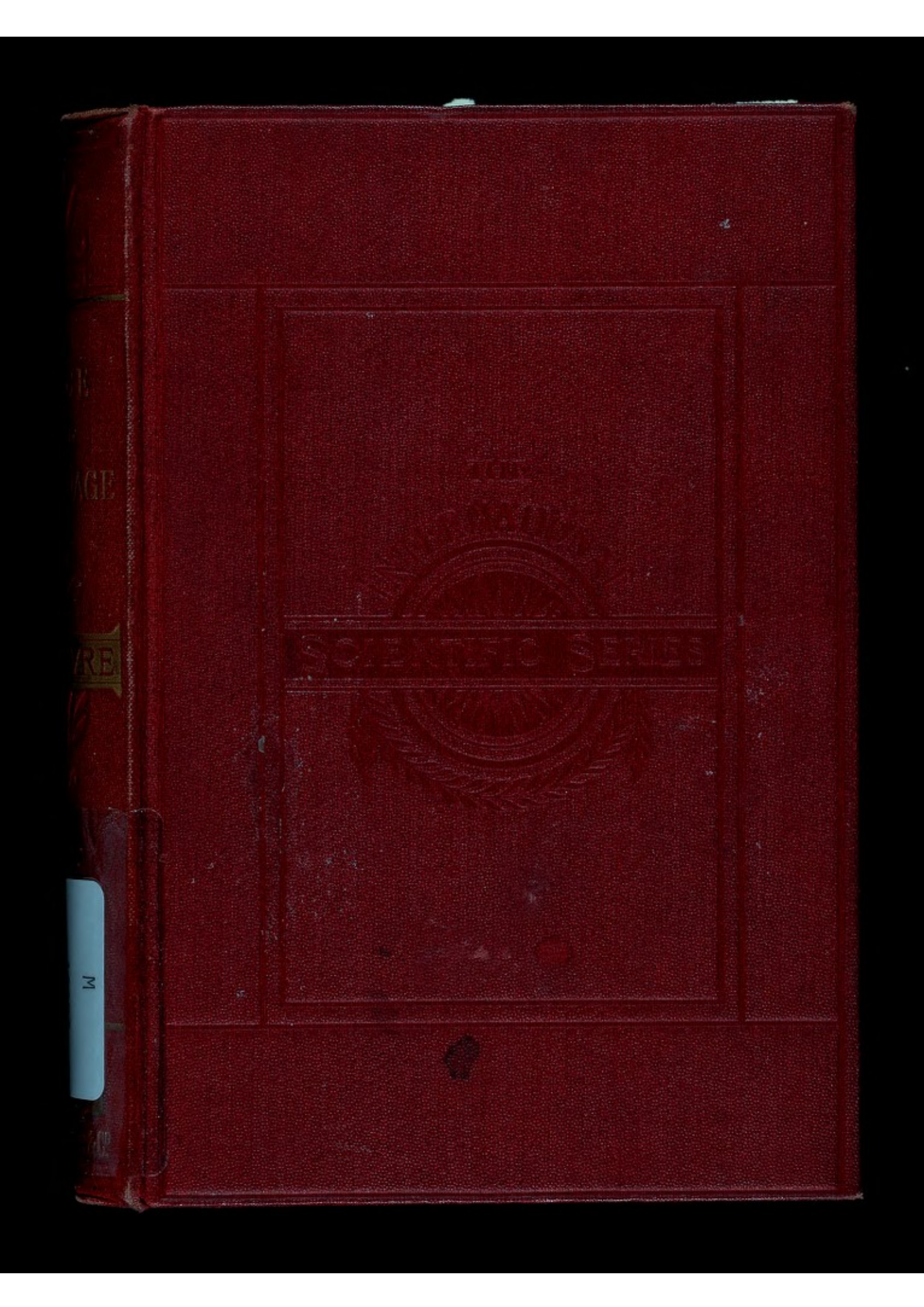
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RACE AND LANGUAGE

BY

ANDRÉ LEFÈVRE

PROFESSOR IN THE ANTHROPOLOGICAL SCHOOL, PARIS

LONDON

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RACE AND LANGUAGE

PART I.

THE EVOLUTION OF LANGUAGE.

CHAPTER I.

GENERAL CONSIDERATIONS.

Method of evolution—Ancient and modern theories of the origin of articulate speech—Elements of sound—Vowels and semi-vowels—Explosives or consonants proper — Long uncertainty between gutturals, dentals, and labials—The four classes of language—Isolating or syllabic, agglutinative, inflected, analytic ; corresponding originally to different degrees of intellectual capacity.

DURING many centuries mankind was anxious to be alone in the universe, to establish between the "fallen god" and all other living creatures a line of demarcation, the more inviolable that his vanity overlooked of set purpose all intermediate degrees.

Montaigne and La Fontaine, Georges Leroy and La Mettrie, sceptical philosophers or observers of nature, who, without any very profound study, had yet remarked in animals memory, reason, affections, social relations, the rudiments of all arts and industries, seem all to be infected to a certain degree by what is still termed the spirit of evil. They are all branded with the orthodoxy of religion and prejudice. Even Linnæus repented of

having classed man at the head of apes in the order of *Primatii.* Yet, having seen the successive removal of the barriers raised by official geology, anatomy, and even by psychology, man resigns himself at last to be no more than the first of mortals.

A very ancient doctrine, which, however, has only within the last forty years been put to the proof of experience and experiment, the theory of evolution and development, has led to a complete change of method. In the light of this doctrine students note divergences but seek resemblances. Leaving the barren comparison of extremes, they give up the easy task of contrasting modern civilised man, *homo sapiens*, with the ant, the dog, the elephant, or the gorilla. The enormous progress made by the least imperfect of mammals is all the more clearly established by science, now that she grasps, not indeed its cause, but its point of departure. Science cannot, it is true, answer the insoluble question—Why is there progress at all? but its existence postulated, science can trace its "low beginnings." Step by step the scattered links, buried in the depths of the past, are recovered and joined anew, the slow transitions which have by degrees removed man so far from the animals are made manifest in their probable or certain succession; and so the vain regrets for a lost paradise give place to the legitimate pride in an acquired dignity.

We take this doctrine, this method, for lamp and guide in the boundless field of the science of language. Some parts of this domain have in our own day been explored with admirable wisdom; and where we touch upon these discoveries of modern talent, we shall only need to set forth facts which are admitted, if too little known. But here, in dealing with preliminary matters,

more initiative is necessary, because of the confusion of doctrines.

On one point only, and even in this we must not press too closely the meaning of the words, there seems to be complete accord between the simplest of men and the most subtle of thinkers, from antiquity down to our own time. "Articulate speech is, together with the use of fire, the most characteristic attribute of man." If we add anything to this formula, we at once lay ourselves open to contradiction, specious or valid.

Does man think because he speaks? or does he speak because he thinks? The discussion of this dilemma is not worth the ink that has been wasted on it. If by thought is meant the more or less durable impression produced in the brain by sensation, and the more or less conscious reasoning which gives rise to the action consequent on the impression, it is evident that thought precedes the vocal act which renders it. If thought becomes a labour of the brain, independent of the immediate impression, working on sound-symbols, retained by memory, elaborated by writing, expressed or understood, substituted for sensations stored in recollection and analysed by the mind, it is no less evident that language is not only the instrument, but also the form and condition of thought. We shall see, moreover, that there exist intermediary stages between crude thought and elaborated thought, between certain languages and articulate speech. The second question is even worse formulated than the first. Man does not speak because he thinks. He speaks because the mouth and larynx communicate with the third frontal convolution of the brain. This material connection is the immediate cause of articulate speech.

Many eminent men have thought, and still think, that man has always possessed articulate speech, nay, even grammatical forms. The legend of Adam giving names to all cattle has contributed to keep alive this convenient but undemonstrable theory. It may be said at once, that other and not less weighty authorities have always regarded language as a conquest won by man, and that the studies of modern philologists have definitely established these ancient guesses.

The wide-spread faith in the divine origin of language is one of the arguments alleged or accepted by the partisans of the former theory. To begin with, it is worth neither more nor less than the pretended universal consent, so dear to hard-pressed deists and devout persons. We should leave it on one side without insisting further, but that it springs from a confusion of ideas on which it is well to throw some light.

The ancients commonly attributed the invention and the gift of language to some special or national god, Thoth or Jahveh—that is to say, to superhuman men framed in their own image, and possessed, like themselves, of mouth and throat—a childish theory which corresponded to their mental condition. It offered no explanation; rather it solved the question in the sense of a chance acquisition of the powers of speech. And in truth the ancients were convinced that many centuries had elapsed before language was known. Some one had invented it, as Vulcan the art of working in metal, or Triptolemus agriculture; and the inventor was, like his fellows, a god. That was the point of view of the polytheist; that of the modern metaphysician is different. As by the slow process of elimination and absorption, the crowd of supernatural beings was

gradually reduced to unity, the particular virtues of the different gods were concentrated in the God of Monotheism, and finally in the vague God of the deists, without parts or organs. This inconsistent being has inherited the attributes of Tlaloc, of the Cabiri, and the rest. He alone sways, as best he may, the unnumbered thunderbolts whose caprices taxed in earlier days the powers of all the gods of Olympus. Among other functions, he has retained the distribution of all the evil and all the good, of which the source remains unknown. Briefly, it is he whom men invoke or evoke when all other explanations fail. The writers of 1830, poets, novelists, and historians, vie with each other in summoning this *deus ex machina*. Even men of science intrench themselves behind his inscrutable designs. Is it necessary to state that we merely confess our ignorance every time that we have recourse to the deity to explain any fact? The dictum that God gave to man breath, memory, speech, is a meaningless phrase.

There are those who, while they do not admit it, yet see the inanity of such an assertion; but they return to it by another road. "No need," say they, "to invoke the supernatural; nature is all-sufficient; nature gave language to man." If nature be, in this connection, simply an equivalent for the deity, the question is no nearer a solution. Fortunately a term so indefinite is open to various interpretations; we need not quarrel with it if it means the natural origin of language. From the moment that the word *nature* connotes the sum of things and their relations to each other, it no longer brings us up against the dead wall of creation *ex nihilo*. Nature in this sense lends herself to the research and the inductions of science. We may therefore admit the harmless truism that nature in man

implies the expression of thought by means of speech. Such was the opinion of Epicurus, brilliantly expounded by Lucretius. But neither these philosophers nor any ancient writer, except the compiler of the Book of Genesis, supposed that language was a sudden revelation; that man was at once endowed by nature with the noun substantive, or even with the separate syllables which enter into the composition of words. Their gradual evolution is dependent on the slow development of the cerebral and vocal instruments of social habits.

Diodorus Siculus, a compiler of mediocre intelligence, and Vitruvius, another author of the second rank, have stated this simple conclusion in terms which Schleicher and Whitney would not disavow.

"The voice of man," said Diodorus, "being at first confused and meaningless, he succeeded at length in framing a general system of designations common to all, by the constant endeavour to pronounce words articulately, and by agreeing together on vocal signs applied to each object. But as similar centres of organisation arose in all parts of the earth, the result was that absence of uniformity which gave rise to the diversity of tongues" (Hist. i. 8). This passage, of which every word should be remembered, is supplemented by these words of Schleicher: "Language, which even during the short period of history has been subject to perpetual flux and change, is the product of a slow evolution. . . . Moreover, from the moment that we recognise in the physical constitution of man the principle of his speech, we are bound to admit that the development of language has accompanied, step by step, the development of the brain and of the organs of speech. But if it be language which makes man,

our first ancestors were not what we understand by man. . . . Thus the study of language conducts us unmistakably to the hypothesis of the gradual evolution of man from lower forms."

The ancients, intuitive adherents of the theory of evolution, here meet modern men of science. More than once they allude to the day when man had not the gift of speech,—*mutum et turpe pecus*, "a dumb and servile flock," says Horace, "until the day when words noted sounds and impressions." "Utility," as Lucretius clearly understood, "called forth the names of things," *expressit nomina rerum*. What need of words had the anthropoid of Neanderthal or of La Naulette, when, alone and naked, in the thick atmosphere or on marshy soil, flint in hand, he wandered from thicket to thicket, seeking some edible plant or berry, or following the traces of some female as savage as himself. Act followed impulse as though mechanically, and was accompanied by cry or gesture, joyous or plaintive. Constant fear, wonder, desire, hunger, and thirst; everything that is most crude, most instinctive, least the result of reflection; fleeting curiosity; the vague and fugitive impression of some unexpected sensation; memory at times tenacious, but extremely limited; senses young and unpractised; brain smooth and with few divisions, incapable of analysis—nothing here suggests the use of fixed and numerous symbols. Before man could give names to things, he must have observed them, distinguished them; nay, more, there must have been the need and the opportunity of communicating his observations and discoveries; the germ, however rudimentary, of the family, of a society, of a public whose interest it was to understand the utterances of its members, and to join together in a common

undertaking. Afterwards long habit and constant effort were needed to retain and apply, to co-ordinate and multiply the vocal utterances which, to begin with, were uncertain and variable. Diodorus clearly perceived this; and Vitruvius, who connects the origin of language with the discovery of fire, with the social influences of the hearth, shows us a company of men endeavouring by means of cries and gestures to communicate to each other their admiration. "They uttered," he says, "various sounds and shaped words by chance; then, using frequently the same sounds to indicate certain things, they began to speak to each other." Such are those African savages who fail to understand each other at night, and whose imperfect speech requires the aid of gesture.

One of the strongest arguments in favour of this probability is the universal admiration which hailed the invention, or rather the acquisition of language; the faith in litanies and formulas; the magic power attributed to the spoken word, the revealer, almost the creator of the world; the divine honours rendered to the personified Hymn, to poetry, to the Logos, to Brahma and the Word; the inevitable confusion between light and language, between speech and reason.

The study of the elements of speech lends its support to arguments drawn from sociology and such general considerations. We are not yet concerned with syllables, so variously combined in the thousands of idioms spoken all over the face of the earth. In their earliest form they do but take us back to the beginnings of those tongues, dead or living, which we now know of, which were built up from the fragments of other dialects now for ever vanished. The study of sounds goes yet farther back towards the source of language; it deals

with the letters, with the sounds of which syllables are composed.

Some of this material is common to us and the brutes. It is hardly necessary to observe that the vowels, pure or mixed, short or long, nasal or combined into diphthongs, may be recognised in the utterances of the dog, the cat, the horse, the ox, the sheep, the frog, the toad and the crow. Out of the sounds peculiar to each species it is easy to construct, without omitting a single note or quality of sound, the entire vowel scale: *ă ā, an* (nasal); *ĕ, ē, eŭ, en; ĭ, ī, in; ō, ŏ, on; oŭ, oū; eū; ŭ, ū, un; oa, oe, oi, ouă, oue, ouon* (nasal), *oui, ui*, &c. Note how *ē* and *ō* are related to *ā; o* to *ou; ou* to *u; i* to *é* and *u;* while in diphthongs the final vowel only is continuous, the first ceasing to be heard as soon as it is uttered.

Another class of sounds give rise to similar observations: not only the vowels are susceptible of prolongation. Certain hissings and trills, which can give a continuous sound, and are very common among animals, have played so important a part in the formation of human speech that they cannot be too carefully studied. Nor can these be separated from other undefined utterances, midway between continuity and articulation, ingeniously called semi-vowels; to these we may add hard and soft breathings, which precede or follow vowels, semi-vowels, sibilants, liquids, and true consonants. All these appear to be variants or degenerate forms of the consonants to which they are really related; but the fact that they all, except the true consonants, may be found in the animal kingdom, may be urged in favour of their priority. They form the link between vocalism and consonantal language.

For while recognising the part played by the teeth, the throat, the palate, and the lips in the liquids, *r*, *l*, *lh*; in the palatals, *j*, *ch*, *sh*; in the sibilants, *s*, *z*; in the semi-nasals, *m*, *n*; and semi-labials, *w*, *v*, *f*; it is also impossible to separate them from certain vowels. *y*, *j*, *ch*, *lh*, derive from *i*, consequently also *j*, *ch*, *sh*, the liquids and the nasal *n*, which often changes with these last. *Ou* is the origin of *v*, *w*, *m*, *f*; *s* and *r*, which are more independent, are not without vowel affinities through *j*, *ch*, *sh* and the liquids; *r* is reckoned a vowel by the grammarians of India; *s* has something of the character of an aspirate, which often takes the place of this letter, particularly in Greek and Zend. Now the aspirate, considered apart from the consonant, which it strengthens, is only a sort of toneless vowel; it may be compared to the prefatory murmur of an old clock before the hour strikes. It results from the effort of the breath made in giving the vowel distinctly or in articulating the true consonant.

In the present state of language the various semi-vowels often take the place of consonants. They have acquired this character by that which marks the decisive step towards articulation—*i.e.*, the momentary arrest of the vowel-breathing by contact with the glottis, the tongue, the palate, teeth, and lips. From the moment this stoppage is produced, continuity is broken, and the issuing sound can only be heard together with a vowel or semi-vowel (however slightly audible), which precedes or follows it. Such is the phenomenon of articulation; the word consonant, that which sounds with something else, expresses its essential character.

The consonant is the substructure and the foundation of language. Man alone possesses it, and it is

the greatest and most fruitful of his conquests. This treasure is composed of but six letters: *k*, *g*; *t*, *d*; *p*, *b*; the gutturals, dentals, and labials. These cannot give a continuous sound, however we attempt to prolong them; they can only be the beginning, middle, or end of a syllable; it is impossible to separate them from a vowel, a sibilant, a liquid, or an aspirate, with which they form a sort of consonantal diphthong, *ks*, *sk*, *kv*, *kch*, and so forth. It seems probable indeed that these double sounds were the origin of the pure consonants.

Here I foresee an objection: gutturals, it will be said, are not unknown to animals; a number of birds and mammals pronounce *k*, *t*, *p*, *b*. But this is a vulgar error; it is we who attribute these articulations to the utterances of animals. The cock does *not* say *cock-a-doodle-doo*, nor the rook *caw*, nor the sheep *baa*. They utter the breathings akin to these consonants, which, so to speak, lead up to them; they come near to articulate utterance, but man alone has achieved it; not without effort, and with varying success, according to the vocal and hearing power of each human race or group.

This is not an assertion deduced from the logic of the theory of evolution. The most perfect languages, like the crudest, have retained the traces of a long hesitation, of a remarkable confusion, not only as in German, between the weak and the strong consonants, but between the three types of true consonants and the corresponding aspirate, and even between the true consonants and semi-vowels. We hear, as it were, across the ages the stammerings and hesitations of speech in its infancy.

Not only have the races unequal power in the use

of the gutturals, dentals, and labials, but, in certain dialects of Africa and Polynesia, the pronunciation is still so uncertain that the most delicate ear can hardly distinguish between *k* and *t*; the sound is doubtful, and approaches now the one, now the other. In like manner many children say *tat* for *cat*, many men fail to distinguish between *cintième* and *cinquième*. That which is obvious within the limits of the same language is seen on a wider scale in two dialects of the same origin, which have grown up at the same time and side by side.

I give a few examples taken from the Indo-European languages. In all these the names of numbers up to ten, except the number one, are identical; but it is not easy at first sight to recognise as sisters these casts from one mould. To be fully persuaded that *eight* and *octo*, *zehn* and *deka*, are the same words, we must have heard it stated more than once. The fact is certain, however, and I insist no further. Let us take the words *four* and *five*, the only ones we need consider here. The Latin form *quatuor*, *quadru*, which has given *quattro* and *quatre*, corresponds to the Sanscrit *tchatvaras*; Zend *tchathwar*, *tchatru*; Pali *tchattaro*; Hindustani *tchar*; Lithuanian *keturi*; Slav *tchetvero*, *tchetüri*; Armenian *tchorq*, *tchors*; Greek τέτταρες and τέσσαρες; also the Umbrian and Celtic *patour*, *pewar*; the Æolian πίσυρες; Anglo-Saxon and English *fidvor*, *four*; thus we pass from guttural and dental diphthongs, *kv*, *tv*, *tch*, to various dentals and labials, *t*, *p*, *f*, not to mention the double *t* alternating with the single or double *s*; or the transformation of the semi-vowel *v* into *u* and *ou* in *quatuor*, *patour*, and into *o* in *fidvor*. It may be noticed that there has been a struggle between the guttural and the labial, and now

the *k* survives, as in *quatre*, and now the *v*, strengthened into *f* or *p* (in *vier*, *fidvor*, *four*, *patour*); it is less easy to understand the presence of the mixed dental *tchatvaras* and the pure dental; but it seems that at the time when Latin, Umbrian, Celtic, Greek, German, &c., were in process of formation from the parent language whence they all derive, there was still hesitation not only between *k*, *t*, or *d*, and *p* or *f*, but even between these consonants and the forms *tch*, *kv*, *tv*. This conclusion becomes yet more obvious on a comparison of the various forms of the word *five*. Sanscrit *pantchan*; Lithuanian *penki*; Armenian *hing*; Umbrian *pump*; Gothic *fimf*; English *five*; German *fünf*; Greek πέμπε and πέντε; Slav *panti*; Latin *quinque*; Italian *cinque*; French *cinq*; Irish *coic*. From these come derivatives as various as *Quinctius*, *Pompeius*, *Pentecost*, *fifty*. To these examples we may add a few well-known permutations: Latin *coquere*, *coquus* (cook, v. and subs.); Greek πέπτω (whence pepsine); Sanscrit *patch* and *pak*; Low-Latin *sequere*, to follow; Sanscrit *satch* and *sak*; Greek ἕπομαι; *bœuf*, *bos*, βοῦς, *gaus*, *kuh*, *cow*; *œil* (eye), Latin *oc*-ulus, Greek ὄπτομαι, ὀφθαλμός, Sanscrit *akch* (*akchan*). The Latin forms are here simpler than the corresponding Greek and Sanscrit forms, the Sanscrit *kch*, and the Greek κτ, πτ, σσ.

Since no one of the forms adopted respectively by one or other of the seven or eight families which constitute the entire group can claim the priority, and since none have been borrowed by any language from any foreign source, we are led to believe, as we indicated above, that these are varying pronunciations of a primitive form which contained the germ of all of them.

But this uncertain, confused, primitive form must have existed for thousands of years in a yet vaguer shape before it took root in that parent tongue, which, ancient as it seems, was yet perhaps unborn at the time of the pyramids of Giseh, sixty centuries ago.

It may be noted in passing, that this uncertainty of utterance does not hold good of the pure consonants alone; it is true also of all the continuous consonants and of the vowels and semi-vowels. This variability occurs in each branch of a given stem, and in every stem of this forest which numbers three thousand trees; herein lies the cause of the original or acquired diversity of related languages. As for the far wider divergence between linguistic groups of families, Indo-European, Semitic, Chinese, Uralo-Altaic, Dravidian, Basque, Algonquin, Malay, or Bantu, we must look deeper for the point of departure; not only in the possession of some special aptitude for a given sound, but in the variety and inequality of the intellectual development.

If we disregard those Biblical and national prejudices which would trace the descent of the whole human race from a single couple, even though science, whether disinterested or complaisant, yet certainly influenced by current beliefs, has, under the name of monogenesis, given her sanction to the theory of original unity, it has always seemed to me difficult to contravene the opposite hypothesis, viz., that the genus *homo* appeared simultaneously in various places and under different skies. It is very true that the farther we go back towards prehistoric time the closer the analogy and the nearer the resemblance between rudimentary industries and ideas. But because the first efforts of man to raise himself above the brutes have

everywhere led him to employ the same methods of construction, to display the same social tendencies, and the same errors in his conception of the universe, it does not follow that the structure of the skeleton, that the form of the cranium, that the faculty of the brain has everywhere been identical. Just as there is no individual who does not differ in some respects from those who most resemble him, so the earliest ancestors of races now distinguished by colour and by the quality of the hair, by social polity and intellectual capacity, must have possessed, in order to transmit them to their descendants, the earliest germ of that divergence which now shows itself in such various and such manifest differences. However this may be, these distinguishing characteristics, primordial or acquired, peculiar to each group of races, pure or mixed, are to be found in the very structure of language.

A cursory glance at a chart showing the distribution of languages reveals the fact that a third of the human race, not the least advanced in civilisation, the subjects of the Chinese Empire, with its dependencies, Burmah and Indo-China, are ignorant of that which we call grammar. From the beginning of the world these people have made use of isolated syllables to which a strict syntax assigns in turn the value of verb, substantive, adjective, adverb, or preposition.

Everywhere else, as far as we can ascertain, the other human groups, whether low in the scale or well endowed, homogeneous or of mixed race, whether numbered by hundreds or by millions, have associated with a root-syllable other syllables which determine or modify its sense. This agglomeration, which does not indicate any degree of kindred among the languages to which it is common, is of two kinds. In the fami-

lies—some of them very rich and very varied—called Mongolian, Uralo-Altaic, Dravidian, Malay, in the innumerable dialects of Oceania, Africa, and America, the root or central syllable remains as a rule unchanged; the accessory syllables, whether prefixed or suffixed, are more or less obliterated according to the laws proper to each family and dialect. These are called the agglutinative languages. Here again the classification is purely formal, since it ranges in the same category types as diverse as Japanese and Basque, Mandchu and Tamil, Polynesian and Turkish, Algonquin and Kaffir or Bushman. We insist the more on this incoherence because a false air of kinship has been given to this class of languages by bestowing on them the fantastic name of the Turanian family.

The Semitic and the Indo-European languages make the fusion of the agglutinated syllables more complete, alter and inflect the root itself, and often reduce suffixes and prefixes to unrecognisable fragments. The Semitic group, however, respect the root consonants; so much so, that if we disregard the terminations, since the Semitic character usually omits the vowels, the vocabulary, really identical at bottom, appears not to vary at all in Assyrian, Phœnician, Hebrew, or Arab. In the Indo-European languages, on the other hand, whether in passing from one language to another, or within the limits of the same tongue, the variation affects both vowels and consonants—we only note these distinctive characters in passing. The two marked types which we have just defined constitute inflected languages; they differ from the preceding as vertebrate from articulated animals. Inflection makes of each word an organism, a solid and robust individual, distinguished in form, as in

meaning, from other words in which analysis discovers the same original root; it gives to thought incomparable freedom and precision, and furnishes it with an abundant vocabulary of exact terms and of derivatives independent of the parent root and of other cognate words.

At length, and as the result of long use and close contraction, the words of inflected languages lose all trace of the syllables which have atrophied in the terminations of nouns and verbs, and return by another road to the syntax of monosyllabic tongues; while the part formerly played by the termination in declension and conjugation is taken up by particles and auxiliary verbs. The type of these languages is modern English, and in a hardly less degree the group of languages derived from Latin; these are called analytic languages, as distinguished from the ancient tongues, called synthetic, from which they descend. The evolution of language may be divided into four stages: monosyllabic, agglutinative, inflected, analytic.

Without at present staying to inquire whether the monosyllabic tongues may not themselves be the result of contraction applied to confused and prolonged modulation, we may be permitted to regard as successive the four degrees or planes presented by the table of languages. No gulf separates one from another; it is easy to find transitions from one to another. Just as our analytic are derived from inflected languages, so these latter are but a variety of the agglutinative, which are composed of monosyllables placed in contact with one another, but capable of independent existence. The problem is to determine why certain tongues should have stopped at the first or second stage, while others reach or pass the third. Whatever weight we

allow to historical circumstances, it is hardly possible to ignore some original inequality.

It is clear that, however this may be, the monosyllable is the embryo of every language and of every vocabulary which is known at the present day, and that, in the last analysis, it can be traced through all subsequent modifications. This search for the original elements is one of the great attractions of the study of language. For, if we have correctly defined the intimate relations between speech and thought, there is the chance of discovering in these syllables or *roots*, as they are termed, the trace of the first beginnings of intellect, the very dawn of thought. And these delicate researches have nowhere a greater charm than when prosecuted in those groups of tongues which are most advanced, in which the mind finds its most powerful instrument, its richest treasure-house.

While indicating the attractions and the importance of the search, we would not conceal the difficulties which attend the seeker, nor the pitfalls to be shunned. In the first place, the formal, morphological differences which separate the four great categories render all comparison useless. Chinese is of no avail to the student of Turkish; the American, Kaffir, or Malay dialects throw no light on the Semitic, Berber, or Indo-European languages. Not only does the difference of grammatical construction forbid useful comparison, but the fundamental diversity of vocabulary erects another barrier. In all families of languages the same association of consonants and vowels may be met with, but the same sound does not correspond to the same sense. This is yet another proof of the original differences in the faculty of speech. We may go farther. If, in a given family of languages, in

which the same roots form the common basis of all the ancient and modern dialects which compose the group, we analyse these roots, we shall find the sense evade us. Take, for instance, the Indo-European roots, which hardly exceed five hundred in number. Each one bears several very different meanings, which are referred somewhat arbitrarily to a vague and general signification. Many among them differ from the others only by the probable fusion of another root, since atrophied, which seems to have been used to define the sense. Take away this adventitious aid, and the number is reduced to a few dozen, whose meaning is as doubtful as the form is simple and crude.

It remains to be discovered, if possible, why this or that instinctive utterance, vowel or consonantal, has characterised or evoked such and such an image, sensation, or relation between thought and action. May we hope to discover the germ of articulate and definite speech in interjection, in emotional language, in onomatopœia, or the imitation of certain sounds? How should given sounds, to which a definite meaning was attached, have become fixed in the memory of a horde or clan, and communicated by degrees to the tribes which neighbourhood or interest brought into relations with it?

CHAPTER II.

EMBRYOLOGY OF LANGUAGE.

The cry, the first element of language—The cry of animals : expressive of emotion, the forerunner of the verb, and the name of a state or an action ; the call, germ of the demonstrative roots—The human cry : variety of intonation, stress, reduplication—Onomatopœia—Traces of direct onomatopœia—Approximative, symbolical, or generic onomatopœia—Onomatopœic theories of Plato, Leibnitz, De Brosses, and of Court de Gébelin—Onomatopœia defended by Whitney, rejected by Paul Regnaud—Metaphor, founded on mistaken analogies, has vitiated language from its very birth.

In order to establish the descent of man, the naturalist seeks to discover the living or extinct forms which may have served as transitions between the classes, orders, and species. In spite of numerous breaks in the chain, he can nevertheless follow out the processes of selection and heredity, can trace the gradually increasing complication of organs and functions, the slow co-ordination of the members round a spinal cord protected by an envelope, which becomes ossified into vertebræ, until finally the nerve substance and its diverse energies are concentrated in a cerebral ganglion, where impressions derived from without are translated into ideas and movements.

It is by similar methods that the philologist follows up language from the modern analytical phase to the inflected state, and so to the agglutinative and monosyllabic ; and in all probability we have here a complete cycle, a series of which the various stages are each occupied by one or more groups of idioms,

retarded or hastened in their onward progress, either by known facts of history, isolation, migration, intermixture, or by some ethnical and national aptitude or inferiority, which may be enduring or ephemeral.

Yet this classification does not carry us far back into the past. Moreover, the four great categories which, taken together, comprehend all languages do not imply kindred among those idioms ranged in any one class. Vocabulary, and not grammar or syntax, marks original relationship; and the vocabularies—the inheritance of entirely distinct families—cannot be referred to a single common origin, because they are the result of different vocal and mental aptitudes. No dramatic incident like that of the legend of Babel dispersed the nations and languages. Each linguistic stem germinated apart, and grew up alone in its own sphere; each family must be studied separately; and in each we are completely ignorant of the changes which took place prior to the historic period.

Must we then admit with M. Michel Bréal that the origin, not of language, but of the meaning of words, lies beyond our ken? But even he, who, with all his discretion, is so bold, has not abandoned the quest which he declares to be vain; and from Plato down to Schleicher, Whitney, Steinthal, Noiré, Paul Regnaud, and a hundred others, whose opinions we shall have to discuss, this central problem has exercised the minds of men.

When experience and induction by their mutual aid had at length succeeded in tracing the genealogical tree of mankind, a fortunate discovery was made by anthropology. In embryology the student found an abridgment, a summary, of the transformations discovered or assumed from age to age. By the

aid of the microscope, fœtal life reveals to the eye all the phases in the development of the cell, of the egg, of the very simple material aggregate which is destined to be clothed with the dignity of humanity—that is to say, to realise within a few months the work of a thousand centuries. Now it seems that language also has in some sort its embryology. Not that we can ever be the spectators of the formation of a language; but we possess the germ nevertheless, the undoubted embryo of speech—the *Cry*, which in most of the higher animals, even in man himself, exists as an independent utterance, and suffices for the expression of certain sentiments, and even of a few ideas, and is consequently the first element of the crudest forms of speech. From the moment that we reject supernatural intervention and regard language as the work of time, it is not possible to seek its point of departure and its germ elsewhere than in the resonance of the air against the vocal chords, and in the emission of this resonance by the mouth and nostril. The production of the voice is at first as unconscious, as reflex as any other bodily movement. The cry, in the lower species and in the infancy of the higher, is invariable, like the wail of a new-born infant. The toad, for instance, has but one note; that of the cuckoo and of a number of wild animals is hardly richer. Yet, since it responds to some impression or to some need, the sound already has a meaning, since it attracts or drives away creatures whose interest it is either to flee from or to approach the utterer of the sound. This meaning, very vague, or rather very elastic, grows more exact with the sensation of which the sound is the result; the single note of the toad implies already an affirmative or imperative

proposition, embodying the sexual desire, or something similar. Repetition, continuance, the raising or lowering of the tone, mark the earliest efforts to attain to the expression of more varied and more distinctly realised sensation. Modulations, more or less uncertain, more or less fixed by practice, as consciousness dawns, come to increase the vocal resources. A given vocabulary will include five, six, or even ten variations of the specific cry, each one doubled by a stronger or weaker form, and susceptible of expressive combinations, comparable to our derivatives and compound words; the language thus reflects, so to speak, the shades of joy or pain, fear or desire, sickness or health, hunger or thirst, changes of temperature, the approach of day or night. Lucretius in his fourth book translates with a rare felicity all these utterances of birds, cows, dogs, and horses, in which are clearly represented those sensations and affections which are common to us and to most animals.

In animals the specific utterance is but the immediate expression of a present emotion. This observation is fairly just, and insisted on by those who would accentuate the line of demarcation between men and brutes. It is more to our purpose to find some modification of a formula which is too absolute as it stands. For does not the language of the brutes at times pass the limits assigned to it? Evoked by an immediate sensation, does it not sometimes correspond to some enduring recollection, even to a prevision which may be realised?

We are not sufficiently acquainted with the vocabulary of the anthropoids to interpret the nocturnal choruses of certain apes; but we cannot doubt that the dog, which so readily distinguishes its friends

from enemies or strangers, summons, welcomes, or threatens each of these in a perfectly comprehensible manner. He warns, thanks, questions, asks to be taken for a walk or out hunting; in dreams, when memory excites certain chambers in his brain, he growls at the passer-by whom he suspects, he gives tongue when he imagines he sees a covey put up or a hare start from her form. Asleep, he does in a measure that which man does in his waking hours—he specifies by sounds which are but symbols certain past impressions which have no present objective existence.

Nor is memory only called into action in this embryonic language, but foresight also, and therefore reflection and will. From the beginning the emotional cry is a summons, understood by those who hear it, if not by those who utter it; it soon adapts itself to less elementary needs than the original instinct; it is by turns a warning, a command, a convocation against danger, for common defence, for hunting, or for warfare.

These remarks on the character and use of the cries of animals, which may be observed by every one, apply without a shadow of doubt to the language of the anthropoid which was slowly developing into man. We may also add with certainty that this utterance, which tended to become human, was richer in modulations, more expressive, and necessarily conveyed a more direct intention than that of any other creature; and that to the artifices, already numerous, of duplication, continuance, raising or lowering the note, &c., were added the thousand efforts of the voice to articulate the consonant, as yet beyond its mastery.

It is said, and with reason, that the interjection is barren and unchanging; that it has no place in lan-

guage properly so called; that speech begins where interjection ends. The interjections common to all peoples, Ah, Oh, Eh, &c., still indeed suffice to express the simple emotions which provoke them—joy, pain, fear, desire, doubt,—and carry us back to the early period of emotional language. But it must be remembered in the first place, that many interjections may have disappeared, may have been absorbed into the words of which they were the original roots; and in the second place, that the utterances even of animals imply memory and reasoning power, and that in man they have shaped themselves to the growing complexity of a progressive and social being.

Simple sounds like *A* and *I* have been, and still may be, merely exclamations, but they have played a great part in the Indo-European languages; long or short, they have formed pronouns and verbs; they indicate movement, place, even privation and negation; reinforced by a nasal, an aspirate, a liquid, one or more consonants, their power increases a thousandfold. The forty thousand monosyllables which compose the Chinese tongue are formed in the same way. This is but a single example, but it is a weighty one, of the ductility, of the almost infinite variability, of human utterance. Other languages have employed other methods, and have not sought to increase the number of monosyllables, but rather to associate and combine them.

This tendency, which results in the rich development of grammatical forms, began by the prolongation or the reduplication of the syllable which is so common in animals and children—a custom so inveterate that it still obtains among us without suggesting its ancient influence upon the development of language. When

we lay stress upon a syllable or upon a word to give it prominence, we use an instinctive artifice, natural to children and to savages, and to all people of limited vocabulary. Taylor, in the second volume of his "Primitive Culture," has collected many examples, taken from the languages of America and Oceania, of this prolongation of a sound to mark distance, importance, degrees of comparison. Vowels and liquids are repeated as many as five and six times. Stress, stereotyped by custom, has produced accent, so diverse, so difficult to reduce to a common principle or law; it has furnished grammar with a valuable means of distinguishing gender, tense, and person.

Reduplication suggests the same remarks. When we say *no, no; yes, yes; hip, hip; well, well; come, come;* when children say *papa, mama, dada, far far* away, we and they obey the instinct which led our ancestors to enforce attention by the repetition of the same sound.

There is no tongue in which this primitive expedient has not left obvious traces. Many Polynesian, American, African, and other tribes call themselves, or are called by others, by names composed of a reduplicated syllable—Shoshones, Chichimecs, Niam-niam, Leleges, Tatars, Berbers, without reckoning proper or common names, such as Unkulukulu among the Kaffirs, Tamehameha among the Sandwich Islanders.

It is incontestable that the method to which we owe such words as *murmur, Marmar* (the ancient form of Mars, contracted into Mamers, Ma-ors, Mavors), *barbarus* (stammerer, he who cannot speak ἄλαλος), *purpura, turtur, pipio, titio*, is very wide-spread; these are only surviving fragments of a method of formation which is still in full vigour in many contemporary dialects and jargons.

Analysis discovers, moreover, in a number of roots, slightly differentiated in form and meaning, the original identity of repeated sounds which time has obliterated and fused together; sometimes one of the twin syllables has lost or modified its vowel or consonant; sometimes they are contracted and agglutinated. Hence the search is hazardous, but the fact admits of no doubt; it is enough to compare such forms as *genus*, *genui*, *genitor*, with *gigno*, *γίγνομαι*, *γέγονα*; or again *mens*, *moneo*, *mania*, with *memini*, *memoria*, *memnon*, to recognise, in the second term of the comparison, the reduplication of the roots *gen* and *men*, which have thus given rise to hundreds of derivatives. A whole class of verbs in Sanscrit, Greek, and Latin has been formed in this way: *dadâmi*, *δίδωμι*, *dedi*; cf. *datum*, *δώσω*, *dare*. The system of the Greek conjugation rests in great part on the ingenious use of these variations, where the weakened reduplication of the root syllable characterises certain moods and tenses. Thus the most rudimentary expedients of language in its infancy reappear in the elaborate devices of an advanced state of civilisation.

We have said enough to show that the specific cry, somewhat modified by the vocal resources of man, may have been amply sufficient for the humble vocabulary of the earliest ages, and that there exists no gulf, no impassable barrier between the language of birds, dogs, anthropoid apes, and human speech. The summoning cry, so largely used by animals, has been developed and defined into command, into indication of distance, number, person, sex; or demonstrative terms retained and exchanged by members of fixed or ephemeral societies,—horde, family, or tribe,—have grown beyond it, and been accepted, modified, or increased by neigh-

bouring groups. With regard to the emotional cry, it is perhaps, in spite of its reflex and involuntary character, a yet more important factor. Being associated with all sensations, and with all the movements called forth by these, it affirms a state, the passing from one state to another, and, subsequently, an action and the result of an action. Now all this is characteristic of the verb; so that, placed between two demonstratives, it gives to these respectively the value of what we call subject and object; it makes the pivot of a proposition, of a very elementary nature indeed, but in which is epitomised the fundamental mechanism of speech. To make my meaning clearer, I will use English or Latin words, but it must be understood that each word should be considered as a simple emission of the voice, entirely uninflected. Let us take the most neuter of demonstratives, *this, that, hoc, id*, and place between them an utterance which indicates pain, joy, anger, desire, an utterance known and understood of those who hear it: *this pain that; that joy or anger or desire this;* add appropriate gesture, and the right translation of the meaning is easy in each case. He, you, or I am hurt or pleased by this arrow or claw, by this food or drink; that he or you strikes, pursues, devours, or fears this, him or me. Replace the vague demonstrative by the names of persons or things, and you have in its essentials the speech of negroes, or even of the civilised Chinese.

But the name, the substantive, or at any rate a large class of these, differs from the verb only by terminations or inflexions of very much later date than the primitive form, and non-existent in the monosyllabic group. The possible verbs, of which we see the germ in the emotional cry, include also potential

nouns, names of sensations, states, movements, actions. This is so true, that in our efforts to convey the thought, yet vague and undefined, of our remote ancestors, we have been obliged to use indifferently the words pain and suffer, blow and strike, fright and fear, in order not to use the naked root, which would have required a long explanation. Let us take, however, a single example from the Latin tongue: in *dolor* and *dolere* (pain and to suffer), if you suppress the substantive termination *or* and the verbal form *ere*, there remains the significant or root syllable, which is neither verb nor noun, but may be used for the one or the other. Some people may be surprised to find that so early an origin is attributed to nouns which are often called abstract; for, on this hypothesis, what becomes of the received opinion that the first substantives were the names of concrete objects? This distinction does not seem to me as valid as it is often considered. The faculty of abstraction is inseparable from the intelligence, which signifies, etymologically, the *choice among* several facts or qualities. A sensation realised is already an abstraction; and the vocal utterance which corresponds to it distinguishes or abstracts it from other sensations; language has no other office. And since the impression upon the subject, or subjective impression, precedes of necessity the knowledge of the object, or objective impression, it is the former which is first expressed in speech. An increased power of abstraction led to the need of designating objects external to man.

Animals, which see, and even recognise, local peculiarities, seem very rarely to analyse into its details the whole which has impressed them. Their attention is sluggish or ephemeral. It was the same, in his degree,

with man when as yet hardly raised above the brute. Very slowly, after having in some degree succeeded in expressing his own emotions and intentions, he began to try to fix in his memory, by a vocal symbol, the fluctuating image of those objects whose contact or approach excited his sensations or provoked his actions. At first he encountered difficulties apparently insurmountable; how describe by means of sound, colour, odour, taste? how paint with the voice? It had to be done, however, and man attained to this art by degrees and unconsciously, rendering at first, like an echo, sound for sound; then referring the sound to the thing which gave the sound; then to the things and phenomena which a given sound accompanies or heralds; and finally to the thousand ideas excited in a brain progressively more rich and active by the mere mention of the symbol which connoted already several series of metaphors.

The imitation of the utterances of animals and of the sounds of inanimate nature has been almost universally considered as the principal source of the roots called attributive, with which are connected the greater number of substantives and verbs; whence the name onomatopœia, that which creates names. It is so plausible an hypothesis that it has conquered most philosophers (ὀνόματα μίμεματα, says Aristotle), and also philologists such as Renan, Whitney, Farrer, Wedgwood.

Max Müller and Paul Regnaud, speaking on behalf of Indo-European philology, reject this theory, the latter especially with vehement conviction; but their criticism and their reservations fail to eliminate the well-known tendency of children, and even of grown men, to more or less accurate onomatopœia; and if

such phrases as *ding-dong*, *tic-toc*, *bang*, &c., constitute only an infinitesimal and barren portion of our vocabularies, it cannot be denied that they abound in a number of languages which have not attained to the inflected state. Moreover, not to mention words like *kukuta* (cock) in Sanscrit, *ululare*, *balare*, *mugire*, *hinnire*, &c., in Latin, we find throughout the Indo-European tongues roots with many derivatives of every kind, in which can be traced, through all changes of sense and sound, the primitive onomatopœia, but an onomatopœia which is, so to speak, generic, and applicable to a whole class of allied sounds. It will be readily understood that this symbolical onomatopœia is vague and doubtful, and has led the acutest intellects into grave errors.

The earliest theory of this onomatopœia, resulting from the adaptation of the sound to the idea, occurs in the "Cratylus" of Plato. "In the first place," says Socrates, "the letter *r* appears to me the general instrument expressing motion. . . . Now the imposer of names frequently used it for this purpose; for example, in the actual words ῥεῖν, ῥοή, he represents motion by *r* . . . by the letter *i* he represents the subtle elements which pass through all things; by the sibilants *ph*, *ps*, *s*, *z*, all which shakes, agitates, swells; by *d* and *t*, that which binds or rests in a place; by *l*, all things smooth and gliding; by *gl*, things of a glutinous, clammy nature," &c. I omit the examples taken from the tongue which Plato spoke, and of the earlier phases of which he had no conception. The Stoics, according to St. Augustine, had entirely accepted these fanciful theories; they held, with Court de Gébelin, that the "voice indicates agreeable objects by agreeable sounds, and unpleasing objects by harsh and

strident sounds." Thus in *lana*, *lenis*, *mel*, the liquid *l* expresses softness; in *asper*, *vepres*, *acre*, *sp*, *pr*, *cr* mark roughness; *crura* (thighs) renders at once the ideas of length and hardness.

Leibnitz, one of the promoters of the study of comparative philology, is not more fortunate in the suggestions which he brings to the support of the doctrine of "Cratylus." M. Paul Regnaud, in his interesting book "On the Origin of Language," has quoted the most curious of these, and we quote them from him in order to show that neither genius, nor serious intention, nor real knowledge, avail to protect us from the wildest errors. But it matters not, since the errors of yesterday beget the truths of to-day; philology has had its alchemists.

"With Socrates, or rather with Plato, Leibnitz believed that the letter *r* has been employed by the natural instinct of different peoples, such as the ancient Germans, the Celts, &c., to signify violent movement and a sound like that of the letter. This appears, he says, in ῥέω, to flow; *rinnen*, *rüren* (*fluere*), *rutir*, flowing; *Rhenus*, *Rhodanus*, *Eridanus*, *Rura* (Rhine, Rhone, Po, Roër); *rauben*, *rapere*, to rob, ravish; *radt*, *rota* (wheel); *rauschen*, to rustle; *rackken*, to stretch violently, to rack, whence *reichen*, to reach; *der Rick* (in Platt-Deutsch), a long stick or pole; whence also *Rige*, *Reihe*, *regula*, *regere*, words implying length or straightness; *Reck*, a long or tall person, a giant, and then a powerful or rich man, as is seen in *Reich* (German), and in *riche* and *ricco* (French and Italian). In Spanish *ricos hombres* means nobles or chief personages, which shows how metaphors have caused words to acquire a new meaning of which the connection is far from obvious." This observation recoils upon its author. Of

all the words hitherto cited, there are hardly two which are not out of place in each other's company.

But to continue. The letter *r* is not exhausted. "It indicates also violent movement and noise in *Riss*, rupture, with which the Latin *rumpere*, Greek *ῥήγνυμι*, French *arracher*, and Italian *straccio* are connected. Now, just as *r* indicates naturally a violent movement, so *l* signifies a more gentle movement. So we find children and others for whom the *r* is too harsh and too difficult to pronounce substitute the *l*, and say, for example, *velly* for *very*. This gentle movement appears in *leben*, to live; *laben*, to comfort; *lieben*, to love (*lubere*, *libido*); *lind*, *lenis*, *lentus*, gentle, soft; *laufen*, to pass rapidly like flowing water, *labi* (*labitur uncta vadis abies*); *legen*, to lay, whence *liegen*, to lie, and *Lage* and *Laye*, layer, as in *Laystein*, stratified stone, slate; *Laub*, leaf, a thing easily moved; *Lap*, *labra*, lip; *lenken*, *luo*, loosen, dissolve; *lien* (Platt-Deutsch), to melt, whence the *Leine*, a river in Holland, which, rising among mountains, is swollen in spring by melting snows. Not to mention a number of other similar words which prove that there is something natural in their origin, something which indicates a relation between things and sounds, the movements and organs of the voice. And for this reason also the letter *l* indicates the diminutive in Latin, and in languages derived from Latin, as also in High German. Yet it must not be supposed (a happy reservation!) that this tendency can be everywhere observed, for the *lion*, the *lynx*, and *wolf* cannot be styled gentle. But it may be that the attention has been directed to another circumstance, and that is their swiftness, which causes them to be feared, and puts to flight: as though he who saw such an animal cried to his companion, '*lauf*'

(flee); besides, through many accidents and changes, most words have become very different from what they were in their primitive pronunciation and meaning." Here good sense appears through this collection of childish subtleties. (New Essay on the Understanding.)

Nothing can be more far-fetched than the genealogy of the word *Auge*, eye, as Leibnitz gives it. "*A*," he says, "the first letter, followed by a slight breathing, becomes *Ah*, and as this emission of the breath makes a sound distinct enough at its beginning, and then grows faint, this sound signifies naturally a breath, *spiritum lenem*, when *a* and *h* are but faintly heard. Hence the origin of Ἄω, *aura*, *haugh*, *halare*, *haleine*, ἀτμός, *athem*, *odem*. But as water is also a fluid, it would seem that *Ah*, rendered stronger by reduplication, *Aha* or *Ahha*, has come to mean water. The Teutons and Celts, for the better indication of movement, have prefixed their *w* to the one and the other; thus *wehen*, *wind*, *vent*, mark the movement of the air; and *waten*, *vadum*, *water*, the movement of water or in water. But to return to *Aha*, it seems to be, as I have said, a root which indicates water." (Observe that there is no reason for the supposition.) "The Icelanders, whose language is akin to the ancient Scandinavian, omit the aspirate and say *Aa*; others, who say *Aken* (meaning *Aix*, *Aquas Granni*, the waters of the Gallic god Grannus), have strengthened it, as have the Latins in their *aqua*, and the German *ach* in compounds; *Schwartzach*, black water; *Biberach*, the water of beavers: and in ancient titles, *Wiseraha* (in Latin *Visurgis*), and *Ilerach* (Latin *Ilargus*). From *aqua*, *aigues*, *auue*, we come at last to the French *eau*, in which no trace of the origin remains. *Auwe*, *Auge*,

in German, means now a place which is often flooded, a water-meadow, and more particularly an island. . . . And this must be the case among a great many Teutonic and Celtic peoples, for hence it is that all which is, as it were, isolated in a species of plain has been called *Auge* or *Ouge* (*oc-ulus*). Spots of oil on water are so called in German; and in Spanish *ojo* is a hole. But *Auge*, *ooge*, *oculus*, *occhio*, &c., have been applied more particularly to the eye, that brilliant hole in the countenance, and doubtless the French word *œil* comes from the same source, though its origin is not recognisable without tracing the successive links of the chain, as I have just done: it would seem also that the Greek ὄμμα, ὄψις, come from this root. *Oe* or *Oeland* means island in the far North, and there are even some traces of it in Hebrew, where *Ai* means island. M. Bochart believed that the Phœnicians took the name given to the *Ægean* Sea from this root (signifying full of islands). *Augere*, to increase, comes likewise from *Auge*, that is to say, the rising of waters; as *ooken*, *auken*, in Old Saxon meant to increase, and the imperial title *Augustus* was translated *Ooker*. A river of Brunswick rising in the Hartz Mountains, and consequently subject to spates, is called *Ocker*, anciently *Ouacra*."

The ravings of a lunatic are not more incoherent; but the philosophers of the eighteenth century did not think so. De Brosses, a man of the clearest intellect, in his treatise on the *Formation Mécanique des Langues*, goes even farther than Leibnitz, and Court de Gébelin (in his *Monde Primitif*) goes yet farther than De Brosses. But it should be observed that, if their demonstration is valueless, their general theory, the principles which they lay down, are so full of good sense and so plausible, that true philologists who are

upholders of the onomatopœic theory—Renan, Chavée, Burgraft, Egger, Whitney, Henry, Hermann Paul —have hardly modified the expression of them. In their application, though the progress of science has removed many causes of error, the difficulties remain great, and often insurmountable. It is true that the derived languages are no longer confounded with the parent language, nor the modern and the past form of families of idioms, nor is any one likely to quote a Hebrew word in illustration of Teutonic or Latin usage. "But if we consider the untold ages which separate us from the earliest imitative cries," says Sir John Lubbock, "we shall not be astonished that the derivation of the root words, thousands of years old, are either entirely lost, or at best can no longer be determined with certainty." We may add a very just remark of M. Michel Bréal: "If at times we think we recognise in certain sounds in our idioms an imitation of natural sounds, we should remember that the same sounds are represented in other languages by quite different utterances, in which these peoples think they recognise onomatopœia; so that we ought rather to say that we hear the sounds of nature through the words to which our ear has been accustomed from infancy." It is necessary, therefore, to mistrust resemblances which are too precise, too detailed, but to recognise at the same time that the fact of onomatopœia, direct or symbolical, is hardly contestable, since it has left traces even in languages which have derived their construction from earlier tongues, and since it may be observed every day in the fluctuating vocabulary of savages, the intellectual contemporaries of our ancestors. Does it not occur to every one of us at times to strive to render a noise, a memory, an idea, by a sound? M. Hermann

Paul (in his *Principes de Linguistique Historique*) remarks that words are created every day, in every language, which are the result of a vague onomatopœia, and according to the rule that we must judge of those ages which have left no documents by what we can observe in later times, he concludes that since this method must have been in use from all time, "we may attribute to it the origin and the general development of language."

We do not go so far. The cry is the origin; onomatopœia is the second stage, in which language finds the materials which the association of ideas and metaphor subsequently elaborate. We cannot do better, to close the debate, than quote the opinion of Whitney, "The Life of Language," 4th edition, 1892, p. 242:—

"If we thus accept the impulse to communicate as the governing principle of speech-development, and the voice as the agent whose action we have especially to trace, it will not be difficult to establish other points in the earliest history. Whatever offered itself as the most feasible means of arriving at mutual understanding would be soonest turned to account. We have regarded the reproduction, with intent to signify something, of the natural tones and cries as the positively earliest speech; but this would so immediately and certainly come to be combined with imitative or onomatopoetic utterances, that the distinction in time between the two is rather theoretical than actual. Indeed, the reproduction itself is in a certain way onomatopoetic. It imitates, so to speak, the cries of the human animal, in order to imitate secondarily what those cries in their primary use signified directly. Just as soon, at any rate, as an inkling of the value of communication was gained, and the process began to

be performed, a little more consciously, the range of imitation would be extended. This is a direct corollary to the principles laid down above. Mutual intelligence being aimed at, and audible utterance the means employed, audible sounds will be the matter most readily represented and conveyed; just as something else would come easiest to one who used a different means. To repeat once more the old and well-worn but telling illustration: if we had the conception of a dog to signify, and the instrumentality were pictorial, we should draw the outline figure of a dog; if the means were gesture, we should imitate some characteristic visible act of the animal—for example, its bite or the wagging of its tail; if it were voice, we should say 'bow-wow.' This is the simple explanation of the importance which is and must be attributed to the onomatopoetic principle in the early stages of language-making." "The scope of the imitative principle," adds Whitney, "is by no means restricted to the sounds which occur in nature, although these are the most obvious and easiest subjects of significative reproduction. What it is may be seen in part from the range of onomatopoetic words in known languages. There is a figurative use of imitation, whereby rapid, slow, abrupt, repetitive, motions are capable of being signified by combinations of sounds which make something such an impression on the mind through the ear as the motions in question do through the eye. And we can well conceive that, while this was the chief efficient suggestion of expression, men's minds may have been sharpened to catch and incorporate analogies which now escape our notice, because, having a plentiful provision of expression from other sources, we no longer have our attention keenly directed to them."

Admit, for example—and it is precisely what has happened—that a given sound *a, ou, e, i,* a given diphthong, vowel or consonantal, *jj, ss, ch, br, fr, tr, ps, pv, w,* may have seemed to render a sound of wings, a modulation of the wind or of water; nothing was easier than to derive from it a thousand families of different words, corresponding to hundreds of objects, phenomena, sensations, and ideas; bird, breeze, river, stream, rain, foliage, tree; flight, breath, soul, phantom; rustling, rolling, shuddering, trembling, shivering, frost, winter; fever, flame, heat, vibration, light. Multiply these diverse productions by the infinite variety of vocal utterance, and from the poverty of the primitive language you are thrust upon the difficulty of choice, finding (as the result of analysis, of the association of ideas, fugitive or enduring) twenty names for one thing, and a hundred things to which a single name might be applied; thus words undergo constant change of quality and character, passing from the representation of sonorous objects to that of coloured or odorous objects, from movement to form, to mental image or concept. For the mind grows clearer and richer in proportion to its means of expression. But it is not yet able to administer its wealth; it abandons itself to the flood of metaphor, to those summary and superficial comparisons which observation and experience, yet in their infancy, cannot correct or control. Metaphor connects the most discordant notions and objects; it sweeps everything into its net, and creates from the casual juxtaposition thoughts and images. It blinds and it confounds. It is a fertile source of confusion and error, fashioning language for the use of reason, and making it a supple instrument, but a misleading one from the beginning and for all time.

Throughout this work what becomes of onomatopœia? It has almost disappeared, its part is played; man needs it no longer to give meaning to sounds. This is why M. Paul Regnaud seeks it in vain in our languages which are three or four thousand years old at most. The reasoning powers came into play in their turn, classifying the confused materials furnished by metaphor; a few dozen significant syllables are selected, and these, by agglutination, by inflection, by derivation, give rise to a new vocabulary, of which the words may be ranged into the categories of grammar and syntax.

We have been much struck with the views of M. Regnaud, the learned professor of Lyons, on the origin of language. He follows, like myself, the theory of evolution and development. We are the more anxious to show, if possible, that his criticism of the hazardous or impossible relationships suggested by Plato, Leibnitz, De Brosses, Charles Nodier, even by Tylor, Lubbock, Wedgwood, and Farrer, do not affect onomatopœia considered as a persistent factor in the inferior languages and as a prehistoric and necessary factor in inflected languages.

"It is very certain," says M. Paul Regnaud, "that we can hardly find the trace of these methods (onomatopœic) in Sanscrit, Greek, and Latin—that is, in those Indo-European languages which, though not spoken, have left a considerable literature. If it be added, as M. Fick observes, that the farther we retrace towards its origin the vocabulary of the tongues in question, the rarer onomatopœia becomes, we shall know what degree of importance we ought to attribute to the primitive effect of onomatopœia. The imitation of the sounds of nature in all its forms, direct or sym-

bolical, can be regarded only as a recent and sporadic factor in language, and the birth and growth of its forms are the result, in great part, of another cause."

It will be observed that this judgment is far from absolute, but rather measured and prudent. No philologist who has rejected the supernatural denies this other cause of the origin and growth of language; this cause is the cry. And, to minimise in passing the objection which doubtless appears to M. Regnaud the most conclusive, if onomatopœia has left few traces in the classical languages, so has the cry; it is limited to the instinctive and reflex exclamation. The reason urged against onomatopœia would therefore hold good against the cry, of which we recognise with M. Paul Regnaud the ancient importance; against the cry, of which the reproduction by those who heard it was, as Whitney remarks, an imitation, an onomatopœia.

But are the traces of onomatopœia so rare as M. Regnaud thinks in the Indo-European languages? What are then these attributive roots, *tu*, *tchid*, *stan*, *brh*, *skrp*, *kvan*, *dak*, *smr*, *srp*, &c., to which he himself, and with much boldness, attaches numerous families of words, of which it is possible to trace the descent and relationships through all the dialects of our languages, the families *frapper* (strike), *couper* (to cut), *étendre* (to stretch), *crier* (to cry), *creuser* (to hollow out), *chanter* (to sing), *mordre* (to bite), *glisser* (to slip), &c.?

Let us take the very numerous group represented in Sanskrit by the root *brh* (*b*, *r*, vowel, *h*, guttural), of which the pronunciation varies from *bahr* to *brah*, *breck*, *brüch*, and even *blach*, for the liquids *r* and *l* permute constantly. "This root," says M. Regnaud, "signifies generally to cry, to speak, to pray" (as in

*brah*man, prayer, *brah*man, priest, he who prays), and also "to trumpet like the elephant" (whence the Lat. *barritus*). In Greek it has given several variants: βραχ in the Homeric ἔβραχον, to speak, to cry out; βρυχ in βρύχω, to roar; βληχ in βληχάομαι, to bleat, in English to *bark*. We can hardly omit, as the resemblance is so close, the French words *brailler*, *braire*, *bredouiller*, to brawl, to bray, to murmur. "If," continues our author, "as seems certain, these several forms are derived from a single original form, we must conclude that, far from distinguishing the cry of each animal by a special onomatopœia directly in relation with this special sound, our Aryan ancestors employed a generic term common to all, and probably without relation to any given cry, and that this was used to signify indifferently the voice of man, and for the utterances of the elephant, the lion, the sheep, the dog, &c." We would not assert so much; we would not say "we must," but "we may" conclude from these facts that the single early form from which these variants derive was either one of those generic onomatopœias, very vague and hardly distinguishable from the cry of emotion or of astonishment, or an onomatopœia, at first special, chosen among twenty others which might have taken the same place, and generalised for the needs of analogy and derivation.

But it is time to sum up. Animals possess two of the important elements of language—the spontaneous reflex cry of emotion or need; the voluntary cry of warning, threat, or summons. From these two sorts of utterance, man, endowed already with a richer vocal apparatus and a more developed brain, evolved numerous varieties by means of stress, reduplication, intonation. The warning or summoning cry, the germ

of the demonstrative roots, is the parent of the names of numbers, sex, and distance; the emotional cry, of which our simple interjections are but the relics, in combination with the demonstratives, prepares the outlines of the sentence, and already represents the verb and the names of states or actions. Imitation, direct or symbolical, and necessarily only approximative of the sounds of external nature, *i.e.*, onomatopœia, furnished the elements of the attributive roots, from which arise the names of objects, special verbs, and their derivatives. Analogy and metaphor complete the vocabulary, applying to the objects, discerned by touch, sight, smell, and taste, qualifying adjectives derived from onomatopœia. Reason then coming into play, rejects the greater part of this unmanageable wealth, and adopts a certain number of sounds which have already been reduced to a vague and generic sense; and by derivation, composition, and affixes, the root sounds produce those endless families of words, related to each other in every degree of kindred, from the closest to the most doubtful, which grammar finally ranges in the categories known as the parts of speech.

CHAPTER III.

FORMATION OF WORDS AND THE STRUCTURE OF LANGUAGES.

The expedients of monosyllabism : examples from Chinese—Full roots and empty roots—Method of agglutinative languages ; subordination of affixed roots, which modify the sense, to a central root which remains unaltered — Schlegel's error with regard to the nature of case and verbal endings — Examples from Turkish, Esquimaux, and Mexican—Inflexion : intimate fusion of the full and empty roots ; variation of the radical vowel in the Semitic languages ; complete change of the root in the Indo-European group—Analysis of the words *apercevoir*, *respectable*, *rapprochement*, *recueillement*—Apposition, suffixation, composition—Parallel advance of the intelligence and of language.

HAVING, not solved, but thrown some light upon the problem of the origin of language, we now leave a region where induction can only attain to a general certainty for those which lie open to direct observation. From the genesis of speech we pass to the formation and structure of languages.

The Chinese group has been content to form from the raw material, with demonstrative sounds on the one hand, and attributive on the other, by merely grouping the roots, but without composition, and without altering the syllables, more than 40,000 words, most of them fortunately unnecessary to the majority of the inhabitants of the Celestial Empire. Fifteen thousand are enough for the average educated man. Since the fundamental roots of the Chinese tongue amount only to 450, it follows that the same

sound is susceptible of numerous different meanings. Thus the form *tao* means indifferently to tear away, to reach, to cover, flag, corn, to lead, road, &c. And the form *lu*, jewel, dew, to forge, vehicle, to turn aside, road. How then discover the sense? Usually, by a method which is a trifle childish but very accurate, the Chinese determine the sense by placing two synonyms in juxtaposition; the one certifies the other. *Tao* and *lu* have each one several significations, but *tao* followed by *lu* can only mean "road." The grammatical value of these syllables in the proposition is determined by their respective positions. *Ta*, involving the notion of height, will be adverb or adjective before a word; after it, a verb or an abstract noun: *ta jin*, a tall man; *jin ta*, the man grows, or the man is tall, or the height of the man. In the same way *chen* will mean by turns virtue, virtuous, to approve, well.

The subject precedes the verb: *ngò tà ni*, I beat thee; *ni tà ngò*, thou beatest me. The relations of case, that which we call possessive, accusative, dative, &c., are expressed either by the position of the words, or more commonly by subordinate roots, pronominal or attributive, of which the proper sense is lost or obliterated. *Y*, to use, placed before *tchang*, *y-tchang*, means "with:" with a stick. *Li* means interior: *uo-li*, in the house. *Tchi* (right, possession, the pronoun he): *jin-tchi-kiun*, the prince of men. *Yu* (to give): *sse yen yu jin*, to give money to a man. *Pa* and *tsiang* (to seize, to take), *i*, *iu*, *hou* (to employ), often indicate the accusative. *Pa tchoung jin teou kan*, he looked furtively at the crowd of men; *pao hou min*, to protect the people; *i jin tsun sin*, he keeps humanity in his heart. *Thsong*, *yeou*, *tseu*, *hou*, show origin, the point of departure, the ablative: *thsong thien lai*, to

come from heaven; *te hou thien*, to obtain from heaven. Gender is determined, as it should be (we still do it), by the term male and female, *nan* and *niu*: *nan-tse*, son; *niun-tse*, daughter; *niu-jin*, woman. Numerous words signifying summit, multitude, totality, may indicate the plural, though in most cases the number must be divined from the context; for instance, *to jin* (many men), people; *jin-kiai* (man all), men; *i-pei* (stranger class), foreigners.

In spite of tendencies towards agglutination and grammatical organisation, Chinese, except in certain southern sub-dialects, has remained obstinately faithful to monosyllabism; its associations of words do not form true compounds, and the neutralised syllables, which precede or follow its substantives, keep their form intact, and never become terminations of case, number, or gender, but they play the part of these. "The Chinese," says M. Hovelacque, "have clearly grasped this fact, since they class their roots in two distinct groups—*full* words and *empty* words. By the first they understand those roots of which the meaning keeps all its fulness and independence, the roots which we in our translations render by nouns or verbs; they call empty the roots of which the true value has by degrees become obscured, and which are used to determine and define the sense, and to indicate the grammatical relations of the full words." "What is grammar?" asks the Chinese teacher of his pupil. "A useful art, which enables us to distinguish full words from empty words."

Now, in all languages, agglutinative or inflected, the constituent elements of the words are likewise full syllables, called root syllables and empty syllables, which we call prefixes, affixes, or generally suffixes and

terminations. But these suffixes, altered in form as in sense, make a part of the word; they are joined to the central root and amalgamated with each other. They do not differ in kind from the roots to which they are attached; when it is possible to separate them from it by analysis, we find them also to be roots, attributive or pronominal, quite capable of being the centre of a group of suffixes, and, moreover, of existing in a free state. Case-endings alone often escape analysis; and this is easily understood: in their reciprocal contacts and friction words have become worn away at the edges, so to speak. Terminal suffixes, gradually obliterated and disfigured, have sometimes at last completely disappeared, even in ancient languages; sometimes they are still written, but are subject to elision, and are no longer pronounced; sometimes the prolongation, slight or marked, of the syllable which preceded them alone reveals their former place; then this syllable which they protected, now exposed, wears away and disappears in its turn. The word grows shorter, becomes contracted, but that which remains retains the accessory meanings which the vanished syllables added to the complete form, and the grammatical value which they had assigned to it in declension and conjugation. Thus the Sanscrit word *asanti* is represented in Latin by *sunt;* the Latin *amaverunt* is sometimes altered into *amavere* or *amarunt;* the primitive form *paters* has become the Greek πατήρ; *dominum* has gradually contracted into *dominu, domino, domno;* whence the modern *dom, don* (Dom Brial, Don Juan); the low Latin word *dominiarium* (suzerainty), after having dropped the termination *um*, has gradually become *domgier*, our word *danger*, embodying the philosophy of La Fontaine's

proverb, "*Notre ennemi c'est notre maître*" (our master is our enemy). There are innumerable similar cases which characterise sufficiently what is called dialectal change. They belong to a series which has been summed up in the convenient formula: the law of least resistance. In science, as we know, laws determine nothing; they are the resultant of a certain number of observations which confirm each other, and allow of classification, and of the prevision of similar phenomena. This is the case here. The intelligence, as it gained strength, by degrees reduced and rejected the means which were at first necessary to guide the thought and assure its expression; it has abandoned all useless effort, for this is the sense and value which we should attach to the "law" of least resistance.

Before an almost irresistible argument from analogy had revealed the origin of the suffixes, the effacement of the verbal and case endings had misled one of the precursors of comparative philology, Frederic Schlegel. Schlegel believed that the terminations grew from the body of the word through some mysterious evolution, as the branches grow from the trunk of a tree, or else as elements which had no proper meaning, but were employed arbitrarily and conventionally to modify the sense of words. This mystical conception of the life of language has been ably criticised and set aside by Max Müller. I give the passage:—

"Certain thinkers have considered language as an organic whole, gifted in some sense with life, and they have explained its formal elements as being produced by an inner natural vegetation. Languages, say they, should be compared not to a crystal, formed by agglomeration round a fixed point, but to a germ developed by its internal force; all the essential parts of language

existed in the primitive germ as truly, though only in the embryonic state, as the petals of the flower exist in the bud before it opens out to the air and sunshine. . . . . The science of language does not adopt these hypotheses. As for the one which represents to us a group of men discussing together about the manner in which it were best to express the relations indicated by the nominative, the genitive, singular and plural, active and passive, common sense might tell us that, if such abstract questions could have been discussed in a language destitute of inflexion, there would have been no reason for inventing a more perfect method of communication. (So thought the Chinese.) With regard to the supposition that there could exist in language—that is, in the nouns and the verbs—an inner principle of growth, all that we can say is that such a theory vanishes as soon as we look closely at it. Science gathers facts. Instead of regarding inflexions in general as conventional signs or natural excrescences, she takes each termination separately, and when, by means of comparison, she has determined the earliest form of it, she treats this primitive syllable as she would treat any other part of language, that is to say, as a word which had originally its proper signification."

Two facts appear to us to be certain: First, that at a given moment of their existence, long before the dawn of history, the thousands of human groups scattered upon the surface of the earth found themselves in possession—we have seen by what probable genesis—of two articulate and significant vocal elements, the demonstrative or pronominal roots, and the attributive roots, substantive or verbal. Secondly, that these two classes of roots are the only elements of language; that there

are no others, and that all tongues are the result of their different combinations, varying according to the vocal and brain power of the distinct races and sub-races; either by simple juxtaposition of unaltered syllables, as in Chinese, by agglutination of several syllables round a central syllable, as is the case in all the languages called agglutinative, or, finally, by fusing and contracting into a single whole the central and the subordinate syllables, as in all the inflected languages.

We have quoted some examples of the Chinese method; we will now analyse a few forms borrowed from the thousands of idioms which belong to the agglutinative class. *To love*, in the most general sense of the word, is, in Turkish, *sev;* the subordinate root *er* forming adjectives or participles, *sev-er* will signify loving; join to it the pronoun *sen*, thou, or *siz*, you, *sever sen*, *sever siz*, loving thou, loving you, *i.e.*, thou lovest, you love; other syllables, of which the original meaning is lost, *gu*, *i*, make *sevgu*, *sevi*, love; *di*, placed between the theme *sever* and the personal termination abridged or altered, forms the imperfect: *sever-di-n*, *sever-di-niz*, thou lovedst, you loved. *Mek*, the sign of the infinitive, gives us *sev-mek*. This is not all; between the two parts of the word we can insert the ideas of reciprocity, of causality, of passivity, of negation, and so sum up a whole phrase in a single word. This is a vice which has overtaken many idioms of this class; incorporation and polysynthetism, under pretext of seizing fine shades and the succession of ideas, produce words which are difficult to handle, and far more difficult to interpret. The verb *sev-mek* may present itself under thirty-six forms, such as *sev-in-il-mek*, to be glad, *sev-ish-dir-il-mek*, to be drawn to love

one another; *sev-ish-dir-il-he-me-mek*, to be unable to be drawn to love one another. We are reminded of the Turk of the *Bourgeois Gentilhomme*, the Turk who said so much in a few words.

Many of the above-mentioned forms are rarely used, and Turkish, in reality a correct and beautiful language, does not abuse its resources. The drawbacks to unlimited agglutination are especially marked in the Basque tongue, which incorporates with its verb, not only the possessive pronouns (as do also the Semitic languages), but even the indirect object; and in the American Indian dialects, where words already completely formed are capriciously deprived of their beginning or end, and, so amputated, swell with their unrecognisable fragments some interminable compound.

The Greenland *aulisar-iartor-asuarpok* (he hastened to go and fish) includes *aulisar*, to fish, *peartor*, to do something, and *pinnesuarpok*, he made haste. The Mexican *no-tlazo-mahuiz-teopixcatâtzin* (O my father, divine and revered protector) contains *no*, my, *tlazontli*, esteemed, *mahuiztic*, revered, *teotl*, god, *pixqui*, protector, *tatzi*, father. There is an extreme variety in the agglutinative class of languages. There are simple languages, like the Japanese, like all those which belong to the great Malayo-Polynesian family, or again Finnish and Magyar; others are strangely complicated, such as Basque and the American idioms; some are extremely poor and barren, like the dialects of the Guinea Coast or of the Bosjesmans; others are rich and regular, such as Turkish and Suomi (the language of the Kalevala); some prefer to suffix the added words; others, such as Kaffir and the whole Bantu group, prefix them; in some gender is wanting, in others number. Some are so variable that their whole

vocabulary and physiognomy changes in fifty years. These languages, which form the great majority of known idioms, proceed from a great number of independent sources and have but one common character—the subordination of one or more roots susceptible of alteration in form, and deprived of their proper sense, to a full unaltered root which conveys the principal or fundamental idea of the word.

Only two systems, two families of languages, the Semitic and the Indo-European, which are very rich and very varied, but which at least can each be reduced to organic unity, to one vocabulary and one grammar, these two groups only have passed the agglutinative stage. To agglutination, which they possess, and the methods of which they use (including incorporation and polysynthetism), they have added inflexion.

What is inflexion? Not much, at the first glance: the possible alteration of all the elements of the root syllable, as well as of the affixed syllables. The root is not necessarily modified; it sometimes remains unchanged, as in the agglutinative stage; but it *can* be modified. This small privilege allows inflected languages to express the relation of one word to another, not only by the addition of suffixes and prefixes, but also by means of numerous variations in the elements of the root itself. Hence, an extraordinary richness and an extreme clearness in derivation, a peculiar delicacy in the grammatical notation of case, gender, number, person, tense, and mood (the paradigm of a Greek verb may include 1300 forms), and at the same time a great simplification in the word; and finally, perspicuity and order in the sentence, insuring the logical connection of ideas, and due proportion in the expression of the thought.

Before analysing a few familiar words (for examples carry more weight than the most authoritative assertion), I must insist upon one point of capital importance: the irreducibility of the two families of the inflected class to a common origin. "Not only," says M. Hovelacque, "are the roots totally distinct in the Semitic and Indo-European languages; they differ yet more in their structure. Inflexion is not the same in the one as the other."

In the Indo-European idioms, viz., Sanscrit, Iranian, Greek, Latin, Celtic, German, Slav, Lithuanian, and their very numerous ancient and modern dialects, inflexion affects the consonants as well as the vowels. In the Semitic group, Assyrian, Phœnician, Hebrew, Chaldean, Syriac, Arabic, Himyarite, and Ghez of Abyssinia, the root consonants are unchangeable.

Indo-European roots may be composed of a single vowel, long or short, nasalised or coupled with another to form a diphthong, or of a vowel and one, two, or more consonants, and *vice versâ*, provided they are pronounced by a single emission of the voice. The Semitic roots are composed of three consonants (at least analysis has not yet reduced them further).

The characteristic of Semitism is the triliteral form of its roots: they are composed of three consonants, to which different vowels are joined as formative elements, indicating the various relations of the root. In Arabic, for instance, *ktb* includes the sense of writing, *dbr* of speaking, *ktl* of killing; *gatl* is murderer, *gitl*, enemy; *katala* means he kills, *kutila*, he was killed, &c. Besides this inflexion due to the use of different vowels, Semitism also forms words by using suffixes and prefixes, sometimes also inserted particles. But the heaping of suffix on suffix, the formation of

derivatives from derived words is unknown. Hence the close resemblance of all Semitic languages, which are all as nearly allied as Italian and Spanish. The Semitic noun can only have three cases, and these are wanting to most of the languages of the class. The Semitic verb, in the second and third person, distinguishes the gender of the subject: *gatala*, he killed; *gatalat*, she killed. The antithesis of present, past, and future, which is essential, fundamental, in the Indo-European languages, does not exist in the Semitic; it has only two tenses, answering the one to the idea of the accomplished action, the other to that of the incomplete action.

These few characteristics will suffice to dispose of the temptation to assimilate Hebrew with Latin or Greek. These languages have not issued from the same earthly Paradise; they have borrowed words from each other within the historic period, but they have not created a single one in common.

We come now to the examples; as we analyse them we shall learn the methods of the Indo-Europeans. I take, almost at hazard, a verb, an adjective, and a couple of nouns.

Apercevoir. In Latin the corresponding form would be *ad-per-cip-ere.* Where is the central root? and what changes has it suffered? The root is *cip*, rendered in the French form by *cev.* The Latin labials are commonly softened into *v* in French: *habere, avoir; sapere, savoir; rapere, ravir.* The first form of the root is *cap*, with the sense of to seize (here to take with the eyes); in composition it becomes *cip: accipit, incipit; cep: inceptum, accepi; cup: aucipium*, the art of snaring birds, beside *auceps*, bird-catcher. As for the *c*, it was hard in classical Latin; the pronunciation

was *kap*, *kip*, *kep*; the Romance tongues have converted it into a sibilant: *c*, soft; and even into a palatal, *chétif* (Ital. *cattivo*, Lat. *cap-ti-v-us*). Note the relationship of *reçu* (receipt) and *recette* (recipe).

The idea of seizing may easily be extended to the hearing, the sight, and the mind, *capis ne, capin'?* do you grasp, do you understand? Compare the Ital. *capisco*, I seize, I understand. But this idea of seizing may be reinforced, and it is the case here, by suffixes indicating direction and movement. *A*, Lat. *ad*, which may be traced in the old spelling *appercevoir*, and in *appeler, appartenir* (where the first *p* shows the effect of the labial on the dental), implies movement towards. *Per* is one of those particles of a very indefinite meaning (in Gr. παρά, beside, near, against; in Latin, in composition, some, about; *paulisper, parumper*, a few); but in Latin, as in French, the most usual sense is by, through, across, by means of; thus we find, for the first three elements of the word we are analysing: to seize—through—as far as, that is, to seize from a distance, from afar. There remains the termination, which is very obscure. We note, in the first place, that *oir* is very often the French form for the Lat. *ere*, not only long, as in *habēre, avoir, apparēre, apparoir*, but short, as in *capĕre, sapĕre, recevoir, percevoir, savoir*. Nothing is more frequent than the substitution of the diphthong *oi* for the Lat. *e*, as also for *o* and *i* (*moisson, messi-o; moi, toi, soi, me, te, se; mois, mensis; loi, lex; roi, rex; poison, potio; poisson, piscio*, &c.). The science of language is thus full of minor problems of which the solution is impossible, inasmuch as it would have been necessary to study in the throat of a living Gallo-Roman the point of contact, of meeting between the two sound movements which result in *oi* and *e*.

We must be content with the statement of the fact, which is certain. The Latin infinitive termination is almost equally embarrassing. We know that the short *e* represents the *i* of *leg-i-mus, cap-i-mus,* common to all the verbs of the third conjugation, and that this *i* or *e,* which takes the place of an ancient short *a* (Sans. *bhar-a-ti,* he carries), is joined to a number of roots, as a copulative letter, to receive the case or verbal ending, or a new suffix. But it is by no means always present. Does it belong to an ancient state of language, in which no consonant could do without a supporting vowel, a stage which persists in many African idioms, and in almost all the Malay languages? Or is it the simplest addition which the need of some sign to indicate the noun or the adjective could suggest: root, *bhar ; bhar-a,* bearer or bearing, he who bears? *A* would thus be the readiest, the most instinctive of pronouns. And although the naked root retained the power to annex directly suffixes and case-endings (Lat. *fer-s, fer-i, leg-s, lec-tus, reg-s, nec-s,* &c.), the copulative vowel persisted between roots terminated by consonants and suffixes beginning with consonants, preserving both from harsh contacts and from the more difficult assimilations. The final syllable *re* remains to be considered; it marks the infinitive in Latin and recurs everywhere in French: *aimer, ravir, lire, fondre, résoudre, avoir.* It has been compared to the past infinitive *meminis-se, cessis-se, habuis-se ;* and as the Lat. *r* between two vowels takes the place of a primitive *s* (*floris, honoris, generis,* &c., for *flosis, honosis, genesis*), it has been supposed that the two forms were originally one, *se,* a species of indefinite neuter person, joined to an indeclinable verbal noun. So that we may translate the

word *apercevoir*, "the act of grasping through as far as," and this is the sense of the five amalgamated elements.

The adjective *respectable*, *re-spec-ta-b-le*, is worthy of attention, because it includes, in the first place, one of the most fertile of our attributive roots, and secondly, suffixes which are used throughout the Latin family.

Spec, spic, to look, to see, which may be recognised in the Sanscrit of the Vedas, *spac*, guardian, in the Teut. *spëh-on*, to see, to spy, *spëh-a*, Eng. *spy*, Fr. *espion*, took in Greek the forms σκεπ and σκοπ. In our first chapter we pointed out this confusion between the labials and the strong gutturals.

This ancient syllable shows or hides itself in *suspicio*, Fr. *soupçon ; haruspex*, augur, he who looks at and consults the lightning or the entrails of the victims ; in *au-(avi)-spicium*, the observation of the flight of birds ; in *speculum*, mirror (whence *specular*i, *speculation*, &c.), Ital. *specchio*, Ger. *Spiegel ;* and in the Fr. *espiègle*, a corruption of the Ger. *Uhlen Spiegel* (mirror of owls), the fictitious hero of a collection of drolleries. The Greek form of the root gave ἐπίσκοπος, overseer or bishop, Fr. *évêque*, Ital. *vescovo*, Span. *obispo*.

Species, that which is looked at, beauty, form, characteristics, hence *special, specific, specify*, has given *specie*, coined money with a device, *espèce* (in English the Latin word is used with the restricted sense) and *épices* (special substances ; Eng. *spices*, Ger. *Spezerien*), to the Italian words *speziale* and *spezeria*, chemist and drug shop, to the French *épicier, épicerie*, words which do not look as if they were allied with *bishop*, but which are so undeniably. *Ad, circum, pro, per, su, in, de, re-spic-ere*, form as many verbs and derivatives, corresponding to different ways of looking.

The demonstrative suffix *t*, followed by a vowel, which exists in an independent state in Sans. *ta*, *tad*, in Gr. τό, τά, in Lat. *tam*, *tum*, forms, by joining itself directly to consonantal roots, a number of derivatives, nouns, participles, and adjectives (often taken unchanged into French and English, as in *respect*, *suspect*, *aspect*, *inspector*, *prospectus*, *perspective*). Latin, adding to this new theme the termination of its first conjugation, has formed a whole series of verbs called frequentatives, *aspectare*, *respectare*, whence a new theme *specta*, the source of other adjectives and nouns, *e.g.*, *spectator*, *spectatus*, *spectabilis*.

We leave the *s*, a case-ending which adds nothing to the sense.

The double suffix *bili*, our *ble*, which has formed in Latin, and which still forms innumerable adjectives in French and in Italian, should be reduced to *li*, a demonstrative which may be recognised in *il-le*, and in the diminutives in *l-us*, *annul-us*, *bellus*, *bel*, *nouvel*, &c. *Bi* is due to the analogy of forms like *habi-lis*, where it makes a part of the root.

I think that there is now nothing obscure left in the word *respectable*. *Respect* is the look thrown backwards, twice repeated, on some remarkable person or thing. The old form, *respite*, was the time necessary to consider, to examine anew the case of an accused person; *despite* or *spite* (Fr. *dépit*), *despectus*, the look from above on some disagreeable object.

We shall consider more particularly the sense of the particle *re* in another example, a substantive, *recueillement*, where it represents, however, the same idea of a return upon the object, or upon oneself.

But we must first discover the central root, of which but a single letter subsists in our example: the letter

l. In its complete form, if such existed, *recueillement* would correspond to *re-cum-leg-i-me-n-t-um*. The root *leg, lig*, in Gr. λεγ, λογ, is no less important for us than the roots *cap* and *spec*, since the derivatives from it include such words as *é-lire* (elect), *é-lite, election, selection, college, collection*, perhaps *lier* (to bind, to tie), *lien, obligation*, certainly *loi* (law), *religion, lire* (to read), *leçon, lecteur ; legere*, λόγος ; and those valuable suffixes *logy, logist*, which we have borrowed directly from the Greek ; in brief, that whole world of ideas which range from *choosing* to *repeating, reading*, from *speaking* to *reasoning* and *thinking*.

The origin is humble. *Leg* (which perhaps might be yet further analysed) had, and always has, the sense of taking, choosing (with the prefix *e, ex*, or *dis*, choosing among, selecting from a crowd, *e-ligere, dili-gere, dilection*, love).

Cum (preposition, conjunction, and adverb) is the declined form of a demonstrative and relative root, *ka, pa, ta, kv* (in Gr. πῶς, κῶς, τι, τις), which has given to Umbr. *po-ei*, and to Lat. *qui, quæ, quod*, and *quum*. Since it connects propositions and ideas, it easily acquired the sense of "with." Here the final *m* has changed to *l*, attracted by the first letter of *leg ; colleg* conveys therefore the idea of taking with something, of assembling ; add the copulative letter *i, e*, of which we have traced the history, and the termination *re ;* you have the Lat. *colligere*, the Fr. *cueillir*, whence by apocope *cueil*, our word *recueil* (collection, anthology). *L* alone represents the root, but it has kept the entire meaning.

In the liquid *l* (*l mouillée*) I am tempted to recognise an intimate fusion of that letter with the guttural and the copulative *i ;* so that this sound, which is

peculiar to the Romance languages, and which should not be pronounced like *y* (a Parisian tendency), would represent in its entirety the theme *legi*.

The suffixes which terminate the substantive are three in number, *ma, na, ta* (we omit the case-ending *m*). These are three demonstratives which can be used alone: *ulti-mu-s, do-nu-m, dic-tu-s,* or by two at a time, *mana-s,* Gr. μενος, *docu-men,* but already united in a suffix, *mant, ment,* which forms participles and nouns. Perhaps *ma,* the attributive root of μενος, *mens,* thought, of which the ablative *mente* is found in most of our adverbs, is identical with this demonstrative *ma*. We shall study this question later. However this may be, there is no longer any mystery in the word *cueillement*.

Lastly *re,* which means return, repetition, insistence, permits us to translate *recueillement* by "reflection on that which has been gathered, collected by the mind." But a slight peculiarity allows us to take yet another step towards the original sense of *re,* and that is the *t* which in *retro* unites it to the comparative suffix *ro: retro,* farther behind, deeper. The Latin ablative ended in *d,* which may be seen in inscriptions, though it had been dropped in classical Latin. This *d,* strengthened and preserved by the proximity of *r,* weakened into *l* in *relligio,* is thus the remains of a case-ending. *Re* would be declined, *red* would be a case of *res,* thing, one of those words which cannot be decomposed by analysis, which are at once general and positive, which M. Bréal is inclined to consider as one of the oldest terms of the Indo-European languages. This syllable, so often contracted, and reduced to the letter *r,* which we use and abuse, would thus be an ancient witness of that early time when man, incapable of distinguishing

objects by their names, termed them by one and the same vocal gesture, the object, the thing. Hence would come that force, not yet exhausted, that implicit power of a return to the reality which underlies all appearances, dangerous only when it produces reaction, the obstinate return upon things acquired for good or evil.

One more example, which will not detain us long; we are already acquainted with almost all its elements. It is chosen to show one or two pronominal roots playing the same part as verbal or substantive roots. It is the word *rapprochement*, which may be analysed as follows : *re-ad-pro-pe-timo-mentum*. *Proptimo*, altered into *proximo*, is the superlative of the adverbial preposition *prope ;* it has been contracted in French into *proche* (whence *rapprochement*). *Prope*, composed, it would seem, of *pro* and *per*, whence *properare*, to hasten forward, would mean "by there forward." *Pro* is, like *præ* (*præire*) and *pri* (*primus*), a case of the root *pra*, which we find in our words *premier, prince, profound*, and which implies *priority, proximity, advance, progress*.

These object-lessons have their philosophy. They show among the races which are assuredly the best endowed and the most capable of indefinite progress the parallel development of thought and language, the combinations of sounds responding to the association of ideas, the vague sense of the primitive roots being gradually rendered more precise by the use of metaphor, which also furnished the greater variety of expression required by the notions and concepts of experience and reason.

We have just been, as it were, spectators of some of the most ordinary episodes of the life of language : the passage of the significant sound into the word, of the proper sense into the figurative, the formation of the

verb, the noun, the adjective, by means of suffixes, and by the unlimited power of derivation. I should mention also two other methods, secondary in the sense that they really belong to the agglutinative and monosyllabic stages of language: these are apposition (*towel-horse, boot-jack, essuie-main, tire-botte, ronge-lard,* so largely used in French and English, and composition (*νεφελη-γερέτα*), so common in Sanscrit, Greek, and German. The latter method consists in treating as suffixes two or more words stripped of their terminations and made into a single whole. The polysynthetism of the American Indian dialects is the same thing at bottom. Apposition closely resembles the Chinese method of construction, except that it operates on ready-made words already shaped by grammar, instead of juxtaposing monosyllables. Apposition, composition, suffixation, these three methods have ruled by turns in one or other of the phases of language; but the second does not exclude the first, the third does not eliminate the second, and knows how to use the first. Vocabularies are maintained by heredity, differentiated by selection and adaptation—that is to say, by phonetic change and dialectic variation. Language begins by a vague proposition, without apparent cohesion, continues by syntax (the order of words), attains to grammar by the use of inflexions, and when construction and wear and tear have altered the word and destroyed the verbal and case-endings, tends to return to the purely syntactic order, and even to the rudimentary proposition, to the telegraphic style which is the stenography of thought.

But a wide interval separates the starting-point and the goal. To traverse this interval language has invented all the combinations, all the copulatives which aid thought, all the artifices of declension and conjuga-

tion, which it discards as the growing intelligence no longer needs them. Man casts aside his worn-out tools, but he keeps all that he has won by means of them.

This evolution, or rather these unequal and special evolutions, of innumerable tongues, have been accomplished in virtue of very diverse cerebral and vocal aptitudes, under the influence of the thousand circumstances, natural and historical, which determine the progress of societies, apart from the human will. Hence some people have been led to consider speech and language as organisms which grow, improve, flourish, or degenerate in virtue of their proper qualities or their proper vices. It is a fascinating comparison; but we must not forget that languages are also and before everything the product of human faculties. The share of intelligence and reason cannot be gainsaid. Collective intelligence, it will be urged, and impersonal reason. It may be so; but collective reason is nothing but the aggregate reason of individuals. The life of languages is an unconscious life; but from the animal or specific cry, there has been no modification of sound and of the corresponding sense which was not initiated by an utterance of some individual, accepted, imitated, and understood by two or three others, and afterwards by hundreds and thousands of others. There can, I think, be no doubt of this fact, though it has not been, cannot be, proved. The science of language is therefore not only a natural science, but, more particularly, an anthropological and ethnographical science.

PART II.

GEOGRAPHICAL DISTRIBUTION OF LANGUAGES AND RACES.

CHAPTER I.

THE SPREAD OF INFLECTED LANGUAGES.

Chronology and philology—The coincidences of geography and history with the evolution of language—Diffusion of the inflected languages, and especially of the Indo-European family—Retreat of the agglutinative to the borders of the civilised world—The monosyllabic group of the extreme East—Chinese and its written character—Annamite—Siamese—Burmese—Tibetan—Identity of method—Difference of vocabulary.

In the study which we are about to undertake we shall naturally follow the order of development—monosyllabism, agglutination, inflexion, analysis. But it is necessary to point out that this division cannot be founded upon chronology alone. A true succession of the four stages of language is most undoubtedly proved by the analysis of grammars, vocabularies, and of vocal elements. But various circumstances, the unequal development of nations, the precocity of some, the tardiness of others, migrations, conquests, have thrown great disorder into the distribution of languages and into their history. Some have become extinct in their place of origin, and their fragments are buried beneath the deposits of succeeding ages; others, borne to a distance, are scattered in isolated

spots or spread in great streams like the moraines of the glacial epoch over the face of the earth. Some vegetate in an eternal childhood, and will die without having grown up; others, having made the whole cycle, live again in a numerous posterity. If we consult the oldest documents, written or preserved by oral tradition, we shall not be surprised that they do not generally belong to the most ancient forms of language; and on the other hand, a few important examples will force us to admit that inferiority in the means of expression is not incompatible with true intellectual and literary culture.

We will disregard for the moment those numerous idioms whose existence was unsuspected before the discovery of America and Oceania, and confine ourselves to the annals of the Old World, as far, at least, as science has been able to reconstruct them, and we shall see how little help they are able to afford towards a methodical enumeration. By far the oldest documents which we possess to-day are those of Egypt; they are forty centuries old; they witness to a long use of language prior to themselves, since the earliest of them reveal a state of transition between agglutination and inflexion. The hieroglyphs of a King Snefrou have been recently deciphered on Mount Sinai, at the entrance of a turquoise mine, in which the king boasts of his victory over the Bedouins of the mountains. Now this king is anterior to the great pyramids; he belonged to the third Memphian dynasty, which dates from four thousand two or three hundred years before our era. M. Bénédite, the fortunate interpreter of this text, believes it to be the earliest line of writing which has come down to us. The most ancient cuneiform inscriptions cannot pretend to so great an age;

they are later by a thousand years, but they testify also to a previous long elaboration of language. It is known that the inscriptions on the back of statues, on cylindrical or conical seals, and on innumerable bricks dug up from the sands of Chaldea and Syria, may be referred to two systems, to two organisms, often given together in bilingual texts. The tongue of the Accadians or Sumers, the ancient inhabitants and the first civilisers of the valleys of the Tigris and Euphrates, is of the agglutinative order; the other, Chaldean or Assyrian, is inflected; it is the earliest known form of the Semitic tongues. Now the Semitic conquerors seem to have owed everything, arts, beliefs, ideas, to their industrious subjects, their only superiority consisting in the possession of more warlike qualities and of a more advanced type of language. But the fierce and boastful proclamations of the exterminating kings, which properly belong to the Semitic race, have less interest for us than the magical divagations, the fragments of cosmogonies, even of epics, which, translated from Accadian into Chaldean, furnished to a certain degree the somewhat barren and narrow mind of the Semites, and left their traces in the religions of Syria, Phœnicia, and Judea. The Indo-European parent language must be attributed to the same epoch, if not the written documents, at least the development of the spoken language; it had already left the agglutinative stage and was fully inflected before its separation into the different dialects. For if the Vedas, as they have come down to us, are relatively modern and adapted to the Brahminical liturgy, the idiom remains more archaic than the oldest Sanscrit, which was already extinct in the days of Alexander, older therefore than the Greek and Latin idioms. It is certain that the

parent Indo-European tongue, the common type to which seven families of languages are more or less faithful, was constituted with its grammar, its basis of words and ideas, more than twenty centuries before the Christian era, and that the tribes which spoke this language had traversed three stages, and mastered the most delicate shades of inflexion, while their nearest neighbours had stopped short, some at Semitic inflexion, some at agglutination, some at monosyllabism.

The official history of China does not go farther back. The *Chouking*, which purports to date from 2356 years before Christ, was edited, with the other sacred books, by Confucius, towards the end of the sixth century. Thus historical data, except in what concerns the tongues of the north-east of Africa, can only establish the synchronism, in times of remote antiquity, of those great phases which the philologist considers as the successive stages of evolution.

Yet the general course of civilisation may furnish those indications which historical lore refuses to us. It is at least curious to note that the part played in history by the different classes of language assigns to them precisely that rank which the science of language attributes to them. Suppose you have before your eyes a map of the globe, three facts strike you on the most cursory glance: the central situation and the growing expansion of the inflected languages; the isolation and the immobility of the monosyllabic group, confined to its vast empire, between the mountains of Thibet, the Mongolian desert, the steppes of Manchuria, and the seas of China and Indo-China; lastly, the retreat of the agglutinative tongues towards the confines of the world; they are driven to the borders of

civilisation, into the frozen regions of Siberia, into the heart of Africa, into the Malay Archipelago and the islands of the Pacific, into those parts of America where the remnant of the indigenous races is yet to be found. It is easy to see that their area diminishes from day to day; once they occupied the whole of India, only a fifth remains to them, a part of the Dekkan; once they covered the whole of Asia from the Arctic Ocean to the Gulf of Ormuz; the Semites and the Iranians drove them thence; perhaps they formerly dominated in Western Europe, if it be true that Basque was the speech of the ancient inhabitants of Gaul—if it be true that the race whose remains were found at the Madeleine and at the Eyzies, retreating with the reindeer towards the frozen North, is represented in modern days by the Esquimaux. In America they give way before the Teutonic and Neo-Latin tongues; in another century they will have disappeared from Oceania.

With Attila, Zenghis Khan, and Timour these idioms made a vigorous attempt to recover the ground they had lost; but they failed sooner or later, conquered by the Semitic, by the Indo-European tongues, even by Chinese monosyllabism. The ancient Bulgarians of Belisarius were exterminated by the Greeks and Slavs. Two exceptions seem only to accentuate this universal movement of retreat. In the tenth century, Magyar, an Uralo-Altaic dialect, succeeded in taking root between the Danube and the Theiss; but it remains there without spreading, and though the Hungarians have preserved their national language, and applied it to poetry and history, yet they only use it to express ideas acquired in their perpetual contact with European peoples and idioms. Towards the same epoch, the

fanatical outburst of Islam, urging forward the robber hordes of Turkestan, let loose upon Persia, Asia Minor, Syria, Egypt, and Greece the fierce invasion of the Turks.

We know into what confusion this fatal conquest threw the political life of the East; what disasters have ruined and stained with blood the richest countries of the world, the basin of the Mediterranean; at the price of what defeats, of what efforts, Europe has controlled and kept within bounds this blind force; with what infinite trouble European thought, arts, and industries re-enter the regions which were their cradle. By slow degrees the health of the West has accustomed itself to the presence of this foreign body, now almost inoffensive. But the race, though no longer unmixed with the blood of other peoples, and in spite of its native virtues, and the language, in spite of its accuracy and harmony of sound, will always remain anomalies in the midst of the civilised world. And the reason is that there is an anachronism, an original incompatibility between the mental state of a former age and a more advanced intellectual condition—between a language which has stopped short at the agglutinative stage and languages which have arrived at the extreme limit of the inflected phase.

The destiny of the inflected languages has been very different. The sub-group, which is represented to-day by Coptic and the Berber tongues, has not, it is true, progressed since the time of the Pharaohs; it has remained suspended between agglutination and inflexion; it has lacked room; wedged in between the dull mass of the Negroes of Central and Eastern Africa, and the adventurous boldness of the Arabs and of the Mediterranean peoples, it vegetates and dwindles.

But the Semites, whose conquering force is not yet spent, at any rate in Africa, have a long and important history. Their frontiers have receded on the North; but they retain Syria, Arabia, Egypt and all the African coast. The nations which have spoken Semitic languages, Chaldeans, Assyrians, Phœnicians, Carthaginians, Hebrews, Syrians and Arabs, have all contributed something, some of them very much, to civilisation; they created arts, religions, sciences—arts which have been superseded, religions which are dangerous, sciences which are false or incomplete, but which in their day have moved the world. Their influence has spread not only over two hundred millions of Moslems and Jews; it may be recognised in the temperament and the accent of the Spaniard and in the intellectual mould of Christendom. Even the obstacles, the material and moral obstacles, which Semitic influence has raised to the development of the Indo-Europeans, are not the least of the proofs of its strength. Finally, the languages which belong to it have contributed before and with the Indo-European idioms to the expulsion of the agglutinative group; they vanquished Accadian in Chaldea and Assyria; they have made inroads into Turkish, and are attacking the dialects of Central Africa.

The fortunes of the European idioms and of the peoples which created or adopted them are yet more significant. They have not ceased to flourish from the day when five or six migratory columns left the neighbourhood of the Caspian to accomplish the education of Europe. These bands, which increased on the road, spread out like the sticks of a great fan, established their different languages from the Gulf of Finland to the most outlying rocks of the Greek Archipelago.

The most fortunate, those which were the first to reach the temperate shores of the Mediterranean, became the ancestors of the Græco-Latin peoples and civilisation; the Hellenic branch, finding a soil already cultivated, and precursors already somewhat polished by the lessons, often indirect and sometimes intermitted, which they had received from Egypt and Assyria, developed earliest with a rapid and magnificent expansion; and never, it would seem, has a more supple, more rich, and more beautiful language been associated with a national genius so keen, so artistic, or so profound. The Latins, slower, more tenacious, hampered moreover by the strange mixture of races which they found wedged together in the narrow Italian peninsula, the Latins, partly by their own energies, partly aided by the gradual infiltrations of Hellenic culture, accomplished the same work of conquest and progress; then they embraced within their empire the Greeks, their brothers and their teachers, and the Celts and Gauls, also their near kinsmen, who, scattered over the forests of the West, had failed to turn to account, as yet, their courage, their intelligence, and their gift of eloquence. Thus the most precocious of our Indo-European ancestors had divided between them the East and West, when the distant pressure of the Huns and the Mongols, driving the belated Slavs upon the yet half-savage Germans, forced the frontiers of the Rhine and the Danube. When this terrible invasion was stayed, when the strong arm of Charlemagne had erected a barrier against that part of the horde which had not felt in some degree the influence of the Roman civilisation, it could be seen that a large half of the newcomers had become assimilated to their predecessors, had become incorporated into the ancient Roman

world, which had renewed its youth by the infusion of the new blood of the barbarians. Those who remained outside the Latinised West, but who, endowed with language and intelligence from the same common stock, were destined to develop in the same manner, the Teutons and Slavs, claimed and acquired in their turn their legitimate share in the direction of modern thought. It is to a Teutonic race, to a Teutonic tongue, the Anglo-Saxon race and the English tongue, that the honour is due of completing the work begun and continued by the Neo-Latins, the Portuguese, the Spaniards, and the French. The extraordinary diffusion of the English race and speech is doubtless due to very numerous causes; but its coincidence with a phenomenon of the evolution of language is curious. English, as ancient in origin as Greek, Latin, or Gothic, but considerably modified in the eleventh century by an invasion of French words (with the result that two-thirds of its vocabulary is composed of Latin or Neo-Latin forms), English is the first of the group to arrive at the last simplification, at the analytic stage; and it spreads far and wide because it is the easiest of languages, not, alas! to pronounce, nor to write well, but to learn by ear and to speak after a fashion.

It were ungrateful to forget the Eastern groups, the Aryans of Hindustan, the Iranians of Bactriana, of Afghanistan, of Persia, and Armenia. The first named, in small migratory bands, which sometimes became stationary for a time, after having tarried long in the network of affluents which form the Indus, descended the left bank of that great river. They appear to have reached its mouth about the tenth century. Their manners, their social polity, their creed, and their tongue spread thence, and became

established not only in the valley of the Ganges, but throughout Hindustan, and even in Indo-China. The career of the Sanscrit literature and of the numerous languages, dead and living, which are derived from it, have been most brilliant. Hymns, interminable epics, religious and grammatical treatises, codes, philosophical systems, legends and love poems, melodrama and the comedy of manners, no style is lacking to this abundant literature. Between the first and the fifth centuries of our era, India, mistress of herself, and overflowing into Ceylon, Java, and Gambodge, listened to the learned discussions of the Brahmans, of the Bonzes, of the philosophers, or took delight in the ingenious fancies of the *Khalidasa* and of the *Sudraka*, and held in Asia the same rank and displayed the same civilising force as Greece and Rome in the West. Unfortunately, the numerical strength of the invading white race had always been small. Vigorous and intelligent enough to conquer a vast territory and to subdue inferior races, Negritos, Dravidians, Malays, they could not modify them, could not mould them to a common physiognomy and similar aptitudes. They could with difficulty maintain by means of rigorous caste rules the purity of their own blood, and attacks from without brought about the fall of this edifice, inhabited by too many slaves and too few masters. In spite of a blind and deeply rooted fanaticism the immense populations of the great peninsula failed to offer an effectual resistance to the Afghans of Mahmoud, or to the Mongols of mixed race of Timour and Baber, or to the tenacious grasp of the English; they retained only their languages, which was well, but also their faulty social polity, and the gross and inept superstitions which darken the mind of the people.

The Iranians, some of whose idioms, Zend and ancient Persian, are nearly akin to Sanscrit, occupied the basins of the Jaxartes and the Oxus. Disturbed, most probably, as the Aryans had been, by the turbulent Turcoman hordes, perhaps also urged forward by the barrenness of the land between the Caspian and the Sea of Aral (a barrenness due to the exhaustion of the waters of the two rivers), the future Afghans and Persians descended the right bank of the Indus, or passed to the west of the great desert of Khorassan, while another stream, the Armenians, and perhaps the Parthians, passing between the Caspian and the mountains, gained a region which lies about the sources of the Euphrates, whose ill-defined frontiers condemn it to instability and perpetual subjugation. The Iranians of antiquity must not be judged by the modern Persians, an amiable and artistic race, the possessors of a beautiful language and of a fascinating literature, but weary of their past greatness, and destitute of any real power to withstand their ancient enemy the Turk, and their distant cousins and powerful rivals the Slavs and Anglo-Saxons. But the ancient Iranians were resolute and formidable; they practised an austere religion which honoured labour, agriculture, and the family. At the beginning of the fifth century they dominated Asia, from the Punjab to Ionia, and from the Oxus to the Indian Ocean; they held Syria and Egypt, and in Europe Thrace and the mouths of the Danube. In the course of sixty years they had incorporated the Medes, overthrown the Assyrian empire and Chaldea, and established themselves solidly on the banks of the Tigris, between the Euphrates and the Choaspes; they had vanquished the Lydian power, subdued Phœnicia,

ruined Ionia, dethroned the Pharaohs. They had raised, on the ruins and out of the ruins of the ancient empires, of which the languages were agglutinative or Semitic, a vast edifice, as frail as it was vast, a rapid construction, destined to a yet more rapid destruction, and a terrible fall. Rendered effeminate by the intoxication of conquest, and yet more by the incorporation of exhausted races, dragging in their rear the hordes of savages described by Herodotus, they did not, when the impulse which affected all the Aryans drove them upon the West, bring to Europe the untired strength of young blood. Yet the rich development of the Hellenic youth was all but submerged beneath a deluge whose floods rolled onward the ruined fragments of an ancient world and the undisciplined energies of infant peoples. The first shock took place in 490 B.C. A few thousands of Athenians arrested at Marathon the hosts of Darius. A second and more terrible invasion laid waste Thessaly, Bœotia, Attica; Athens perished in the flames. Greece, united to face the common danger, crushed the forces of Asia by sea and land at Salamis, Platæa, and Mycale. These were the critical moments of history. Montesquieu says: "Who would be a Persian?" We should have had to submit to that fate but for the courage and the fortune of the Hellenes. But the Persians had nevertheless their hour of grandeur, and if they never recovered the power of which Alexander deprived them, their bravery in war and the influence of their religious doctrines more than once had their effect on their Græco-Roman rivals.

In this rapid sketch of the Indo-European group, we have sought to draw attention to two important truths: first, that to this group (whatever may be its

ethnical elements), the only one which has hitherto shown itself capable of indefinite progress, has belonged for more than a thousand years the leadership of the human race; secondly, that the superiority of the Indo-European tongues is inseparable from the pre-eminence of the peoples which speak them; that before them the agglutinative languages and the already inflected idioms of the Semites gave way. This succession is thus in perfect accord with modern theories of the evolution of language.

Here China intervenes. To the seven or eight hundred millions of men (six hundred in the Indo-European group alone) who speak inflected languages, China opposes the motionless and compact mass of monosyllabism, a form of language which has sufficed from time immemorial to about five hundred millions of human beings, who have attained by themselves to a certain degree, sometimes a high degree, of civilisation. This is a fact which must be recognised and explained, and its causes and consequences set forth.

The traditions of China authorise us to seek the cradle of the Chinese race on the eastern boundary of the great table-land which is connected on the north with the Celestial and Altaï mountains, and on the south by the Karakoram range with the formidable chain of the Himalayas. Separated from the Western world by this vast barrier, ignorant of and unknown to the races on whom they turned their backs, they multiplied and extended towards the east, some crossing the great desert of Gobi and the thick forests of Chan-si, the others passing down the twin valleys of the Hoang-ho and the Yang-tse-kiang. There can be no doubt that they found and drove out earlier populations, whose survivors bear the name of

Miao-tse, "raw or cooked," according as they retained or lost their independence. Moreover, the race is by no means unmixed; the types of Fou-kien and of Canton, in spite of the uniformity of costume and of the universal pigtail (adopted only 250 years ago), differ markedly from the inhabitants of the centre and south. Numerous kingdoms, often rivals, afterwards united in a sort of feudal hierarchy, became fused at last into an immense empire, the second in extent after that of modern Russia, under the paternal government of a semi-god, a son of heaven, the father and the mother of his subjects. This whole organisation had taken shape and become stereotyped before the Christian era, without any external influence, without any communication with the rest of Asia. The Chinese had invented for themselves alone and to their own taste, all the arts and industries, all the methods of agriculture, of working in metals, of making pottery. No civilisation was ever more original, more isolated or more precocious. After having passed through the Stone Age, to which the words *chi-fao, chi-tsien, chi-kien, chi-jin, chi-fou,* "knife, point, sword, tool, axe, of stone," still testify, the Age of Bronze, then of Iron, they have become for ever fixed in the same morality, the same devotion to ancestors and genii. Centuries have passed, and neither the intrusion of Buddhism and Islam, nor the Mongol devastations, neither the Manchu revolution nor the violent and successful incursions of modern days, have appreciably modified the manners and the genius of China. To a passably educated Chinaman, the Barbarian world is veiled in a mist, in which a few and soon effaced outlines can barely be distinguished; and when, at rare intervals, a band of priests or of soldiers comes to convince him

of the existence of that *non-ego* which is called France, England, or Germany, he attaches no more importance to it than the field-labourer to a passing hail-shower. Even those who have visited our lands retain as the impression of our civilisation only a vague wonder and a more definite mistrust.

China herself, in the same way, in spite of the commercial relations between the Romans and the Seri, in spite of the narratives of the Arabs and of Marco Polo, notwithstanding wars, journeys, and scientific expeditions, China is for Western Asia and Europe merely a confused mass in which can be distinguished for a moment, only to be lost again in the oblivion of indifference, the names of a few Emperors and philosophers, scattered over an ocean of four thousand years. Silk, tea, porcelain, and enamels: with these we have from China all that the West cares about. Printing, gunpowder, decimal notation, an independent morality, and the art of government, these things we had discovered for ourselves. China has nothing to teach us now; she has done nothing for us in the past. Had she never existed, the web of history, the long record of human existence, would never have shown at any point of its course the traces of any gap or failure. This isolation will doubtless cease, but is it not in itself an all-sufficient reason for Chinese conservatism? And as concerns the language, a special obstacle may be mentioned—a written character almost as ancient as monosyllabism itself, which, adapted to the monosyllabic form, has preserved it from all alteration.

"According to tradition," says M. Vinson, "the first characters were rude drawings of material objects: a circle with a dot in the centre signified the sun; a vertical stroke with two lines on either side at an

angle indicated a tree; and so on. To express complex ideas, several of these symbols were taken together; the signs for sun and moon together represented light; those for woman, hand, and broom meant a married woman; to hear was rendered by the signs for ear and door; to follow, by three symbols for man, placed one after the other. Then certain symbols were taken of which the pronunciation only without the meaning survived. *Pè*, white, together with the sign *tree* took the sense of *cypress; fan*, with *earth* or *mountain*, meant dyke. There are about 169 of these signs which have become phonetic, and of which many are no longer employed singly. The Chinese characters often have variants borrowed from an earlier period, a system now out of date; the written character has, in effect, varied since the date, 2950 B.C. according to the legend, when Fou-hi invented the pictorial character. These variations have been classed into six different *styles*. In the ordinary style the characters retain little of the ideograms as originally drawn; they are composed of strokes of which the number allows of an artificial classification of the vocabulary. There are 214 type words, called keys: six formed with one stroke, twenty-three with two strokes, and so on up to seventeen strokes. But this classification varies according to the grammarians. It is said that these artifices allow as many as 43,496 words to be written, all monosyllabic or compounds of monosyllables, of which about one-third compose the ordinary current vocabulary." I have heard it said that an educated Chinaman could not boast of knowing how to read before he reached the age of forty years or more. It may be imagined how great a part caligraphy plays in Chinese education. It is astounding that such a

system of writing should have been adopted also by the Japanese and the Annamites. The Chinese character is written in vertical columns, or, if necessary, horizontally from right to left.

The language is not nearly so alarming as the writing, but use alone can teach it, since memory is not aided by grammar or by derivation. To complete the indications given in the chapter on vocabulary, we refer the student to the *Linguistique* of Hovelacque and to the *Dictionnaire des Sciences Anthropologiques;* and pass on to give some supplementary information.

The language is by no means homogeneous and uniform. Not only does the Chinese of the educated class differ from that of the peasant, of the sailor, of the artisan or the trader, but each region has its dialect. There is more difference between the speech of the different provinces than between the various patois of France; so much so that, according to M. Hovelacque, the Government officials sent to serve in the provinces of Fou-kien or of Canton, cannot, unless natives of the district, get on without interpreters. The speech of Canton is that of the south, the dialect of Fou-kien extends a little farther to the north along the coast and to the neighbouring islands; in the central provinces of the empire, at Pekin and Nankin, the Mandarin dialect prevails, which is the language of a wide tract of country, and also the official and literary language of the whole empire.

The three principal dialects are distinguished chiefly by the sound. The letters *b*, *d*, and *g* exist only in the language of Fou-kien. (All the *g's* so largely used in transliteration, *tsong*, *tsieng*, *chang*, represent merely a nasal reinforcement of the vowel.) The Mandarin language omits in pronunciation the initial compound

ng; *nga, ngo, ngé, ngan,* are pronounced *a, o, é, an*; *k,* followed by *i, kia, kio, kiu,* which remains hard in the south, has become *ts* in the north, *tsia, tsio, tsiu.* Nothing is more common than such variations; they exist in every group of languages.

We have just seen that the *g* is unknown to literary Chinese; in fact, every word in it is composed of an initial consonant or spirant and a vowel, simple or nasalised: *ta,* great; *fu,* father; *mu,* mother; *yuan,* distant; *jin,* man; *hiung,* elder, &c. A single and very doubtful exception to this rule is the word which signifies "two" and "ears": *eul, ulh, urh, rh;* the vowel seems here to precede the consonant, but the sound is confused and difficult to transcribe; it is an effort towards the pure liquid *r,* which the Chinese do not possess. They write and pronounce France, for example, *Folan-tsi.*

In the dialects of Canton and Fou-kien, the short words may be terminated by a strong explosive consonant, *k, t,* or *p.* There are in all the dialects short words and long, of which the quantity depends on the accent or tone. These tones, invented to distinguish between syllables of the same sound but of very diverse meaning, number eight in Fou-kien, five in the Mandarin dialect; at Pekin there are but four, three long and one short. These accents increase the number of roots from 450 to 1250. It will be seen that in this system, deprived of the aid of suffixes, the raw material of language is of the poorest. It is only by a marvellous ingenuity that the Chinese have been able, without other resource than apposition, to acquire 40,000 signs, that is to say, 40,000 ideas, and to apply their imperfect instrument to every style—philosophy, morals, history, poetry, and the drama. But to us

Europeans it seems that this ingenuity is displayed at the expense of perspicuity, logical composition, and also of inspiration. The thought of the Chinese, like their art, lacks perspective; either it is stifled beneath a mass of detail, which is not properly subordinate to the whole, or, considering the whole as through a sort of fog, it loses its sense of reality; it is either trite, diffuse, and prosaic, or incoherent and unreal. The chronicles are interminable; the enumerations are incongruous; poetical imagination weak, and its form disfigured by mannerisms. Science is inaccessible, not indeed to the mind of the Chinese, but to their language and writing, and they cannot renounce these without losing all their past history.

The dominion of the Chinese language is limited on the north by Corean, Mandchu, and Mongolian, agglutinative languages; in the south it is found along the Indo-Chinese coast in the commercial centres, where it contends with Malay.

Though the type of the monosyllabic languages, Chinese is not the only one; Annamite, Siamese, Burmese, and Thibetan are other examples. The countries where these languages are spoken are, however, but outlying parts of the great Chinese empire, to which they have been at times united by vassalage or alliance. They are a part of that great slice of Asia which inclines towards the east, and turns away from the rest of humanity, the only portion of the globe where this fossil language could be protected in its growth. The hereditary tendency to monosyllabism must have been very strong to resist influences and conquests which left China intact, but which were not wanting to Thibet and Indo-China. Buddhist missionaries established their principal sect in Thibet, and have reigned there for

nearly twenty centuries. In the Middle Ages the Aryans of India founded at Gambodge a flourishing kingdom and a brilliant civilisation, of which we admire the ruins at Ang-kor-wat, where learned men, Bergaigne among others, have deciphered inscriptions in Sanskrit and Pali; nevertheless the old type prevailed, and with it the ancient form of language. The inhabitants of Thibet and Indo-China have inherited only the worst of legacies from their fugitive civilisation, a narrowing and childish religion.

Annamite, the language of the eastern portion of Indo-China and of Tonquin, has borrowed considerably from the vocabulary of Southern China, and its written character, which is figurative and ideographic, is of Chinese origin, although much modified and developed. Its syntax corresponds to that of Chinese. The addition of such terms as male and female, all and many, to a root syllable, indicates gender and number; the adjective follows the noun (which it precedes in Chinese); various terms which signify distance, proximity, doubt, give to the roots the value of verbs, and determine mood and tense. Six tones, acute, interrogative, ascending, descending, grave, equal, serve, as in Chinese, to differentiate words of which the sound would be absolutely the same, although the sense is different. But, in spite of this indebtedness and the similarity of form, Annamite is a distinct language. The vocabulary, the monosyllables, which are proper to this language, are purely Annamite, and in no sense Chinese.

Siamese or Thai (spoken on the north and west coasts of the Gulf of Siam) is separated from the Annamite by the language of Gambodge, which is yet unclassed. Siamese is rich in aspirates and sibilants, and has a written character of Indian origin, but has

all the marks of monosyllabism—the use of tones (of which there are four), the absence of grammar, apposition, and order of words determined by a rigid syntax. The language of Burmah offers the same characteristics, though it is poorer in sounds and has less variety of tones. The Burmese empire, which the English have diminished by four provinces—Arakan, Martaban, Tenasserim and Pegu—includes a number of tribes of which the origin is most uncertain, half-breeds of Hindus and Black Dravidians, of Malays and Negritos, of Mongoloids and Moïs, &c., &c. These groups march on the north with the peoples of Yunnan, and on the south with the Siamese or Thai, and on the east with all the semi-savages of the Me-kong (Mother of Seas), Laotians, Stiengs, Kouïs, Giraïs, Kharaïs, which Mouhot, De Lagrée, and Garnier have visited and described. These are the relics of the ancient Gambodge, the country of the Kams, Kammers, Kmers, who were so amenable at first, so indifferent afterwards, to the civilisation of the Hindus. These distant and interesting countries are now become fields of exploration open to our anthropologists and philologists. But the study of the methods and organisms of language will derive little profit from them.

Thibetan, of which we have little to say, owes to India its rich and precious literature, consisting entirely of translations of Buddhist books (of which the original is sometimes lost) as well as its alphabet. Its method of determining case, and mood, or tense are once again the respective places of the words, and the association of full roots and empty roots. The inflections which some have thought to discover in Thibetan are not more joined to the word than any other root deprived in part of its primitive sense, and converted

into a particle. He who would write a comparative syntax of the isolating or monosyllabic languages must forget all such terms as number and gender, mood and tense, case and person.

After having shown that chronology nowhere goes far enough back into the past to furnish a basis for the history of language, we have nevertheless made it clear that the gradual elimination of the agglutinative to the advantage of the inflected idioms, and especially the ever-growing expansion of the Indo-European tongues, which always tend to become more analytic, coincides with the discoveries of philological analysis. Yet one great fossil block stands apart, outside, so to speak, of the current which has deposited the successive strata of language ; the monosyllabism of Chinese, Annamite, Siamese, Thibetan, emerges from the depths of the past. We have pointed out the purely geographical causes of its survival, and displayed the consequences of the isolation of this group—useless effort, complication of the written character, atrophy of the higher functions of the brain, incoherence and pettiness of thought. We have noted the fact that these peoples, who have undoubtedly great gifts, have yet played next to no part in the history of the world and of civilisation.

CHAPTER II.

THE AGGLUTINATIVE IDIOMS OF CENTRAL ASIA.

Languages of Corea and of Japan—Ethnical elements of the Corean and Japanese peoples—Hyperborean group: Ainus, Ghiliaks, Kamschatkans, Tchouktches, Youkaghirs—Uralo-Altaic family: 1. Samoyed group; 2. Tongouse-Mandchu group; 3. Mongol-Kalmuck group; 4. Turkish group; 5. Finno-Hungarian group; the characters common to the five groups—Vowel harmony.

In passing from monosyllabism to agglutination, we have no great distance to traverse. I am not speaking merely of territorial distance; I mean that between these two phases, these two linguistic organisms, there are insensible transitions, the one beginning where the other ends.

The line of demarcation is so fine that certain eminent philologists, Max Müller among the number, hesitate to class Siamese and Thibetan among the monosyllabic languages. It may even be said that absolute monosyllabism exists no longer. The majority of Chinese words consist of two or three syllables, and we find agglutinative dialects, more especially in the Tongouse group, of which the grammar is yet so undeveloped that it has no case or verbal endings. We need to fix our attention on a positive and certain distinction, which I have already indicated, but on which I must insist further, because, though apparently slight, it is yet the point of departure and the common characteristic of all the agglutinative lan-

guages; it is the change in and gradual atrophy of the subordinate roots.

The syllables which the Chinese call empty, as opposed to the full syllables, lose in part their significant force, but they retain their form; the sense is effaced, the sound remains invariable. The result is that they can neither form terminations nor serve as a connecting link between a root and suffixes denoting case or person. The words, therefore, even when polysyllabic, remain sterile, and cannot produce others by derivation; no Chinese, Annamite, or Burmese word gives birth to a series of verbs, nouns, and adjectives derived from a common root.

In the agglutinative order, the root, full, or principal syllable, alone remains invariable; the subordinate roots, those which amplify or modify the meaning of the full syllable, are susceptible of change in form, in sound, as well as in their primary sense. Sometimes atrophied by their close connection with the root (a name which the subordinate roots change for that of suffix), sometimes with their initial consonant or their central vowel affected by the influence of the root, they furnish a certain number of signs, applicable respectively to the different parts of speech, or else they form with the root an indivisible whole, a new root or theme, susceptible in its turn of acquiring other suffixes, and of giving birth to a greater or less number of derivative terms.

Thus monosyllabism and agglutination have in common the inalterability of the root or full syllable, and the alteration in the sense of the subordinate or empty syllable; to agglutination alone belongs the change in the form of the subordinate root. Inflected languages have, in addition, the power to change the

root syllable. From one class to another there is but one step; the barrier is so slight that certain peoples have crossed without knowing it, so imperceptible that others have not sought to cross it, so decisive nevertheless that it clearly divides the three stages of language. There is, I believe, no instance of a language tending to return to the stage which it has left, and it is rare that a language abandons that in which custom and literature have fixed it.

China is the near neighbour, and even the titular sovereign, of the country of the Mandchus and of the Eastern Mongols; she has been conquered by both at different times, but she has borrowed nothing from their idioms, which are agglutinative, although poor specimens of the class, and her own influence is almost nil, in spite of the ascendency of her superior civilisation. The Chinese language spreads to the north and west beyond the great wall, and is spoken in towns situated in the countries of the Mongols and Mandchus; but the natives keep their own idiom, as do the merchants from the "Land of Flowers."

Corea, a mountainous peninsula which juts out between the Pe-tchili and Japan, was occupied from the twelfth to the first century B.C. by the Chinese, and has retained from the language of the conquerors a number of names of objects, of administrative divisions, and of occupations of all sorts; its king, still a vassal of the Chinese emperor, sends a respectful embassy every year to Pekin to fetch the calendar of the year. Yet the Coreans have their language, in no way akin to the Chinese vocabulary, and weakly but certainly agglutinative from time immemorial. They have also an alphabet, of Indo-Thibetan origin it is believed; but they do not seem to have profited to any consider-

able extent, any more than the Thibetans or the Siamese, by the possession of this precious instrument of progress. The latter have, it is true, been reduced to intellectual childhood by Buddhism. In Corea, Buddhism is, as it is in China, at once official and despised, and the cause which has hitherto retained the country in a semi-barbarous condition must be sought in the influence of fear. The country is threatened at once by China and Japan, by Russia and by the Western Powers. This varied country, as large as the half of France, and peopled by at least eight millions of short broad-shouldered men with a type of face like that of the Japanese, and by a bearded race with horizontal eyes and light skin (the Han, descendants of immigrants from Nan-Chang), opens its ports to other nations only under constraint. The Japanese have invaded it several times, notably in 1591, and exacted a tribute in which figured thirty human skins, and have recently established two trading ports on the south-east coast; the Chinese, who left it alone for sixteen centuries, deprived it in the seventeenth century, but only for a short time, of its north-western provinces; the French and the Americans have both made vain demonstrations at the mouth of the Hang-Kang, the river which waters Seoul, the capital. The Catholic and Protestant missions have made little way; their labours have availed at least to give us those geographical details from which Anville has traced the outlines of Corea, and some valuable information regarding the people, its customs, and government. A Corean-French dictionary, the work of a priest who escaped the massacre of 1866, a Corean grammar in French, published at Yokohama, the fine collection brought back by a traveller and exhibited in 1889 at the Trocadero, and,

lastly, the perseverance of the Japanese, the English, and the Russians, will sooner or later dissipate the obscurity which hangs over this nation, but may perhaps diminish the interest which is born of mystery and curiosity. Indeed, we know of the Corean people all that matters for our present purpose: the nominal power of an absolute king, the real power of the great chiefs who surround him with all the forms of a servile respect; the division of the nation into nobles, plebeians, and slaves; the sequestration of the married women; polygamy; the belief in genii and ancestor-worship; survivals of fire-worship; the rigour of mourning, which obliges a son to weep for his father three times a day at stated hours for three years, and to abstain for the same period from all public functions. None of these are uncommon customs, but two or three peculiarities deserve mention. The Coreans do not spin or weave wool; in winter they wear a greater amount of hempen and cotton clothing, and their soldiers wear cuirasses lined with many folds of similar material, which were proof against the bullets of old time; violet and olive green are the favourite colours, white and green being reserved for mourning.

A few more words are necessary about the language of the Kaokaiuli or Korai (of which we have made Coreans; it is the name of one of the northern provinces, but they prefer to give their country a name which recalls its situation between the empire of the centre and the land of the rising sun: Tchiaosien, the clearness of morning).

In grammatical structure, says the missionary Dallet, Corean somewhat resembles the Uralian and Tongouse idioms. The terminations of the verbs vary according to the sex and condition of the interlocutors. The

pronunciation is harsh and full of aspirates, drawling and indistinct; each phrase ends with a peculiar guttural difficult to reproduce. The liquid *l* is not clearly heard. The vowels, fourteen in number, are uncertain and incline to be diphthongs. The written character consists of rather more than 200 signs, some syllabic, others alphabetical, but educated people disdain to use them. "The introduction of a number of foreign words, Chinese in the north, Japanese in the south, has given birth," says Elisée Reclus, "to various jargons which are widely spoken in the centres of commerce. Chinese is the official language. Just as in Europe in the Middle Ages, Latin, the language of the lettered, persisted side by side with the local idiom, so the written Chinese is maintained in Corea together with the language of the people; but it is pronounced in such fashion that the Chinese could not understand it without an interpreter. According to the missionary Daveluy, the language of many districts is composed entirely of Chinese words, but with Corean terminations. In brief, every place, every person, every thing has two names, one Corean, the other Coreanised Chinese, and these synonyms enter freely into the speech of all classes." The vocabulary is mixed, not the structure; the agglutinative character is found even in the elements borrowed from the Chinese monosyllabism.

Over against the immobility of China and the mistrust of Corea we find a people eager for civilisation. No sooner had treaties, extorted by intimidation, opened five or six ports to Europeans, than this land, which from the sixteenth century violently opposed the foreigner, Japan, or rather Nippon, which massacred missionaries and forced the Dutch to spit upon

the cross, became suddenly enamoured of our ideas, of our law, of our science, and made a vigorous effort towards progress. A reforming government put an end to the feudal *daimos*, to the military usurpation of the Syogun or Taikoun, centralised the administration, caused a code of laws to be drawn up by French lawyers, projected railways, established schools everywhere, destroyed the Buddhist temples under pretext of restoring the ancient worship of genii, published newspapers, sent students to Paris, London, and Berlin, to learn our languages, our manners, and institutions. And recently we have learned that the Mikado, the son of the rising sun, the ancient and divine head of a theocracy, has summoned an elected parliament. It is possible to have diverse opinions as to the future of a change so radical and urged forward with such unusual haste. In any case, it commands attention and sympathy; it is not possible to look coldly on those who welcome us with open arms. But what is the history of this people, which seems to be ancient and which yet shows all the signs of a vigorous youth?

A complete answer to this question would take us altogether beyond our subject, but some attempt must be made. Japan was inhabited before the dawn of history; instruments of stone and of bone have been discovered in different parts of the Archipelago, in tumuli and kitchen-middens, mingled with the bones of monkeys, bears, boars, and deer, and of other animals, some of which are now extinct. Human bones fractured and split longitudinally even seem to point to cannibalism. It is not known what this ancient race was, nor whether it is represented by Negritos, who transmitted their woolly hair to some of the southern groups of Kiu-siu, or by the Ainus

(Yebiss or Mao-tsin of the Chinese), a hairy race which certainly long occupied the great island of Nippon or Hondo. At a very early period an invasion from Corea, attacking Kiu-siu from the islands of Tsou-sima and Iki, drove back to the north-east the majority of the Ainus. These Coreans, the Kmaço or Ion-ço, appear to have been plebeians or country folk of the Mongoloid type: the face wide and lozenge-shaped, retreating forehead, eyes narrow and oblique, short nose, high cheek-bones, and yellow skin. Finally, towards the seventh century before our era, tradition speaks of the arrival of a legendary conqueror, Kaniou-Yamato-Vare-Bixo, and of a new race, the Yamatos, which furnished the aristocratic element and the type with the oval face, straight forehead, narrow and often aquiline nose, horizontal almond-shaped eyes, and olive skin, a type which recalls in miniature the Malayo-Polynesian. The Yamatos, landing on the south-east of Kiu-siu, drove back by degrees the Kmaço towards the north-east. The fusion between the two races was slow; the strife was prolonged to the middle of the second century of the Christian era. The Ainus, driven from Nippon in the seventh, held their own from the ninth to the sixteenth century in the island of Yeso. Then they lost their independence and retreated towards the extreme north of Yeso, and into the little archipelago of the Kouriles. They now number less than twenty thousand and are gradually dwindling; but here and there atavism revives some of their characteristics in their ancient home.

The civilisation of Japan was tardy and entirely Chinese. It was not until the sixth century that the worship and doctrine of Confucius, Ko-si, the

religion of Çaka (Çakyamouni), Buddhism, and the Chinese character, all penetrated to Japan by way of Corea. While the Mikado, the sacred emperor, remained faithful to his ancestors, the genii or Kamis, and to the ancient national religion, Shintoism, his lieutenant, or mayor of the palace, the Syogun who usurped the civil and military power, embraced Buddhism. Confucius became and remains the teacher of the lettered class. These three religions have mutually borrowed from each other and live in harmony, although Shintoism has again become the state religion. The aristocracy has passed from Confucianism to complete scepticism. But I leave the description of the manners and the arts of Japan, which the accounts of travellers, the novels of Pierre Loti, and the caprices of fashion have made familiar to all.

"Japanese literature," says M. Julien Vinson, "is very rich; in the last eight hundred years innumerable works of poetry, of mystic philosophy, and even of science, have been composed in the archipelago of Nippon. The earliest known works are the Kosiki, the sacred book or bible of Shintoism, which dates from the year 712, and the Yamato-boumi, or ancient national annals." This literary and intellectual development is sensibly later than the indirect intervention of China in the history of Japan. This fact has had a marked influence on the fate of the national language, Yamato, the language brought by the early invaders from the south-east. The intrusion of monosyllabism, and especially of so inconvenient a character, paralysed Japanese, and arrested it at the first stage of agglutination, between declension and conjugation, cut short its tendency towards the inflected state, and encumbered it with a quantity of Chinese

words to such an extent that the populace speak a sort of hybrid tongue, and the pure Yamato remains the appanage of the aristocracy, of the lettered class, and of the demi-monde.

Nothing can be softer or simpler than the pronunciation. Five vowels, *a*, *i*, *ou*, *é*, *o*; four semivowels, *y*, *v*, *w*, *f* or *h*; one liquid, *r*; three nasals, *gn*, *n*, *m*; four sibilants, *s*, *ch*, *z*, *j*; four palatals, *ts*, *tch*, *dj*, *dz*; finally, the six explosives and true consonants, *k*, *g*, *t*, *d*, *p*, *b*; *l* is wanting. The pronunciation clearly shows the tendencies towards inflection mentioned above; letters are modified by contact, *ts* and *k* become *kk*; *ts* and *t* become *ss*; *ts* and *p* become *pp*; *n* and *v* become *b*, &c. The final vowel is almost mute; *m* and *k* fall by contraction between *u* and *i*; *uki* is pronounced *ui*. These are Indo-European phenomena. *Kore*, this man, and *kare*, that man, *kimi*, lord, and *kami*, genius, seem to be modifications of a same root.

The declension is by the aid of suffixed particles which have come to signify only a sense of relation: *tsu*, *no*, imply possession; *ve*, *he*, *ye*, *e*, towards; *to*, for; *te*, *ni*, in, by; *yori*, ablative; *ka*, *ga*, *nga*, *na*, partitive; *Yuki-ga furu*, it snows; *ama-tsu kami*, genius of heaven; *Yedove*, to Yedo; *inisive yori*, from antiquity; *Yedoveno missi*, road to Yedo; *Yamanove*, from the mountain. The nominative and the accusative are marked by a species of definite article, *wa*, *wo*.

Gender is indetermined; number is indicated in the Chinese way by the addition of a word signifying quantity, variety, or crowd, and also more frequently by a reduplication which is found also in Malay: *kuniguni*, lands; *tokoro-dokoro*, places; *fito-bito*, persons; *iroirono-fana*, flowers.

It is curious that the personal pronouns are wanting, unless indeed, *mi-ga* and *mi-domo*, I, we, formed by adding a suffix to the word *mi*, body, can be considered such; it may be said too that, in expressing the third person by the demonstrative, Yamato conforms to what is almost universal usage. Still one cannot but be struck by the singularity of the forms which stand for *I*, *thou*, *we*, *you*. A Japanese does not say, I see thee, we see you; but, *this man* see *illustrious*, *honoured*, *grandeur*, *lord*; or again, *slave*, *imbecile*, *selfishness* see *height*, *nobility*. It would seem that the extreme politeness inherent in the Japanese character has prevented the formation of personal pronouns, or, if they existed, has caused them to fall into disuse.

For lack of personal pronouns there is no conjugation. The verbs have remained simple substantives, which are declined by the aid of noun suffixes which allow them to be compared to Indo-European infinitives. *Yuku*, movement; *yuku-wa*, the going, to go; *ake*, opening, sight; *fana wo akeni*, flower to open, to see; to open a flower, to see a flower. Mood, tense, and voice are all expressed by the addition of different suffixes, *ta*, *mu*, *tara*, and by the use of an auxiliary, are, *uru*, existence, to be. The dative *e* forms the termination of the passive; and analogous methods produce reflective, causative, and negative forms.

Japanese, in short, is a language beautiful in sound, very simple and easy to learn, and capable of clearly expressing a great number of ideas. I mean the spoken language; written, it becomes an indecipherable medley. The Chinese character has been destructive of all order and reason; now it is considered

merely as a sign, and corresponds to a Japanese polysyllable; now it retains its Chinese monosyllabic pronunciation, and answers to only one syllable in Japanese. In the former case it keeps its meaning and loses its original pronunciation, it then needs a translation to render it intelligible; in the second case it is only a very inconvenient syllabic character. In one place a single monosyllabic sign represents a polysyllable; in another several Chinese signs are required to express one Japanese word; so that the same sign may be pronounced in several different ways, and several signs conveying different meanings may be pronounced alike. It seems that this strange use of Chinese characters is more especially the rule when dealing with abstractions and scientific matters—that is to say, precisely where they are most inappropriate. So persistent an adherence to an absurd custom shows to what a degree the subtle and brilliant Children of the Sun had been struck by the Chinese power and civilisation, and penetrated with respect for the wisdom of the mandarins. They possessed themselves more than one syllabic character, imperfect doubtless, but a thousand times superior to the Chinese system. The Buddhists had even contributed an alphabet, the *Sinzi* or *divine*, probably of Indian origin. There are seven syllabic characters, of which the most used are the lateral, the *Kata kana*, and the cursive, *Hira kana* or *Fira kana*. The first consists of explanatory signs written in small type beside the ideograms; the second has no relation to the Chinese character. These systems consist of forty-eight characters. Instead of recognising their evident superiority, the Japanese taught, perhaps still teach, a minimum of 3000 ideograms in their schools, which are even then

insufficient; if the scholar would acquire a real cultivation, he must retain not three, but eight thousand, or the literature of his own country will remain closed to him. The modern Japanese feel the necessity of simplification; at the first Oriental Congress, held in Paris in 1873, the Japanese ambassador expressed in very correct French the desire to see the adoption by his country of an international alphabet. No language would lend itself more easily to our character, slightly modified if necessary. This wish will probably be realised shortly; but if they are to reject without regret all the Chinese lumber, the Japanese must first transcribe into modern letters all their ancient authors and their most precious documents, and resign themselves to the gradual loss of comprehension of their rich literature. If they come to this decision, they will have imposed upon themselves the wholesome necessity of a new renaissance.

The Yamato language, arrested at the first stage of agglutination, endowed with a tendency to inflexion, is not akin, any more than Corean, by vocabulary, either to Chinese or to the idioms of the Sakhalin Island (ceded to the Russians) and of the coast of Asia. The world is full of these solitary idioms, which are born in and for a single tribe, or which have changed several times, perhaps after having separated from allied dialects. We shall find in Africa and in America groups of savages who wear out a language in fifty years; but for the moment we are concerned with North-Eastern Asia.

The languages known as Hyperborean—Ainu or Kourilien, Ghiliak, Kamtchadale, Koriak, Youkaghir, Tchouktche or Kotte or Yenissein—seem to form a small and poor agglutinative family. They all differ,

more or less, like the tribes which speak them—fishers or hunters, living some in tents, some in rude huts or in holes, dens hollowed out of the frozen soil; tribes which worship the bear and the whale, and believe in charms and sorcerers; some of them throw their dead to the dogs. The Ghiliaks, who now number only 6000, inhabit the north of Sakhalin and on the mainland the environs of Nikholaievsk and of the Lower Amur; they will soon be engulfed by the Tongouses and the Russians. The Kamtchadales or Itelman, a dirty and inoffensive race, occupy the south of the Kamtchatka; they are perhaps connected by the Aleoutes to the Esquimaux of Alaska. The north of Kamtchatka belongs to the Koriaks and to the Tchoutktches. Beside these last, on the river Kolima, the Youkaghirs, tall and relatively handsome, a very mixed race, but distinct from the Samoyeds, have been driven back upon the Arctic Sea by the Tongouses and the Yakoutes. It is probable that all these groups are the last representatives of nations which formerly occupied a much more extended area in Eastern Siberia, and have not been able to resist the ancient pressure of the Chinese and the expansion in every direction of the Mongols and the Turks. They seem to be all more or less akin, at least from the point of view of language, to the Samoyed branch which borders the north-west of Siberia and the north-east of European Russia.

All these tribes, who are not more wretched than others in their almost animal ignorance and under their harsh climate, are far from being or from thinking themselves the lowest of humanity; they glory, for the most part, in the name of heroes (this is generally the meaning of their name); they are aware of social distinctions; they have their nobles and their priests,

their code of honour and morals. I would not omit them from this list; it is useful to show how ill the infinite variety of human types and idioms agrees with the long-accepted dogma of the original unity of the human race and language.

We come now to a true linguistic family, not indeed closely allied, like the inflected groups, by filiation and constant relationship, but in which, nevertheless, the identity of certain pronominal roots permits us to suppose, if not to reconstruct, a single ancestral form, a common vocabulary. This is the Uralo-Altaïc family, of which the vast extent formerly suggested to Max Müller his idea of a Turanian family, in which he essayed to class all those idioms which are neither Semitic nor Indo-European. But the hypothesis fell to pieces before the impossibility of ranging together the African, American, Malay, and Dravidian groups, in which there is no characteristic common to all except the agglutinative method. The classing together of these fundamentally different families only tends to throw the science of language into hopeless confusion.

The vague and insufficient designation of Uralo-Altaïc merely indicates the primitive area of the family; it tells us that all the branches of this immense tree germinated between the Altaï Mountains and the Arctic Ocean, between the Sea of Okotsk and the Ural Mountains.

The first branch is Samoyed, of which the Finlander Castren has made a study. It extends, in Europe, along the eastern half of the Russian coast of the Arctic Sea as far as the White Sea; in Asia, along the western part of the Siberian coast. Its five principal dialects, Yourak, Tavghi, Yenissein Samoyed, Ostiac Samoyed, and Kamassin, are not spoken by

more than 20,000 individuals. The category of gender is unknown to Samoyed; the noun and the verb are not distinguished: *Lutsa*, Russian; *Lutsa-me*, I am a Russian. Like all the agglutinative languages, it expresses by means of suffixes all the relations of number, case, person, mood and tense. There are various methods of derivation.

Tongouse, a group which is a near neighbour to the Samoyed, is more important from the number of those who speak it. The little Tongouse people, active, cheerful and hospitable, who live on and by the reindeer—a type with round face, narrow eyes, and square forehead — occupies that part of Siberia which lies between the river Tongouska and the district of the Lower Amur. The Mandchus, who number 70,000, to the south of the great river Amur, are really a branch of the Tongouses, which was formerly nomadic and warlike, and became in the seventeenth century the masters of China. To this day their eight banners form the nucleus of the Chinese army. The reigning dynasty is Mandchu, and the Mandchu general-in-chief is still, officially, the commander of all the forces of the immense empire, in many parts of which, doubtless, the very name and existence of the Mandchus are unknown. These chance conquerors occupy the north-east of China. They have retained their Chamanist religion and their language. But, as in the case of the Japanese, the superior influence of the monosyllabic Chinese has hindered this language in its natural evolution; so much so, that the independent Tongouse, which is not a written language, is richer in grammatical forms than its more civilised brother, which is promoted to the rank of a literary idiom. Mandchu has no conjugation, whereas the Tongouse verb abounds

in suffixed forms. Tongouse, like Samoyed, has no gender, but it expresses very completely all casual relations; it forms derivatives by combinations of suffixes, and true compounds with a common termination. The pronunciation of Tongouse is fluid and pleasant to the ear. The principal dialects are Tongouse, Mandchu, Lamout, Anadyr, Kondogyr, and Vilui.

A third group has for centre the Lake Baikal, and for type Bouriate, spoken by 20,000 persons. M. Lucien Adam, who, with M. Victor Henry, must be the guide of those who would make a serious study of the Uralo-Altaïc family, ranks this language very high in the scale, though it is without literature and has no future. He thinks the grammatical development of Bouriate important, inasmuch as it shows the intermediate forms through which pronouns have passed in order to become suffixes. Side by side with Bouriate have grown up, on the south-east, the Mongolian spoken in Mongolia proper, in the central part of Northern China, to the west of the Mandchu territory; and in the west, the Western Mongolian or Kalmuck, which has penetrated into Russia as far as the mouths of the Volga. The brilliant and terrible history of the Mongols, to-day an exhausted race, has given them a preeminence which is not justified by the organisation of their language. Mongolian has, however, like Mandchu, a written character and a literature. What a contrast between its present obscurity and the tumult of the multitudes led by Zenghis Khan to the conquest of the world!

From the foot of the Altaï Mountains a torrent of disciplined hordes under Zenghis Khan spread eastward over China and deposed the Yuan dynasty, which Marco Polo had seen in all its power. In the west it

overthrew the Caliphs of Bagdad and the Sultans of Iconium, reached Moscow, and wasted the greater part of Russia, which remained during two centuries under the domination of the Golden Horde; invaded Poland, Moravia, Silesia, Hungary (1240–41), and was only stayed by the combined armies of the Germans and Slavs. In the fourteenth century the Mongols, rallied by Timour, reconquered Asia. Finally, from Bactriana, where a Mongol dynasty had established itself, Baber came down to the conquest of India, and founded there the Mogul Empire. But now the Mongols have to vegetate as the subjects of the nations of which they were once the masters—of the Mandchu rulers of China, of the Czars of Russia, and of the Sultans of Turkey. They once were free of soul; superstitious doubtless, they were not bowed beneath the yoke of any religion. But they have long been Mussulman or Buddhist; their part is played out.

We pass to the fourth branch, which has done the world no less harm than the preceding one. The region which it still covers with its shade is of vast extent; it stretches from the river Lena and the Arctic Ocean to the Mediterranean. The Turkish family, the Hiung-nu and the Tukiu of Chinese writers, the Turanians so dreaded by the ancient Persians, were already known and feared two centuries before our era. Their warlike character, and their constant attacks upon the Mongols, who were a nomadic and pastoral people, contributed most certainly to precipitate upon the west all those invasions which destroyed the ancient civilisations and constituted at length modern Europe. Even a brief summary of the history of the innumerable tribes—Tatars, Turcomans, Seljuks, Ottomans—which belong to this family would take us too far from our

present subject. The Turkish race is divided into five principal branches, to which are attached a number of dialects. The most northerly, scattered among the Tongouses and near to the Bouriates, is represented by Yakout, which is remarkable for the purity which it owes to its long isolation; it is spoken by hardly more than 20,000 people. Farther west the Cossack Kirghis stretch to the Sea of Aral and the Caspian, and to the south of these and on their left, in Chinese Turkestan, towards Kashgar, lie the black Kirghis or Bouroutes. Tchouvache, spoken in Russia in the south-west of Khazan and in the neighbourhood of Simbirsk, is classed with these dialects. The Kirghis came originally from the district which lies between the Yenissei and the Obi; their kinsmen and near neighbours were the Nogais, of whom the remnant (50,000 in number) now inhabit Astrakhan and a few districts between the Caspian and the Black Sea, near Azof, in the Crimea, and towards the Caucasus. Nogaic, with its Caucasian dialect Koumouk, is the language of the Russian Tatars. Better known and cultivated is Ouigour, with its Djataic and Turcoman varieties; it boasts a literature which dates from the fifth century of the Christian era; it has been recently studied by Pavet de Courteille and M. Barbier de Meynard. The Bibliothèque Nationale has a manuscript with illuminations in this language, which is of great value. Finally, the most celebrated, and from some points of view the most perfect, of the Turkish idioms, Osmanli or Ottoman, originally from Khorassan, carried by the Seljukian bands into Asia Minor, and by the heirs of Othman to Constantinople, Cairo, Tripoli, and Tunis, is the language of about thirty millions of people, who inhabit ancient Bactriana, Media, Asia Minor, Thracia,

and some of the Greek islands. Osmanli, which has gathered on its route a great number of Persian and Arabic words, is making some effort to return to its native purity, which is happily preserved among the Oriental Turks, and, even in Europe, in the speech of the populace. It is, as we have already said, a very attractive language, from the harmony of its vowels, the wealth of its verbal categories, and the regularity of its grammar.

But even the Turkish branch hardly equals in abundance and in interest the Finnish or Finno-Hungarian family, which can boast of two literatures, valuable on more than one count—the Suomi literature and the Magyar literature. Suomi is the language of Finland; Magyar is the idiom of Hungary. The latter is the more fortunate brother of the Ostiac (20,000) and Vogoul (7000) dialects of Siberia; the former, *primus inter pares*, is the type of the Finnish peoples which extend westward from the Obi and the Ural: Votiacs (200,000), Zyrienes (80,000), Permians (60,000); Finno-Lapps, Finlanders of the Volga, Mordvines (700,000), Tcheremisses (200,000), confused with the Tchouvaches and the Nogais; Karelians, scattered from the White Sea to the Lake of Ladoga; Suomis (to the number of 2,000,000) in the greater part of Finland; Tchoudes, Vepses, and Votes, round Lake Onega; Crevines in Courland; Estes on the southern coast of the Gulf of Finland (Revel, Dorpat); finally, Livonians, reduced to a few square miles by the pressure of Lithuanians, Germans, and Russians. The Finnish languages are spoken by about 3,300,000 people; the Hungarian by perhaps 6,000,000; but they have evidently covered an immense extent of territory.

The primitive union of the Finno-Hungarian group admits of no doubt; here, as in each of the other divisions of the Uralo-Altaïc family, we find words which testify to an original form common to all the subdivisions of that family; fish is *kala* in Suomi, *guolle* in Lapp, *kal* in Mordvin, *kul* in Vogoul, *hal* in Magyar. Hand is *kat* in Vogoul, *käte*, *ket*, or *ked* in Suomi, Lapp, Tcheremisse, and Ostiac, *käsi*, *cäiz*, *kez*, in Vepse, Este, Livonian, and Magyar. The slight differences of sound which distinguish these variants perhaps indicate the method of procedure in inflected languages; born of the encounter of several dialects, they may have made use of the variants which thus occurred.

Another proof of the unity of the Finnish group is found in the collection in one poem (as was doubtless the case with the Iliad) of episodes gathered by Lonnrot, not in Finland only, but throughout the north and east of Russia. This mosaic constitutes, in truth, the epic of a race; it relates the exploits accomplished by the heroes of Kaleva against the Magicians and the monsters of Pohja, that is to say, no doubt, the strife of invaders from the East with either the inoffensive Lapps who had preceded them, or against the savage aborigines, those Fenni, destitute of laws, of chiefs, and even of gods, of whom Tacitus had heard, whose name the conquering Suomis took together with their territory.

The Magyar literature is richer, more European, and more ancient, but less original than the legendary cycle of the Suomi Cantelar and Kaleva. The two languages are of equal merit. Suomi loves to multiply its vowels; Magyar makes a greater use of contractions. Both are remarkable for the richness of their

conjugation ; they surpass even Turkish in this respect. All the Finnish dialects can incorporate the accusative of the third person into the verb : I see him, I touch him, is said in a single word. Magyar and Vogoul incorporate the pronoun of the second person : I love thee, he loves thee. Mordvin does the same with the pronoun of the first person. Basque goes yet farther, and engulfs even the dative with the verb : I give it thee. These expedients are not to be envied, and may cause inconvenient pleonasms ; but they imply a certain ingenuity in the peoples which have not got beyond agglutination.

Can the relationship which is traceable between the dialects of each branch of the Altaic family be shown to exist between the five branches ? Not in the present state of our knowledge. Nevertheless, it is probable that races which are as near neighbours and as mixed as the Tongouses, the Bouriates, the Yakoutes, the Samoyeds, and the Vogouls have spoken kindred dialects. But the similarities which it is as yet premature to seek in their vocabularies appear numerous and unmistakable in their syntax and their methods of suffixing. It is especially curious to note in almost all the members of the family (except the Samoyeds) a tendency which has become more and more marked as the development of the intelligence demanded greater order and precision. It is difficult not to suppose that when the same phenomenon, vowel harmony, manifests itself at once, separately, in thirty different languages, all originating in the same region, but since scattered in various quarters—it is, I say, difficult not to suppose that these languages have received from a common original this latent disposition, which only becomes manifest at a certain stage of growth, like

those resemblances to some ancestor which may be unperceived in the children of a family, and become evident as they grow up to manhood.

Vowel harmony is a means of marking the subordination of the suffix to the root; its principle is that the vowel of the suffix should reflect the vowel of the root; that the root *sev* (Turkish), love, should have for the infinitive suffix *mek*, and the root *ba*, look, for infinitive suffix *mak*; *at*, horse, makes *atlar* in the plural; *ev*, house, is *evler* in the plural. The Uralo-Altaïc vowels, being divided into two classes, open and shut vowels, it follows that to an open root-vowel corresponds an open vowel in the suffix, and *vice versâ*. Certain languages have a third order of vowels, neuters, which can also harmonise with the open vowel of the root. There are differences in the application of this law, which is strict or lax in proportion to the degree of cultivation to which the language has attained; but, broadly speaking, the law has obtained for six or seven centuries in Mandchu, Bouriate, Mongolian, Turkish, Zyriene, Mordvin, Magyar, and Suomi.

After having defined the narrow but capital distinction which separates agglutination from monosyllabism—that is, the change in the suffix—or empty root attached to the unalterable root syllable, we have considered three sorts of agglutinative idioms: 1. the isolated languages, of which the vocabulary is without relation to any other language, Corean, Japanese, or Yamato, arrested in its development by the Chinese civilisation and written character; 2. the poor and remote dialects of North-Eastern Asia, Kourelien or Ainu, Ghiliak, Kamtchadale, Koriak, Youkaghir; 3. a vast family connected at least by a grammatical relationship, the Uralo-Altaïc family, of which the five branches,

Samoyed, Tongouse, Mandchu, Boriate-Mongol, Turkish, Finno-Hungarian, are all subdivided into numerous varieties, which may be respectively referred to a common type, living or extinct. A few of these languages, Mandchu, Mongolian, Ouigour, Turkish, Magyar, and Suomi, have been the expression of literatures more or less rich, which are often interesting, and worthy of the part played in the world by the peoples which speak them.

CHAPTER III.

THE AGGLUTINATIVE IDIOMS OF SOUTHERN ASIA.

The Caucasian languages : Tcherkesse group ; Kartvelien or Georgian group—The language of the Shumirs or Accadians—Brahui dialect —Non-Aryan India : Kol-Aryan group (Djuangs, Birhors, Korvas, Moundas, Hos, Kharrias, Sonthals) ; Dravidian group—Dravidians of the North : Oraons, Paharyas, Gonds, Khonds—Dravidians of the Dekkan : dialects spoken by fifty millions of people : Tulu, Kanara, Tamil, Malayala, Telinga—Dravidian phonetics and literature.

THE violent and tardy incursions of the Uralo-Altaïc peoples have led us far into Europe, and we must now return upon our steps to complete the chart of the agglutinative languages of Asia. Let us press along the northern coast of the Black Sea, where we have found more than one Tatar or Mongolian group, and re-enter Asia by the gorges of the Caucasus. It is a strange region, both from the place which it occupies in ancient tradition and from the inextricable mixture of the tribes which inhabit it. This region has had the honour of bestowing its name, of unknown origin, upon the whole white race. It contains the mountain on which, according to Jerome, the Ark of the Deluge was stayed, Ararat, and the summit on which the vengeance of Zeus bound Prometheus, the ravisher of fire ; and finally, the highest northern summit of the great chain, Mount Elbruz, as well as the Persian Elbourz to the south of the Caspian, still bears the name of the

legendary holy mountain known to the Persians under the name of Hara-Barazaiti, and to the Greeks as Berecynth.

The ancient traditions collected in the Bible have retained for us the former names of the Tuplai or Tibarenians, of the Muskai or Moschians (inhabitants of Colchis, Georgia, during the Assyrian and Persian period), Tubal and Meshech, sons of Japhet, whom the Jewish sometimes associate with Gomer (the Cimmerians), and Togarma, "who comes from the north wind with all his troops." From the information furnished by Herodotus, by Hecateus, and by the cuneiform inscriptions, we gather that the ancients had a very clear idea of the inhabitants of Armenia, who were gradually driven back towards the southern slopes of the Caucasus, and a slighter acquaintance with the peoples of the other side, Scythians and Cimmerians, who had, however, more than once invaded and disturbed Asia.

After having been a refuge for more or less compact groups of ancient peoples, driven out and broken up by better armed races, the Caucasus became a passage, at least on its eastern and western borders, not only to the Scythians, those multitudes of unknown race, doubtless of very mixed blood, who overthrew the first Chaldean empire, and drove the Hyksos or Shepherds on to the Egypt of the Pharaohs, but also for the vanguard of the Hellenes, the Ionians of Lydia and Phrygia, who transmitted to their descendants, the fabled Argonauts, a vivid recollection of Colchis; and also probably for the future Armenians, who came and settled precisely within the borders of the ancient Alarodian or Georgian race at Van, near the great lake, near the tri-lingual inscriptions, of which a

column may perhaps enlighten us as to the early forms of Georgian. Strabo counted in Caucasia seventy peoples and seventy dialects. The Romans maintained as many as one hundred and thirty interpreters on the frontier at Sebastopol. Aboulfeda called the Caucasus the mountain of languages. Many of these languages are in process of extinction, and the comparative study of them becomes every day more difficult. Yet, if we are guided by the information collected by Klaproth, by Baron Uslar, and by the Russian Academician Schifner, the classification will not be very complicated. But we must first carefully exclude the Armenian of the banks of the Araxes, Ossetan, an Iranian idiom which has taken refuge in a central district to the south-east of Elbruz, modern Persian, and the Tatar or Turkish of Aderbaidjan, which are all spoken on the south-western coasts of the Caspian, and also Nogai and Koumouk, which are found at different parts of the northern basin. We thus isolate the Caucasian group properly so called, represented to the north of the Caucasus by the Abazes, the Tcherkesses, the Kistes, the Tchetchenes, and the Lesghians from the Black Sea to Daghestan; to the south of the Caucasus, by the Imerethians, Mingrelians, and Lazes, by the Georgians and Suanians, between the Black Sea and the middle basin of the Cyrus and of the Arax (now Koura and Aras). On the maps and in the geography of Reclus will be found the names of numerous tribes often very interesting from some characteristic custom, some ancient belief, from the beauty of their type, or from their courageous resistance to the Russian dominion. But from the linguistic point of view they probably belong to one or other of the two divisions which we mentioned above.

It is doubtful whether the whole of the northern or Circassian group has a common origin; it has been so disorganised, so nearly obliterated, by the Russian conquest, that I doubt if it now comprises a million individuals. The Tcherkesse nation, which was Mussulman, has almost all dispersed, and has been replaced by Slavs and Germans. A few Tcherkesse legends have been collected; the language is hard, remarkable for certain sounds which are peculiar to it, and for the incorporation of the suffixes of number.

The southern or Kartvelian group, early converted to Christianity, remains intact though not independent, to the number of one or two millions in the neighbourhood of Koutaïs and Tiflis. It corresponds geographically to the Colchis and Iberia of the ancients. Its principal dialect, Georgian, has an alphabet. Cultivated in the Middle Ages, it belongs, like Circassian, to the agglutinative class. It was probably akin to the language of the Aghovanik or Albanians, which disappeared completely in the fifteenth century, leaving no traces in writing of its existence. The Georgian chronicles have been translated into French by M. Brosset. The names Iberians and Albanians, Georgians, Suanians, and Kartvelians require some explanation. The two first, which must not be confounded with the Albanians of Epirus and the Iberians of Spain, are somewhat ancient. Albanian—Alwank in Armenian—is mentioned in the time of Alexander. Iberian, through the forms *Wirq* in Armenian, *Avir* in Pehlevi, Ἀβειρες in Greek, goes back to a form Σαβειροι, Σασπιρες, given by Herodotus. The Saspires made part of the army of Xerxes. Georgian comes from the name of the saint chosen for patron by the Iberians. Kartvelian, Kartouli, is really a national name; Karthlos, the eponymous hero of the

race, was the son of Thargamos (the Togarma of the Bible), son of Japhet.

Whence came these languages, which it is rash to class together in one Caucasian family, and of which the vocabulary forbids any attempt to bring them into relations with the other agglutinative idioms? Whence came these peoples, this handsome race, similar in feature to the Iranian type, who were established in the neighbourhood of the Caucasus long before the development of the Assyrian Semites, before the arrival of the first Indo-European migrations? These questions, like many others, must remain unanswered. I have sometimes thought that they were pre-Aryans—that is to say, a white race akin to those who wandered on the other side of the Caspian, on the banks of the Jaxartes and the Oxus, and separated from these before the appearance, at first quite local, of inflexion and the Indo-European mother-tongue; they would have remained at the agglutinative stage, protected by their mountains from the influence of a more advanced linguistic system.

M. Lenormant connected them rather with the ancient inhabitants of Mesopotamia and Chaldea, not by race however, but by language. In his view, the inscriptions deciphered with great difficulty at Van, which belong undoubtedly to the pre-Armenian tongue of the peoples of Mount Ararat, Urarti, or Alarodians, might serve as connecting link between the Georgian dialects, the Caucasian, and the more ancient idioms of Babylonia.

At the present day the obscurity which hung over the origins of Chaldea has been, if not dissipated, at least considerably diminished, thanks to the discoveries of those great cuneiform scholars Rawlinson and Oppert.

An insight which is truly marvellous has been able to reconstruct, not altogether without gaps, but from authentic documents, the military, social, and intellectual history of the valleys of the Tigris and the Euphrates, from at least twenty centuries before our era. Names and dates have thus been recovered which had been much altered by the Hebrew writers, who were, nevertheless, so nearly akin to the Babylonians both in race and language. It has been found possible to separate the personal observations recorded by Herodotus from the fables which the credulous historian set down on the faith of ignorant or duped interpreters—the stories, for instance, of Belus, Ninus, and Semiramis. Finally, side by side with a Semitic dialect which belongs to the central branch, midway between Aramæan and Arab, a language which abounds under the chisel of the scribes of Sennacherib and of Assourbanipal, MM. Oppert, Lenormant, and Schmidt think they have discovered, and established beyond a doubt, in spite of the strenuous opposition of M. J. Halévy, the presence of another language, anterior to the idiom of the Semitic conquerors, and so vigorous that it was long the official language of the kings of Babylon and Nineveh, and that it still may be found on many inscriptions, over against the Assyrian text, in the manner of translation or commentary. Some scholars have denied the existence of this language, which is markedly agglutinative, and of which several philologists have written the grammar; it has been represented as an error in the deciphering, as a form, either archaic or symbolical, hieratic, so to speak, of ordinary Assyrian. I am not qualified to take a side in this debate, but whatever may be the truth about this second language found on

the Chaldean inscriptions, whether we should consider it, with M. Halévy, to be cryptographic, Shumirian with M. Oppert, or Accadian with Lenormant, there is one point which admits of no doubt whatever, and that is the existence of the peoples to whom it is attributed. The Shumirs and the Accadians mentioned in the Bible are invariably mentioned in the official formulary: king of the Shumir and of the Accadians is a constant title of the Assyrian monarchs. In Elam, in Chaldea, in Babylonia, they form the bulk of the population; we must, therefore, recognise in them the predecessors and the educators of the Kaldi (the Kasdim of the Bible), of the Kissi or Kossei or Kushites (whom M. Maspero identifies with the Oriental Ethiopians of Homer); finally, the Canaanites, Aramæans, and Assyrians, all Semites, and speaking Semitic dialects. The antiquity of the Accado-Shumirian settlements is clearly demonstrated by the flint implements, arrow-heads, axes, and hammers found in their burying-places, together with utensils of bronze and ornaments of gold and iron. To them may be attributed a considerable share in the invention of the cosmogonies, the obscene forms of worship, and the talismanic superstitions which are so widely spread in the East; and it is also from them that the Semites received the deplorable cuneiform character, afterwards adopted by the Hittites of Syria, by the Cypriotes, by the Armenians, and by the Persians.

The cuneiform character, which seems to be composed of wedges, nails, and arrow-heads, results from the alteration and abbreviation of imitative figures. Its use, wonderful to relate, was prolonged as late as the first century of our era. "Some of these signs," says M. Maspero, "are true ideograms, which are not

always pronounced, and merely indicate the general sense; the greater number represent syllables, sometimes simple, composed of a vowel and a consonant, or *vice versâ;* sometimes complex, formed of several consonants." The complex syllables may be written in two ways: (1.) By decomposing them so as to form two simple syllables, of which the second always begins, in pronunciation, with the vowel of the first: thus the word *napsat,* soul, may be written *na-ap-sa-at.* (2.) By means of a special character answering to each syllable: *nap-sat. Nabu-Kudur-Ussur* may be spelt as written here, or thus: *Na-bi-uv-ku-du-ur-ri-u-tsu-ur.* Moreover, most of the signs may express several different sounds. Chinese and Egyptian have not imagined a more clumsy method. The decipherers have needed a hundred years to overcome the difficulties presented by the riddle of these inscriptions, to recognise the five or six extinct languages which have used the cuneiform character. It is but justice to recall here the names of the principal savants who have devoted themselves to this task, and have carried it successfully through: Niebuhr, 1765; Tychsen, 1798; Munter, 1800; Grotefend, 1802; Eugène Bournouf and Lassen, 1836; and more recently Rawlinson, Hincks, Fox, Talbot, Lenormant, and Oppert. Thanks to these last, who are the creators of Assyrian science, thirty centuries of history have arisen in less than thirty years from out of the ruined tombs. After having deciphered the Babylonian, Ninevite, and Median texts, they have discovered the remains of the ancient Chaldeo-Shumirian literature.

The Shumirs and the Accadians have mingled with their Iranian and Semitic successors. Their name was hardly known, yet now we are led to regard them

as holding a high rank among the industrial and religious teachers of the world. To what race did they belong? Doubtless to an autochthonous people, dark of skin, intermediary between the Mongol and the Malay, between the blacks of the east and the different varieties of Caucasian whites. Their language, recently discovered (if it be discovered), has been, somewhat prematurely, connected on the one hand with the extinct idioms of Mount Ararat and the yet living dialects of Georgia, and on the other hand with the Dravidian family. We will be content with noting the agglutinative character, which implies no original relationship.

On the route to India, where we shall find isolated or compact groups of languages belonging to this immense class, we must stay a moment to consider some islets of peoples lost in the obscure chaos of Beluchistan, from Kej, Panjgur, and Falk, as far as the limits of Seistan. These are the Brahui or Birrhui, whose patois, though much mixed with Hindi and Persian, shows some Dravidian affinities. Its grammar, in any case, is agglutinative and very simple: no gender; two numbers, singular and plural; no relative pronoun; the adjective, which is invariable, precedes the substantive; the verb, neuter or active, can take causative and negative forms, admits but a single mood and three tenses, past, present, and future past. All derivation is by the aid of suffixes.

India, which we now enter for the first time, is a world in itself; it measures twenty-six by twenty-three geographical degrees, and contains a population equal to about two-thirds of the population of Europe, more than two hundred and fifty million inhabitants, of every colour and every race. By the western frontier,

the basin of the Indus, the Aryan groups, relatively few in number, but possessed of a very superior language and cultivation, descended slowly towards the affluents of the Ganges between the fifteenth and the tenth centuries before our era, and thence spread in every direction, north and eastward towards the Himalayas and Indo-China, to the south along the coasts, as far as Cape Comorin and the vast island of Ceylon. So great was their preponderance, that they have left an ineffaceable impress over this immense land; neither internal wars nor invasion, nor durable conquest, has seriously affected the social organisation or the fanatical and scrupulous devotion of the Hindus educated by the Brahmans. But the number of the Aryans, of the white race, was too small to have any material influence on the blood of the multitude, or rather on the chaos of indigenous races. The meshes of the political, social, and religious net were never close enough to prevent all escape for the refractory groups, customs, and beliefs; and even in regions which felt the Aryan influence most strongly, the expansive power of Sanscrit and its derivatives proved of no avail against the passive resistance of great masses of the population, who kept their ancient languages, while using them to express the ideas which they learned from their conquerors.

Thus, without counting the Europeans, the Jews, Parsees, and foreign Mussulmans, there are in India numerous barbarous or savage tribes which are untouched by Brahmanism, tribes all the more precious to science that their manners and their languages are a survival from pre-historic times. They have been called Kol-Aryans. Besides these tribes, which are chiefly found on the Coromandel Coast and in the cen-

tral plateau or Ghondvana, millions of civilised men, who occupy the lower end of the Peninsula of Hindustan, between the Vindhyas and Cape Comorin, retain and cultivate their national dialects. These are the Dravidas or Dravidians, a race of very mixed blood, whom certain ethnographers consider to be the resultant of two invasions, Thibetan and Uralo-Altaïc, operating on an indigenous or, at any rate, a more ancient race.

Some separate and some class together the Kol-Aryans and the Dravidians in regard to race and language; it would seen that the latest opinion of science inclines to separation, and forbids us to call the first Dravidians of the north, or even Proto-Dravidians. It is true that the name invented for them by Mr. George Campbell in 1866 is hardly more suitable. Kol might be allowed, since it is the name of one of the tribes in question; but Aryan is misleading, because one of the characteristics of these peoples is that they have not been Aryanised.

The Djuangs are the most savage; their solemn oath is made upon an ant-heap or upon a tiger-skin. Little, naked, tattooed, red-brown in colour, bowmen or slingers, these poor wretches can neither spin nor weave, are ignorant of the potter's art and of the use of metals. The Birhors of the district of Hazaribagh and the Korvas of Chota Nagpur dispute the lowest place with them; little, dark, tattooed, they live in the forest and build huts on steep rocks. The neighbours of these last Kols or Mundas, Hos and Bhumidjs (the name of the Bhumidjs seems to be Aryan; it comes from *bhumi*, the earth, and is perhaps akin to the Latin *homo* for *humo*), all these Kols form a total of about a million, some strong, thick-set, and chocolate-coloured, others tall, copper-coloured, with long coarse hair. They

neither spin nor weave, but can work in metals. They vow themselves to the tiger should they come short of their oath (which they nevertheless forget very readily). Some of their superstitions are curious; if the shadow of a passer-by cross their food, they will not eat it, but throw it away; an evil spirit is in it. The Kharrias, the Kurs, and especially the twelve tribes of the Sonthals, appear to be less unapproachable. They have houses; some of them are cultivators, others readily leave their homes and enter service. The Sonthals number about a million, are smaller than the Aryan Hindus, have a round face, straight eyes, hair black and thick, snub nose, and large mouth. They are fond of music and dancing, bamboo flutes, rings, necklets, bracelets, and fine clothes. Their manners are not austere.

The only written documents in the Kol dialects are some partial translations of the Bible into Mounda and Sonthal, and a few legends or songs collected by the curious. These present some interesting peculiarities, from the phonetic and grammatical point of view. They are very rich in vowels, and in addition to the spirants, palatals, and explosive consonants, they have other sounds difficult to define and imitate, which seem to be introduced into the Sanscrit alphabet under the name of cerebral or lingual letters. In the body of a word the consonants are separated from each other by supporting vowels, long, short, or even neuter, like the French *e* mute. Derivation is by suffixes and infixes: *dal*, the action of beating; *da-pa-l*, cushion; *da-na-pal*, covering. The genders are not distinguished, but the number has four or five forms—singular, plural, dual, the plural particular, and the plural general: *ain*, I; *abon*, we all; *ala*, we others;

alin and *alan*, we two, &c. The declension is very full — genitive, dative, ablative, instrumental, and locative.

The pronouns are personal, demonstrative, interrogative. Placed after the noun, the personal pronouns give a possessive sense: *apu*, father; *apu-ling*, our father; *apu-pe*, your father; *hopon*, son; *hopon-in*, my son. The relative pronoun is wanting; the adjective, which is invariable, precedes the substantive. The verb, properly speaking, does not exist, since suffixes of person, place, and time can convert every noun and every adjective into verbal expressions. This is the case with all agglutinative languages, but the number of possible combinations and the use of auxiliaries place the Kol dialects on the same level as Turkish and Finnish, or even higher; for they can not only make of their pseudo-verb a preposition which incorporates the direct and indirect objects; not only can they make it active, passive, middle, causative, intensive, &c., but they have six or seven moods—indicative, imperative, potential, conditional, infinitive, gerundive, and participle; and as many tenses—three presents, a preterite, an imperfect, and a pluperfect. Many of these methods are found also in Basque and the American dialects, and are wanting in Dravidian. It is not rare to find among uncivilised peoples a linguistic faculty superior to that of their neighbours or of their civilised kindred, but it is often difficult to explain this apparent anomaly. Here a probable solution has been found. The Kol-Aryans are the remnant of a fallen people who were at the time of the Brahmanic invasion at the head of the races of India. Though crushed and destroyed by the Aryans, they were yet powerful enough to modify and enrich

the Sanscrit pronunciation; their influence is still to be discerned in the use, confined to India, of the so-called cerebral consonants, and perhaps in the complexity of the Sanscrit conjugation.

The races to which the Aryans give the name of Dravidas stop short, on the contrary, at the first stages of the evolution of agglutination. Their northern and central groups, Oraons of Bengal, Ghonds of Ghondvana, Khonds of Orissa, &c., have remained in their primitive condition, and the great masses of the Dekkan, fifty millions, while they accept with docility the education, ideas, and beliefs of their conquerors, have yet kept, and very cleverly utilised, the poor organisation of their rudimentary languages.

It is probable that the Dravidians of the north and centre are nearer to the primitive type than their Aryanised kindred of the Dekkan. The Oraons of Bengal, numbering about 600,000, say themselves that they come from the west, but they have nothing of the Turanian or Mongol; they have low and narrow foreheads, curly hair, eyes large and well opened, long eyebrows, prominent teeth and jaws; their colour is dark-brown and their body well proportioned. They are fond of copper ornaments, and load their heads, necks, and arms with them. They often intoxicate themselves with a spirit distilled from rice. They have their dances, their banners, their feasts, their tribal gods, and their thousand superstitions and rites common all over the earth to all races whose creed is a vague animism. The Oraons live with their animals in miserable huts. In the villages where the ancient customs are preserved, two exactly contrary to each other may be noted; in one tribe the unmarried of both sexes sleep under the same roof, in another the young men

pass the night in a special cabin under the guard of an old man, the girls being under the charge of the elder widows. The primitive Oraons hesitated between promiscuity and decency, their descendants have not yet made their choice.

From the banks of the Ganges to those of the Brahmaputra, the Rajmahâls, Mâlers, or Pahâryas (mountaineers), 400,000, build houses of bamboo surrounded with gardens and orchards; they also like strong waters made from rice and sorghum. They practise divination and have an animistic creed. The Aryans took from them the doctrine of metempsychosis. They are polygamists; they bury their dead. They differ from the Oraons by their oval face, their thick lips, and their long hair knotted up on the head. There are Ghonds (50,000) in Bengal, but their principal habitat is Ghondvana, a dangerous central district. Their twenty tribes or castes are among the most savage of India; they are half naked, they shave their heads, their weapons are an axe and a pike; they set fire to the forests to sow their crops, and poison the waters to obtain fish. These are the ogres or Ratchas of the Brahmanic legends. There is a natural confusion between these Ghonds with flat face, with thick black hair, smooth or slightly waved, very dark skin, and fragile lower limbs, and the Khonds, who are smaller, but equally dark; they live in the south of Bengal, on the coast of Orissa, are full of sanguinary superstitions, and practise human sacrifice.

These different tribes speak dialects which are akin to the Dravidian languages. But the Dravidians proper, whom we shall find in Mysore and in the Dekkan, who are, moreover, very much crossed with Aryan blood, have retained nothing of the savagery

of their congeners. They are a civilised people, who have their cities, their monuments, their industries, and their literature; they were the first to enter into relation with the Europeans, with the Portuguese and Dutch; and the little which remains to the French of the empire which Dupleix and Labourdonnais sought to found is all, with the exception of Chandernagor, situated on their coasts. Sixty thousand Dravido-French electors send a deputy and a senator to the French Assembly.

One of our most eminent philologists, M. Julien Vinson, was brought up among them, and writes and speaks their language as he does Basque and French. We can have no surer guide, and we will take from him our account of the history, domain, languages, and literature of the Dravidians.

"The existence of the Dravidian tongues is proved by history from very early times. Tamil words, geographical names, Sangara, Pandion, Madoura, occur in Ptolemy, Strabo, Pliny, and in Arrian in his 'Circumnavigation of the Red Sea.' A Sanscrit writer of the seventh century, Kumârilabhatta, quotes a few common Tamil words, *nader*, step; *pâmb*, snake. The name given to the peacock, mentioned in the Book of Kings as among the birds brought from Ophir to Solomon, *thuki*, *togei*, is believed to be Tamil. From the time of the arrival of the Portuguese at Goa, the Jesuits, for the purposes of their propaganda, studied the native idioms. Towards 1550 they were teaching Malayâla and Tamil in their seminary at Ambalakkadu, near Cochin. In 1577 they published a *Doctrina Christiana* in Malayâla by means of characters engraved on wood by a lay brother of their order; in 1578 they printed in Tamil a book of devotions."

It was through the Dravidians that these missionaries studied the manners and the religions of India and the Sanscrit language. It was natural that, later, when the French Jesuit Cœurdoux and the first English rulers had pointed out the relations of Sanscrit with Latin and Greek, the southern languages and traditions should be neglected. Interest centred on the Ganges and the Indus. Following the general tendency of their day, and misled besides by the considerable number of words borrowed from Sanscrit by the Dravidian vocabulary, Indian scholars (Carey in 1814) treated Tamil and its congeners as derived, as descended from Sanscrit. This error is disproved by the Indians themselves. More accurate ideas prevailed, and in 1816 Ellis first affirmed the original independence of Tamil, Kanara, and Telinga, which is now universally admitted.

There is no doubt that the Dravidas, whom Vinson thinks identical with the ancient Parias, about whom so many fables are told, once occupied a much more extended area, beside the Kol-Aryans. Their present domain is more extensive than Italy, France, or Spain. It stretches from the tropic of Cancer to Cape Comorin, and into the northern half of Ceylon. There are five principal dialects: in the north-west, in the upper valley of the river Krishna, Kanara, Kanada, Karnataka, is spoken by nine millions of people; to the north-east Temougou, Telougou, Telinga, by fifteen millions, of whom 5000 inhabit the French settlement of Yamaon; Telinga is spoken in the lower and middle basin of the Godavery and of the Krishna, and on the Coromandel coast. It is a language which has been much modified, and is very soft and agreeable; it has been called the Italian of the Dekkan, and it is near

neighbour to the most archaic dialect, Kanara. On the east coast, and in the interior of the country, between Lake Pulicat, Bangalore, and Trivanderam, in the provinces of Madras, Tanjore, and Travancore, in the French towns of Pondicherry and Karikal, fifteen millions of men speak Tamil; to the west, about Cochin and Cananore, and in the settlement of Mahé, Malayâla or Maleolum is the speech of three and a half millions, separated from Kanara on the east by the Nilghiris, where the dialect Toda shelters itself, and towards the north by Tulu and Kudangu.

Two or three slight indications seem to point to an original unity of these languages, and even to show that this unity was prolonged to a comparatively recent date. The name Kanara or Karanata has been given to the Tamil side, the Carnatic, and Tamil is often called Malabar by the earliest European visitors; now at the present day it only occupies the extreme south of the Malabar coast, the rest belonging to Malayâla. The Indians of Malacca and Singapore are called Kling —that is, Telinga; they are, however, Tamils. The fact is, that the separation, now very marked, of the Dravidian idioms disappears as we approach the ancient forms in Kanara and Tamil, and as we recognise in Malayâla a derivative, a corruption of Tamil, and in Tulu, Kudagu, and Toda intermediaries between Tamil and Kanara. Telinga, which is the most altered of all, is also a descendant of Tamil. Tamil, in short, from the richness of its vocabulary, and from the priority of its culture, holds in the Dravidian group the same rank as Sanscrit among Indo-European languages. It is also, like the people which speaks it, the only idiom of the group which retains any vitality, a certain power of expansion. Tamil has almost taken

the place in the north of Ceylon of Pâli, an Aryan dialect.

The Dravidian pronunciation is soft; it has no aspirates; moreover, it grows weaker and more undecided every day. Many sounds which exist in the spoken Tamil language do not appear in its alphabet, and where we read a pure vowel, such as *a*, *e*, *i*, *u*, or a distinct diphthong like *ai*, we hear something undecided and muffled. The true consonants seem also to have been originally few in number, since the Tamil written character does not distinguish between *b*, *g*, and *d*, between *t*, *p*, and *k*. On the contrary, the trills, nasals, palatals, and sibilants have always existed in abundance, and have communicated to the explosives a species of hesitation and uncertainty which it is difficult to reproduce; the dentals especially are affected by it. Finally, the lingual consonants are found in the Dravidian as in the Mounda and Sonthal languages; they result from what we should call a defect of pronunciation, the inopportune contact of the tongue either with the teeth or with the palate; the consonant is not clearly given, it is strangled, unfinished, like *l* and *r* in *pickle* and *lord*, and in the Provençal *chival*. We have said above that Sanscrit adopted these incomplete sounds. Two marked peculiarities distinguish the words borrowed from Sanscrit; no word can begin with a soft explosive; no hard explosive can stand isolated in the body of a word. Thus the Tamil equivalent of the Sanscrit word *gati* is *kadi* (the German method is similar, *brochet* for *projet*). The consonant *r* cannot begin a word; it requires too much effort; it must be introduced by a vowel. The Sanscrit word *rajah* becomes in Tamil *irayan*, *iraçan*. The dialectic variations lie generally between explo-

sives and palatals of the same order (this is a general rule). In Tamil and Malayâla the dentals have an increasing tendency towards the English *th*, hard or soft. In Telinga *tch* and *dj* often pass into *tz* and *z*, a phenomenon very common in Italian *giorno*, Venetian *zorno*, Neapolitan *yorno*. Vinson gives *kevi*, ear, in Kanara, *tchevi* in Telinga, *cevi* in Tamil.

The derivation is clearly agglutinative, and need not delay us except to note a few new facts. Every declension, and that which the grammarians wrongly term conjugation and voice, is effected by suffixes accumulated and interlaced. There are not, properly speaking, any verbs, but derivatives indicating state, action, frequency, causation, negation, &c., actuality, distance in the past or future. One peculiarity I think we have not yet encountered—the declension of forms already furnished with verbal suffixes. In old Tamil poems, says Vinson, we find forms such as *çarndayak ku : çar*, to reach ; *n*, euphonic; *d*, sign of the past tense; *ay*, thou ; *kku*, a sign of the dative : to thee who hast drawn near. It is the absence of the relative pronoun which entails such constructions. One more example : *tevar-ir* signifies god-you, you are god, but also, you who are god, and is thus susceptible of all suffixes of declension, possessives, locatives, &c. The radical *tevar* is already declined (plural of majesty), and in such compounds remains invariable.

The distinction of the genders is not common in the agglutinative class, and it seems to have been originally unknown to the Dravidian languages; even now it only applies to adult human beings. Women have a right to the feminine gender only in the plural ; in the singular their name is neuter, like that of children. In Tamil there are really only two genders,

the noble gender and the inferior gender. For the rest, the intellectual evolution of the primitive Dravidians does not appear to have been very advanced, for their proper vocabulary does not contain the words which may be translated by *to be, to have, soul, will, God, priest, book, writing, grammar;* but by borrowing the conceptions, the ideas, and the terms which they lacked, they have acquired a very rich idiom, capable of lending itself to the subtleties of religious philosophy and to the fantasies of a brilliant poetry.

The Kanara, Tulu, and Telinga alphabets are derived from the Sanscrit character employed, in the third century before our era, in the inscriptions of the Buddhist King Açoka. Malayâla has similarly adapted to its own use an old Sanscrit alphabet called *Grantha.* Tamil seems to have received its alphabet from the Phœnician and Arab merchants. The most ancient inscriptions (ninth century of our era) exhibit these different types.

Dravidian literature is later than the Aryan influence. The principal dialects have been cultivated, but the palm belongs to Tamil both for age and merit. Literary Tamil, which differs considerably from the spoken language, and is much purer, possesses mystic poems composed by Jaina, Sivaïst, and Buddhist sectaries, and epic poems encumbered with metaphor, among which is a long history of Joseph, written by the Jesuit Beschi in the last century. There are also collections of maxims, modern lyrics, solemn and very monotonous hymns, and licentious tales; treatises on astrology, divination, and medicine belong to modern times.

Vinson believes that all the Dravidian dialects of the south will become absorbed in Tamil, and those of

the north in Telinga, the one the best preserved, the other the most changed of this interesting and vigorous family.

Tamil, as we have said, thanks to the energy and initiative of the people of the south of the Dekkan, is spoken in the northern half of Ceylon. The south of that great island is the home of another agglutinative language, Cingalese or Elou, which contains a great number of Tamil and Pâli words more modern than the rest of the vocabulary. It is not yet known whether Cingalese should be considered as a branch very early separated from the Dravidian stem.

Before quitting the Asiatic continent, let us cast a glance over the road we have travelled. From the Caucasus to the southern extremity of the Peninsula of Hindustan we have found (omitting the Semites and the Aryans) four groups or types of the agglutinative class: the very various dialects of the Caucasus, which have been classed, with more or less certainty or probability, in two families which are related to each other, the northern or Tcherkess family, and the southern or Kartvelian family; they belong to races driven into the mountains, on the one side by the Altaïcs and the Slavs, on the other by the ancient Assyrians and Iranians. It seems that, under the name of Urarti, people of Ararat, the Kartvelians formerly occupied Armenia, and were the near neighbours of the ancient inhabitants of Lower Mesopotamia and Chaldea, the Accads and the Shumirs. We have seen how skilfully modern research has reconstructed the civilisation and the language of these peoples, the inventors of the cuneiform character. Crossing the Indus, we have found in India, early conquered and organised by Aryans, two strata of agglutinative idioms,

the one destined to disappear, in spite of a relatively advanced development, the Kol-Aryan group; the other, the Dravidian group, vigorous and capable of holding its own among the numerous dialects of Sanscrit origin.

Separated by vocabulary, by the physical and intellectual diversity of the races which have used them or who still speak them, these four expressions of human thought are united by two features only which are common to both; they belong to the same linguistic class, and to nations which occupied the soil of Asia before the arrival of the Semites and Aryans—that is to say, of inflected languages.

CHAPTER IV.

THE MALAYO-POLYNESIAN LANGUAGES.

Ethnographic theories of the peoples between Madagascar and the Paschal Islands: Negritos, Papuans, Australians, Indonesians, Polynesians, Malays — The spread of the Malays on the Indo-Chinese coasts and in the Indian Archipelago — Softness and simplicity of the Malay dialects (Eastern group: Tagala, with which is connected Hova, Bisaya, Formosan; Western group, Malayo-Javanese)—Character, manners, and literature of the Malays — The Polynesians: physical indolence; effacement of consonants; poetical and mythical tendencies.

In the whole of the vast Malayo-Polynesian domain, extending from Madagascar to the Sandwich Islands in one direction, and in another to New Zealand, passing by the Sunda Islands, a common speech reigns, of which the groups and sub-groups not only belong to the same class, but possess the elements of the same vocabulary. Only three languages or families of languages are foreign to it, and these, moreover, are too little known for philologists to pronounce upon their origins and affinities. How did the dominant idiom come to extend over so vast a space? Did it appear first at some central point? Was it imported from Asia or Polynesia? from the north or from the east? Is it the language of a conquered race which has absorbed that of the conquerors, as Anglo-Saxon imposed itself upon the Normans? Or the language of invaders, of emigrating tribes, like the languages of the Indo-Europeans?

A cursory review of the races of Malaysia and Oceania will throw light upon these questions, if it does not solve them.

Disregarding secondary distinctions, we find a central black mass, Australia, New Guinea, and the adjacent islands, Melanesia, between two wings of a lighter tint, olive and coffee-coloured to the west, copper and reddish-bronze towards the east. The black mass, which we must regard as autochthonous, is yet very far from being homogeneous. There are three types: the true Papuan, of middle height and robust frame, bearded, with long head and frizzled hair; the Negrito, little and frail, with round head and wavy or smooth hair; the Australian, of mixed race, of varying height, hair sometimes frizzled, sometimes stiff and straight, more or less dolicocephalous.

The eastern lighter wing appears to be nearly homogeneous, more or less tinged towards the left by contact with the Papuans or Australians. It presents from the Tonga Islands eastward a fine race, tall, well made, and well endowed. These are the long-headed Polynesians, who people, in small scattered groups, those islands of the Pacific which are perhaps the relics of a submerged continent. The western wing, on the other side of New Guinea, includes the Philippines, Celebes, Borneo, Ceram, Bali, Sumbava, Java, and Sumatra; here we find, substituted almost everywhere for the Negritos, a fairly tall race with slightly lengthened cranium, corresponding to the Polynesians, and who can hardly be separated from these; they have been called Indonesians. Their principal subdivisions are: the Battaks of Sumatra, who practise agriculture and keep flocks;

they are still cannibals as regards the bodies of criminals; the Redjangs and the Lampoungs of the same island; the Macassars and Boughis of Celebes; the Dayaks of Borneo, obstinate head-hunters; the Bisayas and Tagals of the Philippine Islands, of more or less mixed blood.

Lastly, around, beside, amidst the Negritos, who are reduced to a savage condition, and the stronger and better armed Indonesians, the Malays, little, round-headed, with yellowish skin, active and courageous in spite of their slight frame and small extremities, traffickers and pirates, occupy the coasts of the Malay Peninsula, of Borneo, of the Philippines; haunt the ports of Indo-China and of Southern China; and people the greater part of Sumatra and of Java, either pure or crossed in varying proportion with the Indonesians and Melanesians. Thus the Javanese proper, who fill the centre of the island to the number of thirteen millions, are of very mixed blood, while the Madurais of the east and the Sundeans of the west appear to belong to the true Malay type. We have seen that the Yamatos or Japanese aristocracy are supposed to be of Malay origin.

It seems to me that from the preceding notes, incomplete and summary as they are, we may conclude that the Malays are the latest comers in all the places in which we find them established, and that they nowhere found the land uninhabited on their arrival. Even in Sumatra, of which they occupy the centre, they are wedged between the Atchinese and the Battaks on the west and the Lampoungs on the south-east. Even in Java, of which they occupy the two ends, they have only been able to modify the central group. Elsewhere, except in small islands, they only

occupy the coasts. Checked in Timor and Ceram, they have completely failed to establish themselves in New Guinea. Driven northwards, they left important groups in the Philippines, and thence perhaps gained Japan. We seem almost to see their invasion, their wanderings; and probability here approaches certainty, inasmuch as everywhere they have driven out or penetrated among Negritos or Indonesians, or else fallen back before immovable and dense populations, and that no invasion has followed theirs, or rather only well-known contingents of Klings or Tamils and Arab merchants, who have not sensibly modified either the distribution of races or the geography of the Malay world.

What was the cradle of this race? Was it the Philippine Islands, where the Tagal dialect preserves the purest and most developed forms of the Malay language? Or Sumatra, which the Malays themselves regard as their country, and whence, if we are to trust their chronicles, they set forth in the twelfth century to conquer the Indo-Siamese Peninsula, and to found Singapore and Malacca? The first hypothesis, which finds few supporters, is hard to reconcile with the fact that the idiom of the Hovas of Madagascar belongs to the Tagal branch of the Malay stem. Now the Tagal people appears never to have left the Philippines, unless perhaps to visit the Marianne and Pelew Islands; moreover, they are not of Malay blood; and if they have kept the language pure, it is because they received it before it had been mixed with Indian and Arabic. This applies also to the Hovas, Indonesians crossed with Papuan and Malay blood, who were probably driven out from one of the Sunda Islands in prehistoric times. With regard to Sumatra,

everything tends to prove that this was an early, but not the original, centre of expansion.

It is now generally agreed that the Malays are of Asiatic origin, and bear a general resemblance in shape of skull, &c., to the Mongols or Mongoloids, Burmese, Laotians, Miao-tse; and a probable cause for their emigration may be found in the great disturbance occasioned in the far east by the Chinese conquest and expansion.

However this may be, the arrival of the Malays in the Sunda Islands must have taken place in very remote times. It must have taken long centuries for them to assimilate numerous Indonesian groups and teach their language, or at least the elements of their language, which was not completely developed, to those wandering tribes who carried it with them and scattered it in more or less altered form throughout the islands of the Pacific. For the inhabitants of Polynesia are for the most part Indonesians driven out by the pressure of the Malays and mixed in varying proportions with the blood of Papuans and Negritos, who are themselves of mixed race, and also with Australians (in New Zealand); perhaps also with indigenous races and with Americans of Peru. Polynesian tradition points to the Island of Bolotu as "the land of the souls"—that is to say, of their ancestors—an island of the west which is identified with Bouro near Ceram, one of the Moluccas. Thence rounding New Guinea, touching at the Solomon Islands, at Fiji, at Samoa, scattering themselves from island to island, they came to the central position of Tonga, the sacred island, Tongatabu, the land of Tangaloa or Taroa. From Tonga, from Savaiki, they went southward as far as New Zealand, northward as

far as the Sandwich Islands and Hawaii; then gaining Tahiti, the Marquesas, the Pomotu Islands, they made their way to the distant Paschal Islands. A later movement to the left carried some of their long canoes towards the lesser islands of the Carolines and of Micronesia.

It is after the double exodus of the Hovas towards the Kaffir-land of Madagascar and of the Polynesians of the future towards the Pacific that the Malay world properly so called enters into history and begins to be sensible of external influences. The fame of the two-horned Alexander (Alexander the son of Ammon), the king of Rome, born in Macedonia, has penetrated as far as Sumatra. This fabled conqueror had visited the Malays, and the kings of Palembang trace their origin to him. It is necessary to add that this legend, which came, no doubt, through India, has acquired Persian and Arabic elements, and that the chronicles in which it is embodied have a family resemblance to the "Thousand and One Nights" (*Sedjarat Malayou*, translated by Marcel Devic; Leroux, 1878). From the second to the sixth century of our era the Malays were influenced by the Tlings, the Tlingas of the Coromandel Coast; the impression they made is most sensible in Java. They were also from this date in perpetual contact with the Chinese. In the tenth century their flourishing realm attracted the merchants of Arabia and Persia, as we see from the "Marvels of India," a curious little Arabic compilation, translated by Marcel Devic, and from the history of "Sinbad the Sailor." The names of Singapore, the lion's town, and Malacca, which is the name of an Indian fruit, towns founded in the twelfth century, show that Hindu influence was still predominant; but

the work of the Moslem began in the following century. Yet religions were not wanting in Malaysia, Buddhism, Sivaïsm, not to mention animism, occult but never extinct. Mohammedanism, introduced at Atchin in 1206, at Malacca in 1276, was established in the Moluccas and in Java towards the middle of the fifteenth century. Celebes embraced Islamism just at the time when Vasco di Gama threw open the rich "Spice Islands" to European commerce and to the somewhat tardy and superfluous Christian propaganda. The rest belongs to modern history; all that we need retain is that neither the Portuguese conquest, nor the Dutch, Spanish, and English occupations, nor the commercial rivalry of the prolific and swarming Chinese, have diminished the domain of the Malay idiom, which remains the international language of a very important part of the far east.

Malay is in the Indian Archipelago, to borrow the phrase of the learned John Crawfurd, what the French language has been in Western Europe. All the nations who transact business there understand it; all new-comers make haste to learn it; and among the immense number of idioms spoken in the two continents there is not perhaps one so well fitted to serve as the means of communication between the various peoples who meet in that part of the world.

A language destined to play such a part must before all things be sonorous, easy to hear and pronounce, devoid of those aspirates of various kinds among which only a practised ear can distinguish at once, and of those guttural and clucking sounds which seem so natural to the aborigines and are the despair of the stranger whose throat and lips cannot fashion sounds so unfamiliar. In these respects Malay is a perfect

language. Its vowels, *a, e, i, o, u,* are sounded as in Italian, and give rise to no confusion. Its consonants, which are in sufficient number to give richness to the vocabulary, include none which are difficult of articulation, even by the Chinaman, whose organ is so imperfect. At Singapore and in the other commercial centres of the Archipelago, Chinese, who have come from different parts of China, use the Malay tongue among themselves, because of the marked divergences of their own dialects. An Englishman, Dutchman, Frenchman, Arab, Spaniard, Siamese, Hindu, hearing a Malay word pronounced, can repeat it at once without the smallest difficulty.

To this quality, invaluable in an international idiom, is added another which is hardly less necessary—simplicity of structure. The great majority of the radicals are composed of words of two syllables, which are absolutely invariable: *roti,* bread; *padi,* rice; *kayou,* tree; *orang,* man; *makan,* to eat; *minom,* to drink; *betoul,* true. These words cannot be distributed into grammatical categories; the same term may be noun, adjective, or verb; no gender, no number; no declension or conjugation. The feminine and masculine are indicated when necessary by the addition of such words as man, woman, male, female. The plural is indicated either by the word many, much, or by reduplication: *orang-orang,* men; *radja-radja,* kings. Monosyllabic particles placed at the beginning, end, or in the body of a word may define the substantive or verbal sense. For example: in Dayak, *lauk,* fish, forms *palauk,* fishermen; in Boughi, *nasu,* to cook, gives *panasu,* cook; *pa* is a prefix signifying action, condition. In Tagal, *paligo* means to bathe, *paligo-an,* the bathing-place; *niog,*

palm-tree, *niog-an*, grove of palm-trees. The enclitic *ni*, *na*, makes of *sipit*, to seize; *tapay*, to knead; *sinipit*, anchor; *tinapay*, bread. Tense and mood are similarly rendered by the words already, still, to wish, &c.

Translated word for word, a Malay phrase resembles what is familiarly called pidgin English. Here is the beginning of a collection of fables: "Live once a man merchant, Pouti his name; very much rich, but no child him, therefore much wish for child," &c.

It will be easily understood that so simple a language, which was sufficient for the needs of peoples such as the Javanese, Boughis, Atchinese, hardly inferior to other Moslem races, suited also the Indonesian and Melanesian tribes, scattered and hidden in the forests and mountains of the larger islands. These tribes, yellow, brown, or black, do not speak exactly the same language; on the contrary, the idioms change from one to the other with an extreme variety; but there exists a visible connection between them, which, if it does not at once show community of origin, points at least to a remarkable analogy of method. And in truth a brief study of the eighty dialects enumerated by Robert Cust will prove that the differences existing between them are far less than those which we find between the Romance languages.

The Malay languages, properly so called, are divided into two branches, the eastern or Tagala, the western or Malayo-Javanese. To the first belongs Tagala, spoken in Luzon and Bisaya, in the islands immediately to the south of Luzon; Formosan in the east and centre of Formosa (the western portion is Chinese); here there is no mixture of Hindu words, which proves the great antiquity of the arrival of the

Malays at Formosa. In the Marianne Islands the language is still Tagala-Malay. Malagasy or Hova, spoken in the extreme west of the Malay domain, is connected with this branch of the family.

The second branch includes Malay proper, spoken in the Malay Peninsula, in the greater part of Sumatra, in the little neighbouring islands, and on the coasts of Borneo; Battak, Atchinese, and Lampoung in Sumatra; Dayak in the centre and north of Borneo; Boughi and Macassar in Celebes; then the important Javanese sub-group: Javanese, spoken in the centre of Java by thirteen millions of people; Sundean, spoken round Batavia by four millions, Madurese, Bali, &c.; employed by almost equal numbers in the east of Java, Madura, Bali, and other smaller islands. Javanese is the most cultivated of the group, and its religious and poetic literature, inspired by Indian ideas, is not without value. But since we cannot treat of everything, we will concentrate our attention upon Malay proper. It gives me an opportunity of doing homage to the memory of my friend, Marcel Devic, linguist and philologist, who took pleasure in translating and making known this simple and liquid tongue.

One word in the first place on the character used by the various dialects. When they accepted the lessons of the Persian and Arabian missionaries, the Malays adopted their alphabet. This detestable instrument, which certainly makes half the difficulty of the Turkish, Persian, Hindustani, and Arab languages, this alphabet, destitute so to speak of vowels, and full of aspirates, of guttural sounds, of emphatic articulations, is ill suited to an idiom as sonorous as Spanish, as soft as Italian and Portuguese. The other peoples

of the family have made use of an old Hindu character. The alphabet of the Javanese is agreeable to the eye and points to a true sense of art among them; but their representation of the vowels is very singular; to give only one example: the sound *o* is expressed by two characters, of which one precedes and the other follows the consonant. The Tagala and Bisaya alphabet, which is incomplete in the vowels, has a certain strange grace. That of the Battaks is very ugly, as becomes a nation among whom literary cultivation has not put an end to cannibalism, which has become, on the contrary, a legal institution. One would not wish the Malays to adopt such a character, but their language would profit much from the use of the Latin alphabet, which is so obviously suited to it.

The introduction of Islamism has not flooded Malay with Arabic to the same extent as other Mussulman idioms. About a hundred and sixty Arabic words are reckoned, and there are about thirty Persian ones. We have more than that number in French, as any one may convince himself by consulting the Oriental part of Littré's Dictionary, which was revised by Marcel Devic. Hindu idioms have had a more sensible influence, but the proportion of Hindu words is not more than five per cent. Finally, Portuguese and Dutch commerce and colonisation have introduced a few terms which it is hardly worth while to notice. Perhaps also China, Cochin-China, Burma, Siam, and Annam have furnished a small contingent. It is none the less true that Malay, as employed for several centuries, has not undergone that alteration which might have been expected in an idiom spoken as a *lingua franca* by peoples come from the four quarters of the horizon. There is no comparison, from this point of view,

between Malay and the *lingua franca* of the Levant, in which Arabic, Turkish, Greek, and Italian are mingled in a species of formless patois, suitable for the verbal exchange of a few ideas which are always the same, but insufficient for a business letter.

The Malay vocabulary includes about five thousand radicals, of which half are pure Malay, a fourth part common to Malay and Javanese, and the other quarter is made up from the foreign sources mentioned above. The language is rather poor than rich; it does not possess, like our tongues, a great variety of terms to express the different shades of the same idea; so that where one word suffices us, a long periphrasis is necessary to them. On the other hand, it is not encumbered, like the Tagala of the island of Luzon, with dissyllabic terms which bear no resemblance to each other in form, and express the same action accomplished under somewhat different circumstances. For example: to eat meat, to eat fruit, to eat in company, to eat in the morning, to eat in the evening, to eat a little, quickly, by mouthfuls, with appetite; each of these phrases is expressed by a single word; there are forty such words, and no two are derived from the same root.

The lack of synonyms and of synthetic expressions is the cause of a certain slowness and repetition; the language is diffuse and full of circumlocutions, and this defect, which is not very sensible in conversation, is very marked in the most careful writing.

The literature is abundant, but very little of it is original; it abounds in translations and imitations of Hindu, Persian, Arabic, and especially of Javanese originals; thus it has borrowed from India the *Mahabharata*, from the Arabic the famous collection "Kalila and Dimna," and from a species of current opinion,

fragments of legendary history mixed with a few traditions which have some probability. But every people assimilates more or less what it borrows, adding some traits of manners, national character, and domestic life. A fable of foreign origin, a fragment of a chronicle, will reveal to us the real character of these Malays, who find means to conciliate gentleness and barbarism, gaiety and the wildest delirium, piracy and commerce, an extremely lax morality and the precepts of the Prophet, and persistence in animism with a devout monotheism.

There are Malay tribes who are very inoffensive and comparatively industrious—in Java, for instance; but at bottom (and indeed not far below the surface) you would find, I think, the classic Malay, the brigand without faith or mercy, who sweeps the seas in search of his booty, attacks every solitary ship, massacres the crew, and makes off with the cargo to his lair on the shore. Such are those pirates who astound even the Arabs, who, armed with their kriss, seize a rich merchant in the open market at Timor or Taneh, and ransom or murder him then and there, run amuck, massacring all who resist, and if taken kill themselves. It is hardly likely that a people of this nature should understand justice and virtue as we do.

The popular, and more or less justified, belief is well known, that a child who is precociously intelligent will not live to grow up. If Taylor undertook to show us that this is a survival from the time when too clever children were destroyed, he would find an argument in a passage in a Malay chronicle. A king of Sumatra was attacked by monstrous animals, which at certain hours came and bit the legs of his army. A child advised that a palisade should be raised breast-high.

This counsel, which filled the wisest ministers of the prince with wonder, discouraged the evil beasts and saved the camp. On this a song was composed, with the refrain, "No harm came of it, thanks to the wisdom of a child." Now as the blessed Maharajah Padouka was on his way home, the nobles said to him, "Sire, this child is already very clever though so young; what will he be when full grown? It were better to get rid of him." So all thought it right of the king to have him put to death. Nothing could be more simple, and neither the king nor the historian feel more remorse than would a soldier of Radetski, the judge or executioner of his vanquished and rebel fellow-countrymen. For there are lacunes also in our code of morality.

So much for justice; I pass to virtue. It is not absent, but it manifests itself with a brutality which recalls the most flourishing epoch of the Middle Ages. A moralist thus recounts the fable of two friends. Two men, brothers in heart, travel together. At a tournament one of them, as is the custom, gained the hand of the princess by his skill at the games. His friend, who is in love with the lady, goes away, and after a long time comes back afflicted with a horrible disease. The wise men declare that there is no other remedy than to rub him with the blood of the little son of his friend, who has become king. The friend takes the knife, kills the child, and himself rubs the sick man with the blood of the victim. "Such were the friends of old time," sighs the Malay writer; "there are none like them now."

Again, a young man wishing to put to the proof the devotion of his friends, pretends to have killed his mistress, and goes from door to door with the

supposed corpse on his back asking who will help to dispose of it. In a fairly long romance, the heroine, wife of a king and mother of three children, is pursued by the attentions of a minister. The queen, who is devout, objects in vain that infidelity is forbidden by the Prophet, and that such a crime would lead them both straight to hell. The minister insists, and threatens to kill a child if the mother does not yield. He cuts the boy's throat in very deed, but without gaining his end. The same threat in the case of the second son, with the same result. In brief, when all her children lie on the ground with their throats cut open, the mother asks permission to wash off the blood which has splashed her, and to bathe and perfume herself; "after which, she says, the valiant minister shall have his desire." Irresistible minister! but he should have at least killed the husband while he was about it.

The people which takes pleasure in such tales does not lack pedantic doctors, nor professors of social and political philosophy. Among them was Bokhari of Djohor, who, in the seventeenth century, wrote a treatise celebrated in Malaysia, entitled *Makota Radja*, or the Crown of Kings. This Bokhari possessed, it would seem, a learning which is rare among Malays. He knew Arabic and Persian; and his book is full of anecdotes borrowed from writers in the two languages. It is a species of manual, filled with puerile and minute details about all that concerns the administration of a monarchical state; duties of subjects towards the sovereign, whether Moslem or infidel; the etiquette and hierarchy of the court; the office of the ministers, ambassadors, and functionaries; the education of children; the qualities of a believer, justice, bene-

volence, true dignity; even anatomy and physiognomy find a place in the work. Poetry is mingled with prose, and the author is so proud of his work that he puns upon his own name, Djohori, which means native of Djohor, and also jeweller. "Bokhari," he says, "is a jeweller, this may be seen from the ornaments of the crown." In spite of these ornaments, the crown is wearisome, and the genius of the Malay is less suited to moral treatises than to tales and legendary histories, in which are set forth the force and cunning of heroes of adventure who resemble Ulysses or Hercules.

The popular poetry of the peoples of the Sunda Islands is their most original contribution to literature. At their feasts two singers are pitted against each other, like the shepherds of Theocritus and Virgil. The one presents in an impromptu distich an image or an allusion; the other replies in the same rhyme and metre, giving a similar or contrary idea. "What use is the lamp without a wick," says the one. "Why make play with the eyes if nothing is meant?" retorts the other. And so on, piling up witty or fanciful notions, of which, it is true, the meaning and the charm often escape us. These quatrains are called *pantoums*. Victor Hugo has quoted a few in the notes to *Les Orientales;* and it would be easy to collect whole series at Sumatra and Borneo.

We have said that New Guinea and the continent of Australia are a world apart, between the Malay and Polynesian worlds. The languages of Australia, which are imperfectly known, will soon have disappeared with the natives who speak them. Tasmanian has lately become extinct with the death of an old woman, a queen, the sole survivor of her race. It

is doubtful whether these dialects belonged to a single family. In any case, the only thing which they have in common with the Malay group is their agglutinative character. We are not able to say more of the Papuan languages; but we shall at least be able to study them at leisure, when Europeans have taken possession of New Guinea. These eastern Negroes, much stronger and more vigorous than the wandering Australian tribes, much less savage and more industrious, have there their centre and their home, in an island which is at least as large as Borneo; they occupy also the islands of New Britain, the Solomon Islands, and the New Hebrides; and it is believed that their language maintains itself in New Caledonia. In several places, however, a mixture of Malay or Indonesian blood is apparent.

Passing to the north of this group, the emigrating tribes have just touched its borders and settled in the smaller islands. A first zone, called Melanesia, though inhabited by a race which is akin to the Papuans, a dark-skinned, hairy people of middle height, has yet been penetrated by Malay customs and language. Samoa and the Fiji Islands form the transition between Melanesia and Polynesia. From the Tonga Islands the whole of the Pacific belongs to one of the finest races in the world, tall, slender, deep-chested, often with regular features, and of noble or pleasing outline. Unfortunately, these well-made men and these attractive women lose their vitality in proportion to their distance from the Sunda Islands. The facility of gaining a livelihood, infanticide, tribal warfare, cannibalism, and lastly, traders and missionaries, bringing in their train clothes and spirituous liquors, phthisis, small-pox, and other diseases, have

rapidly decimated these peoples, which are so worthy to survive. The most civilised, even those of the Sandwich Islands, dwindle without apparent cause. The most energetic, those of New Zealand, fought valiantly for their independence, and are now dying out, though unmolested, before the English and Scotch settlers. It is difficult to refrain from useless regrets over the gradual disappearance of this fine race; it would not be safe to affirm that more than a million of Polynesians are scattered throughout these thousands of islands, which are by no means all of small size: the New Zealand group is hardly smaller than Great Britain.

Cook was the first to recognise the linguistic unity of Polynesia; the native of Tahiti who went with him to New Zealand conversed without difficulty with the natives of that country. La Pérouse noted the affinities of Polynesian with Tagal and Bisaya. Finally, Porter, Mariner, Dumont d'Urville, Ellis, Sir George Grey, and Rienzi have collected data which are precise and convincing. But the original Malay type tends to become effaced with distance. The Malay words are fewer in number in proportion to the distance from the point of departure. The methods of formation remain the same, but a free use is made of the common elements, of the monosyllabic roots which are hidden in the Malay dissyllables. This phenomenon is supposed to be caused by the detachment of the Polynesian branch of the family before the complete development of the race and of its language. But a yet deeper cause of the change may be found in the physical indolence of the race; the law of least resistance may be seen in all its force in the modifications introduced.

At the outset of these studies, when we sought to

explain the origin of the explosive consonants, the bases of articulation, we pointed out the primitive indecision of language between the sounds *k*, *t*, and *p*, between the gutturals, dentals, and labials, then between the liquids and the nasals, between the sibilants and the aspirates. Now nowhere is this confusion more apparent than in Polynesian between the different dialects, and sometimes in the same. Man is indifferently *tanata* or *kanaka*; shade or spirit is *akoua*, *atoua*, *apoua*; *kalo* is the same as *taro*, *Samoa* as *Hamoa*, *Sawaïki* as *Havaïki*. Moreover, the consonants are perpetually dropped: *tanata* becomes *tane*; *Sawaïki*, *Hawaï*; *Ariki*, lord, *arii*, *areoi*; *tiki*, demon, *tii*; *pouarka* (the Spanish *puerco*, pig) becomes *bouaga* or *pouaa*. The supreme god is *Tangaroa*, *Tangaloa*, *Taaroa*. Constantly there are double vowels and diphthongs: *aa*, *ee*, *ii*, *ea*, *oa*, *oahou*, which suppose intermediary consonants which have been dropped. The repetition of syllables and dissyllables, *mea-mea*, *oro-oro*, &c., tends to replace everywhere particles and affixes. The examples are sufficient to establish our point. The facts are constant. There are twenty consonants in the Malay alphabet; there are only fifteen at Tonga, ten at Tahiti, and even less in some other islands. The nasals and liquids, few in number at Tonga, are almost unused at the Marquesas Islands. Lastly, the dialects which are relatively the roughest belong to the nations which are the least weakened, the Maoris and the Hawaïans.

The Polynesians have no written literature; but their oral traditions and cosmogonies are numerous. From their traditions, transmitted from age to age by the *harepos* or historians, committed to memory by Hawaïan princesses, handed down from father to son,

from mother to daughter, we gather the little that is known of their history. The deeds of the gods—that is to say, of the chiefs and ancestors—were sung with every solemn accessory. These chants constituted the title of kings and chiefs; an attempt has been made, in their interpretation, to separate truth from fable. In New Zealand the English administrators have admitted, as constituting a valid claim in suits relating to the possession of land, genealogies and evidence contained in these traditional songs.

The Polynesians share with their kinsmen of the Sunda Islands the gift of poetical improvisation, which is rendered easier for them by the sonorous fluidity of their language. The arrival of a friend or of the convoy of a chief was saluted by stanzas or elegies, monotonous and diffuse, but not wanting in sentiment and grace. Dumont d'Urville gives one, a funeral chant improvised by a woman of the Sandwich Islands:—

"Alas! alas! my chief is dead,
Dead is my lord and my friend,
My friend in the time of famine,
My friend in the drought,
My friend in the rain and the wind,
In the sun and the heat, in the cold of the mountain,
In the calm and in the storm,
My friend in the eight seas.
Alas! alas! gone is my friend,
Gone never to return."

The last line is the cry of nature, so simple and so natural, that it is the utterance of all peoples, savage or civilised, without regard to the contradiction it offers to all the fictions of animism and of religion. And it may be noted in passing, there is no people

which has a firmer belief in ghosts—that is, in another life, in the immortality of the soul—than the Polynesians. Here is another fragment, the description of a volcano in eruption :—"The summit has long been on fire. The land of Touha-Ehou was deserted. The bird perched on the rocks of Ohara-hara. During eight nights, during eight days, those who till the soil held their breadth, looking round them anxiously. By the wind, by the storm laden with rain, the dust has been carried to Hoina. The eyeballs were reddened with this dust. O Tavaï, Tavaï, blessed be thou, land in the midst of the sea, who sleepest peacefully on the bosom of the waters, and turnest thy face to the pleasant breezes. The wind had reddened the eyeballs of the men with the tattooed skin ; the sand of Taou is at Poha-Touhoa ; the lava at Ohia-Ota-Lani. The path is over the sea to the shores of Taimou. Inland the path to the mountains was hidden ; Kirau-Ea was hidden by the tempest ; Pele dwells in Kirau-Ea, in the gulf, and feeds for ever upon flames."

The Malay family of languages is one of the simplest and most convenient of the agglutinative idioms, as it is the most extensive and the most clearly defined. It constitutes a perfectly independent group, or at least its relationship to any other has not been discovered. It is doubtful that such can be established, whether the Malays, who came originally from regions occupied since by the Chinese, brought it with them, or whether they found it in Indonesia, in the Sunda Islands, the Moluccas, and the Philippines. The first hypothesis appears the more probable ; it agrees with Polynesian traditions, all of which seem to take their rise in the west. The diffusion of the Malay race would seem to have determined the successive migra-

tions which have visited and occupied one after the other the different archipelagoes of the Pacific. Amidst the Malayo-Polynesian world subsist the remains of the Negritos and of the Australians, and the compact mass of the Papuans or eastern Negroes. The little known languages of these peoples hardly lend themselves to comparative study. The details we possess upon the literary culture of the Malays and Polynesians, unhappily arrested in their original development by Islam and by Christianity, show us specimens of humanity which range from the acceptable to the charming.

CHAPTER V.

AFRICAN RACES AND LANGUAGES.

The past of Africa—Distribution of races—Linguistic map of Africa—General characteristics of the African languages—Idioms of the Bosjesmans and Hottentots—The clacking sounds or klicks—Kaffir or Bantu family—Prefixing of the syllables which denote case or person—Phonetic peculiarities of the dialects—*Ukuhlonipa*—Transition from the proper to the figurative sense—Bornu group: Haoussa—Senegambian group: Mandingue, Eiwe, Wolof—Peul or Poul—Upper Nile group: Dinka, Nouba, or Kensi—Gallaic group—The Berber languages—Coptic and Ancient Egyptian.

We found a certain pleasure in reducing to a single family the various Malay and Polynesian idioms, and in showing by examples, drawn from the annals and imaginative poetry of these peoples, what good use had been made of these simple and sweet-sounding languages by the different races, often well gifted, which speak them. Our study of Africa will not, I fear, offer us the same kind of interest; for, with the exception of the Mediterranean region, Lower Egypt and Barbary, nowhere in Africa has man risen to the intellectual level attained by the Malay or the Polynesian; and in this great mass, which covers more than twenty-two millions of square miles, numerous groups of savage languages form what at the first glance is a hopeless chaos. We need to throw the light of history upon this confusion of races and tongues; but history is arrested at the desert of Sahara. Two-thirds of the immense continent remain

buried in an obscurity which is scarcely diminished by the vague reports of rare Carthaginian merchants transmitted to us by Herodotus and Diodorus, nor by the somewhat legendary accounts of Arab merchants about the country of the Zendj, doubtless Zanzibar and the Somali coast. For generations the boldest and most fortunate travellers hardly explored anything but the coasts; and the great discoveries which have been made in the last thirty years have brought to light no documents, no monuments of an historic character. Thus, the past of Africa (which is at least as ancient as the rest of the world) is hidden not only from the civilised nations of Europe, but also from the millions of savages who swarm and vegetate on a soil which is nevertheless full of wealth and resource. These tribes, even the most advanced among them, were arrested so early in their development that they have not yet arrived at that point at which a people, either by writing or by some material sign, fixes the memory of its vicissitudes, and finds in the consciousness of its previous inferiority the desire and capacity for progress.

The African negro is certainly capable of improvement, but not of his own initiative or in his own country. His memory is short, his foresight almost *nil*. Present enjoyment suffices him, poverty or death affect him little. His morality results from his immediate interest, especially from fear of his master. He is animal in the spontaneity of his instincts. Many of them are by nature gentle and indolent, but deceitful, and too often ferocious at times. Many of them laugh easily, but they bite as readily when hunger urges them. It is impossible to rely upon their promises and their most solemn oaths. There are among them brave soldiers, clever hunters, here

and there intermittent cultivators of the soil (who, however, leave all the work to the women), travelling smiths; lastly, and especially in the valley of the Niger, artisans, potters, weavers, tanners, enough to satisfy the limited wants of half-naked populations; but, generally speaking, from the Guinea Coast to the great lakes in which the Nile takes its rise, and from Bornu to the Orange River, these tribes stagnate in immemorial savagery. The most ingenious of the Zulu tales are very poor stuff, and so is the mythology of the Dahomeyans. One is inclined to prefer to these laborious and futile inventions the hungry naïveté of the Hottentot, who considers the sun as a piece of lard which has unfortunately been hung out of reach.

The first impression caused by the narrow foreheads above the protruding jaw and thick lips, by the sooty bodies anointed with every species of evil-smelling grease, is uniformly unpleasant, but it is easy to perceive marked differences in conformation, stature, colour, physiognomy, among these tribes who live side by side, in a singular confusion, and generally without other frontier than the palisade or mound of earth which surrounds their village. It is easy to understand that there are intruders, conquerors, who are either absolute, or the suzerains of subjects whose condition varies between servitude and vassalage. We try to follow up the path taken by the invaders, and the geographical distribution of the victors and vanquished, and especially the amount of mixture between them (which is a measure of the length of time during which forced relations have existed between the indigenous race and the later comers), will supplement to some extent the missing historical data.

We thus are enabled to see, in a very remote age,

the north of Africa, perhaps then joined to the Canaries and to Spain, inhabited on its borders by a white race, the Lybians or Berbers, whose domain extends to the delta of the Nile on the one hand, where they march with tribes, also white probably, of Asiatic origin, Khamites and Semites, and higher up the great river they encounter a black, smooth-haired race, the Noubas and Barabras. While the mixture of these three races forms the Egyptian nation, whose colour varies from reddish-brown to a yellowish-white, the western Lybians, rounding and crossing the Sahara, find themselves in presence of true Negroes with woolly hair, the Yolofs and others, who occupy the basins of the Senegal, the Niger, and the Ogooue, and whose dense masses are not much tinged with Berber blood.

On the extreme east another white stream, issuing from the point of Arabia, takes the Noubas, already driven back by the progress of the Egyptian people, in flank, and leaves upon the coast, and in the highlands of Abyssinia, the Gallas, the Somalis, the Ethiopians, all mixed with native blood in varying proportions. This east central invasion has had two important consequences: it drove towards the west, by slow degrees, to the south of the Sahara, towards the basin of Lake Tchad, and towards Guinea, a part of the Nouba population, already somewhat tinged with Lybian and Asiatic blood, and already somewhat awakened by contact with superior races. These Noubas are the Peuls or Pouls, studied by Faidherbe, who, scattered over Senegambia and Guinea, and further mixed with the Lybians of the south and with the Berbers of the desert, constitute the dominant class or caste of the Niger country.

On the other hand, the pressure of the Nubian

Arabs, of the Gallas and the Somalis, determines a movement towards the south. A tall black race, the finest of all, with woolly hair but Caucasian features, the Bantus or Abantus, since named by the Mussulmans Cafr, Kaffirs, or infidels, descend along the Zanzibar and Mozambique coasts, people the west of Madagascar, and cover the shores of the Indian Ocean from the Zambesi River to the river of the Great Fish; important fractions of Bantu people ascend the great Zambesi River, and even gain the Atlantic coast: these are the Bechuanas in the centre, the Damaras in the west. These Kaffirs, destined later to fall under the yoke of England or of the free republics of the Dutch Boers (Orange Free State and Transvaal), took the place of the earlier occupants, the Hottentots or Khoin, and the Bosjesmans or Bushmen, doubtless of somewhat mixed blood, forming the bulk of the population in the west of Cape Colony; the latter were driven back into the desert of Kalahari, and confined on the north and east by the Bechuanas, on the west by the Damaras and by the Namaquois Hottentots, and on the south by the Griqua Hottentots and the white inhabitants of Cape Colony.

Neither the Hottentots nor the Bushmen are Negroes. It has been conjectured that the first are half-castes of Bushmen and Kaffirs, and also an attempt has been made to connect them with the mixed races of the north of Africa; but differences of language and feature render both opinions doubtful; it is only proved that the names of places in Kaffraria are still Hottentot. It is probable that before they were driven out by the Kaffirs the Hottentots themselves had dispossessed the Bushmen, whom they call *Sab* and *San*, or natives. These last are interesting by their very

depth in the scale of human beings; they are among the poorest specimens of the genus homo. Fritsch affirms that those who gave them their name, "men of the bush," wished to intimate that they are creatures intermediate between the man and the ape. Without shelter, even the most rudimentary hut, without chiefs, laws, or worship, neither tillers of the soil nor shepherds, wandering in small clans or isolated families, they live solely by hunting and pillage, on roots, fruit, honey, ostrich eggs, the larvæ of ants, locusts, reptiles, &c., gathered by the women. Always hungry, they eat all that they can find, and their flattened bellies become enormous in a short time, to return to their original condition in a few hours. These alternations of repletion and inanition furrow their skin into profound wrinkles, in which collects the grease with which they anoint their bodies as a protection against mosquitoes. They weave a few mats, and manufacture their weapons, which, however, they do not forge; they work the cold iron with flints. The dog is their only domestic animal. The Bushman is little, pot-bellied, his skin of a dirty yellowish-brown. His forehead is straight, but his brain very small; his thin hair is rolled up into little balls like pepper-corns; his nose flat, his mouth protruding; his chin retreating under his thick lips, which do not meet. The women are frightful; the famous Hottentot which may be seen at the Museum is a faithful copy of the form of a Bosjesman woman who died in one of our hospitals. This unhappy race, which is unfortunately of pure blood, has nevertheless certain qualities. The mother loves her children; the man is lively, gay, obstinate; hunted by hunger, killed without mercy by his stronger neighbours, whose territory he is constantly invading,

he is accused of being fierce and revengeful. Who would not be so under like circumstances?

We have made the tour of the coasts of Africa; the centre remains to be considered, the great plateau bounded on the east by a series of great lakes, Nyassa, Bengueolo, Tanganyika, Victoria and Albert Nyanza, traversed at the equator by the vast curve of the Congo, watered on the north by the marshy affluents of the Nile. This immense region has been traversed and partly made known by explorers, Speke, Livingstone, Baker, Stanley, Cameron, Brazza, and others, whose narratives are familiar to us. This region abounds in inhabitants of every height and build, of every shade of colour between ebony and light chocolate; dwarfs like the Akkas, who were figured on the Egyptian monuments, and who appear to be only less savage than the Bushmen; cannibals like the Niam-Niam of Schweinfurth, a race whose peculiarity of costume caused them to be taken for men with tails; courageous tribes, such as the Monboutous; finally, some attempts at absolute monarchy, notably Uganda. But nowhere is there any trace of what we call civilisation, of artistic or intellectual culture. The future of all this inferior humanity, vigorous and perhaps susceptible of improvement, if Islam and Christianity would abstain from fighting for its unconscious soul, if drunkenness, theft, and murder were not encouraged by the Arab traders in their greed for ivory and slaves, is one of the great problems which the Northern nations have to solve. Are there enough men in Europe to rule and educate these inert multitudes, and would it not have been wiser to leave them to themselves? These are problems of which the solution will not be seen by any one now living.

The distribution of the four or five hundred dialects spoken in Africa corresponds fairly well to the above rough sketch. They may be classed in six or seven groups, according to the scheme laid down by Barth, Appleyard, Bleek, Fr. Müller, Hovelacque. In the north the Semitic and Khamitic languages prevail; to the first belong ancient Ghez and Amharic, or modern Abyssinian; to the second, the Berber idioms, the Egyptian of the Pharaohs, Coptic, and finally the Ethiopian branch: Somali, Galla, Bedja, Saho, Dankali, Agaou. Immediately to the west the Nubian languages are spoken by the inhabitants of the basin of the Upper Nile and of a part of Khordofan; Nubian or Kensi, Dongolavi, Toumali, Koldadje. From Lake Tchad to the middle basin of the Senegal, a distance of 2250 miles, extends Peul or Poul, entirely distinct from the families which it traverses or borders. Between the equator and the Sahara, from the lakes of the Upper Nile to the Atlantic, the Negro dialects, properly so called, prevail: (1.) The Dinka group (Bari, Bongo, Chillouk, Nouer, &c.), the poorest of all, hardly issued from the monosyllabic stage; (2.) The Bornou of Lake Tchad; (3.) The Haoussa of the Soudan, a more advanced language, rich in dialects; (4.) Sonrai, towards the great elbow of the Niger; (5.) Wolof on the Senegal, Mandingue or Malinke on the Gambia, Feloup in Guinea; (6.) Krou, Egbe, and Ibo along the Gulf of Benin and the ocean.

The most important and clearly limited family is the Kaffir or Bantu, which extends over all Eastern Africa, and south of Zanzibar penetrates as far as the Atlantic, between the Zambesi and the Congo, and even, crossing the equator, comes in contact with the Guinea languages. Its eastern branch comprehends

the dialects of Zanzibar and Mozambique, of the Zambesi and Kaffraria, Swali, Zulu, and Kaffir; a second central branch is represented by Tekesa and Setchuana. To the third branch belong, beginning in the north, the language of Fernando-Po, Mpongue (spoken in Gaboun), Dikele, Isubu, Congo, Angolian, and Herero or Damara. South of Herero the Nama, Kora, and Griqua dialects form the Hottentot group, the neighbours of the Bushmen.

Before giving the characters of a few of these languages, of which I have wished to give at least the principal names, let us see first if there are any features common to all. Here is one, very general in the agglutinative class, a dislike to the accumulation of consonants; the African prefers syllables terminated by vowels, and in the groups of the north or of the extreme south, where final consonants exist, it is easy to trace the language back to an earlier period when the final vowel had not been dropped; just as, by poetical license or rapid pronunciation, most Italian words may lose their final vowel. From this rhythmic and euphonic point of view the African languages are called alliteral. But it would be a mistake to regard the multiplicity of vowels as a certain guarantee of softness and harmony. Most of the African dialects possess gutturals and very hard aspirates, and especially a number of confused nasal consonants, which our alphabets are obliged to render by two letters, *ng, nk, nd, nt, mb, mp,* &c.; these commonly occur at the beginning of words.

In so far as they are agglutinative and alliteral, the African tongues resemble the Dravidian, Malay, Finnish, and Turkish groups. It is a moral resemblance, the sign of the same intellectual level, manifested

at the moment when the languages were fixed by a similarity of method.

Africa was a centre of production; its human and linguistic types, wide as are the differences among them, are manifestly autochthonous. The Mediterraneans of the north and the Semites who have penetrated the eastern frontier have exercised on the black and yellowish masses a certain influence, but rather physical than intellectual.

The avoidance of an accumulation of consonants is a trait common to all these languages; there is another, this time a matter of grammar. They have a strange conception of number and gender. The African languages generally divide objects into two categories, animate and inanimate. They again divide the animate into two classes, not according to sex, but according to intelligence, that is to say, into men and brutes; thus they have a neuter, and two degrees corresponding to a rude classification of the living world, but they have no masculine and feminine properly so called. With regard to number, some have two plurals, applying the one to things of the same nature, the other to a collection of miscellaneous objects.

From likenesses we pass to differences. One is sufficiently marked to claim consideration at the outset, since it separates into two irreducible groups the Guinea system and the Kaffir system. The latter places before the root or theme the syllables which modify or define its sense, the other employs suffixes, or rather places after the radical the particles which correspond to our verbal terminations and case-endings. Prefixation, which is not rare in the languages of Europe and Asia, but which here is exclusively employed, constitutes the originality of the Bantu group.

Bosjesman and Hottentot, whose relationship, although not proved, is nevertheless probable, are distinguished by a very remarkable peculiarity of pronunciation, the clucking of the tongue against the palate, cheeks, or the teeth; these sounds are called *kliks*, and are very varied and difficult to reproduce. There are six or seven in Bosjesman; Hottentot has only four left, of which some traces are found in certain Kaffir dialects. Livingstone reports that he recognised the Bosjesman patois in the neighbourhood of the great lakes, far to the north of their present home. Other authors think that they trace analogies between Hottentot and some of the Nile dialects. It is on such data, somewhat uncertain, that is based the probable opinion of the slow retreat of the Bushmen before the Bantu invasion. The extreme antiquity of these tribes is moreover attested by the *kliks*, in which we trace a resemblance to the sounds produced by angry or excited monkeys.

The language of the Bushmen proper is very little known; that of the Hottentots, Bushmen with an admixture of other blood, and somewhat more civilised, has been a good deal studied. It is rich and varied in sound. Although complex in appearance, the formation of the words does not exceed the ordinary methods of agglutination. The root is always placed first, followed by the derivative elements. Thus, since the suffix differs with the subject, object, or vocative, and since each suffix has three forms corresponding to the singular, dual, and plural, it follows that a single word can have nine different forms; but the root remains and gives the sense. The function of the various suffixes is easily recognised, and, compared to the simplest Indo-European declension, the Hottentot

machinery is simple to childishness. Like Chinese and Annamite, Hottentots have numerous homophones, that is to say, words which have the same sound and correspond to several meanings; these are distinguished by intonation. Thus the word *kaib* signifies, according to the intonation, obscurity, place, or linen. Accent also helps to the comprehension of the language; it is always placed on the first or root syllable; in compound words, that is to say, when two or more roots precede the suffix, the accent remains on the principal word, on the first syllable. Hottentot is, like the language of the Bushmen, in process of extinction; its principal dialect, Nama, is spoken by not more than twenty thousand individuals.

We have enumerated above the principal divisions of the Kaffir family. Its dialects may be traced back, both by grammar and by vocabulary, to a common origin, a mother-tongue of which these are the varieties. It is remarkable not only for the use of prefixes, but also for the almost inflected character of its vowel system. This group is in this particular much in advance of most agglutinative languages. Here are a few examples of both characteristics. In Kaffir the prefixes of the singular are *um* and *ili;* of the plural, *aba*, *ama*. *Ntu*, man, gives *um-ntu*, the man, *aba-ntu*, the men; *zvi*, word, *ili-zvi*, the word, *amazvi*, the words. Hence the name of the Zulus is Ama-Zulu, and the prefix *ama* constantly recurs in the narratives of travellers, when they give the names of the tribes of East Africa. The suffixes of case are also prefixed.

Various forms of the word man in the singular and plural will give a sufficient idea of the phonetic variation. The word is *tu*, often nasalised into *ntu*.

The suffixes are, as we have just said, *um* and *aba* or *ama*. Now we find in the singular in Zulu *umu-ntu;* in Congo, *omu-ntu*; in Tete, *mu-nttu;* in Kisambala, *mu-ntu*; in Isubu, *mo-tu;* and in the plural respectively *aba-ntu, wa-ntu, ba-tu.* Herero, which is softer in sound, has *ova-ndu, va-ndu.* The Va-Herero have the unfortunate custom of filing the front teeth of the upper jaw, and of extracting the four corresponding teeth of the lower jaw. Hence their lisping pronunciation, which resembles the imperfect speech of a child, has no liquids and no true sibilants. *L, r, s, f,* are wanting, and their *z* halts between the hard and soft *th.*

These Bantu languages, Max Müller tells us, from the data furnished by Bleek, are generally alike in the simplicity of their syllables, which begin by a single consonant, preceded by a half-articulated vowel, perhaps the remains of an atrophied suffix, or by a double consonant (*pt, kt, ks*), or by a nasalised consonant, or accompanied by a clucking of the tongue, or followed by the semi-vowel *w.* All these groups are considered very simple. Lastly, the syllable cannot end in a consonant. Baptize becomes *bapitizesha;* gold, *igolide;* camel, *nkamela;* bear, *ibere;* priest, *mperesite;* kirk, *ikerike;* apostle, *mposile;* sugar, *isugile;* English, *ama-nge-si.* These examples are given by Appleyard. The differences between Kaffir and its dialects consist almost entirely in changes of consonant, often very unexpected changes. Thus Sechuana is wanting in the hard *g* and the soft *s*, both found in Kaffir; on the other hand, it possesses the *r* where Kaffir has only an *l.* Kaffir prefers the sounds *b, d, g, v, z;* Sechuana the stronger consonants *p, t, k, f, s.* The consonantal diphthongs of Kaffir and the Mpongue group, such as *mb, ts,* are hardened in

Sechuana into *p*. The dentals permute with the linguals.

We must note a peculiarity which has contributed not a little to the confusion of the Bantu dialects. "The Kaffir women," says Appleyard, "have many words peculiar to themselves. This is the result of a custom called *ukuhlonipa*, which forbids them to pronounce those words in which is found a sound which also occurs in the names of their nearest male relatives." An analogous custom, *tepi*, which banishes from the language of Tahiti the syllables which compose the names of the kings and queens, has also existed among the ancient Kaffirs. Thus the Amambalu, out of respect for their chief *U-la-nga*, replace the word *ilanga*, sun, by the word *isota*. For a similar reason the Amagqunu-kwebi use the word *'mmela, immela*, instead of *'si-she-tshe*, which is the general term for knife. It is easy to imagine the confusion which such quaint customs have produced, repeated throughout long generations. It is curious to find these puerilities among two such different races as the Kaffirs and the Polynesians. Max Müller, in pursuit of his chimeras, Turanianism and Monogenesis, sees in the phenomenon the result of I know not what ethnic relationship. I am rather inclined to regard this coincidence as the effect of a similar social and mental condition, the servile and superstitious respect of chiefs and ancestors. We may also add, a naïve tendency to create new words, to vary and maltreat old words; a tendency which is visible in the various slang dialects, and noted also among the Indians of America.

We will not leave the Kaffirs, who represent the highest elements of the negro race, without some further study of their intelligence, without giving some

examples, for instance, of the way in which they pass from the concrete to the figurative sense. It is a well-known phenomenon, and may be seen in all languages. But it is impossible to insist too much upon the metaphorical origin of language. *Beta,* to beat, to strike, becomes, to punish, to judge; *dhle-la-na,* to eat in company, is to have friendly relations; *fa,* to die, to be ill, to languish; *hlala,* to be seated, to live, to dwell, to remain; *ihladi,* bush, shelter (a reminiscence of the Bushmen); *ingcala,* winged ant, skill, rapidity; *inncwadi,* a reed, book, vessel; *inja,* dog, an inferior; *kolwa,* to be satisfied, to believe; *lila,* to weep, to deplore; *mnandi,* soft to the touch, content, agreeable; *gauka,* to be broken in two, to be dead or stupefied; *umsila,* tail, courtier, or court messenger; *akasiboni,* he does not see us, he despises us; *nikela indhlebe,* to give ear, to listen; *ukudhla ubomi,* to eat life, to live; *ukudhla umntu,* to eat a man, to confiscate his goods; *ukumgekeza inkoloh,* to break the head, to weary, to bore; *ukunuka umntu,* to smell some one, to accuse him of witchcraft.

The Bantu peoples are not related to the Negroes of Guinea, of Senegambia, of the Soudan, at any rate in language. There is no similarity between their vocabulary and that of the numerous Negro groups of which I have given the most important. Their grammar also separates them by the exclusive use of prefixation. They have the privilege of forming a linguistic family, and of lending themselves to the study of comparative philology.

Elsewhere in Africa we find nothing but dispersed and isolated groups; more than twenty little groups divided up into tribes and dialects succeed and intermingle with each other from Gaboun to Morocco,

from Lake Tchad to the Atlantic. The most central, towards Bornou and Kanam, has been scientifically studied by Dr. Barth (1862). The most important dialects are Kanuri, with five cases and numerous verbal forms. Barth thinks it has some relations with Egyptian, Coptic, and even Finnish, but especially with the languages of the coast, Odji, Fanti, and Ashanti. Teda, in spite of the difference of the pronouns, is closely allied to Kanuri. Haoussa, a harmonious language, belongs to a mixed race, industrious and evidently superior to the neighbouring tribes; it is understood in the markets from Timbuctoo and even into Senegambia. Barth has translated into Haoussa the second chapter of St. Matthew. Shall I name also Fufulde or Fulfude, Songui, Logona, Wandala, Bagrimma, and Maba, Tibbu, Goura, Legbe, Roama, Kasm, Gbali, and the nine barbarous patois which are spoken round Lake Tchad?

Among the innumerable dialects spoken in Guinea and Senegambia we will mention only those of which the knowledge is important to the French military occupation: Mandingue, Malinke, Dialonke, with thirteen dialects, on the Gambia and the Niger; Eiwe or Egbe, studied by the missionary Steinmann, with which is connected the idiom of Dahomey; finally, Wolof, Serere, Bidchoro, &c., spoken in Cayor and in the French colony of Senegal. Eiwe is alliteral; the English word *school* becomes *su-ku*, and the German *Fenster*, *fesre*. Wolof presents the same character; it is, moreover, very nasal, without being therefore less harmonious and rhythmical. Markedly agglutinative, it obtains by means of divers suffixes seventeen voices to the verbs, and several shades in the meaning of the nouns, according as the object is near or far.

Throughout the Malinke territory we find Peul or Poul, which is supposed to be connected with the Nubian group, and through that perhaps with ancient Egyptian. But too many changes have taken place during three or four thousand years, over a distance of more than 2000 miles, to make it possible that any of these hypotheses should ever be confirmed. However this may be, the eastern origin of the race admits of no doubt. The language is totally foreign to the peoples which this race has conquered or dominated; that which it has in common with Wolof and Serere is the result of reciprocal borrowing, and is noticeable especially in certain dialects of Poul: Foutatoro, Fouta-djallo, Bondu, Sokoto. It were as reasonable to connect it with Arab because Islam has introduced into it a number of terms relating to religion, law, and similar subjects.

Poul has no guttural aspirates, and it rejects also *ch* and *j*. Its conception of gender is approximately that which we indicated above. Beings are divided into two categories, which Faidherbe calls the human and brute genders: in the one animals and inanimate things, in the other all which belongs to humanity. This capital distinction gives to the declension an appearance of complexity; there are two singulars and two plurals. The nouns, adjectives, and participles which belong to the human gender, end in *o* in the singular, this vowel is an agglutinated pronominal root: *gorko*, man; in the plural these words end in *be* (they). In the brute gender the singular is marked by a vowel, or by the suffix *am;* the termination *o* is rare. The plural of the brute gender varies, and certain euphonic laws seem to play a great part in the agglutination of the terminations with the root. The initial consonants

of the word in the singular may permute with others when the word is in the plural. The verb remains much simpler, and the analysis of its component elements is easy. The syntax is not complicated; the order of the words in the sentence is determined by the succession of ideas. Thus the name of the possessor is preceded by the name of the thing possessed; the object, direct or indirect, follows the verb. It will be seen that the real difficulty of Poul consists in the great variety of the laws of euphony.

On the left flank of Poul, and not far from its probable birthplace, the Dinka family vegetates; poor and almost monosyllabic, it suffices for the true savages of the Bahr-el-Abiad and of the left bank of the Upper Nile, Bongos, Dinkas, Monbottos, Nouers, Niam, who are still cannibals. A little farther north we find the Nouba group, of which it would be of great value to have a thorough knowledge, in order to determine whether it has any connection with the Libyan dialects. The districts which it occupies were formerly the refuge of the Pharaohs when driven out by the Hyksos; Egyptian civilisation ascended the Nile as far as above Meroe, and left pyramids and temples in those regions, now once more given over to barbarism. The Shabak and the Tahraka came from Napata towards the end of the seventh century before our era to defend Egypt, enervated by the theocracy, against the Assyrian invasion. A few years ago, M. Benedite, in a stay of some length at Philæ, made a study of Kensi, but without much result; the dialect is in course of extinction, and the whole language consists in a few soft and easy phrases which are used by the boatmen of the Cataracts.

We have several times mentioned the Libyan or Egypto-Berber group, which has occupied the whole,

and still occupies a part of the Mediterranean zone, and the eastern point of Africa as far south as the Gulf of Aden. It is regarded as the transition between the agglutinative and the inflected languages; nevertheless, it remains much nearer the first, and we cannot leave Africa without having given at least a sketch of it. We will, therefore, briefly define the three principal branches of the Libyan family: Berber, Ethiopian, Egyptian.

Phœnician, Greek, Latin, and finally Arabic have been spoken in succession or simultaneously on those shores where the Libyan tongue was formerly spoken by the Numidians, the Getulæ, and the Mauritanians. Nevertheless, certain dialects have survived and are still extant in Algeria, in Morocco, Tunisia, and beyond the Sahara in the Upper Soudan. Such are Kabyl, Mozabi, Chaouya, Zenatya (in the environs of Constantine), Tamachek, Touareg. The Berber or Amazig language—for the resemblances between its various vocabularies is sufficiently close to allow us to consider the language as a whole—still occupies a very vast domain, which formerly extended to the Canaries, the land of the Guanchos. It is a rude irregular idiom, modified by Semitism, but African in the power to use prefixes, and by the polysynthetism of its verbs; it has, like Basque, a doubly reflective voice, expressing in a single word such phrases as *je m'en doute.* But the verb has but one tense, a sort of aorist, to which the ideas of present and future are attached by methods which are altogether accessory. The sign of the feminine is *t: amaher,* a Touareg man; *tamaher,* a Touareg woman. This sign is often both prefixed and suffixed: *akli,* negro, *taklit,* negress; *ekahi,* cock, *tekahit,* hen. The Berber language has been written;

there are a few fables and poems in this idiom, and Touareg inscriptions graven on rocks have been discovered, with twenty-eight peculiar characters, evidently of Semitic origin, and composing perhaps the Numidian alphabet mentioned by Valerius and Maximus. Tamachek has still a written character, fairly regular in appearance, but destitute of signs for the vowels; it is necessary to know the language in order to be able to read it.

The Ethiopian branch, Galla, Bedja, Saho, Dankali, and Somali, must not be confounded, it seems, with the decidedly Semitic idioms of Abyssinia, Tigre, Amharic, and others, which are connected through Ghez with Himyarite of the coast of Arabia. Although influenced by Semitism, the Ethiopian dialects (very little studied from the point of view of comparative philology), belong to the Libyan family by the use of the sign *t* for the feminine, which may be either a prefix or a suffix. We note, however, that the two tenses of Bedja and Saho are expressed in a manner which is purely Semitic. The one, the aorist, is indicated by the prefixing of the personal pronouns; the other, the present, by the post-position of these pronouns. The same methods are employed, but indifferently, by Coptic, which uses auxiliaries to distinguish the tenses.

Coptic, extinct since the seventeenth century, but still in use as the sacred language of the Monothelite sect, had from the second to the eighth century a fairly rich literature, very precious to those who are attracted by the minutiæ of Christian exegesis. It was, as the name indicates (*ha-ka-ptah*, *αἴγυπτος*; Guptos, Copt), the popular form of Pharaonic Egyptian, and it is through Coptic that Egyptologists have found

out how to decipher the annals of the Snefrou and the Rameses.

The discovery of ancient Egypt is one of the finest conquests of the century, and it is a French conquest. The essays of Scholtz and of Barthélemy presented only hypotheses which were hardly even ingenious (1775). We must look in the works of Champollion the younger, the first reader of the hieroglyphs (1790–1832), and of his successors Rosellini, Salvolini, Lepsius, Brugech, Rougé, Maspero, for the certain and established principles of decipherment. The reading has changed more than once; the syllabic, alphabetic, or ideographic character of the signs has had to be determined, and the hieroglyphs checked by the hieratic writings, which are more summary in form, and by the cursive or demotic, the instrument of the language of affairs and of common speech.

There were in Egypt, from a very early epoch, two languages, the one sacred, the other popular, which soon presented marked differences, of which the principal (Lepsius proves this from the Rosetta inscription) was the preference of the demotic form for prefixation. That which the priests wrote after the root or theme, pronominal signs, affixes of tense, number, and gender, the people preferred to place at the beginning of the word, as in the Bantu group.

The Egyptian language is very simple: a feminine of which the sign is *t;* a plural in *u, ui;* no cases. A syntax which rules that the verb shall occupy the first place in the sentence, followed by the subject, the direct object, the indirect object, and lastly the adverb, *write I letter to you to-morrow;* a formula which does not lend itself to eloquence or poetry, and which yet has sufficed for the emphatic proclamations of the

kings, for the precepts of a lofty morality, and for the religious and philosophical lucubrations preserved by the priests in the "Book of the Dead." Triumphal odes have also been found, romances, and even medical treatises, which make the joy of Egyptologists.

But the really important discovery is the probable relationship, now recognised by Fr. Müller and by Maspero, of the Libyan and Semitic languages. In the two groups there are the same pronouns, the same method of forming the plural by the addition of a termination. The two families must have separated at an epoch when their common language was at a very early stage of its development. The one came to a standstill, the other advanced towards the inflected state. But where were they together, and where did they part company? Did the Berbers come from Asia, or are the Semites a Mediterranean people, who, crossing the delta of the Nile, spread towards the Euphrates and into Arabia? The first opinion has in its favour the prejudice which considers Asia as the cradle of the human race, at least of the white and yellow races. But the second seems to derive some support from the data of pre-historic anthropology. The question is unsolved, and the field open to conjecture.

For the rest, everything is vague and obscure in the unknown past of Africa. We have endeavoured to present its probable phases; in the north a flux and reflux of white peoples, causing the Nubians to retreat upon the Bantus, and the Bantus upon the Bushmen and Hottentots. In the east, a Semitic invasion, mingling the languages and the races of the Gallas, the Somalis, and the Abyssinians, and determining the exodus of the Peuls across Bornou and

the Soudan as far as Senegambia. On the extreme west, a descent of the Moors or Berbers, adding to the confusion of the groups and idioms of Nigritia and Guinea. In the centre, a remnant of divers savage races, tall or dwarfish, black or chocolate, the Bongos, the Dinkas, Nouers, Niam-Niam, Akkas, pressed together pell-mell between the Nubians and the Peuls, between the Abyssinians, the Bantus of the lakes and of the Congo, and the Negroes of the Lower Niger and of Gaboun. A great civilisation in the valley of the Nile; semi-barbarism on the northern coasts, in the basin of the Niger, and on the south-eastern coast; everywhere else every shade and degree of moral and intellectual poverty, of a merely animal existence.

CHAPTER VI.

POLYSYNTHETIC LANGUAGES.

The Basques—Complete isolation of the Basque or Uskara tongue—Incorporating or abbreviating character of this agglutinative idiom—Persistence of Basque customs—Origin of the Basques—Songs of Altabiscar and of the Cantabri—The American races and idioms—Has America an indigenous race—Probable Asiatic origin of the successive strata of the population—Fanciful comparisons between the American religions and the Hindu or Egyptian beliefs—Table of races, general characteristics, and variety of the families of languages—Examples and decomposition of polysynthetic terms—Life and language of the Inuit or Esquimaux—Iroquois and Algonquin group—The plateau of Anahuac—Central America—Peru—General review of the agglutinative languages.

BEFORE leaving the Old World we must say a few words about a curious idiom which bears some resemblance to the American languages, and which is found quite isolated in a district of the Pyrenees, between the Pic d'Anie and Biarritz, between Pampeluna and Bilbao. This is Eskuara, Euskara, or Uskara, spoken in three French arrondissements (Bayonne, Oloron, Mauléon), and three Spanish provinces (Alava, Guipuzcoa, Biscaya). Uskara, which from the tenth century has been the wonder of the Gallo-Romans and Gallo-Franks, is simply an agglutinative language, at once poor and complex, like all the dialects belonging to the same class; poor by its vocabulary—omitting of course the words borrowed from Latin, Spanish, Arabic, and French—complex by the richness of its sounds, by the delicacy of its euphonic laws, by the

double use, in conjugation, of suffixes and auxiliaries, and by the abbreviation of words in compounds. The contrast of such a language, understood by hardly half a million of individuals, with the Neo-Latin dialects, which drove it back into the mountains, caused its importance and difficulty to be exaggerated by observers who were accustomed to quite different conceptions of the word and the sentence. It is barely thirty years since Uskara, more seriously studied, has ceased to be a mystery. By degrees it has been discovered that its declensions consists in the post-position of numerous suffixes: of, in, by, for, with, without, towards, as far as, &c.; that its primitive conjugation admits of the incorporation of the direct and indirect objects, and of numerous shades obtained by the accumulation of suffixes; that the moods and tenses, at first consisting only of the indicative, of the past and present, were enriched by the relatively modern use of the auxiliaries *naiz* and *dut,* to be and to have, of which the termination varies according to the person addressed, whether a man, a woman, or a superior (this is known as the periphrastic conjugation); finally, that the famous compounds, called polysynthetic, *-ortzanz*, thunder, for *ortz-azanz* (cloud-noise); *arkume*, lamb, for *ardi-hume* (sheep-little); *sagarno,* cyder, for *sagar-arno* (apple-wine); *Yainkoa*, god, for *Yaun-Goikoa*, the lord on high, or rather the *lord-moon,*—it has been discovered, I say, that these famous compounds by apocope (which are yet more common in the American dialects) have parallels everywhere, and do not differ from *idolatry* for *idololatry*, *hidalgo* for *hijo de algo*, *usted* for *vuestra merced, mamzell* for *mademoiselle.* Thus, thanks to the labours of Prince Lucien Bonaparte, of MM. Van Eis and Julien Vinson, Uskara, in spite of its complicated

forms, its irregularity, and its constantly inverted phrase, has lost much of its strangeness.

Its real interest lies, not in a few Uskara names of places mentioned in charters, letters-patent, Papal bulls, &c., from the year 980, nor in the little speech of Panurge in the second book of Rabelais, 1542, nor in the love-poems of a priest (1545), nor in the translation of the New Testament printed at La Rochelle in 1571 by the order of Jeanne d'Albret, nor in the extant sermons and pious tracts, nor even in the curious pastorals recently published and translated by Julien Vinson; it lies in the long, the immemorial existence in a Gallo-Roman country of an idiom made for Bantus, Dravidians, or Algonquins. Suomi, Magyar, and Turkish have been imported into Europe by invasions of which the date is known; but the establishment at the foot of the Pyrenees of the Uskara language and of those who speak it, the Escualdunac, is a fact anterior to history, and one of which neither anthropology nor ethnography render any account. These Vascons, Vascongados, Bascli, Basques—such is the name by which they have been known from antiquity—have lost since the seventeenth century their peculiar customs, their habit of carrying three little javelins, and their fierce manners; they have retained in Spain those *fueros* of ancient date which testify to their long independence, and in France the love of the game of tennis, of certain dances, and of open-air fêtes; but they have become very peaceable and honest citizens, if very ignorant and very devout. As for their type, studied by Broca, it is mixed, passing from a marked dolichocephalous skull to a true sub-brachycephalous. At the utmost, the occipital development of their skull can be taken for a sign of race.

The Basques, notwithstanding the similarity of the name, are not Gascons or Aquitani. Are they autochthonous, the last remains of an age when the agglutinative form of language prevailed in Europe as in the rest of the world? And while their kindred retreated towards the north with the mammoth and the reindeer, did they take refuge with the bear in the Pyrenees, together with the Navarais and the Asturians or Cantabri? Proof is wanting, and can never be obtained, but the hypothesis is plausible.

The most general opinion, which has perhaps been too lightly adopted, connects the Basques with the Iberians, an ancient Mediterranean race, doubtless African, which occupied the south of Western Europe before the coming of the Ligurians and Celts. The evident fact that the Basques are established in regions necessarily occupied, or at least traversed, by the Iberians or Celtiberians is urged in support of this opinion. Some ancient names of places in Spain, Illiberis, Ebro, have been connected with Basque roots or terminations, as also a few words which have been deciphered on coins and medals or on inscriptions, Iberian words in the Latin character. But the interpretation of these documents is most uncertain, and the arguments produced are therefore not convincing. It is not known what language the Iberians spoke, nor whether the Basques did not precede them in Spain or in the Pyrenean district. As for the comparisons which have been attempted, with regard either to the race or to the language, with the Phœnicians, the Finns, the Magyars, the Berbers, or the Indians of North America, they cannot be considered seriously. Among agglutinative dialects resemblances do not, as we have already said, imply relationship. With regard to the

race, whatever its origin, it has become completely European. The Basques for a long time took pride in their isolation, in their language unknown to other men, which they considered as the original language of humanity, the universal mother-tongue. These dreams may be found in the work of their grammarians, Chaho and Inchauspe. The Basques resisted the Romans, as they had perhaps resisted the Celts and the Iberians; they destroyed at Roncesvalles the rear-guard of Charlemagne. The song of Altabiscar, which was at one time believed to be a contemporary poem, but which is really several centuries later, and seems to have been thought in French, celebrates worthily this savage victory. It is the finest page in their literature:—

"A cry was heard in the heart of the Basque mountains; it is the tumult of an army. Ours replied from the summits, and the chief of the clan sharpened his javelins. Why did they come to trouble our peace? The Lord who made the mountains willed that men should not cross them. The rocks fall, roll, crushing the troops. Blood flows in torrents. What broken bones! what a sea of blood! Flee, King Carloman, with thy black plumes and thy red cloak. Thy loved nephew, the brave Roland, lies slain below. Chieftain, it is over; go and embrace your wife and children. The eagles will devour these remains, and their bones will whiten there to all eternity."

The song of the Cantabri, even less authentic, if that be possible, celebrates a strife with Augustus Cæsar: Octavius is the master of the world, Lecobidi of Biscaya. . . . "For five years they have blocked our mountains; they are many, and we are few. They will flee, if they can, towards the banks of the Tiber."

This is very well; but we need to know whether the Cantabri were Basques. The refrain, *Lel il lelo leloa*, appears to be a reminiscence of the Arabic formula Allah, il Allah.

If we are unable to solve the problem of the origin of the Basques, we are yet more baffled by the mystery of the origin of the Indians of America. The Escualdunac have at any rate a long history, and the Europeans only landed in America four centuries ago, to exterminate the inhabitants and destroy all traces of their history. Thus the discussion as to the origin of the different tribes and nations, scattered over a continent four times as large as Europe, might be endless. It is generally doubted that America had any indigenous race; the absence of great apes, even of fossil ones, seems to exclude the possibility of a preliminary anthropoid evolution. Yet in America, as in Europe, and throughout the different periods of the quaternary epoch, man has gone through the same industrial stages, passing from the rough stone implement to tools of polished stone and of copper, beyond which he had not got at the time of the European invasion. Man in America seems to have had very humble beginnings, if, as appears established, his refuge in the Pampas consisted in holes hollowed out beneath the carapace of giant reptiles, now extinct; and he appears also to have been endowed with a very slight degree of perfectibility, if we are to recognise him in the fierce Charrua, in the stupid Botocudo, in the hateful Apache, or the hungry Californian. Asia, by way of the Behring Straits and the Aleutian Islands, seems to have sent to Polar and Northern America slightly more advanced specimens of humanity: first, the Esquimaux, the near relations of the Tchoukches

and Koriaks; then various Mongoloids of dark colour, the Sioux, Dacotas, Pawnees, Natchez, Seminoles, followed by the Algonquins, Hurons, Iroquois, Delawares, and behind these, closing the procession, the peoples of Athabasca, of Mackenzie, all of whom, pressing forward to Florida and Mexico, drove towards the extreme north the unhappy Esquimaux. This hypothesis offers an explanation of the progress along the Ohio and the Mississippi of the constructors of the mounds or tumuli, and the successive immigrations of the Guatemaltecs, Yucatecs, Othomis, Quiches, Mayas, Chichimecs, and Aztecs, gradually heaped up between the Isthmus and Texas. But in South America the marked differences of stature, colour, physiognomy, and cranial capacity are a puzzle to the ethnologist. The wisest course is merely to note the thick-set form of the Brazilian savages, both the conquerors of ancient times, Guaranis, Caribs, and Tupis, and the conquered races, Botocudos and Tapuyas; the middle height, the aquiline nose, and retreating forehead of the Peruvians; the tall stature of the Patagonians, and the miserable character of the Fuegians, who sometimes eat an old woman for want of something better, and who replied to Darwin's question as to whether they preferred their wife or their dog, that they preferred the dog because he could catch the otter.

It is, of course, possible that among these diverse types some should be of foreign origin, but whence could they have come? What wind bore them to this immense peninsula, isolated between two vast oceans? There is no answer to this question. Some of the beliefs, and some of the constructions of Mexico and Peru have been compared with the religion and the arts of Egypt and India. This, in my opinion, is quite

chimerical. If there are coincidences, they are fortuitous, or they result from evolution, which leads all the human groups through the same stages and by the same steps.

Observers have also sought to trace in North America some sign, physical or intellectual, of the Scandinavians, who towards the tenth century probably discovered, and to some extent colonised, the coast of Greenland and of North-Eastern America. Without disputing the fact, which appears to be established, and even admitted, that a slight infusion of European blood has been propagated in the scattered tribes of the Red Indian hunters, we do not see that the dolichocephalous Esquimaux have been modified by it, or that the deep-set eyes, the heavy jaw, the narrow foreheads of the Assiniboines and Cherokees have been altered. In order to improve upon these faces, for which nature has not done much, the recent but repeated crossing with the French Canadians was necessary.

No part of the world was so sparsely peopled as America. Tribes which live chiefly by hunting need a great deal of space, and the continual wars which they wage in order to keep their territory clear from the encroachments of their neighbours do not further the increase of the groups. Only in the region of the centre were there compact populations, in Mexico, the Antilles, the Isthmus, Columbia, and Peru, where a true civilisation flourished, unhappily extinguished by the Spanish conquest. The jealous isolation maintained by most of the tribes prevented the fusion of the dialects, even of those which were near neighbours; and linguists reckon, between the Arctic Ocean and Cape Horn, as many as twenty-seven families of lan-

guages, not related to each other, and belonging for the most part to the agglutinative class.

Omitting certain independent and little known idioms of Sonora and Texas, of Mexico, the Andes, Guatemala, and of the Antilles, which have not got beyond the monosyllabic phase, we find the following twenty-three groups:—On the shore of the Arctic Ocean and in the Aleoutian Islands, Inuit or Esquimaux; to the north-west, Kenia, in Alaska; in the west of the Dominion, on the shores of the Athabasca, Atapache; to the south of Hudson's Bay, Algonquin; on the St. Lawrence, around the great lakes, Iroquois; Koloche, to the west of New Britain; in the United States, Oregonese, Californian, Yuma, Dakota or Sioux, Pawnee, Alapache; Maya, in Yucatan; Mexican, Nahuatli or Aztec; Chiboha, among the Muyscas of Columbia; Carib and Arevac, in the Guianas; Quichua-Aymara, in Brazil and Parana; Guaycuru and Abipone, in La Plata; Araucan, in Chili; Puelche, in the Pampas to the west of Buenos Ayres; Tehuelche, in Patagonia; and the idioms of Terra del Fuego.

Before considering any of these groups, all rich in dialects, we must point out those characters which they have in common. For their general resemblance is as striking as the variety of their constituent parts. They are all incorporating and polysynthetic. "The American languages," says Frederick Müller ("General Ethnography"), "repose as a whole upon the principle of polysynthetism or of incorporation: thus the separate ideas, which, in our languages, the phrase unites together under the form of detached words, are, on the contrary, in the American idioms, united together in an indivisible unity." This method has seemed to many students of these languages to be sufficiently typical to

justify the creation of a new class of languages. But it is easy to see that many other languages, agglutinative or inflected, have made use of the methods which the American dialects abuse.

The incorporation of the objective pronouns, and even of nouns, exists in Basque, as we have mentioned above (hence by some it has been connected with the American languages); we also noted it in the Finnish dialects. The incorporation of the subject pronouns is the basis of the Indo-European conjugation, *dadami*, *dadasi*, *dadati*, I give, thou givest, he gives; the incorporation of the object prevails in some Romance languages: in Italian, *portandovi*, *portandovelo*, carrying to you, carrying it to you; in Gascon, *dechemdroumi*, let me sleep. The Semitic languages incorporate the direct object. In short, the Hebrew *sabachthani*, thou hast forsaken me; the Magyar *latlak*, I see him; the Basque *demogu*, we give it to him; and the Iroquois *keiavis*, I give it to them, differ in reality, says M. Hovelacque, only in the order of the elements of which the word is composed. The American languages go farther, they amalgamate the noun subject with the verb; Algonquin, *nadholineen*, bring us the canoe, formed of *naten*, to bring, *amochol*, canoe, *i* euphonic, *neen*, to us; Iroquois, *sogininjinitizoyan*, if I do not take the hand, into which enter *sogena*, to take, and *oningina*, hand.

The possessive declension of the noun (Iroquois, *onkiasita*, the foot of both of us; Algonquin, *nindawema*, my sister) is used in Hungarian, *atyank*, our father; in Hebrew, *eli*, my God. There is nothing here peculiar to the American dialects; the French *m'amie*, *m'amour*, present a sporadic case of the same incorporation; in the word *tante*, for instance, is concealed the possessive *ta* placed before the Latin *amita*.

The variation of the verb, when the speaker wishes to express changes in the manner of the action or in the object, points especially to the absence of general ideas; it is a mark of inferiority often observed in those languages which are not far advanced in their evolution, and of which the inflected stage has retained some traces. From this phenomenon are issued the many verbal variants, causative, intensive, desiderative, &c., which Arab and Sanscrit obtain by means of the insertion of atrophied suffixes, and which make the inconvenient and barren wealth of Turkish and Wolof. Why then should we be astonished that the Chilian *elun*, to give, ramifies into *eluguen*, to give more, *eluzquen*, to seem to give, *eluvalen*, to be able to give, *eluduamen*, to wish to give; or that Tamanacan has *jucuru*, to eat bread, *jemeri*, to eat fruit, *janeri*, to eat cooked things; and Cherokee, *kutuvo*, I wash myself, *tsekusquo*, I wash some one else, *takuteya*, I wash dishes, *takungkala*, I wash my clothes?

Polysynthetism proper remains to be considered, a species of oral stenography, which amalgamates into a compound word four, five, or six words, capriciously abridged, with the beginning, middle, or end omitted. It is an agglutination of words instead of an agglutination of suffixes; but we need not go far to find examples, very simple ones it is true, which we hardly remark. In German, *beim* for *bei dem*, *zur* for *zu der*; in French, *du*, *au*, *ès*, for *de le*, *à le*, *en les*, *aujour d'hui* for *a le jour de hui* (*hodie*); in English, *lady* for *hlafdige*, loaf-giver, are the result of contractions in every way similar to the Chippeway *toto-chabo*, wine, formed of *toto*, milk, and *chominabo*, bunch of grapes. Finally, in many of our complex derivatives, *rapprochement*, *recueillement*, &c., the constituent parts of the word

are hardly less obliterated than in the Algonquin *pilape*, bachelor, formed of *pilsitt*, chaste, and *lenape*, man. These observations, chosen among many, will render less singular words such as *amanganachquiminchi*, large-leaved oak, an Algonquin word composed of *amangi*, large; *nachk*, hand; *quim*, termination applied to fruits with a shell, and *achpanti*, tree trunk; as the Esquimaux *aulisariartora suarpok*, he has hastened to go fishing; as the Mexican *notlazomahuiz teopixcatatzin*, O my father, divine protector, esteemed and venerated.

In short, the faculty of incorporation and of polysynthetism, very inconvenient when it produces these immensely long words, which can hardly be pronounced in one breath, is not unknown to the languages of Asia and Europe. Developed in America to an extraordinary degree, it gives to these very various idioms a superficial resemblance, an appearance of unity; but it does not place them out of, still less beyond, the agglutinative class; it does not bring them nearer to the inflected order, where what remains of these antique methods is of the nature of an atavic survival.

We have only lately been able to consider the American languages with anything but extreme reserve and mistrust. The study of these idioms has been brought back to its proper place by such men as Lucien Adam and Victor Henry, whose work has confirmed the previsions of Hovelacque and of Vinson, but it has been given over for three hundred years either to the pious fancies of missionaries, seeking to find in Ontario or Chili some dialect escaped from Babel, or to the illusions of etymologists such as Brasseur de Bourbourg, who would connect Nahuatl

with the Teutonic languages, or the jargon of Vancouver with both English and French, never inquiring whether a given word has not been borrowed, very naturally, from the foreign colonists; or, finally, to the preconceived theories of the upholders of Turanianism and Monogenesis, and others who seek Aryans, Copts, and Buddhists in Peru, and the remnant of the ten tribes of Israel in the Far West. The essay of Duponceau on the Canadian languages (1836) marks the first step towards the scientific classification of the northern group, and it was only at the second American Congress at the Luxembourg that, in his studies on the sixteen groups of American idioms, M. Lucien Adam drew up a table of which the arrangement will not be disputed by specialists.

We have just seen what common features give to the American languages a marked family resemblance. But this apparent likeness conceals an extreme diversity in the vocabularies, and in composition and syntax, which take the place of grammar in the agglutinative idioms. A detailed study of these differences would be out of place in these summaries, of which the chief aim is to determine the extent of the domain of language, and the ancient or actual area which the principal varieties of language occupy in it. I shall, therefore, confine myself to a few groups chosen in the north, the centre, and the south of the New World.

The Inuit (" men," so they call themselves), whom in disdain the Mohicans called Eskimanzik, eaters of raw meat, whence Esquimaux, seem to deserve our attention for more than one reason. First of all, they have the rare if slender privilege of constituting a pure race; secondly, they represent, by their extreme

dolichocephaly and their manner of life, the man of the quaternary age, the man of the reindeer; thirdly, in spite of their dirty-yellow skin, their narrow eyes, their coarse hair, their flat round face, their thick-set ungraceful frame, they are not wanting in courage, in gaiety, or in moral and intellectual qualities. The Esquimaux of Greenland have become very acceptable Danish citizens, municipal councillors and merchants. They display a real taste for geographical science. Since 1860 they have had at Godthaab a printing-press and an illustrated journal, of which the text and drawings are furnished entirely by the natives; and they publish in their own language collections of popular traditions. To the Esquimaux of Greenland belong the fifteen hundred natives of Labrador.

Along the shores of the Arctic Ocean, from Hudson's Bay to the northern point of Asia and to Cape Schelagskoi, are scattered the Great Esquimaux, the Onkilones, the Aleoutes, and the Tchoukches, divided into numerous tribes, but numbering in all not more than twenty or thirty thousand individuals. They extended formerly as far as the valley of the St. Lawrence, perhaps as far as Massachusetts. But the Red Indians, their hereditary foes, have driven them back towards the desolate regions, where they will one day die out, in spite of their strength to resist the miseries of their hard life. The soil produces nothing but grass in the summer and a few stunted shrubs. Reduced to hunting and fishing, especially the latter, having for assistants only dogs and reindeer, which are hardly tamed; for weapons, whalebone, walrus horns, implements of stone, and the drift timber from wrecks or forests, brought by favourable currents to their frozen shores, they have been able to provide for all their

needs. Warmly covered in impermeable clothing, and in boots made of sealskin, they embark in their frail boats and hurl against the sea-beasts their harpoons furnished with the bladders which permit them to recover these precious weapons. In the winter they make holes in the ice and keep watch for the walrus, which comes there to breathe; they attract them by imitating their cry. At night they take refuge in huts built of earth and ice, which long galleries and furs protect against the cold; lamps abundantly furnished with blubber give out such a heat (not without smell) that all clothing becomes superfluous. Here they dwell by twenties, naked, dirty, and happy; there is no thought among them of decency, of modesty, or of monogamy; yet the women are chaste, they are loved and they love their children, who are buried with them if they die before these are weaned. Everything is in common among these people, though each one has his fishing canoe, his *ummiach* or transport boat, his harpoons and nets, his wives and his little ones. The voracity of the Esquimaux is in direct ratio to the rarity of satisfying food. When a whale is thrown up on the coast, they rush upon the immense prey, cut it to pieces, tear away the meat, remove the bones, take out the intestines, run along under the ribs of the carcase. When this happy task is completed, the men lie down upon their back with open mouth, and the favourite wife feeds them with the nicest morsels. He seems nearly to resemble our ancestors of the Magdeleine. Yet the Esquimaux has what these lacked, a religion, an ideal, and even a powerful clergy, initiated by long and hard trials to the mysteries of the invisible world. He worships the whale, which is saluted by the hymns of the young

girls; he fears the spirits of the dead and their great chief Togarnsuk; he aspires to a paradise situated beneath the ice, at the depths of the sea, where unnumbered seals come of their own accord to be slain.

The Angakok, priest or sorcerer, has visited this paradise more than once, swallowed like Jonah by a friendly whale, or conducted thither by familiar spirits. The credulity of the Esquimaux is greater, though it is difficult to believe it, than that of all past or present *dévots.*

The language of the Esquimaux bears no resemblance (except in its polysynthetism) to that of the Red Indians of the great lakes. It is not known whether it belongs through Aleoute and Tchoukche to the Samoyed or Uralo-Altaic group. Its dialects, from Greenland to the mouth of the Mackenzie, are separated only by insignificant differences. Its sounds are simple, a little too guttural: the *g*, *k*, *g* nasal, the groups *rk*, *rkr*, *tch*, *dj*, *ch* (the German *ch*), the dentals, and a sort of palatal *l* abound, while *s* and the labials are rare. The vowel *a* dominates the others; *e* and *i*, *ou* and *o*, seem to alternate according to accentuation and number: *angakok*, priest; *angekut*, priests. There are a dual and a plural, numerous suffixes denoting case, which are always placed after the noun, a conjugation poor in moods and tenses, but abounding in intensive, negative, and frequentative forms, as we have repeatedly found in the agglutinative languages. Their method of counting merits a special mention. At first, says M. Victor Henry, they only reckoned up to five, the hand; to express six the Inuit says "one upon the second hand," &c., for eleven, "one on the first foot;" for twenty-one, "one on the first hand of the comrade;" for forty-one, "one on the first hand of the second comrade." It is rather long, but this

method of calculation leads to the decimal system, which is found in Aleoute. Many races, who long tarried at the notion of three, have wandered into complexities of the duodecimal system. M. Henry makes a very just observation about the interminable words of the Esquimaux, which may, I think, be applied also to many cases of American polysynthetism. They are, he says, phrases in which the words are abbreviated by the rapidity of pronunciation, as in the French phrases *Qu'est ce qu'il dit*, pronounced *keskidi ; Qu'est ce que c'est que cela*, pronounced *kekcèxça. Okalluktueksarsekautit*, for *okalluktuek-sakharsek-autit*, "thou hast experienced many things worthy of memory."

To the south-east of the Esquimaux lie two confederations of Red Indians, the Algonquins and the Iroquois, whose numerous tribes furnished Cooper with most of his heroes, cruel, subtle, brave, magnanimous, and sententious. Compared with the Esquimaux these people are handsome, well-made, active, picturesquely clothed, their skin of a beautiful Florentine bronze under their family blazon and their variegated painting. More favoured by climate, they are less dirty and less greedy, but they have not passed the moral and intellectual level of those whom they formerly drove out of their territory ; it is even doubted whether their most adaptable tribes can learn, like the Greenlanders, to take part in political and municipal life. Among them agriculture was abandoned to the women, and was rare and rudimentary ; they lived only for and by hunting, always at war with their neighbours, in order to extend their domain as they killed out the game. Their religious ideas and practices, dances, songs, and exorcisms are pretty much the same, at bottom, as we find among civilised as among savage

peoples. It is one of the great benefits of ethnography that it has shown us over all the earth the equivalence of the genuflexions, the mummeries, and the beliefs called consoling or sublime. So Iroquois, Algonquins, or Esquimaux of the five parts of the world believe alike in the intervention, always capricious, often malign, of spirits or of gods, in the power of certain clever seers, well-paid interpreters of the will of those above or below; and, finally, in a second life in happy hunting-grounds which more than one has visited in dreams, and where the creatures come to be killed by the weapons which have been buried in the tombs of the warriors.

The Iroquois or Hurons of the lakes were divided into six nations, speaking Mohawk, Onondaga, Seneca, Oneida, Cayuga, and Tuscarora. The Algonquins, far more numerous, included about thirty tribes and as many dialects, related to each other by grammar and vocabulary; in Canada proper: Algonquin, Chippeway, Ottaway, Menomeni, Knistemaux; in Acadia: Souriquois, Micmac, Etchemin, Abenaki, &c.; in the States of Massachusetts, Rhode Island, New York, New Jersey, Pennsylvania, Delaware, Maryland, Georgia: Narragansett, Mohican, and Lenape, Miami, Saki, &c. The simple phonetic system of these languages presents no remarkable peculiarities except perhaps a sort of labial sibilant *w, wdanis,* his daughter, in Lenape, but *oudanis* in Ottaway.

The verb and the noun, as in many agglutinative languages, are not distinguished; the verb is only a noun accompanied by suffixes which mark possession. The pseudo-conjugation is none the less very rich in forms, in variants, though not in moods and tenses. An English missionary, Edwin James, fancied that he could attribute seven or eight thousand to the Chippe-

way verb, but his eyes must have deceived him at that moment. The possessive pronoun and the first adjective are prefixed to the noun; *kuligatchis*, thy pretty little foot (*ki*, thou; *wulit*, pretty; *wichgat*, foot; *chis*, diminutive); *kitanittowit*, the Great Spirit (*kitamanitou*); *wit* is an adjective termination.

Algonquin has no genders; Iroquois has two, the one for gods and men, the other for everything else, women and children, animals, plants, or mountains. Yet there are particles and affixes to distinguish animate and inanimate. The vocabulary is poor in abstract terms, and even with the aid of borrowed words from English, Spanish, French, or German, the orator is condemned to have recourse to the strange metaphors which travellers have remarked with admiration without always understanding them.

Iroquois is strongest in numeration; it has separate words for the first ten numbers. The Algonquin, like the Esquimaux of Hudson's Bay, stops short at five; but as he calls ten *five more*, a hundred *ten times ten*, and a thousand the *great ten of tens*, it will be seen that he is fairly well endowed with the arithmetical faculty. An Iroquois manuscript is said to exist; it would be important to know its date. The missionaries were the first Iroquois and Algonquin litterateurs, and poor ones: at the present day the Cherokees, who appear to accept civilisation, publish newspapers. But all these tribes, in spite of the relative gentleness of the Canadian immigrants, will disappear, either by the intermixture of their race with others, or destroyed by drink, before they have learned to submit to regular work and to social servitude.

It was, however, from their borders, perhaps even from one of their groups, that the mound-builders

started to go down the valleys of the Mississippi and the Ohio, and their tombs testify to a certain degree of industrial civilisation. Mingling with the Natchez, the Pawnees, and the Comanches, they invaded in successive waves the plateau of Anahuac, the Olmecs, Toltecs, Chichimecs, and Aztecs, whose different features, monuments, and religions we are now beginning to distinguish. These conquerors from the north encountered in Yucatan, in Chiapas, in Guatemala, and in the Isthmus, the Mayas and the Quiches, the builders of Izamal and of Pallanque, who had perhaps come from the north before them, or perhaps from Columbia, where the Chibchas already formed a theocratic state, with four kings and two popes. The brilliant Aztec empire overthrown by Cortez was not very ancient; but it is certain that for some centuries a considerable civilisation had existed in these regions, which were full of opulent cities and majestic monuments. For my part, I have not yet been able to admire in themselves the hideous carvings of the Mexican temples, yet they are tolerable from the decorative point of view. These were the dwelling-places of innumerable gods—of the air, of the spring, of fire, of lightning, of the sun—whom a sincere piety worshipped with human sacrifice. To-day the poor peons of the pueblos, although they retain a vague memory of Montezuma and their past grandeur, genuflect before other gods, who have also drunk deep of the blood of the vanquished. The god of the Inquisitors was a worthy successor to the fierce Huitzilopochtli. But though the people of the Anahuac were terribly oppressed in the sixteenth century, they are gradually recovering their place in humanity, and through the mixture of races are again taking their place in civilised life. The Christian zeal of the Spaniards destroyed the cities, the arts, the inscrip-

tions, and the books of Mexico, except, if it be authentic, the *Popul-vuh*, a puerile rhapsody on cosmogony. But the results of scientific study of the various ethnic strata and of the thousand languages which are heaped up in these districts are full of interest. According to the fine work of M. V. A. Malte Brun (1877), there are, in an area only four times the size of France, not less than 280 dialects, classed in eleven great families, which comprehend thirty-five idioms and sixty-nine principal dialects, besides sixteen languages not classed, and sixty-two lost idioms. Most of these eleven families are still extant sporadically among the peoples of the centre, but overshadowed by Nahuatl or Mexican, which is spoken as far as the Isthmus. The oldest authentic Mexican text is a catechism printed at Antwerp in 1558.

On the other side of the equator, on the slopes of the Andes, another purely American civilisation had been formed, completely separated from Central America, the civilisation of the Quechuas and of the Aymaras, the vast empire of the Incas, theocratic and communistic (to the profit of the kings, children of the Sun), with its harems, its towns, divided into four quarters by walls at right angles, its grandiose festivities, its mystic cake and liqueur, its legends, in which a little history was mixed with a good deal of self-adulatory fiction. The great originality of ancient Peru was this state communism, unknown elsewhere, this paternal exploitation of happy serfs, lodged, fed, and married, at the expense and for the benefit of one man. Quichua or Ketchua, the principal language of the Pacific coast and of the valleys of the Andes, seems to have come originally from Quito, from the upper basin of the Amazon; one dialect, Tchintchaysouya, occupies the centre of Peru; a second, Cuzco, is spoken in the

extreme south and towards Chili; finally, Gochabamba in Bolivia, and Caltchaki on the eastern slope of the Andes, surround the somewhat narrow domain of Aymara, which appears to be entirely distinct from these. The mechanism of Quicha seems to be nearly identical with that of the other agglutinative idioms of America; relatively rich in compounds of a reasonable length (*tchimpu*, cloud, *rasu*, block of snow, *Chimborazo*), it abounds in forms with suffixes and in derivatives of great length. It has no gender; the noun and the verb are confounded; the particles of case, the personal and possessive pronouns, suffice for all the shades of thought. The language is guttural and affects doubled initial letters, *ttanta*, bread, *ppatcha*, dress. Spoken side by side with Spanish in the towns of Ecuador, Peru, and Bolivia, and almost exclusively in the mountainous districts, and in the north-west of the Argentine Republic, Quicha has furnished to Spanish a number of geographical and local terms, among others the names of the *llama*, the *vigogne*, and the *alpaca*. It was not written before the conquest; the Peruvians, in spite of their advanced civilisation, had not even attained to the riddles of the hieroglyph; they still used knots of different coloured ribbons as mnemonics. These were called *quipos*, and have a family likeness to the rows of seeds or shells which the Red Indians of the north threw in front of them to mark the different stages of their discourse.

The Peruvians, like the Mexicans, have survived in great numbers the terrible Catholic invasion, and though long overwhelmed by the blow which had fallen on them, long stupefied by superstitions far inferior to their ancient religious beliefs, they are now raising their heads and claiming their place among free peoples. The rest of the American peoples, the most

vigorous, the most worthy to live, have perished or are about to disappear before the greed of the European immigrants. Without hunting-grounds, without game, they are condemned to die out. Only the poorest specimens of American humanity, the Abipones, the Charruas, the Botocudos, and in the extreme north the Kienas and the Athabasks, the dwellers in thickets, in deserts, in the torrid or the frozen zones, may count upon a respite of a few centuries.

Our summary review of the agglutinative languages is terminated. We have seen that, simple or complex, their structure is founded solely upon the addition, to one or more invariable themes or radicals, of subordinate roots, emptied of their proper sense and reduced to affixes, suffixes, infixes, and prefixes. The immense majority of these languages have never been written: driven out to the borders of civilisation, into countries not easily approachable by Europeans, they continue to vegetate obscurely. But a few more favoured groups, preserved, and even developed, by civilisation, have attained to some literary life. Japanese, Mandchu, Mongolian, Finnish, Hungarian, Turkish, Dravidian, Malay, Georgian, Basque, Greenland, Algonquin, Mexican, and Quicha have all contributed, in very different measure indeed, to the progress of human intelligence. Their names are worthy to be remembered.

We pass by an easy transition from the agglutinative class to the inflected class. We shall find in the latter all that can be done by suffixation. A single thread separates inflexion from agglutination—that is, the possible variation of the root syllable; a very slight acquisition, which, while it stops the abuse of suffixation, allows of the expression of every shade of the idea without lengthening the word, and also of attaching a general idea to all the derivatives from the same root.

CHAPTER VII.

THE SEMITIC WORLD.

Noah, Ham, and Shem—Conjectures on the origin of the Semites—Ethnical variety, linguistic unity—Exodus of the Canaanites: Hyksos, Phœnicians, Hebrews—Jews and Syrians crushed in the struggle with Egypt and Assyrians—Rule of the Persians, Greeks, and Romans—Appearance of the Arabs—Christianity and Islam—Tardy revenge of the Semites—Character of the inflexion and structure of the word in the Semitic languages—Northern branch of the Semitic family—1. Arameo-Assyrian group: Chaldean, Nabatean, Syriac, Syro-Chaldean, Assyrian — 2. Canaanitish group: Phœnician, Punic, Samaritan, Moabitish, &c., Hebrew—Southern branch: Arabic, Himyarite, Ghez or Ethiopian.

THE peoples whom we are accustomed to call Semitic have always ignored their relations with the Biblical patriarch Shem, son of Noah. But if we disregard the letter of the precious record, compiled and recast many centuries after the events which are therein transformed into legendary fables, if we consider in themselves the names of Noah, Ham, Shem, and Cush, we shall readily overlook the inexactitude of the name given by the moderns to the Chaldeans, the Arameans, the Canaanites, and to the Arabs. For Noah is a Semitic god of great antiquity, Nouach, a genius with four outspread wings, god and saviour, the spouse of Tihavti, the fecundity of the abyss; Ham was Khemos, the god of the Moabites, and perhaps identical with the Egyptian Khem; we find Cush among the Cossians or Kissians of the Euphrates, and among the southern peoples whom the Pharaohs fought on the

two shores of the Red Sea; "the vile Cush," said the Egyptians; but they none the less gave to their royal princes the title of Prince of Cush, which shows the importance which they attached to the subjugation of these Cush or Cushites, the Ethiopians of Herodotus, cut in two by the Semitic expansion; as for Shem, it is difficult not to recognise in him Samas, Samson, the sun-god of the Assyrian pantheon.

Cushites, Hamites, Semites are far from being synonyms; but it is hardly possible to doubt their relationship, or at least the intimacy of their primitive connection. Only it is very difficult to determine the vicissitudes of their prehistoric life. Experts differ; some, M. Renan, for example, assigning to the Semites a northern origin; others think, with Echrader, that the nucleus of the race was formed in the centre and west of the Arabian peninsula, where the language approaches most nearly to the supposed mother-tongue, where the Chaldean legends and divinities have least penetrated, though they form the common ground of thought among the other Semites. Finally, since philologists are agreed in recognising affinities, rudimentary but probable, between the Khamito-Berbers and the Semites, it is hard to conjecture where they both came from, or where we should place the common country where they possessed a common idiom.

We must be content to know that their separation was accomplished at the time when Menes came down from Upper Egypt to the Delta to found the ancient empire and Memphis, about five thousand years before our era. At that date the languages of the Nile and of the Libyan desert had reached the extreme limit of the agglutinative stage, which they have not over-stepped; and the Semites were doubtless progressing towards

the inflected period. Thenceforward the two races have no point of contact except the Isthmus of Suez. The one, without advancing farther than Mount Sinai, develops its precocious yet enduring civilisation, builds towns, pyramids, and temples, and, from the worship of animals and of the Nile, rises to the religion of the sun, of fire, and to the belief in immortality. The other, wandering without name or route, given up to the worship of stones and of the heavenly bodies, fluctuates between Nedjed and the Euphrates ; for two thousand years it is lost to history. At most, we may attribute to some attack on the part of the nomads the fall of the first Egyptian empire and the retreat of the Pharaohs to Thebes.

When history first takes cognisance of the Semites, the practically unchanging unity of their linguistic organism was constituted, and much more strongly than the Indo-European unity. The dialectic differences do not affect either the formation of the words or the vocabulary, but only a few details of grammar and pronunciation. But ethnical unity exists no longer. If the Arab with his high, long head, his slender, nervous body, his profile at once strongly marked and refined, may be considered as the faithful guardian of the racial type, the thick-set build of the Chaldean, the tendency to fat and the massive face of the Assyrian, point to various mixtures with more ancient peoples.

We have already mentioned the very probable existence of non-Semitic races and languages, Shumirians and Elamites, round about the Persian Gulf, in Babylonia and Susiana. There, in these regions of ancient civilisation, several Semitic groups obtained their industrial and religious education. At the time when the Shumir Likbagas (3000) reigned in Chaldea,

Bab-ilou, Babylon, the gate of El, was already a flourishing city under kings who were also priests; and the shores and islands of the Gulf of Ormuz were occupied by the Canaanites, the Poun, Pœni, Punici, the future Phœnicians, whose territory on the other hand reached to the Himyarites of Southern Arabia. Mesopotamia and Armenia were also full of Semites, Arameans to the north and west, the future Jews to the north and in the centre, in Arrapachitis (Arphaxad); lastly, the Assyrians of the middle valley of the Tigris. It would seem from the legend of Nimrod preserved by the Bible, that the Assyrians were a Chaldean tribe, whose national god or eponymous hero, Assour, was the male of the Canaanitish Aschera. All these tribes, more or less compact, more or less powerful, received from Lower Chaldea their gods and their beliefs, the tradition of the deluge, the worship of winged bulls, transformed at a later date into cherubim, the Elohim and Baalim of every species, the goddesses of fertility and of the spring sunshine (Adonis, Thammuz), dead and resuscitated. A cataclysm of which the causes are not known, an Elamite invasion under the pressure of the Persians, an incursion of Scythians from the other side of the Caucasus, destroyed about the year 2300 B.C. the earliest Assyrian empire, drove the Arameans back towards Syria, the Israelites towards Lower Chaldea, and decided the Canaanites to cross the desert; while the torrent of the Hyksos (robber chiefs), bearing onward in its course Edomites, Ammonites, Moabites, was hurled upon the delta of the Nile.

The Canaanites, driving before them the ancient inhabitants of Palestine, the Pelestes or Philistines, massed themselves upon the Syrian coast around Arvad

and Tyros; these were the names of their ancient cities of the Persian Gulf. Finally, under the name of Hebrews, people of the other shore, the clan of a certain Terah and of a certain Nahor, decided to quit Ur in Chaldea, bearing away their gods like Anchises, eagerly pursued by the Elamite chieftains or kings; among others by Chedorlaomer. The leaders of the fugitives, Abraham and his nephew Lot, underwent some misfortunes in the neighbourhood of the Jordan, of Sodom and Gomorrah; others whose names have come down to us, of doubtful wisdom and uncertain morality, Isaac, the dishonest Laban, Esau the simple, and the astute Jacob, continued to live with difficulty, surrounded by other nomads, until famine or their vagabond habits drove the Hebrews to the confines of Egypt, into the land of Goshen, beside the Hyksos.

Meanwhile Egypt had not abandoned the hope of revenge; her national kings had not ceased for five centuries to harass the foreign conqueror. Ahmes, the founder of the eighteenth dynasty, finally expelled from the delta the armies and the government of the Hyksos; and his successors, returning upon Asia the attack which they had thence received, subjugating, or rather putting to ransom, all the Canaanites of Judea, Phœnicia, and Syria, crossed the Euphrates and the Tigris. Nineveh twice fell into their power, and the whole Semitic world became vassal to the Pharaohs. The influence of Egypt was real though temporary, but in the reciprocal dealings which were the result of the conquests of the Tutnes and the Amenhoteps, the share of the Semites was on the whole the larger. Marriages with the daughters of kings or vassal governors brought into Egypt and established Asiatic types, ideas, and customs on the

Theban throne. Amenhotep IV. was purely Semitic; he endeavoured to replace the religion of Ammon by the sun-worship of Syria. In 1887 were discovered the fragments of a correspondence exchanged between the kings of Syria, Armenia, and Babylonia and the Pharaohs Amenhotep III. and IV.; all these letters are written in cuneiform character and in Semitic or other dialects; it is probable that the answers were drawn up in the same character and in the same languages. For the rest, the subjugated nations had soon recovered. Saryoukin I. had reconstituted the Chaldean empire; the Assyrians, ever at war on their eastern and western frontiers, had more than once crossed the Upper Euphrates and penetrated Asia Minor as far as Troad, where the name Assaracus seems to be a relic of an Assyrian dynasty. The Hittites or Khetas occupied the north of Syria; and when Ramses II., Sesostris, desired in the fifteenth century to renew the exploits of his ancestors, he was checked at Kadech by the Hittites and forced to retreat after an undecided battle. The great expansion of Egypt was stopped, at least towards the north. The Semitic peoples, on the contrary, were everywhere in the ascendant. Phœnicia was colonising the European and Libyan coasts of the Mediterranean; Bylos (Gebel), Tyre, and Sidon had commercial settlements in many places, where the potteries, the stuffs, and the jewels of the East were exchanged for the raw products of Gaul, Spain, and Africa. Their boats, navigated by oar and sail, had even passed the Columns of Hercules and coasted round Europe as far as England and Denmark. Not only did they leave with the Etruscans, the Sards, the Pelasgians, the Siculi, and the Hellenes of the Ægean and of Ionia the rudiments

of the arts and of philosophy, but they also brought them an inestimable treasure, the alphabet, sixteen or eighteen signs, extracted from the chaos of the hieroglyphs. It is disputed at the present day whether the Phœnicians were really the authors of this famous invention; but it was certainly they who spread it over Europe, and who unwittingly, for they considered only the usefulness of a commercial writing, gave to the West this necessary instrument of intellectual progress. As for the great empires of the Euphrates and the Tigris, in the midst and in spite of bloody revolutions, now pretty well known and dated, they rose to a considerable degree of power and dignity. The excavations of recent years have laid bare their palaces and temples; their books graven on thousands of bricks, their seals with magical formulas, and the great triumphal inscriptions engraved by conquering kings on statues, walls, and on the living rock, have been deciphered. Their artists excelled in the minute and in the colossal; their gigantic statues, rude and grandiose, sustain comparison with the finest Egyptian work, and their influence can easily be traced in the archaic monuments of Asia and Greece.

The Hebrews had as yet held no place in history. It was only towards the end of the fourteenth century, under one of the successors of Sesostris, that, urged by oppression and by want of room in the land of Goshen, they left Egypt, with difficulty avoiding disaster on the sandy shores of the Gulf of Suez. From the peninsula of Sinai they had to pass through the tribes of Midian, Moab, and of Edom, and then force their entrance into the promised land; they returned to it late, the country was already occupied. Hence those exterminations, those servitudes, and all the adventures,

naïvely exaggerated later in the Book of Judges, which is often legendary, but full of interest from the double point of view of ethnography and ethics. By courage and perseverance the Benou-Israel to the north and east, the sons of Benjamin and Judah to the south, ended by subduing and absorbing in part the other Canaanites who had preceded them, without passing the bounds of Syria on the one hand, and on the other the Philistine towns, without piercing the narrow band of the Phœnicians. Like all the Semites of the north, they had their sacred stones, their Baalim, male and female, Baal, Moloch, Aschera, Dagon, their winged gods with bulls' heads, their bronze lions and serpents, worshipped in the high places ; but they all rallied more or less round a coffer or ark, which contained their national god, who was of the heavens or solar, named El Jahve, the Phœnician Jao, and various symbolical objects, a seven-branched candlestick (representing the seven planets), a table, bread, and sacerdotal ornaments. Their neighbours had also their favourite patron, some Dagon, others Astarte, Marna, Derketo, Moloch, or Chemos. We see what becomes of the primitive monotheism of the Hebrews. It was not till the tenth century, when the brave and not very virtuous David, and his son, the splendid and not less voluptuous Solomon, had, thanks to favourable but ephemeral circumstances, constituted the brilliant and brief Jewish empire, that the ark, transported with great pomp to the newly conquered capital, became the obligatory centre of religion. Even in the temple of Solomon (if this wonder of the world ever really existed), there were quarters reserved for prostitutes and eunuchs, the sacred servants of the goddess Aschera ; not to mention the great serpent,

the cherubim, and other animals representing the ancient creed of polytheism. Jahve had to himself only the holy of holies. The unity of creed was, moreover, so little established that the jealousies raised by the pretensions of the high priest brought about the division and the ruin of the empire; and in the little principality of Judah, retained by the tribe of Judah, together with the Levites or sacerdotal tribe, the eloquence of the prophets and the efforts of two pious kings, Hezekiah and Josiah (622), could not assure to Jahve a complete triumph over the strange gods. This triumph was only secured to him by the ruin of the people chosen by him from all eternity.

The existence of the Jewish tribes had always been precarious and threatened by many foes. Unable to engage in serious strife even with the kings of Syria, their position was hopeless when, divided against themselves, they became the battlefield for the two great rivals, Assyria and Egypt. Towards the eighth century the victory declared itself in favour of the Assyrians, who in the following century invaded Egypt; then the latter, reanimated by the Ethiopian princes, renewed the fatal war, of which one result was the destruction of Samaria by Saryoukin and the ruin of the kingdom of Israel. All who did not perish in the massacre were transported into Mesopotamia at the end of the eighth century, 708–710. A few fugitives gained Jerusalem and Egypt. Finally, in the sixth century, 587–581, Jerusalem, attacked by Nebuchadnezzar, the greatest king of a new Chaldean empire, was taken and burned. The fierce courage of the unhappy Zedekiah, the last prince of Judah, could not prevent the second captivity. It was in humiliation and misery that the relics of this much-tried race put together their tradi-

tions, not without some admixture of foreign elements, and rallied for ever to their god Jahve.

Assyria had been conquered by the Medes; Chaldea fell in her turn before the Persians (536 B.C.). Then it was that Zerubbabel, Esdras, and Nehemiah, 536–430, were able in the course of a hundred years to bring back two or three columns of exiles to reconstruct the Temple with great difficulty, and finally to compile those ancient fragments, completing them, interpolating them, reconciling them as best they could with orthodoxy, the poems adjudged to David and Solomon, and the dithyrambs and revelations attributed to the different prophets. This work, which was nearly finished at the time of the Greek translation of the Septuagint, was begun under the Ptolemies for the Alexandrine Jews, and continued through the time of the Maccabees and up to the beginning of the Christian era. Meantime the Jewish nationality outlived that of the powerful Semites who thought to destroy it, and survived alone; alone it kept a species of independence. The Persian monarchy, the brilliant passage of Alexander, the Seleucidæ, the dominion of the Parthians, had already buried the ancient glory of Assyria and Chaldea; even the language of Sargon and Nebuchadnezzar had ceased to be spoken above Babylon. Syria and Phœnicia had accepted in turn the yoke of Egypt, Greece, and Rome. Finally, the cruel siege and sack of Jerusalem by Titus, and a last convulsion under Hadrian, put an end to the unhappy destiny of the people of Israel, or rather marked the beginning of a long and terrible agony, borne with invincible energy and patience. In fact, the three northern groups, Aramaic, Chaldean, Canaanitish, had been destroyed at the time of the Persian conquest, and

the sceptre of the civilised world had passed into the hands of the Indo-Europeans. And it was long before men saw that the maladies inherited by the peoples of the West from these dying nations,—Babylonian corruption, orgiastic religions of Asia Minor, the enervating mysticism of despairing souls, assured but too well the vengeance of the conquered.

Moreover, the Semites of the south, the Arabs, had not been touched. The Pharaohs by the Red Sea, the Sargonides by the desert, had attacked, pierced even here and there, this block of Arabia, and had annexed it to their empires. But this mattered little to the nomad Bedouin, to the hardly formed tribes which floated about Mecca and Medina. Some carried their tents into another part of the desert, the others fell back or paid some small tribute, and continued to make war among themselves for women or horses. From the time when the Syrian dynasty came to hasten the decomposition of the Roman empire, and especially when Zenobia and Odenatus all but realised their dream of an Oriental empire, the Arabs of the north, with whom were mixed the half Jewish Canaanitish tribes, Idumeans, Moabites, &c., began to take some part in Western life, and to be influenced by Judaism and Christianity. Mahomet appeared with his incoherent and inoffensive book, but also with his terrible doctrine of the identity of the two powers, religious and civil; and Islam, let loose upon a world still shaken by the fall of the Roman empire and by the struggle for its territory of the swarming new races, Islam gave a tremendous power to the Semitic races, a power far more fatal to the Mediterranean world than the domination of the cruel Assyrians or that of the superstitious Chaldeans. In less than a

hundred years the Arabs had conquered Syria and Persia, Egypt, the African coast and Spain, and France as far at Poitiers. This conquest of the East and South by races which had not attained a high degree of intellectual culture jeopardised the future of the world, until the day when John Sobieski, in the seventeenth century, forced the Ottoman vizier to raise the siege of Vienna. It is true, indeed, that the part played by the Arabs was not lacking in brilliancy, and the evils of which they were the cause are not without compensation. There was a brief and splendid civilisation at Bagdad, at Cairo, at Kairouan, at Tlemcen, at Fez, at Cordova, and Granada; a rich literature; an active commerce which reached to China, the Malay Archipelago, and India; finally, a shock which, sending back upon Europe the translations of forgotten Greek authors, driving from Constantinople the last custodians of Hellenic science, determined the Renaissance in Italy, France, and Germany, the revolt against the humiliating, stupefying yoke of the Christian theocracy. But, and the fact is curious, that which is commonly called Arab philosophy, astronomy, and architecture, belongs in truth to the peoples roughly awakened by the sword of the Arab, to the people of Bactriana, of Mazenderan, of Persia, of Syria, of Egypt, of Barbary, and Spain. The Arab, unlike the Assyrian, is no artist: no Arab has ever painted or carved the human face. He is a musician and a poet, a witty story-teller, with a taste for maxims, anecdotes, apologues, and pithy sentences; but his mind lacks both breadth and concentration. No dogma could suit him better than the arid and empty formulæ of Islam, than the Koran with its medley of maxims and narratives, its contradictions, its idle and endless controversies. At

the present day, Semitism may be occasionally a source of trouble, but it is no longer a danger; even Mussulman fanaticism, its terrible creation, though it may spread among the inferior races of Africa, seems only an anachronism, which we must know how to reckon with indeed, but which is powerless against civilised Europe, and its allies America and Australia. For the second and the last time, Indo-European culture has conquered; first, in 537 B.C. with the Persian Cyrus, and in 330 B.C. with Alexander; and, secondly, in 732 with Charles Martel, and in 1683 with John Sobieski.

Let us now endeavour to establish the general characteristics, and to sketch out a table of the languages spoken by this important section of the human race.

There is no stronger or more unchanging unity among any group of languages than that which exists in the Semitic group. The dead and living languages which compose it hardly differ from each other so much as the various Romance or Sclavonic dialects. Not only are the elements of the common vocabulary unchanged, but the structure of the word and of the phrase has remained the same. The persistence of the radical consonants is the most striking feature of the organism. The radical, as the agglutinative phase had left it, admits usually of three consonants, sustained by one, two, or three variable vowels, of which the diversity indicates tense, mood, voice, the form of the verb, the adjective or substantive character of the noun; hence the Semitic roots are called triliteral, because the imperfect writing, not noting the vowels, puts in evidence the three fundamental letters or consonants; but these roots may have one, two, or three

syllables. Moreover, various particles, generally monosyllabic, pronouns, case endings, verbal prefixes, complete the grammatical organism, which is of extreme simplicity.

From the same triliteral root, *qtl*, to kill, *ktb*, to write, *dbr*, to speak, &c., a change in the vowel produces nouns like *qatl*, murderer, *qitl*, enemy, *qitalu*, blow; verbal forms like *qatala*, he killed, *qutala*, he was killed, *qotla*, *qotel*, *qtal*, &c. Suffixes or prefixes indicate the tense: *taktuba*, thou writest or wilt write, *katabta*, thou hast written. The Semitic verb has but two tenses, a perfect and an aorist, according as the action has been accomplished or is in course of accomplishment; it admits only two moods, the indicative and the imperative, whence the Arab has drawn a subjunctive and a jussive. The two voices, active and passive, have each fifteen, thirteen, seven, or five forms, according to the dialect, characterised either by the doubling of the second consonant (*qattala*, *quttala*, he has killed many, he has been entirely killed), or by lengthening the first or second vowel, or by the prefixation of various syllables: *hiqtil*, *hithqattel*, *hithqotal*, *niqtal*, &c., to give an intensive, causative, desiderative meaning, an expedient already well known to the agglutinative languages, which we shall find again in the Indo-European. The second and third persons of the verb express the sex of the subject.

The possessive and personal pronouns, whether subject or object, are suffixed to the verbs and nouns; *ni*, *me*, *ta*, thou; *Sabachthani*, thou hast forsaken me; *Eli*, my God. The demonstrative pronouns appear to be formed from the vowels *a*, *i*, *u*, which the written character expresses, and which had an aspirated or consonantal character: *h*, soft, *ye*, *oue*.

The declension has two genders; the termination *t* is the sign of the feminine; the neuter appears to have existed, but has disappeared; the plural and dual masculine are indicated by *m* or *n* (*um*, *un*, *im*, *in*); the feminine plural keeps the final *t*. Three cases, the nominative in *ou*, genitive in *i*, accusative in *a* (*um*, *im*, *am*): *abd-u*, *abd-i*, *abd-a* (servus, servi, servum), are retained in Arabic. Hebrew replaces them by particles, *l*, *b*, and *et*; sometimes the simple juxtaposition of the determined and determinant, that which is termed the constructed state, takes the place of the genitive: *melekh Israel*, king of Israel; *bin iamin*, son of the right; and again with a pronominal suffix, *ben-on-i* (son, sorrow, me), son of my sorrow. Lastly, the definite article, which is invariable, *ha*(*l*) in Hebrew, *al* in Arabic, is prefixed to the word, doubling the initial consonant, or assimilating itself with it: in Hebrew *hammelekh*, the king; in Arabic, *ar-rahman*, the merciful.

All the processes we have just enumerated have nothing new for us except one, and that indeed important—the change in the root vowel, together with the invariability of the consonant. This ingenious artifice both brings the Semite near to the Indo-European and yet separates them profoundly; so completely that, in supposing them to have had a common period, monosyllabic or agglutinative, it would be impossible to establish any relation between the two systems either in the conjugation, or—and this is far more important—in the conception of the root and in the formation of the word.

The Semitic phonetic system, very simple in the vowels, abounds in aspirated gutturals and emphatic consonants, *h* soft, *h* hard, *hh*, *gh*, *kh*, &c., which are

difficult to render in our smoother tongues. We will content ourselves with these general indications; the subject is too vast for us to engage upon it without transgressing our limits. It has been so long and so completely studied, that we refrain from even citing the hundreds of authors who have thrown light upon its smallest particulars. The *Histoire Générale des Langues Sémitiques*, by M. Renan, though unfortunately incomplete, is yet in French the surest and the most open-minded guide which we can indicate.

The Semitic languages form two great branches, each subdivided into two groups. The northern branch comprehends the Aramaic-Assyrian group and the Canaanitish group; the southern group includes the Arabic group, properly so called, and the Himyarite group.

The name Aramaic is given to two dialects which are very nearly allied—Chaldean and Syriac, which are separated by preferences for certain vowels and by a difference of accentuation. As the remaining Babylonian inscriptions are deciphered, we shall attain to a better knowledge of ancient Chaldean. In the present state of science, this language is chiefly represented by certain parts of the Jewish Bible, especially the Books of Esdras and of Daniel, which were doubtless written during the captivity, soon after the fall of the last Babylonian empire, from the fifth to the second century; then, towards the Christian era, by the Targum, translations and paraphrases of the Hebrew books; the Talmud, which is of somewhat earlier date, contains also some Aramaic elements. Nabatean and Mendaite or Sabian, southern forms of Chaldean, have left us a treatise on agriculture, translated into Arabic in the tenth century of our era, and the curious book

of Adam, which is perhaps posterior to Islamism. M. Renan found in the Museum of Naples some Nabatean inscriptions, dating from before the Christian era, which bear witness to the flourishing condition of this Chaldean colony, which had emigrated to Petra and was governed by independent kings.

The Aramaic which was spoken at the time of Christ was divided into two sub-dialects: that of Galilee, which resembled the Syriac pronunciation, and that of Jerusalem, of which the pronunciation was more marked and nearer to Chaldean. Jesus and his disciples evidently spoke the dialect of their country, as appears from certain passages in the New Testament. It was in this dialect, called Syro-Chaldean by Jerome, that the notes of Matthew and Mark were written, the point of departure of the first and second Gospels.

Syriac, in its primitive state, is unknown to us, as also Syro-Chaldean. We know that it was one of the principal dialects spoken in Judea before and after Christ. It may claim the inscriptions of Palmyra, which date from the three first centuries, and the version of the Bible called *Pechito* (the simple), which is attributed to the second. It is the language of the Aramaic Christians, of a whole literature of controversy, in which the works of St. Ephrem, poet, controversialist, and commentator, hold, we are informed, the first rank. The great schools of Nineveh and Edessa, species of theological faculties, ceased not from the fourth to the sixth century to send forth Gnostic, Monophysite, and Nestorian writers, whose disputes fill the bibliography of the Maronite Assemani (three folios). Syriac poetry and medicine were deeply tinctured with theology. History, or rather

the chronicle of contemporary events, is represented in this literature by the valuable works of James of Edessa and of Barhebræus (thirteenth century), doctor, bishop, primate of the East, known also by the Arabic name of Abulfarage. Barhebræus is the last name in Syriac letters; for as early as 853 the Caliph Mottewakkel had forbidden them to be taught. The language was declining also, having long been eked out with Greek, Latin, Frank, and Arabic words. But in its golden age (fifth to the ninth centuries) it had served the instrument for the beginnings of Arab philosophy. It was through Syriac translations of Aristotle, Proclus, Porphyrius, by Abraham the Great, Ibas, Sergius, and James of Edessa, that the works of the Greek mind became known to the barbarous West. We therefore owe some gratitude to this language, which lingers obscurely in the neighbourhood of the lakes of Van and Urmia. It is still used in the liturgy of the Nestorians and of the Maronites.

Assyrian is a discovery of this century; it was revealed by the third column of the Persian inscriptions. The labours of Rawlinson, Oppert, and Menant have assured its place, for some time disputed, in the Semitic family. It is sufficient to transcribe it into the Hebrew character to make clear its relationship to the other kindred dialects. The cuneiform character, so difficult to read because of the mixture of ideograms with phonetic signs, has at least this advantage, that it is syllabic, and makes it evident that the famous neuter consonants of the triliteral root were not mute, and that the Semitic word is the result of a slow agglutination, and not of a preconceived abstraction.

To the Canaanitish group belong Phœnician,

Samaritan, the languages of the left bank of the Jordan, notably Moabite, known by the stele of Mesha, and lastly, Hebrew. The first and the last of these dialects are almost exactly alike. In Phœnician there are several primitive forms which exist in Hebrew only as archaisms; it presents also, even in its colonial dialects, traces of Aramean, which the Jews in their Egyptian exile naturally avoided. Of Phœnician literature there only remain fragments translated from the history of Sanchoniatho, and a Greek version of the circumnavigation of Hanno. But numerous inscriptions, collected from all the coasts of the Mediterranean, at Carthage, and in the islands of Cyprus, Malta, Sardinia, &c., allow the language to be classed with absolute certainty. Phœnicia itself has furnished epigraphic texts of great importance, the long inscription which may be seen at the Louvre on the tomb of Eschmounazar, king of Sidon, and the stele of Jehawmelek, king of Byblos, interpreted in 1875 by Vogue and Renan. These little princes, vassals of Egypt or Persia, seem to have lived in the sixth or fifth century; conquerors were commonly tolerant of these local sovereignties. "It is I," says Jehawmelek, "I, son of Jeharbaal, grandson of Adommelek, whom our lady Baalath has made king of Byblos," &c. This text, which briefly describes the portico and the sanctuary dedicated to Baalath, proves the exactitude of the records of Lucian and Plutarch.

We have mentioned Phœnician first, because it developed itself before the arrival of the Hebrews in Palestine; but no one is ignorant of the fact that the language of the immortal Job has played, after its extinction, however, a far more important part in the world than its Canaanitish sister. We have spoken

of the late date of the compilation of the Bible, the revision from the point of view of orthodoxy of all the fragments, of the books of all the ages which were carried to Babylon, the work of unification due to Esdras and Nehemiah, which betrays itself by the almost perfect unity of the language. If there are, as it is thought, some parts of the Bible anterior to the eleventh century before Christ, if a few psalms, the Books of Job and of Judges, really date from the age of David and Solomon, it is by induction only that they can be distinguished from the parts which were re-written, like the Pentateuch, or quite modern, like the Chronicles and Judith, Ruth and Tobias, written long after Chaldean and Syriac had taken the place of Hebrew as spoken languages. Aramaic reigned in Palestine long before the epoch of the Maccabees. Hebrew was, however, the written language up to the first century before our era, and was maintained in the rabbinical schools as late as the twelfth century. Its principal monument of this period was the Michna, a collection of traditions, a sort of second Bible. After the decline of the Arabs, especially in Spain, the Jewish priests returned to their national language, and wrote, spoke, and taught it still.

Ancient Hebrew is poor in abstract terms, and from this relative poverty arises its principal beauty, its metaphorical energy of language; there are few works fuller of colour and power than Job. Certain mythical psalms, generally misunderstood, several of the visions of Isaiah, Ezekiel, and others, when the idea does not disappear in a delirium like the frenzy of an oracle; lastly, the simple narratives of the Book of Judges, so pagan, so cruel, and so courageous, may be read, some certainly with admiration, others with

pleasure. Hebrew has the concision and the strength of Latin with the simplicity of the analytical languages.

Arabic, the prototype of the southern branch, has, on the other hand, the subtlety and richness of Greek. It has retained almost intact all the resources of Semitic speech, the three cases, various verbal forms (lost in Hebrew), the plurals, obtained by modifying the vowels of the root (*abd*, servant, *ibd* or *ibad*, servants); and we may add that we are far from knowing all the vocabulary of the other Semitic languages, whereas the vast Arabic literature, which embraces every subject and every style, employs all the wealth of its dictionary.

This literature, of the purest and doubtless the oldest branch of the family, presents no monument comparable to the Bible, but it is brilliant and abundant. It is not ancient, and seems to have taken its rise only after the exhaustion of the other branches of the Semitic family. The famous *Cacidas*, poems which were crowned and suspended to the vaulted roof of the temple of Mecca, are little earlier than the time of Mohammed. Several of these describe with fury, so to speak, the sufferings and the joys of the fierce Bedouin:—

"I am not, says Chanfara, one of those beings who are stupid and timid like the ostrich, whose heart rises and falls in their breast like the lark in the air. . . . I swallow a handful of dust, without a drop of water, rather than give to an arrogant man the right to say that he has done me a service. . . . I strangle hunger in the coils of my bowels, twisted like the cords of the spinner. . . . I sleep on the hard earth, my back supported by the projecting bones of the spine. My pillow is a sinewy arm of which the joints stand out

like the little bones tossed by the gambler. Know that I am a man of patience, that I wear its mantle over the heart of a hyena or of a wolf, and that hardihood serves me for sandals. How many times have I plunged into the rain and the darkness, with hunger, cold, and terror for companions." So lived the hero Antar, the robber of horses and of women, whose adventures have been so well translated by Marcel Devic.

Islam and the Koran inspired these savage souls first with fanaticism and afterwards with a taste for mystical subtleties. Later the establishment of luxurious courts changed the poets of adventure into polished courtiers, servile parasites, clever narrators of Indian and Persian traditions, collectors of historical anecdotes, mixed with witticisms and verbal jesting.

Inspiration has failed and talent has diminished, but the written language is unchanged. The same cannot be said of the Arabic of the people, which alone has dialects, those of Barbary, Arabia, Egypt, and Syria differing very little the one from the other, but all characterised by the rejection of grammatical forms. This spoken Arabic has arrived by degrees at the same stage as ancient Hebrew. The Mosarabic of Spain, which became extinct in the last century, and Maltese had long become formless patois.

Arabic, being the language of Islam, has deeply penetrated all the Mussulman nations, Turkish, Persian, and Hindustani, and has contributed a considerable number of words to European vocabularies (see the Supplement to Littré's Dictionary) : *zero, cipher, cotton, sirup, algebra, magazine, crimson,* &c.

Himyarite reigned to the south of Arabic; it was the language of the Queen of Sheba, and is now well

known through a great number of inscriptions, and is perhaps still spoken under the name of Ekhili in the district of Marah. But Islam carried Arabic to the shores of the Indian Ocean. It is in Abyssinia that we must seek for the last vestiges of Himyarite. Several centuries before our era, the African coast of the Red Sea had received Semitic colonies, and a language known as Ghez or Ethiopian, which was very developed and still had cases and thirteen verbal forms. In the fourth century, when Christianity penetrated into Ethiopia, the Bible was translated into Ghez, together with other Jewish, Christian, Greek, and Arabic works. For some time Ghez has only existed as a learned or liturgical language, but a certain number of allied dialects, Amharic, Tigre, Harari, are still spoken in parts of Abyssinia.

In this rapid summary, which is all that my general scheme will permit, I have tried to sketch the historical and intellectual destinies of the Semites, noting successively the Chaldean education of the Aramaic and Canaanitish nations, their certain and probable migrations, the movement caused by the invasion of the Hyksos among the Phœnician or Punic tribes, among the Aramaic or Syrian nation, and, lastly, among the family of Terah, Abraham, and Jacob; the great maritime and commercial expansion of the Phœnicians; the late establishment of the Israelites in Judea; the crushing of the Canaanites between Egypt and Assyria; the northern Semites subjugated and annihilated by the Persians, by the Greeks, and the Romans; Greco-Roman civilisation, undermined by Eastern corruption, by enervating mysticism, by Christianity, the vengeance of the vanquished Semites; finally, when invasions were dismembering the Roman

colossus, Mussulman fanaticism threw upon the world the Arab hordes which had remained till that time intact and free in their deserts.

In enumerating the general features of Semitic speech, the invariability of the consonants and the flexion of the vowels, we have said that this important particular alone renders vain any attempt to establish a relationship between the Semitic family and the Indo-European.

Finally, by a few dates and quotations we have characterised their groups and sub-groups, pointed out their points of resemblance and of difference, noted their duration, their respective merits, the importance and the bearing of their literatures

CHAPTER VIII.

THE INDO-EUROPEANS.

The science of language leaves untouched the domain of ethnography—Inattention of the ancients with regard to the manners, languages, and origin of their neighbours—Philology, long forbidden by Christian prejudice, was thrown open by Leibnitz—Discovery of Sanscrit—The Indo-European family of languages constituted by F. Schlegel—Summary sketch of its eight branches: Celtic, Teutonic, Slav, Lettic, Italic, Hellenic, Iranian, and Hindu—Original unity, dialectic alteration—The mother-tongue and the organic forms—The cradle of the language should be sought between the two great sub-groups, Eastern and Western—The social, moral, and intellectual condition revealed by the elements which are common to all the Indo-European idioms—The Semitic history of Bossuet is effaced by the history of the Indo-Europeans—The Aryans reign throughout the world.

THE indigenous populations of quaternary Europe have been replaced, or rather over-laid, several times in succession, by migrations coming from the south and from the east. Successive crossings, modifying at once the type of the conquerors and of the conquered, have resulted in an extreme diversity in the height, build, and physiognomy, not only of the fifteen or twenty peoples who have shaped themselves during the historical period, but also of the far more numerous elements which geographical necessities and the course of events have united into nations. There is no doubt that these ethnical differences have had a very considerable influence on the construction and aspect of the idioms which have prevailed in a given region

of Europe. It is to them that we must attribute the peculiarities of pronunciation, of accent, and of syntax which separate and characterise the Hellenic, Latin, Teutonic, and Slav groups and sub-groups.

But ethnography and the science of language do not coincide. It is very rarely found that a people speaks the original language of its ancestors. Unless the disproportion in numbers or cultivation be too great, the language of the immigrant conquering minority is imposed upon the conquered majority, and even survives the race which imported it. Hundreds of millions of men may employ an idiom, altering it more or less, but without destroying the basis of it, which has been created in its entirety by a race, a people, a tribe, which disappeared thousands of years ago from the distant and unknown land where it had its birth. And when a wonderful discovery reveals this fundamental identity between the languages of rival nations, enemies, or at least separated by manners, aspirations and distance, it arouses, together with a legitimate astonishment, erroneous confusions, protestations, controversies, which are occasionally useful, more often idle or exaggerated. Some infer brotherhood of race from kinship of tongues; others deny the existence of the human group which has invented this unique vocabulary and grammar; others again claim for their country and their ancestors the honour of having conceived and propagated them. Philology is, I submit, in a position to resolve these difficulties and to put aside these objections; and that without trespassing on the domain which properly belongs to ethnography; it does not minimise the differences, the special characters of peoples; it does not maintain that at a given time, at any time, the inhabitants of

Western Asia, of Italy and Germany had a common ancestor; it only establishes that they owe to a single definite group, and not to their own initiative, their languages, their institutions, the germ of their destiny.

The ancients were not unaware that the world was peopled before their arrival in Asia Minor, in Greece, in Italy. In many regions their predecessors maintained themselves beside and amongst them. From the texts collected by M. Arbois de Jubainville credible traditions showed that the Iberians, nearly related to the Atlantides, were established in the west as far as the Rhone, and even threw off a branch into Italy, the Sicani; the Pelasgians, under the name of Phrygians, Sardinians, Lydians, Lycians, Cares, Leleges, Tursenes, were scattered over the coast of Asia, in the archipelagoes of the Ægean, throughout Greece, and in southern Italy; then came the successive arrivals of the Ligurians and the Siculi, of the Illyrians, Thracians, and Bithynians, closely followed by the little group of the Hellenic tribes. These vague traditions were all sufficient for the most enlightened Greeks. As for the different languages, which they certainly knew, and which were not extinct in the sixth century before our era, in the time of Peisistratus and Solon, it does not appear that they ever thought of collecting them. Their own idiom was enough for them; all others were barbarous jargons, useless and negligible. Plato having remarked the resemblance of the names for fire and dog in Greek and Phrygian, contents himself with supposing that the Hellenes had perhaps received certain words from the autochthonous races. Even the prolonged contact with the Persians, whose language was learned by a few Greeks, notably by Alcibiades, did not win them from their indifference.

The expedition of Alexander taught the invaders nothing; the Sanscrit dialect spoken by Porus remained a closed book to the learned men who surrounded the king of Macedonia; and if we did not know that the Emperor Claudian had written sixteen books on the history and the language of the Etruscans, we might affirm that the sense of language was as absolutely unknown to the Latins as to the Greeks.

We shall not expect to find the Middle Ages more enlightened than antiquity. It took the ancestors of modern peoples centuries to learn that which intelligent humanity had already acquired before them. Christianity, retaining a few scraps of Latin, the science of the day, preached to the new populations resignation, humility, obedience, and ignorance. The fall of Constantinople, the exile from thence of the scholars, and the dispersal of the Byzantine manuscripts, the discovery of printing, were necessary to rouse Europe from its torpor. This was the Renaissance; the veil was lifted, at least for a few, and day began to dawn on Europe. Man turned again to things of earth, and regaining an interest in all the manifestations of human activity, leaving faith for reason, recognised in speech the necessary instrument of thought and analysed its organism. Nevertheless, despite the efforts of Bibliander, Henri Estienne, Roccha, and Scaliger, who attempted some comparisons between Greek, Latin, and French, and of Guichard, who in his *Harmonie Etymologique* (1606) distinguished the Teutonic and the Romance dialects, and constituted a separate family, including Hebrew, Chaldean, and Syriac, a capital error long turned philology from the right path. Orthodox logic could not seek elsewhere than in Hebrew the origin of all

languages. Was it not in Hebrew that God spoke to Adam, and that the serpent tempted Eve? Moreover, God had dictated the Decalogue in Hebrew, and the creature made in his image could only speak in Hebrew. Even the boldest dared not doubt it. It is true that the adventure of Babel had happened since, but should there not exist, in the dispersed and confused languages, at least the traces of the primitive tongue? One can but admire the ingenuity displayed by commentators and etymologists in the endeavour to extract from the Bible the names of the gods of the heathen, and even Latin and French words. In order to bring Greek nearer to Hebrew, Guichard read it backwards, from right to left.

Leibnitz was the first to oppose this inveterate prejudice. "There is," he says, "as much reason to consider Hebrew the primitive language as to adopt the opinion of Goropius, who in 1580 published a work at Antwerp to prove that Dutch was the language spoken in the Garden of Eden." He was the first to propose, in his "Dissertation on the Origin of Nations," the application of scientific methods to the science of language. Surmising that, in the absence of written history, the analysis of words might yield authentic information on the ideas and manners of primitive peoples, he proposed to Peter the Great, in 1713, the plan of a collection of vocabularies. He drew up himself a list of common terms and encouraged the work of the German Eckhardt. His hypotheses, as we know, were too tentative, too little methodical to succeed; but by their very failure they pointed out the way; they showed that the first essential of fruitful comparison is the collection and classification of a sufficient number of facts.

The example of Leibnitz was followed by others. And if guess-work played the principal part in the clever study of Fréret on the "Origin and Mixture of Ancient Nations," if the premature philosophy of language, as displayed in the "Primitive World" of Court de Gébelin, could throw no light on the affinities of European idioms, it was because there was wanting a standard of comparison which should explain their divergence. The sacred books of India concealed this standard; it lay there unknown and unexpected, until this century discovered it and realised its importance.

Sanscrit, the language of the Brahmans, known before our era to the Buddhists of China, had been studied from the eighth century by Persian, Arab, and Turkish translators. Some fragments of its rich literature had even reached us and have remained in our tales and apologues. But although towards the end of the fifteenth century Filippo Sachetti had noted some points of resemblance between Italian and Indian words, it is doubtful that even the name of Sanscrit was known in Europe before the middle of the eighteenth century.

Vasco di Gama, meanwhile, had landed in Calicut in 1498; the Portuguese missions, throwing themselves at once on the rich Indian prey, must have learned the language of the country, Tamil, and from the year 1559 the priests of Goa knew enough of the doctrines of India to invite the Brahmans to public controversy. In 1606, Roberto de Nobili, who disguised himself as a Brahman, and cleverly presented himself as the interpreter of a fourth Veda, read in the original the Laws of Manû and the Pûranas. It was doubtless under his influence that the Ezûr-

Veidam was composed in India, a Christian imitation of the Vedas, which holds a certain place in the erudition of Voltaire.

Fr. Pons in 1740 sent to Fr. Duhalde an exact description of the four Vedas, of the grammatical treatises, and of the six great systems of philosophy. Lastly, in 1767, another Frenchman, Fr. Cœurdoux, sent to the Abbé Barthélemy, who in 1763 had asked him for some historical information, two papers on the analogies and the kinship of the *Samscroutan* language with Greek, Latin, German, and Sclavonic; he gave four lists of similar words and grammatical forms, noted the presence of the augment in Sanscrit and of the *a* privative; he refused to attribute to borrowing and commercial dealings resemblances which affected not only isolated terms, but the formation of the words themselves. If these precious documents had been made public, France would have had the honour to inaugurate the comparative study of Indo-European languages. Unfortunately they remained buried in the archives of the Academy, and only appeared in 1808, at the end of a memoir of Anquetil Duperron. In the interval science had progressed; England and Germany had made the discovery which might have belonged to us.

The affinities recognised by Hahled, 1778, Sir William Jones, Paulin de Saint-Barthélemy (Philippe Wesdin), 1790, were admitted by Lord Monboddo (1792–1795). Dugald Stewart, it is hard to say why, was obstinate in denying the existence of Sanscrit. But his incredulity was unavailing against the grammars published from 1790 to 1836 by Wesdin, Colebrooke, Carey, Wilkins, Forster, Yates, Wilson, Bopp, Benfey; against the texts edited, beginning in

1784, by the first Asiatic Society, founded at Calcutta. The contrary exaggeration prompted the enthusiastic Oriental scholars to regard Sanscrit as a universal mother-tongue. Sir William Jones avoided this error; he supposed for Sanscrit, Greek, and Latin a common source, which perhaps, he says, exists no longer. Modern science has confirmed his hypothesis, and, while recognising the general priority of the Sanscrit forms, notes in the other idioms of the family peculiarities which cannot be traced farther back, which are, so to speak, collateral, and point to the necessary existence of an earlier language, of a type which is yet visible through the alterations suffered by its various forms.

While the mysteries of India were being revealed to English investigators, two vast collections, the "Catalogue" of Hervas, and the "Mithridates" of Adelung, came to furnish philology with the treasure of facts which alone can change hypothesis into certainty. Hervas, a Spanish Jesuit, and a missionary in America, collected three hundred vocabularies and thirty grammars, discovered the unity of the Malay group, the independence of Basque, the relationship of Hungarian, Lapp, Finnish, and suspected the relationship of Greek and Sanscrit. His work, in six volumes, dates from 1800. The "Mithridates," founded in part on the "Catalogue," in part on vocabularies collected by order of Catherine II., appeared from 1806 to 1817. Adelung died in 1809, but his son finished the work. The classification of languages could thenceforward go on with a more rapid and assured step and in the right direction. The most brilliant, the richest, the most vigorous group, that which was the first to be clearly defined, claiming for itself the place till then

abandoned to the Semites, was the group to which our European languages belong. In 1808, the poet Frederic Schlegel, who had studied Sanscrit under Hamilton (1801–1802), constituted clearly, in his book on the "Language and Wisdom of the Hindus," the Indo-Germanic family. Though the work is out of date, like the symbolism of Kreutzer and of Herder which inspired it, though the bold guesses of the author have fallen before the demonstrations of grammatical analysis, yet Schlegel is to Adelung, even to Sir William Jones, what Copernicus is to Ptolemy. He conceived a new world; he created one of the richest domains of the human mind, or rather he opened its doors. His book, which is no longer read, gathers dust on the threshold of the science of which he was the inaugurator.

Before studying the organism of the Indo-European speech, such as we are able to reconstruct it from the features common to its numerous varieties, it is indispensable to glance over the immense area which it covers, and to indicate, in space and time, the place occupied by each of the groups of languages which have issued from it. If we disregard its modern annexes, which include the two Americas and Australia, we shall find that it reigns from the mouths of the Ganges to Iceland, and from Sweden to Crete, comprehending five-sixths of Hindustan, Afghanistan, Persia, Armenia, three-quarters of Russia, of Sweden, and of Norway, and all the rest of Europe, except the Basque country, Hungary, and a portion of Turkey in Europe.

In the extreme west, in Scotland, in Ireland, in Wales, and in Brittany, we find the remains of the Celtic group, generally subdivided into Gaelic (including Erse and the dialect of the Isle of Man) and

Cymric (including Cornish and Breton). Save for a few inscriptions which are not yet completely explained, these languages are only known to us by relatively recent texts.

Some Irish glosses of the eighth century, and a few Breton and Cornish documents of the eleventh and thirteenth centuries, are the most ancient remains (all the rest is hypothetical) of a language formerly spoken in the north of Italy, throughout Gaul, and in the British Isles, a language which, in spite of the illusions of Celtic enthusiasts, has only left to the French tongue a few names of places, historical names mentioned by the Latin writers, and about two hundred and forty authentic words in addition to these.

Racially the Gauls and Celts can be distinguished. The latter were round-headed, with dark hair and eyes, of middle stature, and strongly built. The Gauls were very tall, very fair, warlike and adventurous. The Celts probably occupied before the dawn of history the whole of Central Europe, the valley of the Danube, Savoy, Auvergne, Brittany, Ireland; traces of them are found in Roumania (or Dacia), in Austria, and in Bavaria. Did these bring with them the Celtic dialects, or did they receive them from the Gauls or Belgians? This question is insoluble, for it is impossible to give the date of the arrival of the Gauls, who were doubtless the first wave of that great flood which bore the Teutons to the north of the Alps, the Latins to the south. Towards the sixth century they certainly occupied a great part of Northern Germany, dominated Gaul from the Rhine provinces to the Pyrenees, and Italy as far as the Po, perhaps as far as the Tiber. They destroyed Rome at the beginning of the fourth century, Delphi a hundred years later, and even pene-

trated into Asia Minor, into Galatia. It was to put an end to their incursions that the Romans, after having with difficulty subdued them in Cisalpine Gaul, annexed the Transalpine provinces to the republic in the middle of the first century before our era. It is well known how rapidly the Gauls and the Celts adopted the languages and civilisation of their conquerors. Gallic, the most ancient of the Celtic dialects, had completely disappeared by the fifth century of our era, and the others are but the degenerate descendants of an extinct language which some consider to be related to Latin, others to Teutonic. However this may be, their literature, which is fairly abundant, has been carefully studied by Luzel, Gaidoz, D'Arbois de Jubainville, and the Indo-European origin of their vocabulary and grammar has been established by Pictet (*De l'Affinité des Langues Celtiques avec le Sanscrit*, 1837), by Bopp ("The Celtic Languages from the Point of View of Comparative Philology," 1838), and by Zeuss (*Grammatica Celtica*, 1853).

The powerful German branch had quite another destiny; its historical existence is not very ancient, but it has itself ramified into vigorous and cultivated branches which cover a great part of northern Continental Europe, the British Isles, and the United States. The earliest known name of the Germans or Teutons (Teotisk) seems to be Bastarnes. From the year 182 B.C., they wandered between the Niemen and the Rhine, from the Alps to the Black Sea. Soon appeared the Teutons of Marius, the Suevi of Ariovistus, then the Germans of Varus, the Quadi, Alamanni, Franks, of Marcus Aurelius, Probus, and Julian. Owing to the strange lack of curiosity in the ancients, nothing of the earliest times of the German languages has come down

to us. By a fortunate chance, a precious manuscript of the fifth century, preserved at Upsal, the *Codex Argenteus*, has retained for us the fragments of a Gothic translation of the Bible. The author was a Cappadocian, brought up among the Western Goths on the Lower Danube, and under the name of Ulfilas he became their bishop and their chief (311–381). The Goths, Wisigoths, and Ostrogoths, who played so fatal a part in the sad drama of the fall of the Roman empire, were the rearguard of the German invasion; they barred the passage between the Black Sea and the Baltic. Under the shock of the Slav or Wendic invasion, in the year 77 of our era, they were driven partly into Sweden, and in part between the Dniester and the Balkans, whence they hurled themselves upon Greece, Italy, and Southern Gaul. Gothic became extinct in the ninth century. By its less mutilated forms it may be classed almost at the same stage as Latin and Greek; it is not the father, but the elder brother of the other Teutonic dialects; its relationship with the Scandinavian languages and the Low Dutch dialects is specially marked.

The most anciently cultivated of the Scandinavian idioms, Norse or Norrois, carried to Iceland in the ninth century by pagans fleeing from the Christian propaganda, has preserved for us the most precious traditions on the mythology of the North. The Hliods and the Quidas, which were recited in the seventh and eighth centuries in Norway before the emigration, were collected in the eleventh in the poetical Edda of Sœmund. The prose Edda of Snorri Sturleson in the following century, and then numerous Sagas, complete the cycle of national legends, which are for the most part common to all the Teutonic tribes. Danish and Swedish, which developed side by side with Norse,

form independent though nearly allied branches of the Scandinavian family.

In the north of Germany there are certain spoken dialects which are no longer written, Platt-Deutsch or Low Dutch, which are intermediate between Scandinavian, German, and English. This was the language of Wittikind, and two manuscripts of the eighth century have transmitted to us a Christian poem written at this epoch for the conversion of the Saxons, the *Heljand* or "Saviour." Frisian, cultivated in the twelfth century, Flemish, the language of the Burgundian court in the fifteenth century, and its twin, Dutch, belong to the same group, and are intimately connected with Anglo-Saxon. The English tongue, which has received from Latin and French more than half of its rich vocabulary, is none the less essentially Germanic in what remains to it of grammar and in the core of the language. It was introduced in the fifth and sixth centuries by the Jutes and the Angles. Anglo-Saxon, very nearly allied to Gothic, is represented by the epic poem of Beowulf, which is attributed to the seventh century; it was spoken until the time of William the Conqueror (1066). Thanks to the simplification which is the result of time, this old idiom has renewed its youth; the language of Shakespeare, of Bacon, of Walter Scott, and of Shelley has produced a magnificent literature, and has spread itself over the whole earth. It is the conquering idiom.

The Teutonic tribes destined to form the German nation, properly so called, have gone through many vicissitudes, which partly account for the absence of ancient documents in their dialects. That which the Romans and the Gauls called the Germanic invasion was commonly merely a forced emigration under the

double pressure of the Slavs and the Huns. From the fifth to the sixteenth century there were no Germans in Eastern Germany. Slavs occupied Silesia and bordered on Saxony; the Avari approached the Rhine and harassed the frontiers of Charlemagne. Independent Germany in the eighth century was reduced to Saxony, then conquered and annexed by the Frankish emperor. The Franks themselves, who had spread in great numbers over the Rhine provinces, were, so to speak, lost in the Latin empire, to which one of their families, which was much crossed with Belgian blood, had furnished the chiefs. And though the kings of Austrasia had kept their national dialect, although Charlemagne spoke it and took care to collect Germanic songs and traditions, the domain of the true Teuton was extremely limited. It comprehended Alaman, Bavarian, Suabian, and Frankish dialects. The Frankish of the Merovingians and of Charlemagne no doubt held the first rank in Old High German. We may mention, as belonging to this period, the text of the sermon pronounced by Charles the Bald in 843 before the battle of Fontenay, and, in the tenth century, a poem which celebrates the victory of Louis III. and of Carloman over the Normans.

In the thirteenth century Suabian prevailed and constituted Middle High German; it was the language of the Minnesingers, and has been rendered famous by the creators of the national poem of the *Nibelungen*. Finally, literary German arose with the translation of the Bible by Luther, as did classical Arabic with the Koran, and became the universal language of a far larger Germany. I need not praise German poetry, philosophy, and science. But we may be permitted to regret, in language as in religion, the extreme timidity

of the Reform. Luther did not venture to rid the language of the silent or nasal terminations, of the clumsy construction, of the relics of declension which trouble the ear and weary the mind.

The northern provinces of Prussia were long occupied by the Letts and Lithuanians, who had taken the place of the Vandals, the Heruli, and the Lombards. The greater part of them were attached to Germany by conquest, by the crusade of the knights of the Teutonic order. Russian Lithuania shared the fate of Poland. The Lettic group, interesting by its archaic forms, is only known to us, as so often happens, by modern documents. It comprehends Old Prussian, which became extinct in the seventeenth century, and is represented by the eight hundred words of a lexicon of the fifteenth century, and by a catechism dated 1561. On the frontier of Eastern Prussia and in Russian Lithuania, about 150,000 people speak Lithuanian, which is often better preserved than Sanscrit itself. Its literature consists of the works of a poet, Donalisius (1714–1780); a few prose fables have also been collected, together with proverbs and popular songs. Lettic, which is more corrupt, is spoken in the north of Courland and in the south of Livonia by about a million of people.

These languages are akin to one of the largest groups of the whole family, the Wendic or Slav group, which came into Europe during the first five centuries of our era; it is divided into two great branches, Eastern and Western. The first includes Russian, Great Russian in West Central Russia; Little Russian, Rusniac, or Ruthene in the south of Russia and even into Austria (spoken by fourteen millions of people; there are documents of the eleventh century), Ser-

vian, Croatian, Slovenic, and Bulgarian, of which the most ancient form is to the whole group what Gothic is to the German dialects; modern Bulgarian is, on the contrary, very much altered. Old Bulgarian or ecclesiastical Slav, which Miklosich, the author of the Wendic grammar, declared to be the father of all the Slav idioms (*lingua Palæo-Slovenica*) was fixed in the ninth century by the apostles Cyrillus and Methodus in their translation of the Bible. Slovenic has left fragments which date from the tenth century.

The western branch covered from the seventh to the ninth century vast districts of Germany in which only German is now known: Pomerania, Mecklenburg, Brandenburg, Saxony, Western Bohemia, Austria, Styria, and Northern Carinthia. Though now much restricted, it can still boast numerous dialects; among others the Wendic of Lusatia, which is dying out, Tzech or Bohemian, which is very vigorous (ten millions), of which a variety, Slovac, is found in Hungary; lastly, Polish (ten millions), of which the very important literature begins at the end of the tenth century, and numbers, from the twelfth onwards, many chroniclers and poets. Tzech has been cultivated from the eighth century; its first documents are the celebrated manuscripts of Kralovdor and of Zelenohora, discovered in 1817. Since they date from the transition period between Christianity and Paganism, they are as valuable to the student of mythology as to the philologist. The time of Huss gave great prominence to Tzech letters; but conquered and given over to the Jesuits, Bohemia's language was proscribed; it has, however, been revived from the end of the last century. The relatively modern cultivation of the Slav languages does not alter the fact that they date from the earliest

period of the Indo-European speech ; their grammar has a very archaic character, especially in the declensions. The various branches of the group are closely connected. Safarick tells us that a Bohemian understands Slovac, a Slovac Polish, a Pole the Wendic of Lusatia. A modern Russian can still with a little attention follow the Bulgarian office of the ninth century. Russian and Polish, though belonging to two distinct classes, hardly differ from each other more than do Spanish and Italian.

The South of Europe belongs to the Italic and Hellenic families. The one has given birth to our languages, the other by its literature has formed our mind. They are in the first rank,—the finest impression of the Indo-European type.

Latin was at first a very small central group of dialects, Sabine, Volscian, Latin, superposed upon the unknown languages of the aborigines, Ausonians, Auronci, and Siculi. Its history is that of Rome itself. From the eighth to the fourth century B.C. it was written only in certain Annals, in a few liturgical books and songs, and in the Law of the twelve tables, and remained confined to Latium, between two kindred languages, Samnite to the south, Umbrian to the north, surrounded by Etruscan in Tuscany and in the Campania. Celtic reigned in the valley of the Po, Greek in the two Sicilies. Samnite or Oscan, spoken and understood in Rome as well as Latin, and Umbrian, still heard on the right bank of the Upper Tiber at the time of the Antonines, have left valuable inscriptions, deciphered by Mommsen, Aufrecht, and Kirchhoff (1845–1851), and completely elucidated by Michel Bréal. The tables of Agnona and Iguvium show us very peculiar forms and a remarkable phonetic system,

which certainly influenced the Latin pronunciation. Latin very early outgrew its primitive rudeness, of which a few inscriptions have preserved examples, and took that gravity, that harmonious strength, which command our admiration. By the first century of our era this tribal dialect, the language of Plautus, of Ennius, of Lucretius, of Cicero, of Virgil, and of Tacitus, had conquered not only Italy, but also Spain, Gaul, and Northern Africa; and until the eighth century it remained the idiom of the civilised or half-barbarous West. But this language of literature and of the government had not suppressed the provincial patois, the Latin of the people, imported into the countries conquered by the legionaries. The Latin of the country and of the camp (*rusticus*, *castrensis*), modified, contracted, mutilated by Dacians, Germans, Gallo-Franks, Celtiberians, gave birth, towards the ninth century, to seven new groups of dialects, called Neo-Latin or Romance: French (of the Isle of France, Burgundian, Picard, Walloon, Norman), Provençal (Dauphinese, Genovese, Piedmontese, Limousin, Toulousain, Bearnais, Catalan), Spanish, Portuguese, Italian (Venetian, Lombard, Tuscan, Corsican, Sardinian, Neapolitan, Sicilian), Latin (Friulian, Tyrolese), and Roumanian (Moldo-Wallachian), which, more or less mixed with foreign words, have kept the vocabulary and the accent of their mother-tongue, but have carried the Indo-European elements from the synthetic to the analytic stage. The history of the development of these languages, all daughters of provincial Latin, shows us the gradual transformation of an idiom into free and original derivatives. This phenomenon, which has taken place, as it were, before our eyes, will explain what took place when the Indo-European speech split

into the various families: history throws light even upon pre-historic time.

Greek, the most complex, the most subtle, and the most learned of the languages of antiquity, was developed centuries before Latin; the traditions of the Hellenes take us back 1800 years before our era; the name of the Achaians figures on an Egyptian inscription of the fourteenth century B.C. Asia Minor was colonised in the eleventh century, the epoch of the Homeric poems, which were collected in the sixth. Tradition tells first of the legendary heroes, Æolus, Achæus, Ion, and Dorus, who descended by Mount Hæmus among the Thracians, the Pelasgians, and the Epirotes, whose languages are perhaps preserved for us in Albanian and Etruscan, and established themselves in the mountainous districts of Thessaly, of Pieria, and of Phtiotide, round Dodona and Delphi; then from the Hellad and the Peloponnesus, which they rapidly conquered, the four or five tribes sent out swarms into Asia, Africa, into Italy and Gaul, where they everywhere succeeded the Phœnicians. The various co-existing dialects, Æolian, the link between Greek and Latin, the Ionian of Homer, Hesiod, and Herodotus, the Attic of Plato and Demosthenes, the Dorian of Pindar, the choruses of the tragedians and the idylls of Theocritus, Cretan, Laconian, Macedonian, &c., preserved either by an imperishable literature or in abundant inscriptions, allow us to study in a most complete manner the structure and the history of Greek. Towards the time of Alexander its dialects, though they had not completely disappeared, were confounded in a uniform literary language, that of Polybius, of Plutarch, of Lucian, which was spoken and understood from Marseilles to the Euphrates, from Byzantium

to Alexandria and Cyrene; it was characterised by the predominance of Attic. Towards the fifth century the Greek pronunciation became corrupt; this was the Byzantine age, from which the language passed by degrees into Romaic or modern Greek, now spoken in Greece, in the Archipelago, and on the coasts of European and Asiatic Turkey. The vast river at whose waters all thinking humanity slaked its thirst has now dwindled to this little stream.

Leaving Europe, we find in Asia Minor a few extinct and little known languages, of which the inscriptions will doubtless determine the character, Phrygian, Carian, Lycian; they were certainly related to Greek, and perhaps also to the Iranian group, of which we find the vanguard in Armenian, Khurd, and Ossetan or Iron of the Caucasus. We cannot tarry over these, which are, however, very interesting (especially Armenian). We can only enumerate also the Iranian dialects of the East, Afghan or Pushtu, and Beluchistan; ancient Persian claims our attention.

The discovery of the Iranian group, which is represented by the charming language of Firdousi (tenth century), of Hafiz, and of Saadi, is one of the most glorious achievements of modern philology. The adventurous Anquetil Duperron, a Frenchman, at the price of unnumbered and unimaginable fatigues, after having learned Tamil, Persian, and Pehlevi at Surat and at Pondicherry, acquired from the Destours, or priests, 180 manuscripts, among others the Zend-Avesta, accompanied by Pehlevi, Sanscrit, and Persian translations, and escaping with them from the hands of the English, who had taken him prisoner, deposited them at last in the Royal Library at Paris (1754–1762). The translation which he published in 1772,

made from the Persian, is extremely imperfect; but it arrested the attention of the philosophers and philologists. Rask, a Dane, was the first after him to attempt a translation of the original text; but the honour of founding the study of Iranian belongs to Eugène Burnouf. By comparing the Zend with the bad Sanscrit of the translator, Neriosengh, Burnouf discovered, with its grammar as well as its vocabulary, a language which enabled him to read the cuneiform inscriptions of Xerxes and Darius. His works ("Commentary on the Yaçna," 1833; "Memoir on the Inscriptions of Hamadan," 1836; "Studies on the Zend Texts," 1840–1850) have been taken up and completed by Brockhaus, 1850, Westergaard, 1853, Haug, Kossowics, Justi, Spiegel (1851–56–63), and lastly by MM. Michel Bréal, Hovelacque, and De Harlez.

The most ancient Iranian monuments of which the date is certainly known are the inscriptions of the Achemenides (Hamadan, Bisoutoun); they belong to Persian proper. The Zend texts, in the state in which we have them, are probably later than the origin of the Husvarech or Pehlevi of the Sassanides, and of Parsee; their date may be fixed at the third century of our era (226). Yet their language presents forms of the highest antiquity, almost always twins of the Sanscrit forms. This is because these Gathas, liturgical litanies, the remains of a literature which had already been extinct for perhaps five centuries, belong to an epoch which witnessed a restoration of Magism, and have preserved for us an idiom spoken by Zoroaster, in Media and Bactriana, some three thousand years ago, and carried eastward by the ancestors of the Medes and Persians when they came to establish themselves

to the north of the Elamites and of the Assyrians, while the Ossetes and Armenians, connected with the Slavs by the Scythian dialects, passed along the western coast of the Caspian and the mountains of the Caucasus.

Meanwhile the Aryans of India (this title will not be denied them any more than to the kings of Persia, who claim it), the future conquerors of Bengal, advanced slowly into the Punjab among the affluents of the Upper Indus, stopping here and there to build houses, to till the ground, pasture their flocks, to wage war among themselves, celebrating the discovery of fire upon the sacred hearth, associating in their sacrifices their ancestors, the forces of nature, and the brilliant gods of the storm and of light. Towards the tenth century they reached the Ganges and the mouths of the Indus; they penetrated into the great peninsula, took possession of Ceylon, and overflowed into Burmah, Gambodge, and the Malay Islands. They acquired the art of writing late, only in the third century, when classical Sanscrit had ceased to be spoken, and was merely the language of literature; they fixed the text of the Vedas, preserved by oral tradition, and composed in a language older than Zend. But though replaced in common use by Prakrit, by Maghadi, the language of Buddhism, by Pali, the sacred language of Ceylon, it remains the idiom of the philosophers, grammarians, and poets, of the great epics, of the drama, of the Purânas; it has not ceased down to modern times to be the sacred language of the Brahmans, who still write and speak it. Around it flourish the modern dialects, its children and grandchildren, Hindi, Hindustani, Bengali, Mahratta, Guzerati, the Romany of the gypsies, and its powerful influence is felt even in Malay, through Kawi, the sacred language of Japan.

In order to prove the original unity of all these languages it would suffice to compare a few hundreds of words taken at hazard from the several grammatical categories; but even more convincing is the study of the transformations undergone, from age to age and from nation to nation, by the elements, roots, and suffixes which are common to them all. It is, in fact, the constancy of the formal and phonetic changes in each group and each idiom of the family respectively which has served as the basis of comparative grammar. This phenomenon has allowed Bopp and Schleicher to measure as it were the degrees of relationship between kindred languages, to distinguish between the elements common to all, and the particular use of these elements, from which results the original development of each idiom; to bring etymology into accord with the law of dialectal alteration; and lastly, to discover for each root, and for a great number of words which are conjugated and declined, a primitive form, or, if not primitive, at least anterior to the variants of which it is the point of departure and the source. So that the divergences of the dialects furnish the surest proofs of their genealogical affinity, and by bringing back the student to the type of which they have blurred the outlines, they reveal to him the features, certain or probable, of the ancient Indo-European organism; just as the numismatist traces in certain Merovingian or feudal coins the features of Probus, Aurelian, or Philip, disfigured by the clumsy tool of the ignorant and barbarous copyist.

Thus it is that comparative grammar is enabled to re-establish, according to all probability, the organic forms of the Indo-European idiom, at the moment when, having already attained to the inflected state, it

was about to undergo those alterations and transformations which cleft it into eight mother-tongues. Suppose that Latin had disappeared; an attentive comparison of the seven Romance idioms which arose from it would enable us to reconstitute it. So with Indo-European; bold or prudent philologists, Chavée, Schleicher, analysed its mechanism; Fick drew up its dictionary.

The organic form so discovered becomes the term of comparison among all those which are more or less different from it, without, however, losing all trace of it. And it becomes clear at once that no idiom tends towards the organic state, but that all tend away from it; all in varying degrees are, not sketches, but modified effigies; not embryos, but remnants and vestiges of an earlier unknown type.

Again, it is easy, as we compare root with root, termination with termination, to show that the alteration, the wear of the elements common to the different vocabularies, increases as we go westwards, from the Sanscrit of the Vedas to Zend, from Zend to Slav, from Zend to Greek, from Slav to German, from Greek to Latin, from German and Latin to Celtic. Partial exceptions are assuredly numerous, but there is a general law. Avoiding absolute formulas, we may say that the eastern branch of the Aryan tongues, Sanscrit and Persian, is in a far better state of preservation, far nearer the organic state than the north-western and south-western branches.

If, then, Indo-European has existed, with its roots and terminations, its declension and conjugation, with its typical grammar, it must have taken rise in a region where the ancestors, the linguistic ancestors, of the Hindu and the Persian, of the Greek, the Latin, and

the Celt, of the Goth, the Scandinavian, the Teuton, the Slav, and of the Lithuanian could know and understand each other. The trunk can only be found where the branches spring.

What does tradition or documentary history tell us? With regard to the past of the Hindus and the Persians, we have the testimony of the Vedas, of the epics, and of the Zend-Avesta. We can determine the march from the gorges of the Hindu-Kush of the wandering tribes who advanced by slow degrees from the Punjab to Bengal and the Dekkan, and conquered the great peninsula, without, however, destroying the conquered races. They came from the north, and none of their traditions points to a distant Western origin. Their primitive country, which they call Aryavarta, is the same as the Arya-Vædja of the Iranians, who, there is no sort of doubt, remained in it longer than they—long enough to forget them. Now the Persian Aryans came from Bactriana, where the Gathas of the Avesta were composed; from Bactriana, whence they were driven by the Turanians, the Turks, their legendary and historic enemies, who were still cursed in the tenth century of our era in the *Shahnameh*. The name Arie, Ariana, given to a region which lies between Afghanistan and Media, marks the second stage of these Persian Aryans, some of whom decided to go round the Caspian to gain Media and Armenia, the others massing themselves by degrees in Persia proper, until the day when the Medes and the Assyrians yielded them the empire.

Long before the arrival of the Persians in Western Asia, and even before that of the Hindus in the valley of the Ganges, history shows us relations of the Greeks, the Phrygians, and the Lycians installed in Asia Minor,

and the Hellenes themselves in the valleys of the Hæmus and of the Pindus, having already left Thrace, of which they knew and celebrated the mountains, Rhodope and Ismara. There is no doubt a vast hiatus between the Caspian and Thrace, and the Hellenes did not recollect the journey that they must have made. Here, however, mythology and philology come to the aid of history; it is impossible to separate the language of Homer and that of the Vedas; the legends crystallised by the Hellenes, the Phrygians, and the Cretans round Olympus and Ida come direct from the fount at which the Aryan rhapsodists drank. The march of the Hellenic tribes towards the Hellad and the Peloponnesus is the continuation of the movement which bore them into Phthiotide and into Pieria. Lastly, the fable of the Argonauts, the expansion of their colonies on the northern shore of the Black Sea, denotes an earlier acquaintance with Colchida and the Chersonese of Taurus. It was to the Caucasus that Zeus bound Prometheus. Are not these reminiscences of the lands which they had travelled over, pressed by the Cimerians (the Cymri or Gauls) and the Scythians, who were doubtless Slavs, mingled with the Finno-Mongols?

The Latins are even more ignorant than the Greeks of their origin, since their history only begins in the eighth century B.C., and their Trojan traditions were borrowed from the Etruscans and from the Greeks of Cumæ. But they could not have learned or created their language in Italy; it proceeds directly from the Indo-European source, and is connected with the most ancient form of Greek, with Æolian. Nor did they invent their Jupiter, the Dyauspitar of the Aryans. Few in number, a small tribe, lost between the Hellenic nations and the Gallic mass making its way up the

Danube, they must have passed unperceived along the Alps and the Adriatic, borne onwards by the migration of the Umbrians (fourteenth century B.C.), or urged forward in the tenth century B.C. by the exodus of the Pelasgians or Etruscans. Then they encamped between the Albi and the Curii and vegetated there, until the day when they took part in the foundation of Rome.

The dark-haired Celts, of whom ethnography finds the traces from Dacia to Armorica and Ireland, the fair-haired Gauls (*Volk*, *Bolg*, whence *Belg-ian* and *Welsh;* Eng. *folk*), the Gauls, who at the time of Ambigat and Biturix occupied the whole of Germany, and soon after of Gaul, Great Britain, and the west and centre of Spain, the Cymri, who were probably identical with the Cimmerians, all these peoples, who spoke Indo-European dialects, certainly progressed from east to west; so much so, that they were driven to the Rhine and the Atlantic by the Germans and the Slavs. The Gallic language, which has almost entirely disappeared, was, it is well known, related to Latin, which explained its rapid disappearance. As for the Neo-Celtic dialects, in spite of the modifications they have undergone, they are none the less marked with the family features.

The Germans, Slavs, and Lettic race remain to be considered; their origin cannot admit of a doubt. The first did not occupy their present country at the time of the Gallic dominion, or at most they were disputing the coasts of the Baltic with their Finnish predecessors. It was only in the middle of the first century before our era that the Suevi appeared in force on the Lower Rhine; Cæsar kept them to the right bank. By degrees Germany filled up between the Oder and the Rhine, between Jutland and the Alps; it swarmed

with once-famous tribes, whose names have now disappeared from our maps, Cherusci, Irminoni, Iscævoni, Ingævoni, Quedi, Marcomanni, who were either destroyed in their long wars with the Roman world or in their intestine broils; they existed obscurely up to the fourth century in the Decumatian lands, more or less subject to tribute, and penetrated as far as the Weser by the Roman legions and influence. Behind them stretched the land of the Goths, the most powerful of the Germanic races, who in the fourth century covered, from the Baltic to the Dniester, what was afterwards the Polish dominion; they came from more distant lands. The proof of this is found in the pressure of the Slavs, themselves harassed by the Huns in their Scythian pastures; this flood threw one branch of the Goths upon Sweden, the Visigoths and the Ostrogoths on to the right bank of the Danube, and penetrated into the heart of Germany.

The Germans of the north, the Lombards, the Rugi, Heruli, Vandals, urged by the Borusses and the Lithuanians, were already in movement, wandering where chance led them, some to Italy, some to Spain, and even Africa; then the Suevi, the Burgundians, and the Franks arrive in turn in the valleys of the Meuse, of the Scheldt, of the Somme. The Teuton tribes who remained in Germany, Alamanni, Suevi, Franconians, Saxons, were crowded between the Rhine and the Weser, sometimes attained to the Elbe; everywhere the Huns dominated, followed by the Slavs. The ancient Teutons dwelt in more or less scattered or dense masses in Scandinavia, England, the north-west of Gaul, Spain, and Cisalpine Gaul.

But I have already sketched the table of these complicated events, which will suffice to destroy the

pretensions of our neighbours to the lands to which emigration once carried them, and where their bands, dominant for a time, ended by becoming absorbed into the earlier population, and also to show the Eastern origin of the Teutons.

In the case of the Slavs, the point is not likely to be called in question; but it may be necessary to insist upon the fact that the numerous and very rich languages of these peoples could not have been framed in the lands where they are now spoken, or have issued the one from the other; they betray their close relationship with the organic Indo-European.

As long as no sign shall have been discovered of a Western origin in the case of the Slavs and Iranians, of the two groups which remained together longest in the neighbourhood of the common cradle, so long as it has not been demonstrated that the Celts and the Gauls progressed without an obvious reason from the west towards the east, or that the German hive, solid in its centre from all time, sent forth swarms to the right and the left, Celts, Gauls, Slavs, and Persians, even Latins and Hellenes, so long we shall be constrained to place the Indo-European country somewhere between the eastern and western branches. But even supposing that the smallest particle of evidence could be alleged in support of one of these hypotheses, comparative grammar would still be there to tell us that no one of these idioms can render an account of its forms and its rules. None can explain itself, but all can be explained by each other; none of them is a sketch of a type towards which it tends; all are the various modifications of a common stock, of an earlier language, which has disappeared just because all have carried it away with them. Languages only travel with

those who speak them. Those which concern us now have therefore been imported by immigrants, who were probably too few in number to modify materially the mixture of more ancient ethnic elements, but powerful enough to impose their language, their intellectual discipline, and in some cases the corresponding civilisation.

For speech, being the expression of thought, assuredly reveals the aptitudes, the faculties of the brain, the industrial, æsthetic, and social condition of each human race and group. The Indo-European unity was not merely a matter of grammar and lexicon, but of intellect and morals. If the majority of the sister languages designate by the same word a thing, a being, a relation, a sentiment, an abstract idea, is it not evident that these were already known to the primitive group? Among all the roots which might characterise them, it had already chosen those which appeared to be the most expressive. In order to ascertain what some have kept or lost, what others have acquired, it is sufficient to gather together the terms which are common to all or to some of these idioms. This is what Adolphe has attempted to do, sometimes rashly, but generally with success.

Centuries of pastoral life had preceded the separation of the idioms. The names of such things as flock, ox, sheep, pig, dog, shepherd, pasturage; of the yard, the stable; of meat, wool, milk, butter, cheese, present marked agreement; and from these terms are derived the words which imply wealth, property, the family, the master, the host. The bull and the cow are the principal actors in the myths, the prize in the battles between the sun and the clouds, the thunder and the winds. Though a shepherd people, the

Aryans were no longer nomads; they knew barley, the art of ploughing, mills, flour, and perhaps bread. They drank fermented liquors, hydromel, and perhaps wine. The fabrication of the cart, the axle, and of the yoke necessitated the use of the chisel, the wedge, the axe, and the knife; there were carpenters and smiths. The anvil was of stone. There is no evidence of the use of iron, but there is no doubt that silver was known and bronze in use. Spinning and weaving of a rude kind existed; the dress was sewn; necklaces and bracelets adorned the neck and wrists.

The art of building, or rather of hollowing boats, was known; the names of the hull and of the oar are as old as our languages, but there is no question of mast, of sail, or of keel. The sea was distant or unknown, and the navigation was only upon lakes or rivers; boats were required for crossing the rivers, as bridges were not invented.

The house, which, by its principal name (*dama*, *domus*), recalls perhaps the bundle of poles which carried the primitive tent, was the chief work of the carpenter. It is doubtful whether masonry had anything to do with the construction, unless it contributed a little plaster or mortar. The bed, the seat, a few utensils constituted its furniture. The house was surrounded by a ditch, which seems to have furnished most of the words which signify enclosure, yard, or garden. Within this boundary was the well or the cistern, and the hearth where the food was cooked. It may also be conjectured that fire was also lighted in the hut, since some of the words which signify house seem to be connected with a root which means to burn. The door has kept its name throughout the ages, *dvar*, *door*, θύρα, *fores*, but the key only appears

among the Westerns. The houses belonged to families, to households, monogamous, at least in theory, in which the husband and wife were equals and master and mistress (*pati*, πόσις, *patui*, πότνια); a tribe, a clan (*djanana*, γένος, *gens*, *chunni*) must therefore have occupied a certain number of huts, which formed a village (*trapâ*, *tribus*, *thaurp*, *dorf*), or even a town (*poura*, πόλις). There was no nation, no people; the words which have since expressed this idea signified then number and multitude only. Everywhere there were small groups, sometimes united for their common defence, often separated by their quarrels among each other. War, for these barbarians, was already the action, *par excellence* (*adji*, *adjma*, *agon*, *agmen*, the combat, the army), whether it were a battle in the open country, on horse with the javelin, on foot with the sword, or the assault of the enclosure, the burg, where the enemy had withdrawn with his troops and his booty. The hero (*vira*, *vir*, *baro*) fought upright on his chariot or mounted on the horse, which he excited with the sound of the horn (*çrina*, *cornu*), the rude precursors of the trumpet. Owner of horses, tamer of horses, friend of horses, were the most coveted titles among the Persians, Greeks, and Gauls.

The conquered enemy was carried into slavery, and was reckoned, with the flocks, in the wealth of his master. The powerful man and his wife were styled indifferently *dampati*, *gopati*, *dasapati* (δεσπότης, δέσποινα), masters of the house, of oxen, of slaves.

The love of war, without which no robust and long-lived race has ever arisen, implies the love of glory, the true motive of every courageous action and of every great work. No human group has ever felt it more strongly than ours. To be known, to be sung,

the desire is innate in the Hindu as in the Greek, in the Persian as in the German. There is a root *kru, klu, çlu,* which in a thousand different modifications has furnished the names of peoples, of heroes, even of gods; the *Slavs* are the glorious; all the *çravas,* all the *slaf,* all the κλης, the *chlu,* the *hlod,* and the *hruo, Ladislas, Herakles, Clovis, Louis,* and *Roland,* were famous men, or aspired to justify the paternal pride which had bestowed upon them these high-sounding names.

The tribes had chiefs of war and peace, kings, except perhaps the Hellenes, who made hardly any use of the root *rag* or *reg,* common to all the other sister languages. Their social organisation was founded upon property, common and individual. Inheritance was known, but was doubtless confined to the rank, the house, the product of toil, and the booty taken in war. Exchange was the only form of economical relations. The oxen served for money. Law, right, debt, crime, judgment, evidence, and fine were named before the Indo-European expansion. Most of the roots which express these notions allow us to discover the entirely material origin of the highest and most abstract ideas; this may be said of all the terms which relate to the life of the mind; the soul (*anima*), simply the breath of life; thought, merely the power of measuring and weighing objects; will, memory, knowledge, the power of creating things a second time (roots *gan,* to engender, *gnâ,* to know). Religion is not the least striking characteristic of our ancestors; freed from the minutiæ of animism and from the enervating practices of chthonism (of which, however, some traces are retained), it had already attained to the adoration of the forces of nature and of atmos-

pherical phenomena. Lastly, the language, the result of an extreme degree of agglutination, simple in its roots, indefinite in its power of derivation, presents itself as a complete organism, cultivated and at the same time free.

What name should be given to this aggregate of the immediate ancestors of so many different races, which are nevertheless endowed with the same polity, the same language, the same creed, and the same culture? There is one which, in spite of opposition, has finally prevailed, since it no longer misleads any one, no longer implies unity of race; it is that of Darius, "Arya, son of Arya," that which the Brahmans claim, and which they have translated to the heavens in the person of the god Ahriman. It is true that the other peoples, except the Iron or Ossetes of the Caucasus, have not adopted it, but they knew it and used it. What are *Ares, Arion, Aristos, Arete, Artemis,* the strong, the best, virtue, the most honourable of the Greeks; what the *Ario-vist* of the Germans, but doublets and derivatives of the name borne by so many great persons among the Hindus and Persians. The original meaning is vague; among the true *Aryas* it is noble, famous; but it also means traveller and labourer.

This last acceptation is universal. Lat. *arare, aratrum, aratio;* Gr. ἀροῦν, ἄροτρον, ἄροσις; Lith. *ar-ti, arklas;* Slav, *ora-ti, oradlo;* Goth. *arj-an;* Anglo-Sax. *erjan;* Eng. *ear;* Irish, *ar;* Cornish, *aradar;* Welsh, *arad.* The ancient names of the earth are connected with it: Gr. ἔρα; Sans. *ira;* Ger. *ero, airtha, eortha, earth;* Gael. *ire, irionn.* However this may be, Aryo-European would be better than Indo-European, and, for the sake of simplicity, I

shall use without scruple the words Aryans, Aryan languages and nations.

I must meet in advance a possible reproach: for Bossuet's Semitic history you would substitute an Aryan history. You only dethrone the chosen people in order to put forward another privileged, predestined group. Yes and no. I suppress no fact of history. I attribute nothing more to the Aryans than the science of language allows them; they began, like all others, in savagery; but since they came late in time, and with an already developed language and intelligence, they rapidly reaped the benefit of the inventions of their predecessors. The Egyptians, the Chaldeans, the Semites in Western Asia, the Chinese in the extreme East had reached a level which the Aryans have since passed in their institutions, in the arts, and in the expression of thought. For two or three thousand years the direction of the world has fallen to the Aryans, and, in spite of momentary failures, of Arabic, Mongolian, or Turkish incursions, they have kept the torch, they have carried it into America, into Australia, and returning to their cradle by sea and by land, they bear the light even into the heart of Africa, even into the dim twilight of the East.

Compare the false and incoherent history to which Bossuet lent the support of his eloquence—history modified to suit the Jewish Bible as it was revised in the fifth century, and the prophecies after the event of Daniel and of John; compare it with the realities unveiled by the discovery of the Indo-European group. Note how the movements of the peoples are ordered and illuminated by it. While from the eastern slope of the great Asiatic plateaus the ancestors of the Chinese descended their rivers, the Blue and the Yellow,

and multiplied in their immense empire, isolated, useless, and unknown, two centres of civilisation arose, on the banks of the Nile and at the mouth of the Euphrates. Separated from these Egypto-Semites by the Himalaya and the desert, slowly increasing tribes of white men, part shepherds and part agriculturists, monogamous, worshippers of the heavenly bodies, gradually, under the pressure of the Mongols, leave their common country, forgetting each other as they travel, but retaining their idioms and their acquired culture exactly in the proportion of their increasing distance. The Celts are driven westward by the Gauls, the Gauls by the Germans, these by the Slavs and Lithuanians, themselves urged forward and finally overrun by the Mongols and the incursion of the Huns. The future Hindus are already making their way among the affluents of the Indus. Lastly, the Greeks and Latins, passing south of the Celts, Germans, and Slavs, and north of the Semitic world, follow the right bank of the Danube, and one stream of them flows towards Thrace and Thessaly, the other towards the Tiber. The Iranians alone remain, harassed by the continual attacks of the Turks; they reach Media, Persia, conquer and take the place of the old Semitic empires, and come into collision in Ionia and at Marathon with their old neighbours, now forgotten, with the Hellenes, already masters of the Mediterranean basin.

This large and simple view gives the true meaning of history. It explains the successive effacements of the ancient civilisations, the encounters and the strifes of the Gauls and the Italiots, of the Hellenes and the Persians, of the Germans and the Græco-Roman world, the Mongolian incursions into the field left clear by the Aryan migrations, and the equilibrium slowly

established by the mutual resistance of the various races, occasionally disturbed by these passing irruptions. It explains also the movements of the Germans, checked by the Celtic block, and returning against the Slavs, who, long the victims of shock and counter-shock, fluctuated, without a fixed frontier, between Germany and the Tartar chaos. The various German invasions declare themselves as the consequences of the primeval impulse. Even the conquest of the Americas and of Oceania may be said to proceed from the impulse communicated by the pressure of the Mongols, four thousand years ago, to the tribes who dwelt between Turkhestan and the Oxus.

Such is the new conception of history, which rejects as a chimera the divine plan and the biblical genealogies; it is the creation of philology.

PART III.

THE INDO-EUROPEAN ORGANISM.

CHAPTER I.

INDO-EUROPEAN ROOTS.

Inflexion a higher degree of agglutination — The Indo-European material consists of full roots and empty roots, demonstrative or pronominal, and attributive or verbal—Pronominal roots: pronouns and suffixes—Attributive roots, primary, secondary, and tertiary—Reduction of the variants to a small number of ancestral forms —Roots expressing an action of the mind: the *ma* family—The naked root, the theme or radical, often preserved by the composition of words.

THE kinship of the Indo-European languages is a phenomenon of the same order as the close affinity of the Bantu, Berber, Turkish, or Semitic dialects. Their area is not more extensive than that of the Malay idioms. The ethnic differences between the nations which have acquired them are not greater than between the various Malayo-Polynesian groups. The pre-existence of a common speech and of a human aggregate where this mother-tongue was formed, is not less evident and less necessary here than in the case of the other independent families. All the earlier types have perished, because writing was unknown; but they may yet be traced in the idioms derived from them. Indeed, it is not only what may be called the first types that have disappeared;

even secondary forms have often passed away without leaving any monument of their existence; nothing is left of the Teutonic, Slav, and Italic stems, which have produced so many different branches. Fortunately we possess in their earliest as well as in their latest forms Sanscrit, Iranian, Greek, and Latin; and it is enough to compare with these the Hindu, Persian, Romaic, and Romance groups, which have issued from them, to understand the formation of the eight Indo-European branches, and to determine that they are all issued from a common trunk.

Hence there is no mystery about the origin of these languages, save that obscurity which belongs to vast distances in time. The peoples which have carried along with them, or received in the course of their wanderings, the elements of the same intellectual cultivation, have, more or less rapidly, risen above the level of other races and nations. This fact is historical and patent; it need not surprise us, since we find everywhere these inequalities in aptitude and destiny. Is not the Malay superior to the Papuan, the Moor to the Negro, the Aztec to the Abipone, the Semite to the Berber, the Chinese to the Mongol? Latest in time, the Aryan is heir to the conquests of his predecessors, and their apogee was his point of departure. Egypt, Chaldea, Assyria had given their measure and spent their force; with livelier energy, with greater breadth and subtlety of mind, he took in hand the abandoned task; and this intellectual and æsthetic superiority is manifest to us in his speech.

But his language is not separated from others by any gulf; it only differs from them by a more intimate combination of the same original elements; it has outstripped them, but on the same road. It is

not possible to doubt this, since it is the comparative study of these great dialects and the analysis of its forms which have suggested the theory of language, and enabled philologists to determine the general development of speech, the successive phases of monosyllabism, agglutination, and inflexion.

Inflexion, as we have said, is but the fusion of the agglutinated syllables; it necessarily supposes, therefore, an agglutinative period, but agglutination could not have taken place without a supply of roots which were already susceptible of juxtaposition, as in Chinese, that is already classed as *full* and *empty*, or principal and subordinate roots. Finally, this rudimentary use of the vocal elements bears witness to ages yet more remote, in which the sounds adapted to the designation of things and beings, relegated to the second place, into the class of demonstratives and auxiliaries, the ancient cries of pain, joy, summons and warning. Even the long trials and experiments which resulted at last in the true consonants are revealed to us by the numerous variants of a single root, either in the same language or in the passage from one dialect to another. Before attaining to the clear pronunciation of the simple guttural, dental, or labial, before uttering the sounds *k* and *g*, *t* and *d*, *p* and *b*, the ancestors of the Indo-European long hesitated among consonantal diphthongs, such as *sk*, *kch*, *kv*, *kt*, *kh*, *gv*, *gj*, *gd*, and *gh*, such as *tch*, *tj*, *tv*, *dj*, *dv*, or *pt*, *pv*, *mp*, *bd*; so with the sibilant *s*, so difficult for the Greeks and Iranians to pronounce at the beginning of a word, and for the Latins between two vowels, that these peoples replaced it either by an aspirate or by an *r*; so with the liquids *r* and *l* or *n*, which are constantly interchanged or replaced by a dental. The

acquisition of the vowels was the final result of similar hesitations and efforts; thus the short *e* and *o* were not familiar to the Aryans of India or to the Goths, and these peoples only know the long *e* and *o* as combinations of an *a*, short or long, with *i* and *v* (vowel or semi-vowel). Then, according as a vowel was uttered with more or less force, followed or preceded by an aspirate, it annexed by degrees a guttural, a sibilant, or even a trill like the Sanscrit vowel *r*. Finally, if the soft palate rose at all towards the nasal passages, the vowel took a peculiar sound—it was nasalised, as *an, in, on;* the insertion of an *n* was the inevitable result of this phonetic accident, and it is often difficult to determine whether the added *n* is due to the nasalised vowel or to a suffix *na*.

These inductions, which M. Paul Regnaud has interpreted I think somewhat too absolutely, are not merely logical processes—they repose on ascertained facts. These variants of which I spoke are not hypothetical; they subsist and co-exist, forming groups in which the intimate relationship of the members is evident. The Indo-Europeans preserved them, and came by degrees to use them to express shades of meaning, and the new acquisitions which enriched thought as time went on. Sanscrit grammarians reckoned in their language about seventeen hundred roots, apparently irreducible by analysis; the first comparative study brought down to the number of five hundred the elements common to all the languages of the family. A more thorough analysis reduces them to one-fifth, perhaps one-tenth of this number, the narrow base on which reposes the most vast and the most fertile of linguistic organisms.

From these preliminary but not *a priori* considera-

tions let us retain the following points: The Indo-European mother-tongue is not a concept of the mind, nor a species of miracle; it is a reality, the product of the elaboration of ages, as is proved by the wasting, the atrophy of its case and verbal endings. Its genesis and material are those of other languages, which it has distanced only by a more vigorous and intelligent use of the same methods and artifices.

Two classes of monosyllabic roots compose it—demonstrative or pronominal roots, attributive or verbal roots; the first furnished all the pronouns, most of the prepositions, conjunctions, and suffixes; the second, all nouns and adjectives, all verbs, and most of the adverbs.

The pronominal roots often occur in the naked isolated state, the primitive monosyllable: *sa*, *ho*, *ta*, *to*, this, that; *sya*, *tya*, *sva*, *sma*; *ma*, *me*, *tu*, *te*, I, thou; *ya*, *ka*, *ku*, who, which; *dva*, *tri*, two, three; *da*, *ga*, as in the Greek and German particles *ge*, *de*; often they have acquired case-endings, *s*, *m*, *t*, *bhyam*, *bhyas*, which are easily detached; often again they are agglutinated and coagulated together, without changing the indicative relation or personal meaning: for instance, in Sanscrit, *ima*, *esa*, *ata*, *eta*, *ana*, *ena*, *eva*, *eka*, into which enter the simplest sounds that man can utter, *ă*, *ĭ*, and which are naturally reinforced, doubled, with other syllables, vaguely associated with some gesture, with some idea of distance and of place; under this form the prominent roots have given birth in all the Indo-European idioms to many series of indispensable words, varied and changed to an indefinite extent, in which it is difficult to trace the amalgamated syllables. Who would think to find *hoc illud* in the French word *oui*, or *hic hic* in *ici*, or *hic ille huic hic*

hic in *celui-ci*, if these fusions were not revealed to us by forms such as *o-ïl* and *i-ce-lui?* Bopp and his followers, Pott, Benfey, Kuhn, guided by similar indications, have been able to find and follow up with certainty the clue to these labyrinths.

The pronoun *I* is present in Gothic and Latin in its naked simplicity, except that it has a declension. Gothic nominative and genitive singular *is*, accusative, singular and plural *ina*, *ins*, dative singular and plural *imma*, *im*. Latin *is*, *id*, *ii*, *iis*, and the attenuations *ea*, *ei*, *ejus*, *eum*, &c., with suffixes *isdem*, *idem*, *ita*, *itidem*, *i(s)pse*, *ibi*, *immo*, *enim*; there is, moreover, a permanent confusion with the form *yā*, *jā*, derived itself from *i*. From Latin it is permissible to pass to French to show the ancient pronoun *I* in a group where it is not easy to perceive it: the word *même*, through the old form *méisme*, and the Italian *medesimo*, leads us to a supposed Latin form, *met-ipse-timum*, superlative of *metipse*. Now in these compound forms the central significant part is the vanished pronoun *I*. *I* has not left in Zend or Sanscrit an isolated form, declined, but it appears in adjectives like *îdriça*, such; *itara*, other (Latin *iterum*), and the adverbs *iha*, *idha*, *ithra*, here; *itas*, from here; *it-tham*, *iti*; Zend, *itha*, thus; *idānim*, now; *tchet*, for *tcha-it*, with the sense of *yes*, in contravention of a negative proposition (the French *si*); *net* (Zend. *noid*) for *na-it*, not, no-indeed, as one who should say, "Away with that."

We have just mentioned a syllable famous above all others, since it has almost everywhere furnished the most energetic word in any language: English *no*, French *non*. It may cause surprise, perhaps, to learn that the root *na* and its neighbour *ma*, which have often taken a negative tense, have retained in most

cases, either as isolated words or as suffixes, a distinctly positive demonstrative value. Affirmation and negation would, therefore, seem not to be primitive ideas, or else they were sufficiently rendered by gesture. It is only after a long lapse of time, and by a sort of détour, that simple or compound pronouns have been used for the expression of consent or refusal. It is, moreover, easy to show that in modern speech our affirmative and negative terms are merely indicative adverbs or pronouns: *si* in Italian is but *sic*, so; the French *oui*, that that; German and Breton *ja* and English *yes* have no other meaning than the Aryan, Greek, and Latin expressions, such as *ita*, *na*, *ma*, *mè*, *nec*, *nai*, &c. No doubt we see in Greek, Sanscrit, in Armenian, under the forms *me*, *ma*, *mi*, in Sanscrit, Gothic, Slav, Borusse, Lithuanian, Zend, under the forms *na*, *ni*, *ne*, *naiy*, our two pronominal syllables employed for inhibition and negation; but we must not forget that *μὰ τὸν Θεόν* in Greek means "by God, I call God to witness;" that *nai* means "certainly;" that in the Veda we find *na* with the sense of *sicut*, *as*, *so*, and *nănа* with the sense of much; finally, that *ma* and *na* form nouns, adjectives, participles, superlatives of every kind. It is, therefore, only by custom, by a choice easier to verify than to explain, that *ma* and *na*, isolated or prefixed, have become negative signs. Yet another striking example, *non*, an abbreviation of the forms *nenu*, *ne-unum*, has the root *na* twice over, negative at the beginning of the word, simply demonstrative at the end of it.

These curious anomalies throw light upon the primitive equality of all those cries of summons or warning to which gesture, accent, intonation, in the first place, and afterwards custom and the preferences of a tribe,

gave at last a precise value, a definite meaning. And here we are only dealing with independent words, composed of naked or declined demonstrative roots, and with compound words in which this wealth of roots takes the place of radical or central syllable. But when we come later to these same roots compounded with attributive roots, their original insignificance will be yet more clear. There is no single vowel, there is no syllable formed of a consonant and a vowel, which, suffixed to a verbal root, cannot form part in the same way of a noun, an adjective, a participle, a verb, or an adverb. It is the need of clearness, the instinctive choice, variable according to vocal aptitude, according to intercourse with foreign peoples, which have more or less fixed upon a certain class of affixes (*ta, ti, to, da, ma, na, ra, la, sa, pa, va, ka, ja, sja*, &c.), the sense of agent, action, future, past. And in most cases to these suffixes, called primary, worn, altered, unrecognisable, it has been necessary to add one, two, or three others, neither more or less significant in themselves, to supply the exigencies of speech. Reckon in a word used by Lucretius, *in-sat-i-a-bi-li-ter* (insatiably), the syllables added to the root *sat* (found in the French *saoul*, from *saturus*, in *rassasier*, and in *assez*, from the Latin *ad-satis*). Leaving out the prefix *in*, which answers to the Greek and Sanscrit *an* and the Teuton *un*, and which has taken a negative sense, *i*, *ā*, *bi*, *li*, and *ter*, for *tara*, are pronominal roots, atrophied and fused, and having at most a value of place; for we shall find them all, singly or in pairs—and that in all the idioms of the family—capable of forming nouns and verbs of every kind. But before giving other examples, we must define and class the attributive roots, those which we tried in an earlier chapter to

connect either with onomatopœia or with a metaphorical imitation of a sensation, a movement, an object.

An Indo-European attributive root is neither noun nor verb; it becomes the one or the other by the addition of verbal or case endings. It is, like the Chinese monosyllable, an utterance capable of specifying either a class of things, beings, or phenomena, or a state, an action of the thinking subject or of the object under observation. It may include all the vowels and consonants which can be contained in one syllable. "It can always be shown," says Max Müller, "that the roots composed of more than one syllable are themselves derivatives." And even in the true monosyllabic roots we must distinguish between primary, secondary, and tertiary roots.

Primary roots are composed: (1) of a vowel, *i*, to go; (2) of a vowel and a consonant, *ad*, to eat; *as*, to breathe; *ag*, to lead; *ak*, to run, to pierce; (3) of a consonant and a vowel, or of a semi-vowel and a consonant, *dā*, to give; *pa*, to drink, to pasture, to protect; *mā*, to create, to measure; *bhu*, to be, to grow; *vā*, to blow; *kr*, to do; *mr*, to die; *ju*, to join.

Secondary roots are composed: (1) of a consonant, a vowel, and a consonant, *tud*, *tup*, to strike; *bhar*, to bear; *ruk*, to shine; *vak*, to speak; *sak*, to follow; *yug*, to join and to fight; *vid*, to see, to know; *duk*, to milk; *gan*, to engender; *man*, to think; (2) of two consonants and a long vowel, *bhrā*, to carry; *mnā*, to remember; *gnā*, to know; *plu*, to flow; *klu*, to hear; *stha*, to stand; (3) of a vowel and two consonants, *ard*, to wound.

Tertiary roots are composed: (1) of two consonants, a vowel, and a consonant, *spak*, to look at; *tras*, to tremble; *grabh*, to seize, to hollow, to engrave; *star*,

to stretch; *kvan*, to make a noise, or *vice-versa*; *vart*, to turn; *cand*, to shine; *sarp*, to glide; (2) of two consonants, a vowel, and two consonants, *spand*, to tremble; *skand*, to ascend; *scalp*, to hollow, to write, to carve. Initial groups of three consonants are also found.

It is clear that the two first classes are the most ancient. In the second we already see traces of suffixation; if we compare with *yu*, to join, the forms *yug*, to join (Lat. *jugum*, Gr. ζυγὸν), *yung* and *yu-na-j* (Lat. *jung-ere*), and *yudh*, to fight, you will perceive other suffixes, *ga*, *dha*, *na*, or a nasalisation of the secondary root. If to *tud*, to strike (Lat. *con-tud-tus*, *contusus*), and to *tup* (same sense, Gr. τύπτω), we add *tund* (Lat. *tund-ere*), *tump* (Sans. *tump-ati*, he strikes), *tubh* and *tobh* (Sans. *tubh-nati*, *tobh-ate*); *tuj*, to strike, to excite; *tur*, to wound; *tuh*, to afflict; *turv*, to conquer; we shall be led to connect all these variants with a primitive *tu*. So with *ruk*, *ruksh*, *rut*, *rud*, *rub*, *ruth*, clearness, colour. As for the tertiary roots, they result for the most part from very ancient agglutinations.

Chavée, I think, was the first to propose the grouping together of the roots which are related to each other; thus he constituted the families to blow, to make a noise, to shine, to burn, to strike, to measure, &c. The idea is valuable, and has been more or less accepted by all philologists. M. Paul Regnaud has followed it up with great ability, with the awowed intention of tracing back all roots to a single vague cry, from which all are issued. This appears to me to force the theory too much, like Darwin's tendency to trace the whole living world back to a single cell of protoplasm. We have here a touch of monogenistic atavism. The theory of evolution accords perfectly with a great number of primary germs and a certain original variety

in them. We have recognised differences and variations in the specific cry of animals; the voice of man had even more. And in its earliest state language must have had at its disposal a variety of sounds which it slowly developed and defined into vowels, aspirants, and finally into consonants. Indo-European is far from being a primitive language; and however far we trace back the efforts which led it from agglutination to inflexion, it would seem to have possessed even then at least three pure vowels and several varieties of the consonant.

However this may be, the attempt of M. Regnaud is full of interest, from the boldness of his comparisons, which are always supported by proof or by scientific hypotheses, and we will borrow from him a few examples.

There is in Sanscrit a root *harsh*, which it is easy to recognise in the Latin *hirs-utus*, *horreo* (for *hors-eo*), *her* (Fr. *hérisson*, hedgehog). The same root is found in Greek as χορός, χαίρω (for χάρσω, χάρρω), perhaps χοῖρος, pig; but if this last word has kept something of the sense of bristle, "to be stiff," the two others, signifying dance, song, and to rejoice, have no connection with the usual meaning of the root. Yet we must remark that in the Veda, *harsh* has precisely and solely the sense of the Greek χαίρω, to rejoice, and that it is difficult to separate from it the *haritas*, the triumphant horses of the dawn, of which the Greeks have made their Graces or χάριτης. How shall we reconcile these discrepancies? First, is *harsh* the true form of the Indo-European root? The χ of χάρω indicates a lost guttural, whence a more ancient variant, *gharsh*, which exists in Sanscrit itself in the adjectives *ghrshu*, *ghrshvi*, ardent, active, joyous. The sibilant which

terminates the root may be the remnant of a suffix, and this is the more probable that a well-known group, *ghar*, *char*, *kar*, *skar*, with the general sense of heat and brilliancy, presides over a whole series of kindred terms. M. Regnaud thinks that *ghar*, *gharsh*, *harsh*, meant before everything to burn and to shine, and answered to the two most important senses, touch and sight. This opinion is the more probable that more than thirty groups of roots have retained more or less of these two primitive meanings. With *to burn* and *to shine* are closely associated *to shake*, *to move*, *to spring forth*, *to tremble*, *to radiate*, *to vibrate*, and *to bristle*. *To burn* has its proper successors, such as *to dry*, *to harden*; *to shine* has also its own, such as *to rejoice* and *to be joyful*.

Among the numerous roots which belong to the category *to burn*, *to shine*, *to shake*, *to harden*, there are two which approach the first named very closely; they only differ from it by the initial letter. *Tarsh* and *tras*, *tar* and *star*, have given to Zend *taresh*, to be hot, dry, or thirsty; to the Greek, θέρσος, heat; τέρσομαι, to dry, to harden; ταράσσω, to agitate; τρέω, to tremble; to the Latin, *torreo*, to burn, and *torrens*, to be agitated; probably also *stella* for *star-u-la*, the shining thing, the star; *terreo*, to cause to tremble, *tremo*, to shudder; *terra* for *tersa*, the dry land, the earth; to the Teutonic, *starr*, stiff, hard, bristling.

Bhresh, *bhreksh*, *bhraj*, *bhrajj*, are rich in specimens of the three or four meanings attached to the preceding groups. Moreover, they evoke from heat, from flame even, through the intermediary of dryness and hardness, the name of shivering and cold. The Latin *torreo* = *terreo* leaves besides no doubt about the transitions which connect these two opposite ideas.

In the matter of heat and brilliancy we have the Greek φλέγω, to burn (*Phlegethon*), φλογς, flame; the Latin *flagro*, I burn, *flagma* (*flamma*), *flagrum*, and *flagellum* (the whip or scourge, which seems to burn the skin), *fulgor*, *fulgur*, splendour, lightning. Agitation is expressed by the German *spriessen*, *springen*, and by the Greek φρίσσω; hardness by this same word φρίσσω, and by ῥιγέω; by the Latin *rigor*, *rigidus;* finally, the French word *froid* is but the Latin *frigidum*, *frigus*, *frigere*, of which *rigere* is a doublet.

All these facts are ascertained, and if any doubt remain, it is because we have not yet been able to consider Indo-European phonetic laws. But M. Regnaud, considering the primitive unity (or rather indecision) of the three consonants, guttural, dental, and labial, whether aspirated, hard, or soft, proposes to assimilate, to reduce to a common type, the roots *gharsh*, *marsh*, and *bharsh*, with all their variants and transposed forms. He thinks also (judging from numerous and plausible indications) that a sibilant once preceded the initial consonant. In fact, a number of roots similar in form and meaning differ only by the presence or absence of an *s*. We should thus need to write above these three series a triple key, *skar*, *star*, *sbar*, susceptible of a great number of attenuated or strengthened forms, and easily augmented by one or two atrophied pronominal suffixes, *tch*, *dj*, *sh*, *kch*, *k*, *g*.

The three roots mentioned above are by no means the only ones which our learned friend desires to trace back to a common source; and whether he succeeds or not, he deserves our gratitude for having in most cases led us back to the beginning, to the dawn of

intelligence. He has contributed in great measure to the destruction of the old psychology, to the demonstration of the slow and unequal growth of ideas, of the progressive but unconscious ingenuity, whereby our ancestors attained to the endowing of barren and naked syllables, not only with abstract meaning, but with moral concepts.

In truth, they are not numerous, the roots which man used in the earliest ages to express an action of the mind: three or four sufficed. And it is easy to trace them back to a physical sense; *smar*, to remember, connected doubtless with *mar*, to die; *budh*, in Greek πυθ, πυνθ (doubtless to shine, to lighten); *çrad*, to believe (from *kru*, to hear); *gna*, to know, to name, a contracted form of *gan-a*, to engender, to produce; finally *ma*, which we have already mentioned, and which, either simple, short, or long, or with added consonants, has representatives in all the parts of speech. We have seen to what uses it has been turned in the pronominal order, now personal, and now demonstrative pronoun, now affirmative or negative particle, now case or verbal ending. In the attributive order *ma* plays a yet more important part.

We do not doubt that it was one of the earliest distinct sounds pronounced by the child, and retained by men and women, in the sense of creating, engendering, producing, and afterwards commanding, weighing, thinking. The word *ma-tar* has been adopted by all the Indo-Europeans to designate the mother; but it has also been used in a masculine sense, *matar*, creator, whence the name of the Vedic god, *Matariçvan*. In this connection one may mention *ma-s*, the male, the producer. To this general sense belongs Lat. *ma-nare*, to flow, to emanate; *materies*, matter,

the fertile substance, space; and also, striking contrast, the famous *mâyâ*, space, phenomenon, the illusion of the universe. The moon which traverses space, and whose phases are the measure of time, is *mas*, and its career is *ma-sa*, the months. The nasal suffix adopted by the Greek *μήνη*, *μήν*, by the Latin *mensis*, by the Gothic and Slav *mena*, *menoth*, by the Anglo-Saxon *mona* (*moon*), *manadh*, has not changed the value of these two correlative terms.

A group of the family *ma* has remained in the direct and limited sense of measure. There are analogous terms in all our languages; *metiri*, to measure, *μέτρον* (whence metre), *mensura*, *medius* (whence *moyen*, *moitié*, *mean*), *modus*, *modius* (*muid*), *magh*, to grow, whence *maha*, *μέγας*, *magnus*, *majestas*.

To pass now to the forms under which *ma* expressed, before the separation of the idioms, actions of the human mind. It appears to us here in at least five different states—short, as it was originally; long, with the nasal or the suffix *na*; with the soft, hard, or aspirated dental; with the causative suffix *ya* (*ma*, *mā*; *man* and *mnā*; *mad*, *math*, *manth*; *manya*); and its meanings vary between thinking, knowing, remembering, hoping, desiring, loving.

The naked form has been the least fertile: it has furnished in Sanscrit *ma-tas* and *ma-ti*, thought. Greek has retained it in the name of the goddess *Mētis*, in the adjective *μητίετα*, an attribute of Zeus, and in the compounds *Πολύμητις*, *Ἀνκυλομήτης*, the ordinary surnames of Ulysses and Prometheus.

Two plausible reasons have been suggested for the passage of *ma* into *man*: first, the very general tendency, even in Sanscrit, to nasalise the sound *a*; and secondly, the frequency of the suffixes *na*, *nā*, *ni*,

nu, nō, which characterise several classes of verbs. The addition of the dentals and of *ja* may be explained in the same manner. The root *man* once constituted, it acquired, according to a constant law, a contracted form *mnā*, a reduplicated form *maman*, *mimne*, and a causative *manya;* and entering into the frequentative *mat*, became prolonged into *mant* and *manth*. The variation of the vowels in the different dialects came to increase the richness of the primitive sound; and we may expect to find everywhere else than in Sanscrit equivalent forms: *men, mon, min, mun, main, meth, med, ment, mnā, mnē*, &c.

Sanscrit offers several terms of great interest; first, the verb to think; *man* and *mana*, *manute* (he thinks), then *manas*, thought, mind. The *manas* has been reckoned by the Hindus among the senses; it is the sixth and greatest. In the most recent of the Vedic hymns it is deified. Another name has had a yet finer destiny, *manu*, man, the thinking being, the legislator, deified also among the Germans of Tacitus and during the Brahmanic period. With the causative particle *ja*, *man* forms words which signify a movement of the mind; for example, anger, in Sans. *manyu;* whence in Zend, *Angro-Mainyu*, the spirit of anguish, of pain, the Evil Genius, *Ahriman*. We may also mention *man-tra*, the instrument of mind, which has come to mean sacred text, verse, litany, incantation, talisman. To the root *mna* a liturgical meaning has also attached itself; to repeat the Vedas to oneself. The variety *math, manth*, has produced a famous name, *Pramantha*, he who turns the fire-stick for the sacrifice and produces the spark. Here we recognise Prometheus, another form of the same type.

The same elements have been fertile in Greek. The

name of man, *manu*, has been abandoned, but *μένος*, thought, has formed numerous derivatives; such as *εὐμενὴς* (Sans. *vasumana*, Zend *vôhumanō*) and *δυσμενὴς* (Sans. *durmanas*). *Manju* is directly connected with *mania*, fury, *mainomai*, to rave. With *man* and *men*, *μένω*, *μενεαίνω*, to wait, to hope; *Mentor*, the sage Agamemnon, for *Aga-me-men-on*, a name famous in the Iliad, and an epithet of Zeus, "the wise;" *Men-e-laos*, desire of the people, or guardian of the people; *μάντις*, the diviner, the poet, of which the feminine *μάντια* or *μόντια*, has been regularly altered into *μοῖσα*, *μῶσα*, *μοῦσα*. Hence the Muses and Mnemosyne, or memory.

The sub-root *mna*, *mne*, has given *μνήμη*, *μνήμον*, *μεμνημαι*, I think, and *μιμνήσκω*, I remember. With the addition of *s*, the remains of a suffix implying desire, it has produced a curious group, quite distinct, and isolated; *μνάομαι*, to think of a woman, to woo her; when *μνηστός*, *μνήστωρ*, *μνηστήρ*, wooer, suitor; *μνηστύς*, an asking in marriage, *μνῆστρον*, betrothal.

From *math* the Greek has *μάθημα*, science, *μάνθανω*, to learn. *Prometheus*, "the wise," the "far-seeing."

Latin is hardly less rich. There is *Menerva*, Minerva, she who thinks or warns, the ancient divinity of Etruria and Latium, with which we should connect the old verb *promenervare*, discovered by Festus. Then *moneo*, I cause to think, I warn; *moneta*, an epithet of Juno, which has become our *money*; *monumentum*, *monstrum*, and *monstrare*; *maneo*, I wait, and its derivatives; *imminere*, *eminere*, *minari*, *minitari*, to menace; *memini*, *reminiscor*, *comminiscor*, I remember; *mens*, mind; *mentiri*, to imagine, to lie. With *mad* are connected *meditari*, *meditatio*; *medeor*, *medicus*, *remedium*, which, like the Zend *med*, have to take the sense of to cure, doctor, remedy.

For the Teutonic languages we will only cite in

Gothic, *muns*, mind, *gemunan*, to warn, *gaminthi*, remembrance; Old High Ger. *minnia*, *minna*, love, whence Minnesänger; finally, the generic term *Mannu*, the son of Tuisco, the god of the whole race, whence *mannisk*, *mensch*, man, universal noun and suffix.

There is no difference in etymology between the classical languages and French; it is easy to recognise in French numerous words derived from the roots *ma*, *mad*, and *mant*. Greek has given *manie*, *maniaque*, *mnémonique*, *mathématique*, *muse*, *mètre;* Latin, the popular forms *mois*, *maison*, *manant*, *monnaie*, *montre*, *ramentevoir*, *mensonge* (*mentitionia*), *mesure*, *mège*, and numerous others, which are simply transferred from the Latin with very little change; *permanent*, *imminent*, *éminence*, *mental*, *démence*, *mention*, *commentaire*, *monstre*, *démonstration*, *moniteur*, *monument*, *réminiscence*. Lastly, French, like the other Romance languages, has made for itself an abundant resource by the formation of the adverbs in *-ment*. This suffix *-ment* is but the ablative of the Latin *mens*, which from words, logically formed, like *bonamente*, *malemente*, *bonnement*, *malement*, has passed to the adjectives *affreusement*, *splendidement*, &c. Its origin is certain, and we note in confirmation that the suffix is always added to the feminine of the adjective, since *mens* is feminine. The use we make of the suffix *-ment* has its parallels in the classic languages, the Sanscrit and Greek participles in *manas*, *μενος*, the Latin terminations *men*, *mentum*.

At the risk of puzzling the reader by quoting examples in which the root is changed according to laws which we have not yet set forth, and surcharged with appendices, terminations, and even sometimes with prefixes, of which the presence is not yet sufficiently accounted for, I have wished to call attention

to the extreme importance of these roots, to their preponderance in a hundred languages and dialects of which they are the framework or skeleton. In them we see the long evolution of thought, its origin, its progress, even its errors. From the impression of the senses, at first confused, then distinct, then varied, they lead us to the expression of the feelings, of the affections, of the passions, and of mental concepts. In following their successive changes and developments we seem to watch the travail of the brain, the birth of intelligence.

All the early roots might be taken in like manner in illustration of the same general principle, and I hold some in reserve. But it must not be forgotten that the attributive roots are not nouns, nor adjectives, nor verbs; they need the terminations which show case or person. Here we find two alternatives: either the root is joined immediately to the termination, as in the Latin words *rex*, *lex* (for *reg-s*, *leg-s*), *das*, *dat*, *fers*, *fert*, and in the French *est*, or it is separated from it by one or more suffixes, as in the Sanscrit *bhar-a-s*, burthen, bearer, *bhar-a-mi*, *bhar-a-ja-mi*, *bhav-i-shya-mi*; in Greek, *φιλ-έο-μαι*, *δείκ-νυ-μι*; in Latin, *fer-i-mus*, *fer-e-bat*, *fra-ter-em*, *am-a-bilis*, *am-a-n-ti-bus*, &c. The first and earlier method causes numerous curious changes by the influence of letters one upon another; the second, more recent, but more convenient, was already the more common before the separation of the Indo-European languages. In the one, the root itself constitutes what is called the radical or indeclinable theme; in the other, the theme is a simple or a complex derivative of the original root. In *dic-i-mus*, we say, in *bhar-a-nti*, they carry, the roots are *dic* and *bhar*, the themes *dici* and *bhara*; in *tanumi*, I stretch,

the root is *ta* or *tan*, the theme is *tanu ;* in *datus* the root is *da*, the theme is *datu ;* in *amare*, root *am*, theme *ama ;* in *amabili-s*, *-tas*, *-ter*, the theme is *amabili*. This notion of the radical or theme is important ; it modifies and simplifies grammatical teaching. There are no longer declensions in *us*, *os*, *as*, *es*, *a*, *i*, but there are numerous varieties of themes to which are attached the terminations *s*, *m*, *t*, &c., of the nominative, accusative, and ablative.

What, then, are these letters *a*, *i*, *o*, *e*, *u*, these syllables *nu*, *ya*, *isc*, *tu*, *abili*, which are interposed between the root and the termination? They are pronominal roots, those which, as we have seen, furnish, either independent or agglutinated, all our pronouns, and acquire by degrees distinct meanings. Subordinated to attributive roots, they acquire other meanings and values, which are generally determined by their function, some being usually annexed to nouns and adjectives, to masculines, feminines, or neuters, others to verbs, moods, and tenses, but all susceptible of uses which vary according to the preferences of races and the needs of speech.

The accumulation of suffixes, the formation of themes which are already derived from earlier roots, and form in their turn generations of new words provided with various meanings, is one of the most striking and peculiar characteristics of the Aryan languages. It is by such methods that arise collateral series such as *juste*, *ajuster*, *justesse*, *justice*, *justicier*, *justiciable*, *justifier*, *justification*, *juré*, *juron*, *juridique*, *juger*, *judicieux*, *judiciaire*, *judiciairement*, or as *lui*, *luire*, *luisant*, *lucide*, *Lucina*, *allumer*, *lumière*, *lumineux*, *luminaire*, *illumination*. Of course these French products of the roots *jus* and *luc* are the issue of corresponding Latin

forms, and similar facts may be reckoned by thousands in all the Indo-European idioms. But, as I have said, each language has made its choice, each has combined and amalgamated in its own way the suffixes taken from the common stock; and herein it is distinguished from its kindred, hereby it displays its own genius and vitality.

A good many ready-made themes may, however, be found throughout the entire family, more especially the simpler ones, those which have only a letter or a syllable, called *formative*, attached to the root. The origin of these suffixes, so slight and meaningless yet so persistent, is the subject of many hypotheses. Is the extra vowel a very early appeal to the attention of the auditor? Is it a survival from a time when our idioms, like many Asiatic and African idioms, avoided final consonants? In that case the dissyllables *bhara*, *vaka*, (*feri*), *voca*, would be earlier than the contracted roots *bhar*, *vak*, *fer*, *voc*. It is possible, but more often, perhaps, the superfluous vowels are merely a rest for the voice, an easy *liaison*, what have since been called euphonic letters, whose use commonly escapes us.

It is almost always in company with this vowel that the root forms part of a compound word: *Theophilus*, *Philotheos*, lover of God; *Patrocles*, *Cleopatra*, pride of his (or her) father; and a study of this great class of words often shows us the true theme of a noun or verb, preserved from attrition by the second term in the compound.

Composition, properly so called—that is, the juxtaposition of two or more themes, of which the second only is declinable—belongs to the inflected languages only. Sanscrit, Greek, and German have made great

use of this power, indeed even to abuse; the Romance languages, on the other hand, have almost lost it.

In a more general sense, the word may be applied to the prefixing of adverbs, prepositions, conjunctions, which do so much in the way of differentiating and altering the meaning of the root. *Maleficus* is a compound, just as are *magnificus*, *pacificus*, *carnifex*; nor should I exclude *contradictio*, *intercipere*, *pro-* or *postponere*, *profundus*, from the category of compound words.

The formation of Indo-European words is, then, the result of two processes: derivation, by means of suffixes, and composition, by the joining of two or more themes, and by the addition of prefixes. We have only now to consider the terminations which show the function and place of words in the sentence.

CHAPTER II.

PARTS OF SPEECH—THE NOUN.

Original identity of substantive and adjective—Parallel formation of noun and verb—Declension—Case-endings are postpositions of demonstrative suffixes—The attrition of terminations a proof of their great antiquity — Nominative, accusative, subject, and object in old French—Genitive, dative, vocative, and ablative—Insufficiency of cases—Gradual substitution of the preposition for the postposition—Degrees of comparison—The disappearance of the suffix before the adverb.

BEFORE we touch on the mechanism of the declension, we have to solve one or two preliminary problems, which offer a far greater interest than the nomenclature of the forms special to the various families of languages. What is a noun? What is a verb? Is the one class anterior to the other? What are case and verbal endings? what their nature and their office?

The noun is the individual or generic designation of an object, in the most general sense of that word, of a sensible or intellectual object, concrete or abstract. So at least it now appears to us when we say *lion, tiger, sheep, horse, house,* or even *pain, pleasure, feeling, idea.* But although we apply to these words the term noun-substantive, although all hold the same place in the sentence, and are brought into relation with one another in the same manner, and with other parts of the proposition by the same methods, yet even a cursory examination will reveal to us shades of difference among them. Most of them are derived

from derivatives; and it is through forgotten metaphors and transpositions, through changes innumerable in form and meaning, that they have come to express for us the, so to speak, real and objective image of the being, thing, or quality with which we identify them. They represent no substance. But, by a useful illusion, eliminating more or less voluntarily all accessory or approximative meanings, we imagine that we conceive clearly the object designated. Are there now, were there ever in the past, true substantives? Yes and no. That is to say, that in the earliest times, when man was yet unable to analyse his sensations, the meeting with an animal, the passage of a meteor, a blow received, pain or joy experienced, may have provoked cries, phonetic gestures, which answered adequately to the impression received; and these sounds, these primitive names, may, by the merest chance, have come down to us. I am speaking here of the Indo-European languages only. For it cannot be doubted that a great number of Chinese monosyllables were signs, attached either to objects or to various aspects of objects, aspects considered as new objects. M. Michel Bréal is disposed to believe that naked roots like *srp*, like *av*, *as*, *va*, *ap*, or *aqv*, *gvau*, which are found in *serpens*, in *ovis*, in *asu*, in *vata*, in *aqua*, in *bos*, were essentially what I shall call raw substantives, and signified before anything else *serpent*, *sheep*, *breath*, *wind*, *water*, *ox*, and by analogy only came to be applied to other beings, or the actions of other beings, and took other meanings, such as *to glide*, *undulating*, *to breathe*, *life*, *to run*, *agile*, *to wander*, *to walk*, *earth*. This opinion is plausible, yet the haste with which speech seizes upon those raw substantives to express qualities or actions seems to prove that

they themselves are the result of an unconscious analysis, and that they describe the most salient peculiarity of the object heard, seen, or touched. Our sensibility, in fact, having five ways of perceiving external things, is itself an instrument of abstraction. The senses co-operate and supplement each other, but it is always the one which is most directly affected which determines the impression on the brain and its expression by the voice; and the vocal symbol necessarily differs according as it corresponds to an indication of sight, hearing, touch, smell, or taste. Hence the number of synonyms ultimately rejected, or reserved for approximate shades of meaning, or qualities perceived in the same object by the eye, the ear, or the hand. So that the noun, even when the most involuntary expression of the primitive impression, can only be the expression of a quality.

There is, then, no original difference between the substantive and the adjective. Both are names which express a quality, a manner of existence, either generalised and applicable to all the objects which possess it, or specialised and identified with the whole of the object, of which it really designates but one property. "All substantives," says M. Bréal, "were, to begin with, adjectives taken substantively."

How did the adjective come to be distinguished in the long-run not only in meaning but in form? In the first place, the adjective, habitually used to signify an object, lost its qualifying value, and came to be solely the name of the object. For instance, *deva*, which means the shining, and which has still in Sanscrit the three degrees of comparison, ended by meaning the god. *Sourya*, the brilliant, became the name of the sun. *Akva*, the runner, became the

name of the horse. *Manu*, the intelligent, signified *man*. The epithet was forgotten in the thing designated by it. Other words, on the contrary, *laghu* (Gr. ἐλαχὺς, Lat. *le(g)vis*, light), *tanu*, *brghu* (*tenuis*, *bre(g)vis*), *nava*, new, not being specially attached to any object, retained, with their qualifying power, the faculty of taking the three genders, which the substantives lost, and the comparative and superlative forms. Phonetic change, by obscuring the meaning of the roots, contributed also to separate the two classes of words. The Hindu, whose language is less modified, can perceive the relationship which exists between *akva* and *açu*, rapid. But what Greek would have guessed the affinity between ὠκὺς and ἵππος? Then a choice was made between the suffixes, and that as early as the Indo-European period. If in Latin the suffix *ti* forms alike nouns and adjectives, *pestis*, *vestis*, *fustis*, *mentis*, *fortis*, *mitis*, *tristis*, there are others, such as *man* and *men* (*açman*, the sky, *nomen*, *documen*, *foramen*, *examen*, *agmen*), such as *tra*, *tro* (πλῆκτρον, *rastrum*, *cultrum*, *monstrum*), which were used for nouns alone. We sometimes find this sorting process taking place in a single language. In the Vedic dialect, for instance, the suffix *as* still forms adjectives, *tar-as*, penetrating, *ap-as*, action; but in Sanscrit it rarely forms anything but nouns, *man-as*, *gan-as*, as in Greek and Latin, μένος, *gen-us*, *op-us*.

The verb, which we shall consider separately, is closely related with the noun and the adjective. At first it expresses, like them, a state, a manner of being, an action; it even borrows their form for its supines, participles, gerundives, and infinitives. Reduced to its simplest elements, it is composed, like them, of an attributive root or theme, and of a

demonstrative root. *Bhara-s*, the bearer, the burden, is the same as *bhara-ti*, he bears; for the two suffixes *s* and *ti* represent the same pronoun, of which the sound varies between *sa* and *ta*, and which replaces, announces, or recalls the subject expressed or understood. For the rest, the fundamental identity of noun and verb is proved to us by the monosyllabic languages; the same word may be noun, adjective, or verb, according to its place in the sentence. But in the agglutinative idioms we see the beginning of the differences, which become more marked in inflected languages. Affixes placed before or after a root, which may turn into a verb, are pronominal, and not simply indicative; already some rudimentary artifices add to the action the idea of present or of past time. The complicated edifice of the Indo-European conjugation is raised on the same foundation, and by the aid of similar materials. Only the joints, which a ruder construction allowed us to see, have here disappeared, hidden by the fusion in which the theme, itself inflected, contracted, lengthened, reduplicated, and the auxiliaries and terminations are welded together.

In his ingenious essay on the chronology of language, Curtius rejects the hypothesis of a parallel development of the noun and of the verb. He believes that while the former remains as a naked root, or at least as an indeclinable theme, the latter acquired the six personal terminations, "invariable characteristic of all the Indo-European languages." The declension is even, in his view, of later date than the insertion between the root and the termination of the suffixes *a, ja, nu, na, pa, ta, sja*, which give an intensive, causative, frequentative, desiderative meaning to the verb, and later also than the period of auxiliary verbs and

compound tenses. For my part, I can see neither the reason nor the probability of these successive formations. If the method of the conjugation has been longer preserved, it is because it corresponded longer to the needs of speech; perhaps also because it was only just completed, and present to all memories at the time when the different tribes which composed the family began their slow exodus. In any case, we find the declension far more worn by time, an indication of an antiquity at least as great; even in Sanscrit, Zend, and Lithuanian, where we find it most complete, it can hardly account for some of its forms. The cases whose endings are worn and altered become confounded and mislead the auditor, so that recourse is had to prepositions. The Latins, Greeks, and Germans lose two or three terminations as their language progresses, though some remnants still embarrass our modern idioms.

Though it be impossible to recover the primitive form of the case-endings of nouns, it is none the less certain that they were equivalent to the prepositions which have reinforced or replaced them; when they were joined to attributive roots, the mother-tongue admitted only of postpositions or enclitics; these latter, perforce abridged in pronunciation, became continually effaced, and numerous independent particles, already provided with a meaning and a form of declension, were used to supplement their failing and decrepid predecessors. As for Schlegel's mystical theory of the vegetation of words, each word throwing out, like certain insects or molluses, filaments, buds, ephemeral or durable excrescences, it has long been forgotten; even if the testimony of the three first persons of the verbs in *mi*, *si*, *ti*, did not prove the

pronominal origin of these terminations, it would be impossible to separate them from the suffixes. Now no suffix proceeds from the root; all are added to it. This is equally evident for case-endings and personal terminations.

The history of the noun and that of the verb cannot be separated; they arose together, bound together by a common radical, and gradually distinguished by suffixes hardly different from each other, but increasingly used for special purposes. One of the functions of the verb being to put two nouns into relations, to mark the action of one upon another, the case-endings seemed appropriate to lend the phrase force and clearness. When the prepositions had acquired definite meaning, the verb and the noun both made use of them, the one to enable it to govern a given case, the other to enhance some weakened or doubtful termination. And in the meantime, the natural process of derivation was always producing verbs from nouns, and from the verbs verbal nouns and adjectives, which themselves produced new forms.

The earliest known form of Indo-European declension has eight cases: nominative, vocative, accusative, genitive, dative, ablative, locative, and instrumental; but it might admit, it has admitted, of many others; for there are other shades in the relations of words to each other, and even these cases express imperfectly the meanings of *with*, *for*, *through*, *on*, *under*, &c. The Latin *me-cum*, *vobis-cum*, is a combination which is apparently a form of case; and the Umbrian dialect offers examples of true cases which it has created for itself: *anglu-to*, from the angles; *anglom-e*, near the angle; *totam-e*, *asam-e*, near the city, near the altar; *tota-per*, for the city; *asa-co*, with the altar; *asam-ar* (for *ad*), towards

the altar. These examples are precious because they are still lucid. The Umbrians formed these cases in imitation of those they already possessed; they did not innovate. Their method is that which gave rise to the declension; and the suffixes they used are not different in kind from earlier terminations.

Since each language has used the cases in its own way, whether it suppresses them, whether it compensates for their loss by lengthening or accentuating the syllable which should bear their sign, or whether it modifies their meaning and function, it is impossible to present a general table of the Indo-European declensions, unless it be in Sanscrit and Zend, in which all the forms are moulded on the same type. Yet even here examples of these two idioms, embracing the comparison in detail of the various masculine, feminine, and neuter themes, in the singular, dual, and plural, would overwhelm the reader with their innumerable variations, and would only leave a confused and fatiguing impression. This mechanism, too delicate, too minute to be solid, should be studied separately and at leisure in each language.

Omitting the instrumental, which is peculiar to the Oriental and Letto-Sclavonic groups, we will give a few succinct notions, incomplete but clear, about the other cases, showing in especial certain agreements or curious divergences.

If the declension, instead of being the unconscious work of time, had been invented by some judicious grammarian, it would seem that the nominative might have dispensed with any outward sign. And, in fact, many neuter and some masculine nouns in *ar*, *as*, *i*, and *u*, have no termination in the nominative. But in general, the naked theme has been reserved for the

vocative, with abbreviation of the final vowel: *akva*, ἵππε, *domine, amice*, O horse, O master, O friend. In the great majority of nouns and adjectives, masculine and even feminine, whether the theme ends in a vowel or a consonant, the nominative termination is an *s*, the remnant of the demonstrative *sa*. The *s* is too familiar to those who have any knowledge of Latin and Greek to need examples; it persists in the Sclavonic languages and in Lithuanian; retained in Gothic, it has become *r* in Scandinavian; German has almost entirely lost it. But it is clear that at the time of the separation of the idioms this case-ending was already decaying. Before certain words, and in virtue of euphonic laws which are often strange, Sanscrit replaced it by soft breathing. Zend compensated its loss by a change in the final vowel: *mazdâo*, for *mazdas*, just as the Provençal says *chivao* for *chivals* (whence the French *chevau-léger*). In Latin the *s* was faintly heard, and was elided before a consonant (*omnibu, Jovi*) from the time of Ennius; and while the classic Latin re-established and maintained it scrupulously, the popular speech cared little for it. There is no trace of it left in Italian, and very little in the other Romance languages. French retained it longest, using it, however, with very little sense of its meaning.

As early as the fifth century, M. Brackel tells us, long before the appearance of *written* French, popular Latin reduced the number of cases to two, subject and object, and, in order to distinguish them, chose the two terminations which recurred the most frequently, *bonu-s, bonu-m, muru-s, muru-m*. French grammar, which is a continuation of Latin grammar, inherited this system in part; it could not revive the final *m* of the accusative, nor the *i* of the plural *muri*, which

had dropped; but it retained the *s* wherever the Latin of the people pronounced it, and constituted a declension which was very useless, but simple and acceptable: in the singular *li murs* and *le mur*, plural *li mur* (*illi muri*), *les murs* (*illos muros*). In the thirteenth century, taking as type the second Latin declension, the *s* of the nominative singular was extended to those forms which had never possessed it; and men wrote *li pastres*, the shepherd. This artificial construction ruined the declension which it was intended to confirm. Rejected by the people from the thirteenth century, and often neglected by the lettered class, the French declension died out in the fourteenth century. Thenceforward only one case was used for each number, and as the objective case was longer in Latin, and therefore better able to resist the strong tendency of modern French to contraction, this case prevailed and was chosen as the type. *Murum* became *mur*, *muros*, *murs*. Thus all our nominatives represent Latin accusatives. Some remains of the ancient nominative singular may be found, however, in the nine following words: *fils*, *fonds*, *lacs*, *legs*, *lis* (*lilius*), *lez* (*latus*), *puits* (*puteus*), *rets* (*retis*), *queux* (*coquus*); which were in the accusative: *fil* (whence *filiation*), *fond* (*fundum*), *leg*, *li*, *lé* (still used in the phrase *un lé d'étoffe*); *latum*, *puit* (*puteum*), *ret* (*retem*, *rétiaire*), *queu* or *coq* (ship's cook). Such is the end, in no sense to be regretted, of the earliest and most inconvenient of case-endings, of that which engendered perpetual confusion between all the cases and both numbers.

The general sign of the accusative singular, *m*, has everywhere, as we have seen, marked the direct object, with the primitive sense, doubtless, of movement towards an object, a place, a being: *eo Romam*, *eo*

Lugdunum, I go towards Rome, towards Lyons. When the verb, at first intransitive, took the active sense, implying in itself movement influence on the object "governed," the original sense of the termination *m* became fainter, but the sign remained no less useful to distinguish the object, and mark its subordination to the subject of the sentence. Universally adopted, it perished nevertheless, and its disappearance began early in our Western languages. Greek, rejecting the sound of *m* at the end of a word, replaced it everywhere by a *n*, an equivalent nasal, which became labialised before a *p* or a *b*. They pronounced τὸμ πόλεμον, war, εἰς ταμ πόλιν (whence *Istamboul*, towards the town). But in a number of forms this *n* dropped, preserving only the vowel *a* of the primitive theme, which would otherwise have been weakened into *e*; ἄνδρα for ἀνέραν, κύνα for κύναν, dog. In Latin, in Umbrian, in the earliest inscriptions, the final *m* is no longer written, and even in the classical Latin of the Augustan age it was so little pronounced that its elision was the rule in poetry. It became completely obliterated from popular Latin and from the Romance languages; so much so, that in order to pronounce it in reading Latin, an Italian is obliged to double it and add a mute *e*, *sanctumme*, like *Gerusalemme*. Retained in Gothic, *tunthum*, the tooth, it becomes lost in the German *n*, or rather it remains only as the sign of the dative (*dem*, *gutem*), in the useless pronominal declension of literary German. One of the reasons for the disappearance of this interesting *m* is again to be found in its double use. Not only was it attached, we know not why, to the neuter nominative (*danam*, *donum*), but it also terminated the genitive plural, *devasam*, *deorum*, *rosarum*, *omnium*. Thus it lost its distinctive value and its vitality. It

existed also, but followed and soon absorbed by an *s*, in the accusative plural: *μεγάλους*, *dominos*, are contractions of *μεγάλονς*, *dominums*, a regular phenomenon of assimilation in Greek and Latin.

The genitive or possessive case is peculiar; it is, so to speak, retroactive; it seems governed by the nominative, but it contains the true subject. *Liber Petri*, it is Peter who is the possessor of the book. It would not therefore be surprising if the sign of the genitive were derived from an enclitic relative suffix, "The book, Peter, which," "the book which Peter" (understand possesses, or wrote); hence the frequent confusions with the ablative *of* or *by*, "the object which is of, or made by, Peter." This case, the genitive, was represented by several terminations, especially *sya* for vowel themes, and *as*, *os*, *is*, for consonantal themes. Greek used both, but the intermediate *s* has dropped as commonly happens between two vowels, and the Homeric *οἷο* (*θεοῖο*) for *οσιο* has been contracted into *ου*—*λόγου*. The other case-ending has remained without alteration, *φλογός*, of the flame (as also the plural, *ων*), *ἀνδρός*, of the man, *βασιλέ*[*F*]*ως*, *Δι*[*F*]*ός*. Latin has completely rejected *sya*, and replaced it by an *i* in three declensions: *rosai*, *diei*, *domini*. It has kept *as* under the archaic forms *os* (*senatuos*, *magistratuos*, *manuos*) and *us* (*Venerus*, *Cererus*); and finally under the classical form *is* (*fratris*, *sororis*), which unfortunately created a confusion with the numerous nominative singulars in *is* and with the ancient plurals *frugiferenteis*, *parenteis*. The Germanic languages still use the genitive in *s*, and it is one of the few traces of grammar retained in English.

The comparative table of the dative shows the indecision of the various dialects between the modifications

of the original form. I take my examples from Bopp. Sans. *açvâya*, Zend *aspâi*, Lat. *equo*, to the horse; *açvâyâi*, *hisvayâi*, *equæ*, to the mare. A primitive *âya*, contracted into *ai* and *e* for consonantal themes, may be traced in these variants. The Latin *equæ* is clearly for *equai;* but *equo* would be embarrassing were it not that the *i* reappears in all the datives in *i*, *sorori*, *fratri*, *menti*, and the archaic *populoi*, *Romanoi*. *O*, like *e*, is in Latin the usual substitute for the Sanscrit *a*. Lithuanian has a form *ashvai*, to the mare, and *gibai*, to the gift (*dono*), in Gothic (side by side, it is true, with *wulfa*, to the wolf), tends to confirm the opinion of Bopp. We are tempted to assimilate the Greek dative singular in ῶ and in ι pure (πατρί, ἐλπίδι), but it is a temptation which must be resisted. Greek has substituted for the dative, as a rule, the forms of another case; in the plural the transposition is evident. The termination σι, σσι, which is equivalent to the Sanscrit *su* for *sva*, belongs to the locative, of which the proper meaning is evident in Αθήνησι, Ολυμπίασι, at Athens, at Olympia. Now in the singular the locative is simply marked by a short *i*, the same doubtless as we find in the preposition *in;* and it is this pure *i* which Greek preferred to the doubtful sound of the dative.

The two cases are very nearly alike in meaning as in form, and one of them has rightly seemed superfluous. Latin, like Greek, has been seduced by the simplicity of the locative singular, and while retaining probably the original dative in the singular long *i*, and in the plural *bus* (Sans. and Zend *bhyas*), it has employed the locative not only in the apparent exceptions, *humi*, *domi*, *Lugduni*, but in the office of the genitive. It had rejected the suffix *sya*, and kept only the ter-

mination *as, is;* and introduced the locative *i* into three of its declensions, thus creating confusion between the genitive singular and the nominative plural *domini*, and among the three forms *rosæ*, of the rose, to the rose, roses.

The Indo-European ablative was marked by a *t* or a *d* preceded by a lengthening of the vowel of the theme. At least we must infer this from the agreement between several Sanscrit declensions and the ancient Iranian, Latin, and even Gothic forms. The Sanscrit *açvat, vrkhat*, the Zend *aspad, vehrkad*, by the horse, by the wolf, have been rightly compared with the old Samnite forms *touta-d*, by the people, *suva-d* (*sua*), *preivatu-d* (*privato*), *dolud malud* (*dolo malo*), *præsentid, ligud* (*lege*), *conventionid*, and the Latin forms found on the rostral column of Duilius, in the Senatus Consult of the Bacchanals and on the tombs of the Scipios; *navaled prædad, in altod marid, summod dictatored, Gnaivod patre natus* (son of Cnæus). But the sign *d* had already lost its force in the time of Plautus, who used *ted* and *med* in the accusative. The old ablative can still be traced in the adverbs in *ā* and *ō*, *contra, intra, extra, pro;* the latter has retained the dental in *prodire, prodest*. But as a rule the *d* has been lost, in ancient Persian, in Latin, in German, and in Slav, abandoning the final vowel *a, e, i, o, u*, to every species of alteration. Hence an intolerable and fatiguing confusion among a number of words which ought to occupy different offices in the logical construction. For the rest, the ablative is quite insufficient to render all the meanings which are required of it; it originally signified the point of departure, and thereby drew near to the locative; afterward came the idea of cause, of effect, of dependence,

and the perpetual interchange with the instrumental (by means of, with, by), and with the genitive. When taken with a pronoun or an adjective (the ablative absolute, and the same construction is found in Greek with the genitive), *expulso Tarquinio, illo dormienti,* the ablative easily acquires a completely adverbial sense. Most Latin, Gothic, and even Slav adverbs (*tamo, jamo, kamo ; illic, ubi, quo*), in *o*, in *e*, in *i*, in *u*, are ablatives. Greek, which has rejected this case from its declension, has kept it for this same use; at least it has been surmised in the numerous adverbs in ὡς, such as ἀληθῶς, ὅμως, οὕτως, ὡς, τηλικῶς, σωφρόνως, for ἀληθῶτ, ὅμωτ, &c. (Greek not permitting the letter τ at the end of a word).

These few notes are far from exhausting the subject, which has occupied so many practised philologists. Bopp has devoted more than one volume to the analysis of the Indo-European declensions, and the German declension alone, one of the vices of that rich language, occupies as much space in the works of Jacob Grimm. In these delicate matters we must have regard to phonetic laws, both general and particular, to the successive periods of each language, to all the reasons which may have suggested, maintained, modified, or condemned the various case-endings. We have only considered the singular of those classes and idioms which are most familiar to us; but if we were to pass to the altered and complicated forms of the Slav languages, to the strange metamorphoses of Armenian ; if we were to examine the plural terminations, the *an*, *on*, or *son* (Lat. *um* and *rum*) of the genitive, the *bhyas*, *bhis*, *is*, which commonly serve the three cases, dative, locative, ablative, and even the instrumental, which is probably a pronoun already

declined, and which may certainly be found again (in the singular) in *tubhyam*, Umbrian *tefe*, Lat. *tibi*, and in the Homeric forms in φι—βίηφι, by force; if, lastly, we were to adventure ourselves on that superfluous doubling of the plural called the dual, of which the practical Latin has only retained the two useful words *duo* and *ambo* (Sans. *dvau* and *ubhau*), we should lose ourselves in an endless labyrinth. I may, however, without engaging myself too far, contest the most commonly received opinion on the origin of the dual. It is generally supposed to be a development of the plural, and even a late development. But why should this be so? Does not the invention of the plural take from the dual its *raison d'être?* We find the dual in the languages which are nearest to the common idiom, in Sanscrit, in Zend, in Greek, and among the Letto-Slavs. I should prefer to regard it as a survival from the time when our savage ancestors first distinguished two from one, when they perceived that man had two arms, two legs, two eyes, when the worship of generation inaugurated the idea of the couple, animal, divine, or human.

I will now sketch the evolution, which is relatively simple, of the degrees of comparison. Three words suffice in French, *plus*, *moins*, derived from the Latin comparatives, and *très*, the Lat. *trans*, beyond. In the languages which are nearer than French to the Indo-European idiom we shall find suffixes placed after the theme, or between the root and the termination, and consequently subject to numerous alterations.

Leaving on one side monosyllabic and agglutinative methods, such as the repetition of the word, or the addition of a term signifying quantity, which have again become familiar to our analytic languages, we

find that the only means possessed by language for expressing difference in size, distance, or number was the postposition of a demonstrative root. Custom, use, would do the rest, would fix and define the sense. The general suffixes, *ra*, *ta*, *ma*, were used, suffixes which form adjectives, nouns, or participles, without having a very defined meaning in themselves; then at a later period two compound suffixes were employed, *jans* or *yos*, this latter very nearly allied to the present or perfect participles, *ans*, *ôn*, *ôs*, and *os*, and *ishtha*, which seems to be connected with the desiderative verbs.

I give a few examples of the two groups. *Ra* has only survived in a small number of words; Sans. *ava-ra*, inferior; *upa-ra*, superior; *apa-ra*, posterior; probably *pra* for *pa-ra*; in Gr. ὑπέρ for ὑπόρα; Lat. *inferus*, *superus*, *infra*, *supra*, *super*, *pro*, *præ*. We have not here a very marked comparison, yet it marks differences of situation, behind, before, under, upon. The *r* of the French preposition *sur* is a relic of the old suffix *ra*.

Ta is not more precise; it is retained chiefly in the ordinal numbers; Sans. *tchaturtha* (fourth), Gr. πρῶτος, τρίτος, δέκατος; Lat. *quartus*, *quintus*; Goth. *saihs-ta-n*, *ahtu-da-n*, sixth, eighth; and in certain adverbs, Gr. ἐντός, Lat. *intus*, *subtus*, *penitus*.

Similarly *ma* signifies first of all the order of things; Sans. *saptama*, *daçama*, seventh, tenth; Gr. ἕβδομος, seventh; Lat. *primus*, *decimus*; afterwards it expressed the superlative; Sans. *apama*, the lowest; Lat. *su(p)mus*, *summus*, *minimus*, *infimus*; *supremus*, *imus*, the last; Goth. *frumaⁿ*, first; *auhumaⁿ*, superior.

These suffixes have been variously combined to give more force to the idea: *tara*, *tero*, *ter*, for the com-

parative; *tama, timo, tato,* for the superlative. The first has been adopted by Sanscrit, Greek, and the Germanic languages; Sans. *katara,* which of two, *antara,* interior; Goth. *khathar,* which, *anthar,* the other; Gr. πότερος, δεύτερος, κουφότερος. Latin has kept this form in a number of words in *ter—uter, noster, dexter, alter, ceteri, iterum, ultra, intra, citra;* but it is still more used to determine comparatives properly so called.

Tama is one of the regular forms of the Sanscrit superlative: *punjatama,* the purest; Goth. *aftuman,* the last; Lat. *optimus, ultimus, mactimus* (*maximus*), *intimus,* &c. In Greek there is only the doubtful form *Ar-temi-s,* the most noble; *tato* is used by preference: γλυκύτατος, the sweetest, κουφότατος, &c.

The other group of suffixes, well known in Sanscrit (*bhu-yans,* more numerous, *mahishtha, garishtha,* the largest, the heaviest), in Greek (ἡδίων, μαγίων [μείζων], ἀρείων, softer, larger, stronger), in Gothic and Teutonic (*hauhista,* the highest, best), has furnished Latin with all its comparatives; but the nasal has dropped, and sometimes the *y* also; and the sibilant in the masculine and the feminine has been changed into an *r* (as in *odor, odoris, arbor, arboris,* &c., for *arbos, odos*); it has persisted in the neuter: *melior, melius; major, majus, magis* (the Fr. *mais*), *pluris,* (for *pleoris*), *plus; minor, minus; pejor, pejus.*

Lastly, the combination of the two groups has produced double comparatives and superlatives; Sans. *papi-yastara,* wickeder, *panisthatama,* very praiseworthy, *surabisthatama,* very sweet-smelling, *nedisthatama,* the nearest; Gr. λαλίστερος, ἀρίστερος, εὐδαιμονέστερος; Goth. *aftumist,* the last; in Lat. *interior, superior, minister,* "the last of the least slaves,"

sinister, *magister* ; and perhaps the superlatives in *-issimus*, *doctissimus*, *felicissimus*.

Thus grammatical forms wear out and are reinforced by doubling them, or by other complications which do not preserve them from becoming obsolete. But their long life has not been inglorious; they have closely followed or determined the progress of the human intelligence towards order in the proposition, towards clearness, precision, towards variety also in the expression of every shade of thought. Their use has at last rendered them useless. From reins they became fetters; the apparent aid which they gave to syntax ended by impeding the logic of the sentence. The declension, of which we have given this hasty sketch, seemed at first to be sufficient for all the relations of the noun with the verb and the adjective; but even before the separation of the idioms, the too narrow meaning of the case-endings, and the inevitable confusions between their worn-out forms, rendered necessary the employment of more varied and distinct prepositions. As the terminations implied nothing more than the sense given by these free particles, they gradually lost their ancient function. Greek, Latin, and the Germanic languages reduced their number and altered their meaning, and finally modern languages are gradually losing all trace of them. German alone retains their vestiges without deriving any profit from their use.

CHAPTER III.

THE INDO-EUROPEAN VERB.

Office of the verb, expressed or understood—The addition of the personal pronoun after the root or theme constitutes the verb—The augment, reduplication, the alteration of the root, the insertion of auxiliary suffixes between the theme and the termination, express tense, mood, voice, and circumstance—Richness and complication of the Indo-European conjugation—Verbal evolution of the roots *bha*, *kar*, *vid*, *svap*, &c.—The middle voice—Free auxiliaries tend to replace suffixes of tense and mood—Persistence of the terminations signifying person—Verbal nouns and adjectives—The infinitive and the participles—*Anthropism* of the noun and the verb.

THE verb, like the noun, expresses a manner of being, a quality, a fact, or an action, or, lastly, an abstract idea. But to the signs of case, that is to say, of gender, number, cause, of dependence, place and movement, which the declension grafts upon the root, conjugation adds person, tense, and mood. When the various elements of the sentence are in their respective places, ready to play the part assigned to them by the terminations, but still dumb and immovable, the verb intervenes to preside over their evolutions. "It is I," it says, indicating the subject, "it is thou, you, he, we, or they, who, in such a place or with such an object, with such means, endowed with such and such properties, urge to-day, urged yesterday, shall or should urge, if it were necessary, them, him, us, you, myself, and all which in the phrase wears the livery of the accusative, of the complement." The imperative commands, and everything moves to execute the marches and the

counter-marches, the feints, and the retreats, the peaceful or violent actions indicated by the verb. Thus declension forms, dresses, isolates, groups, sets in line and distributes the personages; it gives the form; the conjugation gives the illusion of life.

No idiom, even the language of the dog or of the toad, can do without the verb, expressed or understood; only this rudimentary verb is included in the cry itself, or supplied by the immediate action. In the monosyllabic phase, in which grammar is yet undeveloped, in which the functions of the words are not yet specialised, only the position in the phrase indicates the quality of noun or verb. Similarly in the animal world we find certain organisms in which all the fibres or cells accomplish indifferently and in turn all those functions which in higher organisms are distributed among distinct organs, nutrition, circulation, sensibility, locomotion. The agglutinative languages have no clear conception of the shades of meaning expressed by mood, nor of the distinction, so indispensable to us, between the past and future; but they have characterised the verb by the more or less close association with it of the personal pronouns, either as subject or direct and indirect object. It is one of the points in which Basque resembles Chinese. You cannot say, "Peter will return the ox to the shepherd," but "Peter-he-it-to-him-give later ox to shepherd." Another very common artifice of the agglutinative dialects, from which Indo-European is not exempt, is the addition between the theme and the termination of numerous suffixes, intensive, frequentative, desiderative, causative, inchoative, &c., which are as destructive to the facility as to the clearness of a language. Yet we must not speak too ill of these

characteristics, because we owe to them not only voice, tense, and mood, but also an extreme variety in derivation. The Indo-European has in the main retained from the agglutinative period only acceptable methods; it has almost entirely rejected the incorporation of the direct and indirect objects. It has not loaded the verb with the whole meaning of the proposition; on the contrary, it has charged it with the conduct and the development of the phrase, that is to say, of the thought.

We shall have to point out certain regrettable consequences of the personification of words by the noun and by the verb; but in the linguistic order the Indo-European conjugation should be considered, as a whole, a wonderful construction, an unequalled monument of what has been called collective genius, since it is impossible to determine the share of the individual who first invented a given form, which, retained by his family and clan, was afterwards adopted and modified by the neighbouring tribes.

At the time when the Indo-European dialects began to leave their common cradle, the declension was already in a decadent state, so worn-out that its weakened terminations needed the reinforcement of prepositions; and the majority of the races, far from repairing the ruins and filling the gaps, allowed it gradually to fall to pieces and be forgotten. The conjugation, on the contrary, was, at least as regards the voices, tense, and mood, in full development. The personal terminations only had suffered, like all terminations, from the contacts to which final letters are exposed, and also from the law of the least effort, which tends to reduce to a minimum the signs which are known to all; but their meaning was so clear and their use so convenient that they are everywhere maintained (except in the Ger-

manic languages, and especially in English), although no longer recognisable, together with the six pronouns of which they once took the place. The forms of mood and tense were multiplied with that wealth, that luxuriant variety, which denotes the enthusiasm and the vigour of youth: two parallel and often equivalent voices, the active and the middle (or reflected), that is to say, two ways of conjugating every form; four pasts and aorists, two or three futures, as many conditionals and substantives. The movement, begun before the separation of the idioms, was long continued in five or six of the principal branches—in Sanscrit, in Zend, in Greek, and in the Letto-Slav languages. Instead of eliminating what might have appeared superfluous, Sanscrit and Greek cleverly made use of it to express the finest shades of tense and mood. They assigned slightly different functions to the aorists and futures which did double or triple duty; they even added some new forms. Greek, without abandoning the middle voice, drew from it a passive, and transported into each mood the complete series of tenses; the optative, the infinitive, the gerundive, even the imperative had futures, aorists, and perfects, like the indicative and the subjunctive.

It is impossible to admire without reserve this excess of grammatical ingenuity, the equally rigorous and subtle arrangement of the Greek verb, more profitable to refinement than to clearness, and from which the language and the thought gain less precision than a teasing ambiguity; it will be permitted us to prefer the clear and strong Latin conjugation. The Latins chose the useful, and the Romance language retained it. But, as if to show that the creative energy was not extinct in them, they remodelled that which they

borrowed, contracting and abridging terminations which had become useless, and having recourse at times to happy combinations of suffixes and incorporated auxiliaries to renew their future and their past subjunctive, and to create for themselves an original passive. In this matter also the Celtic languages are innovators. Gothic, it seems, had retained several vestiges of the Indo-European verb, but as sporadic exceptions, which have not been able to maintain themselves against the analytic tendency of the kindred languages, English and Platt-Deutsch. German has almost entirely renounced the ancient forms, and the ingenious distinction which it has established between the present and the past, *ich bind, ich band, gebunden*, I bind, I bound, bound, although it is connected with phonetic phenomena observed in Sanscrit and Greek, and also in the Semitic languages, is a German creation, and the latest example of the verbal instinct which is so remarkable in the Aryans of India and the Græco-Latins.

The Indo-Europeans possessed no other materials for the vast and complicated structure of their conjugation than the constituent elements of the agglutinative languages, attributive roots, and demonstrative roots. The former furnished the body of the word and the more ancient of the auxiliaries, the verb to be, *as*. The others gave three kinds of suffixes: the copulative vowels or syllables, of which the sense is vague or nil; secondly, the determinatives, such as *ya, aya, paya, ta, sa*, which give to the verb an intensive, causative, passive, desiderative value; finally, the six terminations *mi, si, ti, mas, tas, nti*, of which the original form is unknown, but of which the meaning is certain, since they take the place of the six personal pronouns *I thou, he, we, you, they*. Add a termination *dhi*, Greek θι,

proper to the second person of the imperative; the contracted reduplication of the attributive root which characterises the past tense, the perfect of all the verbs, and some forms of the present and imperfect indicative; a prefix signifying distance, in Sanscrit, in Greek, peculiar to the past, and we have all the elements of the Indo-European verb.

In its simplest form the verb is composed of the root and the termination: Sans. *bhami, bhasi, bhati, bhamas, bhatha, bhanti;* in Dorian Greek, φᾶμί, φῄς, φατι, φάμης, φάτε, φάντι. This root, *bha* or *pha*, is curious; its original signification is to shine, to give light; Greek φάος, φῶς, φωτός (whence *photograph*), and also *a living one*, one who sees the light; it afterwards took the sense of to make clear, to speak, which Greek has preferred: φάτις, φωνή, φήμη (Latin, *fari, fatum, fama, famosus, fabula, fabulari,* whence the Spanish *hablar*). But the meaning *to give light* is still visible in the suffixed form φαίνω, I show, whence *phenomenon*, that which is shown, that which appears; *phantom, fantasy, fantastic.*

Among these primitive verbs, in which the termination is immediately joined to the naked root, we may mention *as*, to breathe, to be, *asmi, assi, esti, est; i*, to go, *imas, itha, yanti; imus, itis, eunt; ad*, to eat (Latin, *edo*); *vak*, to speak (Latin, *voc-s*); in all, about seventy in Sanscrit.

The reduplicated roots are equally ancient, such as (*bhar*) *bibharmi, bibhrmas;* (*da*, to give), *dadā-mi*, δίδωμι; (*dha*, to place, to establish) *dadha-mi, tithemi*, which has produced so many words in Greek (*theme, anathema, Themis*); (*gan*, to engender) *ja-jan-mi*, γίγνομαι, Latin *gigno;* but the Greek and Latin forms are already conjugated on a suffix.

The verbs just quoted shorten the root vowel before the plural terminations, and this character, which they have in common with the themes in *nu*, Greek δείκνῦμι, δείκνῦμες, ranges them in a class apart, which Bopp calls the second principal conjugation, and which it would be better to call the first; for it is from this conjugation that Greek, for instance, received its most primitive verbs, those verbs in *mi* which were formerly regarded as exceptions.

The other verbs, and they are the immense majority, are conjugated on a theme and not upon a root, and they insert between the termination and the theme a vowel *a*, variable in Greek and Latin, or a suffix terminated by a vowel. By this method we obtain such forms as *bhara-a-mi*, contracted into *bharâmi*, *bharasi*, *bharamas*, *kar-ayami*, I cause to be done; *vedayami*, I make known; *svapayami*, I cause to sleep; *sthapayami*, I cause to stand; *yuyutsyami*, I wish to fight; *bubhusyami*, I desire to be; *gignasyami*, I desire to know; and so on for the immense family of verbs derived from nouns, by means of the suffixes *ya*, *sya*, *asya*, whence come all the Latin verbs of the first, second, and fourth conjugations, *amo* for *amao*, *moneo* for *moneyo*, &c., and in Greek the contracted verbs φιλέω, τιμάω, δηλόω, and the verbs in αζω, ιζω, λω, μω, νω, ρω.

I pause a moment to show, in the few verbs already mentioned, words and formations which are familiar to us, and are only hidden by the complicated forms of Sanscrit. The reader will have already recognised the roots *bhar*, to bear; *kar*, to do; *vid*, to see, to know; *gna*, to know; *stha*, to stand; *svap*, to sleep; *bhu*, to grow, to be. Disregarding the various conjugations into which all can enter, we shall find them everywhere with their fundamental meaning.

Bhar and its contracted form *bhrâ* have given in all Indo-European languages the name of *brother, frater*, φράτωρ, *bhrâtar*, and *bhartar;* to Greek and Latin their verb *fero* and its innumerable derivatives, and those powerful suffixes φορος, *fer*, which are still living in the Romance languages; *Nicephorus*, the bearer of victory; *Phosphorus*, the bearer of light; *Lucifer*, the same sense; *Prolifer*, the bearer of generations, &c.

Kr or *kar* exists in French only in its derivatives (*créer, créateur, cérémonie*) taken from the Latin; but we find it in many mythological names: *Chronos*, the father of Zeus; the *Keres*, or Destinies; the Latin and Gallic *Karanus;* the *Ceri* or *genii*, and *Ceres*.

Vid, besides a number of Sanscrit words, such as *Veda*, science, may be recognised in the Greek [ϝ]ιδ, [ϝ]ίδμεν, we know; ἒιδος, form (whence our *anthropoid, rhomboid*, &c.), ἰδέα; in the Latin *vid-ere* (French *voir, voyant, vision, visible, visiter*, and their compounds).

Gnâ has given *gnosco, nosco, nomen; connaître, notion, nom, note, notaire*, &c.

Stha, stare, stator; stabilire (*establish*), *statue, station, stage, state;* it appears in the French participle of the verb to be—*été*.

Svap (in Greek ὕπνος, in Latin *sopor, sopire, somnus* for *sopnus*) is concealed in the French *somme, sommeil, assoupir* (which has no connection with *soupir, subspirium*, deep breath).

Bhu, in Greek and Latin *fu*, is of capital importance. The earth, that which causes growth, takes one of its names from this root, Sans. *bhumi*, Latin *humus;* and very probably *homo, humanus*, man, the son of the earth; φυτόν, plant, φύσις, nature, whence *physic, physiology, physiognomy*, and *metaphysics*, are unquestionably derived from it. The Latin *fui, fuissem*,

futurus, fore, and their French descendants *je fus, il fut, que je fusse,* are tenses of the Indo-European verb *bhu.*

Thus all these syllables, which at first appear to succeed each other at random, a mere babel of empty sounds, are our own patrimony; they live for the most part in all the languages which are anterior to us or contemporary with us; they have constituted for thousands of years the foundation of our languages and of our ideas. But what has become of all these accessory letters, these syllables inserted between the theme and the termination which embarrassed the ancient conjugation? Each language has freely, or rather under the guidance of varying circumstances, altered, atrophied, fused them, to such a degree that hundreds of learned men are employed in tracing their metamorphoses. If time had destroyed the last vestiges of them, their work would still subsist; their native virtue has not perished, and is revealed in the infinite variety of forms and meanings. We should not have possessed the words *established, stable,* if a suffix *pa,* added to the root *sta,* had not received in Latin the suffixes *li* and *re: sta, stap, stapili, stabilire.* We are able to form an indefinite number of verbs and nouns, such as *moralise, modernise, dandyism, chemist, linguist, artist,* because a suffix *ya* was combined in Greek first with themes in *id:* ἐλπιδ, hope; ὑβριδ, insult; ἐριδ, quarrel; then by analogy with all sorts of roots, and produced the termination ἴζω, whence ἵσμα and ἵστης.

The personal terminations may also seem to be very far removed from the forms which we use; *mi, si, ti, mas,* &c., appear perhaps to have no relation to our personal terminations. Yet we still use them. The first person, indeed, has disappeared from Latin, except

in *sum* and *inquam*. Greek, Lithuanian, and Slav have kept it in a few hundred verbs. But when we say *tu es, il est, nous sommes, vous êtes, ils sont, tu fais, il fait, nous faisons, vous faites, ils font,* or again *tu lis, il lit, nous lisons, vous lisez, ils lisent*, we still employ the Indo-European conjugation. We have the ancient forms as a faint but faithful echo. The second person plural *faites, êtes, fites*, is even less obliterated than the corresponding Sanscrit form. The loss of the final *i* in *tu fais, ils font*, is not a modern phenomenon; it is seen first in Latin, often in Greek, and also in Sanscrit and in Zend, everywhere except in the indicative present and in the subjunctive of the conjugation in *mi*.

These terminations, which I have shown in the most ancient form in which they are known to us, are themselves only relics; and their growing weakness was of small importance if enough of them remained to mark the order of the persons. *Mi*, which doubtless stood for *ma*, became, for instance, in the optative, *m: abharam, asyam*, Greek ἔφερον, εἶην. (We have seen that Greek does not admit of a final *m* or *t*.) Latin, more exact, has such forms as *eram, siem* (*sim*), *duim* (*dem*), (cf. *dasyam*, δωσειην), *legam, legerem*, &c. *Si*, for *sva, thva, tvam*, kept only the sibilant, *abharas*, ἔφερες. *Ti*, except perhaps in Greek in the third persons φέρει, τύπτει, losing its vowel, gave the almost universal sign of the third persons: *dat, fert, dicit, il tient, il fait*, &c. This *t* reappears in French in such locutions as *va-t-il, aime-t-il*, and as a sibilant in the English *he does*, for the older form *he doth* (the English *th* generally corresponds to primitive *t*).

The plural *mas* (for *masi, masa*, I and he—that is, we), faithfully represented by the Lat. *mus*, is also repre-

sented, in spite of the nasal termination, by the Greek *μεν* (*λύομεν*, *τύπτομεν*) for *μες* (Æolian, *φέρομες*), and by the French *nous aimâmes, nous eûmes. Tas* or *thas* (for *dhvas*, for *twasas*, thou and they) does not exist in Sanscrit properly speaking (*ta, thâs*), nor in Greek, but Latin and French have retained it: *legitis, essetis; dites, faites, vous êtes.* The third person, *nti*, has been atrophied in various fashions; it is almost unaltered in the present Sanscrit, Zend, Lithuanian, and even in the Greek *οντι*, afterwards *εἰσι, οὐσι, ωσι, ασι*; it is still recognisable in the Latin *sunt, amant, monent, audiunt*, &c., in the Gothic *bairand* (*ferunt*), they bear, and *sind*, they are; and in French in the silent termination of the words *aiment, aimaient, aimeraient*, no longer pronounced except in Normandy (*ils ne peuvte pas, ils ne veulte pas*); but the termination *nti* is generally reduced to an *n*, sometimes suppressed or replaced (in Sanscrit) by a vague sound, *uh*. In Greek the letter *n* has a double use in the imperfect: *ἐλάμβανον*, I took, they took; in the aorist it has disappeared from the first person, *ἔλυσα*, I loosed. Italian has become fixed at the Greek stage, *sono, amano, amino*, adding, however, an *o* as a support. From these facts I conclude that if the destiny of the suffixes and terminations excites our wonder, it is far less on account of alteration and loss, than of the extreme tenacity of these frail particles. The sign of the first person alone has almost entirely disappeared, doubtless because it was the least useful. Greek, Latin, and the Germanic languages, in adopting verbs ending in *o, u*, and *e* have only followed the example set by the ancient Indo-European.

In Sanscrit the middle voice has rejected the termination of the first person, and, by a singular privilege, its

forms are the more simple as they express in principle a more complex idea. This voice, which the Greek uses without attaching a very definite meaning to it, and of which the agglutinative character reveals the antiquity, was designed to unite, if not the forms, at least the values of two pronouns, or rather of the same pronoun in the nominative and in the accusative : *je me plais, je me souviens, tu t'habitues, il se porte, il se plaint, nous nous concertons.* But it has generally lost this meaning, and is used indifferently as a doublet of the simple form. The middle voice presents, therefore, no sign of *mi*, and to discover the probable primitive termination, we must consult the Gr. φέρομαι, which leads us with a little trouble to an organic *bharamami*, I bear myself, or I bear, condensed and abbreviated into *bhar-ê ;* while to account for the Greek second person, φέρει, we must compare both the Sans. *bharasê*, and the Greek third person φέρεται, and we may then assume almost with certainty a primitive *phereai, pheresai, pheresasi.*

The termination *o* of Greek and Latin verbs is hardly more embarrassing than this middle voice in the long *e.* Whether it be that *mi* early ceased to be pronounced in verbs analogous to the Sanscrit *krnômi*, I do ; *strnômi*, I stretch ; *tanômi, karômi, rnômi*, &c. ; or that the usefulness of the developed form being no longer felt, the Greeks, and especially the Latins, were content to mark its place by a lengthening of the vowel of the theme ; at any rate, we may be sure that the innovation was the result of very gradual change. The transition stages have perished, but a few scattered indications such as *inquam, possum*, and the Saxon *beom, am*, throw light on the methods and the progress of language.

One of the characters of the modern verb, with its analytic tendency, is the use of auxiliaries, which alone take the inflexion and the personal terminations, and lend to verbal nouns, such as the participles and the infinitive, the notions of tense and mood. These auxiliaries, such as to be, to have, to be able, will, shall, should, could, &c., abound in the Germanic and Neo-Latin languages; nor are they quite wanting in such synthetic languages as Sanscrit, Greek, and Latin; it will be enough to mention the Sanscrit compound future, *datarasmi, datasmi, datasi, datasmas,* the perfect passive in Greek and Latin, λελυμένοι εἰσι, they have been loosed; *amatus sum,* I have been loved; or the deponent *profecti sunt,* they have set out; *secutus, locutus est,* he has followed, he has spoken. But these languages have, as a detached auxiliary, only the verb to be; locutions like *dicere habeo,* I have to say, I shall say, observed here and there in Cicero and in St. Augustine, which explain the Provençal future, *dir vos ai,* and the French futures and conditionals *j'aurai, je saurai, je serai, je serais* (*j'ai, j'avais, à avoir, à être*), these locutions were not a part of the regular Latin conjugation. But as we look closely into the Indo-European verbal organisation we shall see that it already required the aid of the verb "to be," and of a few others, and used them by incorporation, by suffixation, by agglutination in its aorists, futures, and passives. We have just seen the same method employed in French for the formation of its futures and conditionals. Bopp conjectures with much probability that the future *dasyati,* he will give, is a disused potential or future of the verb *as: syam, syas, syat,* and he compares with *dasyamas, dasyatha,* the Lithuanian *dusime, dusite,* we shall give, you will give. The Dorian

πραξίομεν, we shall do, and the classic Greek δώσω, δώσομεν, δειξω, δείξομεν, the old Latin *accepso*, and with a change of the *s* into an *r*, *accepero*, *acceperim*, belong to the same class. There is a relationship from this point of view between the future and the desideratives like *pipasami* for *pipasjami*, I wish to drink. The verb substantive contributes also to the formation of several preterites : Sans. *adiksham*, *adikshi*, Lat. *dixi*, *scripsi*, Gr. ἔδειξα, ἔλυσα.

Another auxiliary, *dha*, to put, seems to have given to Greek its passive aorist and future, ἐλυθην, λυθήσομαι; to Zend an imperative like *yaus-dath-ani*, may I purify ; to Lithuanian some infinitives : *dim-deht*, to sound ; *bai-deht*, to frighten (*bhi*, to fear) ; *shkum-deht*, to sadden ; to Slav the future *bundun*, I shall be ; the imperative *bundemu*, may we be ; to the Gothic *habaidedum*, we had. This root *dha* (Gr. θη) becomes in German *thum*, to do ; in English, do and did. In Latin, as in the Low German dialects, it has naturally been confused with *da*, to give, because Latin has no aspirates ; it is nevertheless recognisable in *subdere*, to place beneath ; *credere*, to place in the heart (*crad-dha* in Sanscrit), or to place, as understood, from a root *çru*, to understand, to believe ; *vendere*, to offer for sale.

Finally, in the Latin terminations of the imperfect and future *bam* and *bo*, we must recognise the auxiliary *bhu*, to grow, to be ; and it has been thought that this same verb may be traced in the perfects in *vi* and *ui* for *fui* : *crevit*, *gemuit*, *obstupuit*.

These rapid and fragmentary indications leave on one side many curious problems, many interesting comparisons ; the subject of the verb would not be exhausted in a year of methodical study. But I must be content if I have convinced the reader that

the Indo-European tongues proceed from a single type, that all descend from it, none return towards it, and that, in the thousand variations which these languages have introduced into the vocabularies and into the grammatical forms, they have worked with the same elements and by the same methods as our intellectual ancestors in primitive times.

To complete our sketch of the verb, we will pass in review certain accessories which are properly adjectives and nouns, but which it is right to rank in the category of verbs, since they belong to it by two acquired characters; some by the privilege which they have of governing the same cases as the verb; all by the differences of tense, the active and passive value which use has given them. These are the infinitives and the participles. The substantive origin of the infinitive may be seen in many of our expressions: *mirabile visu, facile à retenir, le boire et le manger, le bien dire, le repentir, le plaisir* (Latin *placere*). The relationship of the participles with the adjectives is yet more striking.

The infinitive, in the various languages of the family, presents a great variety. All its forms: *datum*, *ποιεῖν*, *δίδοναι*, *λῦσαι*, *amare, fieri*, &c., come from the common stock; but our languages, says M. Michel Bréal, "had at their disposal, to form nouns of this description, a great number of suffixes, and after having long hesitated, they only fixed their choice after the separation of the idioms. The older the language the more clearly defined is the distinction between the verbal noun and the substantive proper; but in the beginning the dividing line is not clearly marked." In the Vedas words in *tar*, *datar*, giver, are constructed with the accusative: *data maghani, dator divitias*, "giver of riches." Plautus has *quid tibi hanc curatio'st rem?* In the Vedas

certain words which afterwards become infinitives are declined: *Vritrâya hantavê*, "for Vritra, for murder;" to kill Vritra. In *Sakuntalâ* there is an infinitive associated with an abstract compound: *bâhûkshêpan roditumtcha pravritra ;* "beginning the opening of the arms and to weep," beginning to extend the arms and to weep.

Bopp gives infinitives in every case, but petrified as it were in these cases, such as *datum*, *sthatum*, and the Latin supines *datum* and *statum*, to give, to stand, in the neuter accusative; *datu*, *visu*, in the ablative or the dative, for *visui ;* in the instrumental, the gerundives *paktvâ*, *attvâ*, after having cooked, after having eaten ; in the locative, *grahane*, to take (in the grasp) ; in the dative, *pibadhyâi*, for to drink, for drinking, *mâdayadhyâi*, to rejoice.

We will pass to Greek and Latin, which interest us most nearly. Nothing seems harder to explain than the syllable *re : amare*, *dicere*, the source of the French infinitives. Yet several explanations have been proposed, which are more or less satisfactory. First of all, the presence of an *r* between the two vowels indicates, as a rule, a primitive *s*, as in *posse*, *esse*, *velle* for *velse*, *ferre* for *ferse*. This is the form of many Sanscrit infinitives : *dâ-se*, to give, *sthâ-se*, to stand, *vah-se*, to drive, *gîvase*, to live, *kchakchase*, to see. The Latin form appears then to be the usual weakening of an ancient dative. As the long *e* in Sanscrit always represents a diphthong *ai*, there is, it will be seen, a close analogy between *posse*, for instance, for *possai*, or *ferre* for *fersai*, and the Greek infinitive aorists τύψσαι, λῦσαι, λυέσθαι, in which the terminations differ from that of δίδοναι, τίθεναι, ἔμμεναι. That is, it is everywhere a case-ending. There remains the *s* of the suffix ; is it a relic of the pronoun, or the remains of the auxiliary "to be" ?

Assuredly in the Greek aorist infinitive it is the verb *as;* it is impossible to separate λῦσαι from the participle λύσας and from the preterite ἔλυσα. In Latin it is not so easy to determine, any more than in the case of the infinitive of the middle voice, *dicier, laudarier, audirier.* Bopp, guided by the analogy of the forms *amor* for *amo-se, amamur* for *amamus-se,* connects the termination *er* in this case with a reflexive pronoun. I should rather see in it a relic of the verb *esse: to be to love, to be to praise,* would satisfy me better than *to love oneself,* which suits the sense of the middle voice, it is true, but not the far more frequent passive meaning.

The dative value of *ai* in the Greek infinitives in *ναι, μεναι, εμμεναι,* by abbreviation *εμεν, εεν, ειν* (Germanic *an, en*), appears clearly in such common locutions as ἄνθρωπος πέφυκε φιλῆσαι, man is born to love; ἔδωκε τοῦτο φορῆσαι, he gives that to carry; ἦλθε ζητῆσαι, he came to seek. The syllables or letters which precede this *ai* alone suggest a doubt. What are the *εσθ* of *εσθαι, εμεν, μεν,* the Æolian *ην,* the Dorian *εν,* the classic *ειν*? Εσθαι would seem to unite the two auxiliaries *as* and *tha.* For the other forms, in spite of some ingenious conjectures of Bopp, I believe them to be one of the most usual suffixes of the participle: *a-mana* (*ομενο*), *mâna* (λελυμ-μένος), *ana,* which forms so many Latin derivatives, *Octavianus, Julianus,* &c.; the naked forms *εμεν, ειν, εν,* would be in the accusative, and not in the dative.

These suffixes *ana, mana,* lead us to one of the most interesting forms of the verbal noun, not only because it has furnished to Greek and Sanscrit innumerable participles of the passive and middle voice, both present and aorist, which may be found in the grammars, but because Latin, though rejecting them

from its conjugation, has retained a few examples as curious as they are rare. Those of us who have had to learn our Latin verbs will remember the unexpected forms of the second person plural of the passive, *amamini*, *erudimini*. They are now no longer mysterious; the singular *præfamino* has been discovered. These are participles; the verb "to be" is understood. Greek presents exactly the same phenomenon: λελυμένοι, τεθυμένοι εἰσί, they have been loosed, struck. This is not all; words like *terminus*, *Picumnus*, *Voltumnus*, *Vertumnus*, perhaps *Tellumo*, are believed to be connected with this class of derivatives, while *Pomona*, *Fortuna*, *Portunus*, *Neptunus*, show the suffix *ana* combined with the vowel of the theme.

Past participles in *ta* are very numerous in Sanscrit, in Latin, and in almost all the languages; in Greek these suffixes have only formed adjectives, which are, however, similar to participles. There is a complete parallelism between *gnâtas*, γνωτός, *gnotus*, known; *datas* (Zend *datô*), δοτός, *datus*, given; *yuktas*, ζευκτός, *junctus*, yoked, joined; *çrutas*, κλυτός, *clutus*, heard; *strtas*, στρατός, *stratus*, stretched. In Lithuanian the Sanscrit *ta* reappears without any change: *sektas* (Lat. *secutus*), *junktas* (*junctus*), *keptas* (πεπτός, *coctus*). Slav, though it does use *tu* and *ta*, prefers *lu*, *la*: *bulu*, *bula*, *bulo*, where Sanscrit has *bhutas*, *bhuta*, *bhutam*, Greek φυτόν. Elsewhere it is *da* or *d*, or *na*, *n*, *en*, which fills the same office. The different simple suffixes, combined with others, already compound and atrophied, have furnished a variety of terminations which we rarely find pure except in Sanscrit: *mant*, *vant*, *mat*, *vat*. They are easily seen in the familiar forms *amans*, *amantis*, *amandus*, λύων, λύτοσον, λύσας, λελυκώς, λυθέν, λυθέντος, and are analogous to the English

present participle and verbal nouns in *ing, loving, saying,* where the *g* is but a nasal reinforcement, and to the German participles in *and, end.* French owes to this compound suffix, first, all its present participles, and secondly, a great number of words such as *providence, circonstance, éloquence, présence,* and many others formed by analogy, which had already in Latin passed from plural neuter participles to be abstract feminine substantives.

We owe not less to a suffix of the future participle, a suffix which Latin appropriated, but of which the origin is very ancient; I mean that root *tar,* perhaps *tvar,* then *tvara, turus,* which appears in the word *katvar, katour, quatour;* which has lost its *t* in the Breton *pewar* and the English *four,* and its semi-vowel in the innumerable names of agents, Sanscrit and Greek, *tvashtar, datar, dhatar, ganitar, matar,* δωτήρ, γενετήρ, μήτηρ, all words which are known to us. Often when Latin has dropped a primitive *v* it has vocalised it into an *o* or a *u, e.g., svapnas, somnus; çvaçura, socer, svasri, soror; akvas, equus.* It is this practice which has given to Latin so many words in *tor, victor, actor, spectator, domitor, dormitor,* so many nouns and adjectives in *torius, toria,* and to the French so many words in *teur* and *eur,* in *toire* and *oir* or *oire: lutteur, dompteur, chanteur, empereur* for *empereor* (*imperatorem*), &c., *comptoir, miroir, histoire, écritoire, mangeoire* (*manducatoria*). The verb has obtained from this same suffix *tvar, tor,* the fine participle in *turus, amaturus, profecturus, adepturus,* of which the feminine, *junctura, fractura, candidatura, profectura, structura,* may still be found on every page of our dictionaries. When no longer part of the verb, through which it has nevertheless come, this termination *tura,*

ture, has lost the special sense which it bore as part of the conjugation, except perhaps in *natura*, that which shall be, may be born. It has resumed the vague and general signification of the old suffix *tvar* or *tar*, which has also put on other forms and adopted other functions; we have seen it as the sign of the comparative, τερος in Greek, *taras* in Sanscrit, *ter* in Latin, and in the Germanic languages. In its contracted form, *tra, tron, trum*, it has produced names of instruments, *rastrum, cultrum, aratrum, claustrum*, and derived verbs, *monstrare, claustrare, intrare, penetrare, administrare*, and again new verbal nouns, *claustration, penetration, administration.*

As the reader will have noticed, in the Indo-European languages, roots and suffixes, nouns and verbs, have continually lent each other mutual aid, engendering the one the other with marvellous ease, plasticity, and variety of forms, all issued, like themselves, from the first stammering speech of humanity. The history of the verb alone traverses all the phases of the linguistic circle. The naked root is in the monosyllabic stage; agglutination brings to it the declinable or conjugable theme, and reinforces it with suffixes, intensive, causative, desiderative, and lastly personal. To the inflected stage belong the fusion of these various elements, the choice of the shades which correspond to the present or the future, to the expression of mood and voice. Finally, the analytical stage drops what has become superfluous, throws light on forms obscured by contractions and by the wear and tear of centuries, and replaces them by independent auxiliaries, which are at once more convenient and more precise.

We have said how much this elaboration was due to the progressive development of the intelligence, of

industry, of the arts and social institutions, and pointed out also what a constant aid it has been to thought. More than once, however, we have needed to put the reader on his guard against a too entire admiration for the alliance, for the unfortunately indissoluble correspondence, between the idea and the sound which represents it, between reason and its necessary instrument. Language was born before science; the elements which compose it date from an age when rudimentary observation was controlled by no experience; objects were named, classed, compared, by means of unreasoning and erroneous analogies and metaphors; as reason developed, it could only express the slowly acquired truths by using vicious locutions, rectified indeed, and amended in the measure of the possible by the introduction of new meanings and of less inexact figures. But it could not remodel every day (nor was such a thing ever dreamed of), the archaic tool of which the use had been the necessary condition of progress. Hence inevitable confusion and delay in the clear conception of things, in the succession of ideas, which were falsified by the signs which represented them. To this imperfection of his speech man adds a vice inherent in his very nature. Man refers all to himself, and creates all in his image. This *anthropism*, which lends to things and beings, real or imaginary, a human personality and purpose—this illusion is mingled with the first attempts of language and has survived them.

The noun and the verb have communicated to objects a truly human existence and activity. Not only those objects determined by a quasi-individual form, animals, plants, stones, stars, but even the place and the aspects of the place where they occur, then the categories in which they are classed by reason, relations,

and ideas, are endowed with sex, gender, life, and by the verb, act after the manner of man and woman, moving, rising, going to bed, trembling, running, loving, reproducing their kind; even entities—that is to say, qualities considered as apart from their real subject—light, heat, fecundity, beauty, pleasure, pain, vice and virtue, good and evil, took a personal existence, became the subject or the object of propositions implying action or will. It was forgotten that these words express only states, durable or ephemeral, of hot or light-giving bodies, and the resultants of particular organisms; men saw in them the pre-existing cause of facts of which they are but the general or analytic expression; they invented virtualities, forces, illusory powers, which have no other origin than instinctive anthropism and the metaphorical essence of language. *Numina, nomina.* The noun created the gods; the verb developed myths.

CHAPTER IV.

THE COMPOUNDS—THE INDECLINABLE WORDS.

Ancient character of compound words—Rarity of the declension of the first term in a compound—Determinative compounds; compounds of dependence; possessive compounds: examples—Verbal compounds in French—Particles, conjunctions, prepositions—Placed after the theme, they have produced the declension; placed before, they vary *ad infinitum* the meaning of verbs and nouns; free, they are the ligaments of the sentence, and supply advantageously forgotten terminations—Notes on the indeclinables *sa*, *saha*, *sama*; *abhi*, ἀμφί, *avá*—Original or acquired diversity of the vocal organs.

In our rapid sketch of the grammatical forms, we have never lost sight of the distant origin of the elements, either primitive, or the result of numerous contractions, which agglutination has combined into suffixed themes, and inflexion has fused into declined and conjugated words, into nouns and verbs. This succession of the stages of language is more especially evident in a large class of terms called compound words. The framing of compound words is a familiar expedient of the isolating idioms, applied to themes already formed by agglutination, and finally polished by grammar. We are speaking, be it noted, of the most ancient and most correct of these compounds; analogy, local usage, individual fancy have here, as everywhere else, played their part, and disturbed an order which the rigorists among philologists believe they can trace among the smallest accidents of language.

"The characteristic of the true compound," says M. Bréal, "is the union of two terms of which the first has no case-ending," even though it is in close grammatical relation, either of subject or object, of adjective or substantive, with the second. This absence of the sign of case justifies us in thinking that the formation of the word dates from an age anterior to grammar. Similar juxtapositions abound in Chinese, Japanese, and Malay. But when the declension was established it naturally affected the compounds. Sometimes it even penetrated to the first member of the double word, but usually the compound was regarded as a single whole, lacking only the termination which marked its value in the phrase.

The Latin compound pronouns show some traces of declension in the first term; thus we find *eapse* as well as *ipsa* for the feminine of *ipse*. But the chief example is furnished by certain Sanscrit copulatives called compound *dvandvas*, such as *Mitra* and *Varuna*, heaven and earth, night and day, in which the termination of the dual affects both nouns: *Mitrâ-Varunâu*, *Agni-Somâu* (Agni and Soma), *Indrâ-Varunâu*, *Dyavâ-Prithivî*, *Pitarâ-Mâtarâu*, the father and mother; it even happens that one of the two names is not expressed, and that Mitrâ alone should be understood to mean Mitra and Varuna. These constructions are peculiar to the Vedas. The very rare compounds of this nature in Latin and Greek inflect only the second term: the adjectives, λευκο-μέλας, black and white, *sacro-sanctus*, sacred and holy, and the substantive *suovitaurilia*, the sacrifice of a pig, a sheep, and a bull. Perhaps, also, we may compare the formation of the words *Græco-Roman*, *Austro-Hungarian*, *saltpetre*, *beet-root*, *aigre-doux*, *douce-amère*, *clair-obscur*.

The most interesting classes of compounds are the determinative compounds, the compounds of dependence and the compounds of possession. In the first the two terms are related to each other as a noun, an adjective, or a verb is related to an adverb or an epithet. Sanscrit: *maha-kula*, great family; *sat-suta*, good son; *ghana-cyâma*, black as a cloud. Greek: *ἀνδροπαῖς*, child-man, child who shows the courage of a man; *κακοπάρθενος*, unhappy girl; *κακοδαίμων*, evil genius; *Acropolis*, the high town. Slav: *Bielbog*, *Cernobog*, white god, black god. In Latin: *decemvir*, *semideus*, *peninsula*, *primordium* (*primum ordium*), *beneficium*, *benevolus*, *semijustus*, *altitonans*. French can also form compounds of this nature: *saupoudrer*, *colporter*, *maintenir*, *primevère*, *vif-argent*, *printemps*, *aubépine*, *sauf-conduit*, *sauve-garde*, *banlieue*; but especially by the aid of adverbs and prepositions: *bienveillance*, *bienfaisance*, *malappris*, *demi-heure*, *mi-clos*, *milieu*, *minuit*, *midi*, *contre-indication*, *surfait*, *surenchère*, *surtaxe*, *surhumain*. But they abound especially in the Germanic languages. Gothic: *junga-lauths*, young man; *langamodei*, from *mods*, now *muth*, longanimity. German: *Vollmond*, full moon; *Gross-that*, noble deed; *Wundermann*, wonderful man; *kohlschwartz*, coal-black; *bildschön*, fair as a picture; *schneeweiss*, snow-white; *spiegelhell*, *sonnenhell*, *silberklar*, clear as a mirror, as sunshine, as silver.

In the compounds of dependence, the first term is governed directly or indirectly by the second. Sanscrit: *Brahmavit*, he who knows Brahma; *çraddhapûta*, purified by faith; *pitrisadriça*, like his father; *naustha*, which is contained in the vessel; Greek: *μονομάχος*, he who fights single-handed; *ἀνδροβρώς*, *ἀνδροδόκος*, who devours, who welcomes men, *τορνευτολυρασπιδο-*

πηγός, turner of lyres and shields; ποδανιπτήρ, foot-bath; ποδώκης, light-footed; ἀνδραδελφός, husband's brother; ἀνδροκάπηλος, seller of men; ἀνδροπεπής, proper for man; οἰκοφύλαξ, guardian of the house; ἀργυρώνητος, bought with a price; φρενόληπτος, possessed in mind (mad); ἀκανθοπλήξ, wounded by a thorn; ἁλινηκτής, sea-swimmer; νωτοφόρος, bearing on the back; ἀφρογενής, foam-born; δειπνοκλήτωρ, he who invites to a feast. Most proper names in Sanscrit, Persian, and Greek are compounds of this class: *Hippolytus, Hipparchus, Hippocles, Hippodamas,* the looser of horses, the ruler of horses, famous for horses, the tamer of horses.

Latin makes great use of this artifice: *remex, judex pontifex, carnifex, aurifex, aurifaber, aurifur, ignivomus, carnivorus, flammiger, opifer, dapifer, haruspex, augur, cœlicola, muricida, herbigradus.* Such words have a double value; they show us attributive roots changed into true suffixes, and preserve for us, under their simplest form, roots which are often no longer found in an independent state. *Fur* exists in the sense of thief, and *faber* with the sense of smith, but it is not so with *ex,* he who pushes; *spex,* he who looks; *dex,* he who indicates or who says (a syllable which is almost effaced in the French word *juge*), or with *fex,* he who makes, with *cola,* he who cultivates or inhabits, or *gur,* who tries (*au-gur,* who consults birds; Sans. *djush,* Gr. γεύω, Goth. *kiusan,* to choose), the root of a disused verb, *gusere, gurere,* and of the substantive *gustus;* or finally with *vorus, vomus, gradus, fer, ger,* by means of which Latin can form an indefinite number of substantives and adjectives. Modern French has a certain number of words of this class, and uses with freedom the suffixes *cole, vome, vore,*

grade, cide, gère, and *fère; e.g. agricole, ignivome, fumivore, centigrade, homicide, lanigère, conifère.* The Germans compose any number of words like *Finger-gold* (ring), *Opfer-tisch,* offering-table (altar), *Richter-stuhl,* judge's seat, *rothgeschlafen,* in which the construction is reversed, "who has slept red." German and, in a less degree, English, have the power of juxtaposing as many words as can be pronounced in a breath, and providing them with a common suffix, to form compounds similar to those of the Esquimaux or the Algonquins; in this they do but follow the example of classical Sanscrit, in which the compounds form true propositions without verb or grammatical sign.

Among the words of which we have mentioned a few, just as they occurred to the memory, the majority can be easily turned into compounds of possession; they only require to be made to agree in gender, number, and person with a substantive. The termination attributes to a given subject the qualities included in the compound; *niçakeçaçmaçrunakhas,* he who has short nails, hair, and beard. It is a very concise mode of expression: *ξανθόκομος, ξανθόθριξ,* fair-haired; *κυνόφρων,* with the soul of a dog; *βουκέφαλος,* with the forehead of an ox (*Front-de-bœuf*); *ἀελλοπόδης, ἀελλόπους,* with the feet of the tempest; *ἀνδρόβουλος,* wise as a man; *αἰολόμορφος, κορυθαίολος,* of changeful form, helmet with varied reflections; *ἑπτάστομος,* seven-gated; *θεόπυρος,* filled with divine fire; *θεόσοφος, θεόφιλος, θεόδωρος, θεόδοτος*; *μεγάθυμος,* great-hearted; *μεγακλεής,* much renowned; *λευκόπτερος,* white-winged; *βαθύστερνος,* deep-chested; *ταπύπεπλος,* richly clad. The first term may of course be a pronoun, *svayamprabhas,* shining by its own light, *αὐτοδίδακτος,* self-taught; or a numeral, *tritchakra,*

three-wheeled, τετράκυκλος, four-wheeled; or an adverb or preposition, *tathavidhas*, so made; *sadâgatis*, always moving, rapid; ἀείκαρπος, ἀειπαθής, ever fertile, ever suffering; *amala*, *abala*, *abhaya*, stainless, strengthless, fearless; ἄπαις, ἄπους, ἄφοβος, ἄνοικος, childless, footless, fearless, homeless. We shall return to this class of words when we treat of prepositions. Possessive compounds are not rare in Latin: *misericors*, *bidens*, *bifrons*, *bicorpor*, *tripectorus*, *multigenus*, *multiformis*, *magnanimus*, *longanimus*, *alipes*, *longipes*, *fissipes*, *anguipes*, *quadrupes*, *acupedius*, *versicolor*, *pudoricolor*, *pulcricomus*, *grandiloquus*, &c. The Germanic languages form these compounds with extreme facility by means of the suffix *ig*, equivalent to the Gr. ικος, to the Sans. *ka*; *hochherzig*, high-hearted, *i.e.* proud, *rothhaarig*, red-haired; formerly it was *hauh-hairts*, *roth-haars*, and even now in the case of nicknames the terminations are suppressed; *lang-ohr*, long-ear; *dick-kopf*, thick-head, *schwartz-kopf*, black-cap; *roth-hals*, red-neck, *roth-kehlchen*, red-breast.

French still forms, if not possessive compounds, at least possessive combinations, *rouge-gorge*, *chauve-souris*, *rouge-bord*, *pied-bot*, *bégueule*; they exist in hundreds as proper names, *Testevuide*, *Grossetête*, *Francœur*, *Longepied*, *Blanchecotte*, *Barberousse*, *Barbaroux*, *Bonvin*, *Grandval*, *Charmolue*, *Malapert*, *Mauvoisin*, &c. Yet these are but the remains of a faculty which is almost extinct among us. Latin, though rich in compounds of all sorts, already preferred derivation; where Greek has φιλογύνεια, ἀλοχόφιλος, θηριομάχος, Latin has suffixes, *mulierositas*, *uxorius*, *bestiarius*. The Romance languages have followed this tendency, and the more easily that in losing the declension they have lost the notion of root, theme, and termination.

It would, however, be unjust to omit an original form of compound substantives of which French makes considerable use; the first term is in reality the third person singular of the indicative present, but so to speak neutralised, and playing the part of an indeclinable theme: *vaurien, faineant, appui-main, passavant* (a sailing term), *passe-montagne, passe-pied, passe-poil, passe-temps, passe-droit, chauffe-doux, chausse-pied, ronge-lard, ronge-maille, pince-maille, vide-gousset, vide-poche, coupe-choux, coupe-jarret, coupe-tête, gâte-sauce, pousse-caillou, couvre-joint, couvre-chef, brise-tout, brise-lames, hache-paille, mêle-tout, songe-creux, tire-botte, tourne-vis, tourne-broche, tire-balle, tire-bouchon, gratte-papier, porte-balle, porte-plume, porte-coton, serre-file, serre-tête, garde-fou, garde-feu, perce-pierre, perce-neige, rabat-joie, tranche-lard, grippe-sous, essuie-main, passe-port, guide-âne.* If we forget for a moment the verbal origin of the first term to consider the interior order of these compounds, we note first of all that they differ from the ordinary type in that the second term is governed by the first; but this irregularity cannot be called an exception. Sanscrit, Zend, and especially Greek, sometimes reverse the order of the terms; *vidad-vasu, kshayad-vira, varedat-gaetha,* finding riches, killing warriors, making the world prosper, are constructed like *tue-mouches* and *brule-tout.* In Greek it will be sufficient to contrast Φιλόθεος, Φιλόλογος, Φιλόλαος, Φιλόδημος, Δωρόθεος, Νικόστρατος, ποιονόμος, φυγόμαχος, φερέκαρπος, with Θεόφιλος, Θεόδωρος, Δημόφιλος, νομοποιος, στρατόνικος, καρπόφορος. Greek uses composition with full license; it is never weary of varying the form and the meaning of words, and of creating a verbal wealth which is sometimes equivocal and superfluous. Its fecundity, hardly

equalled by that of German, excites more admiration than envy, and the advantages of the facility of compounding words cannot hide its defects, the ambiguity of the phrase, and the monotony of the style.

The power of framing compounds is, in the analytic stage of language, a survival which must not be undervalued, but neither must it be abused. This is why we have placed it after the noun and the verb, as a method of word-formation which is complementary to the others.

I pass now to the particles known as invariable, the conjunctions and prepositions, which have regulated—the word is not too strong—the evolution of Indo-European grammar; they furnished it in the first instance with the elements which formed the declension and the conjugation, then the shades which differentiate meanings, then the links and copulatives which join together the parts of speech and frame the logic of the sentence; and, lastly, they survive the combinations which they engendered and end by superseding.

They constructed, and they have in the end destroyed, the synthetic system. Though employed in the machinery, yet they kept their independence, and have used it to ruin the edifice which they had built up. For what are these particles? Nothing else but pronominal and demonstrative roots, the first vague indications of speech, which, by the aid of gesture and intonation, signified distance, movement, number, and the identity of persons and things not already specified by the attribution of certain qualities.

We have already considered some of them, either simple, like *a*, *i*, *sa*, *ta*, *ya*, *ma*, *ga*, *bhi*, or agglutinated, such as *ana*, *ima*, *tava*, *sva*, *sma*, *sya*, and noted how they take the value of demonstratives and of

personal pronouns, and, joined together, are declined; others, still indefinite in meaning, often identical with the first in sound, await a use. From these the attributive roots borrowed those extra vowels, those incorporated syllables which lengthen and vary the forms, changing, *e.g.*, *gan* into *gnâ*, *bhar* into *bhrâ*, *man* into *mnâ*, *yu* into *yud*, *yug*, *yung*, *tu* into *tud*, *tup*, *tuk*, *tund*, &c., gradually furnishing the naked root with thematic letters, and with intensive, causative, temporal, and modal suffixes. From the declined pronouns and demonstratives the nouns and the verbs borrow their terminations of person and of case. This is not all; the syllables which have remained free, sometimes taking rudimentary case-endings, acquire a more precise meaning, of movement, place, distance, of relative position; they gave to the adjectives their suffixes of comparison, and to nouns and verbs those numerous prefixes which give to form and meaning ever new varieties: *incipere*, *decipere*, *concipere*, *accipere*, *excipere*, *præcipere*, *suscipere*, *intercipere* (*capere*); *initium*, *prodire*, *proire*, *adire*, *abire*, *exire*, *subire*, *circuire*, *ambire*, *ambitio*, *coire*, *obire*, *perire*, *interire* (*ire*). Multiply these ten or twelve variants by five hundred, and you will be able to judge how much our vocabularies, and our thought itself, owe to prefixation.

It might have seemed that as prepositions and as postpositions the pronominal roots had rendered all the service of which they were capable; that their independent existence was no longer of any use; that case and person marked sufficiently the relations of words to each other; that suffixation and prefixation had reabsorbed, as it were, the free particles, as magnetised bodies attract iron filings. But it was not so;

the force of the particles was by no means exhausted. Neither pronouns nor demonstrative terms perished, nor the little words. Syllables almost devoid of meaning, expletives, enclitics, continued to have their place in the sentence, as if to lighten it and render it more supple. We know how they abound in Homer, in classic Greek and Sanscrit, in German and English; the reader is wearied by these small parasites, *for*, *then*, *how*, &c., by the prepositions detached from the verb which encumber the *Iliad*, the *Mahabhârata*, and the best writers of Germany and England. But excess does not condemn use; and the persistence of the demonstratives has been the necessary condition, as we said just now, of the passage of languages into the analytic stage; they inherited the office of the disused terminations, and a function simplified by the work they had already accomplished, that of binding together the different members of the phrase, at length freed from the leading-strings of declension.

"When we take," says M. Michel Bréal, "the ancient prepositions of our family of languages, we note a remarkable similarity of form, with a considerable divergence of signification." Often the same word will be an adverb or a preposition in one language, and a conjunction in another, or even merely a prefix. *Apa*, *ἀπό*, *ab*, *af*, *of*, have pretty much the same meaning, but *anti* becomes *und* and *and*. *Ati*, on, above, in Sanscrit, becomes *ἔτι* again in Greek; it is the Latin and French *et*; Gothic *ath*, but; Slav, *at*, anew. Often, too, the sense varies within the limits of the same language. In Sans. *api* (Gr. *ἐπί*) means now *towards*, *against*, now *also*, now *however*. In Latin *cum* is both conjunction and preposition. This is not surprising when we consider how vague was the original

meaning of these particles, how completely the distinction, now so usefully determined, between the adverb, the preposition, and the conjunction, were unknown to the unconscious inventors of language, how the pronouns that are now used as relatives were employed for every use; and finally, that it is the position of the indicative syllables between declined words, subjects and objects, verbs and substantives, between coupled or contrasted propositions, between principal or dependent sentences, which has sooner or later, before, and especially after, the separation of the idioms, determined the fate and the use of these inconstant auxiliaries. There are a few, however, and these among the most primitive, of which the meaning has never varied, such as *a*, privative; *pra*, forward; and *dhva* or *dva*, the origin of the numeral *two*, of the pronoun *thou*, of the duplicatives *dis* and *bis* (twice), and of the separatives *vi* in Sanscrit and δις in Greek. Many others do not belong to these original roots; they are forms rejected by the declension of nouns or pronouns, ablatives, locatives, datives, without a use, they have come to swell the number of indeclinable words. We have already mentioned a few of this kind; the greater number of adverbs and conjunctions have been formed in this manner. They continue to bear, of course, the meaning they had as part of a declension.

Thus in Greek words like πριν for πριον, like ἄλλα, neuter of ἄλλος, mean necessarily *before* and *otherwise* or *but*; ηὐ, neuter of the Homeric ηὺς, gentle (*vasu*, *good*, in Sanscrit), could only mean *well*; in Latin *hodie*, *diu*, *noctu*, explain themselves; *circum*, *circa*, *idcirco*, cannot be detached from *circus* (doubtless allied to κυκλος, Sans. *tchakra*, wheel). But these are indeclinables of secondary or tertiary formation.

We will give a more detailed study to a few older and more obscure words, and follow up their changes in form and meaning.

Sa, which we know as a demonstrative, and as the origin of the termination of the nominative case, is prefixed to adjectives as if to reinforce them, to indicate their intimate relation with the noun to which they belong. In Sanscrit a married woman is *sa-dhava*, provided with a husband, in opposition to *vi-dhava*, widow, deprived of a husband. From this the transition to the sense of *with* is easy; *sa-kôpa*, with anger, as opposed to *a-kôpa*, without anger; and further to the implication of a common character: *sa-varna*, of the same colour or caste; *sa-vajas*, of the same age, contemporary; *sa-udara*, of the same breast, brother (Lat. *sodalis?*); *sa-gotra*, of the same stable, same family; *sarupa*, *samana*, of the same form, same measure. *Sa* is not found in this sense when standing alone, because the use of its homophone, the demonstrative *sa*, would have involved perpetual confusions; hence it has been combined with other syllables, *e.g.*, *ma*, *ha*, and we have the prepositions *sama* (*sam*) and *saha*, with.

But to follow up our inquiries upon the naked root. Zend, which aspirates an initial *s*, serves as the transition to Greek. I will give only two examples: *ha-zaodha*, who has the same will, who is in agreement with any one; *ha-merena*, a dying together, a battle.

In Greek *sa* becomes an aspirate, and according to Herodian the hard breathing existed in ἀθρόος, crowded, but it has disappeared except in ἅμα, ὅμο, for *sama*, together; *Hamadryades*, the sylvan comrades, the wood nymphs. All trace of the aspirate which is equivalent to the primitive *s* has disappeared, but the meaning

remains in ἄλοχος, ἄκοίτης, ἄκοιτις, bed-fellow, husband, wife; ἀδελφεός, ἀδελφός (Sans. *sagarbhja*), of the same breast, brother; ἀγαλάκτες, who have the same milk; ἄπεδος, on the same level, equal; ἀτάλαντος, of the same weight; *o* takes the place of *a* in ὀπάτωρ, who has the same father; ὄζυξ, under a common yoke; ὄθριξ, of the same hair or dress.

The compound forms, which are more persistent, offer more interest; they can be found independent. *Sama* (*ma* is the suffix of the superlative) is in Sanscrit an adjective, and signifies *same;* as a substantive it means *all:* detached cases, *sama, samayâ, saman,* may be translated *with, together, equally, entirely.* In Gr. ὅμο and ὅμος correspond letter for letter with *sama, samas:* ὁμόφρων, ὁμοδελφός, ὁμόκοιτις, ὁμόζυξ, of the same thought, same mother, same bed, same yoke; and the independent forms ὁμοῦ, ὁμῆ, ὁμόθεν, ὁμόσε, ὁμῶς, in the same manner, on the same side, towards the same place. The word is famous in Church history: *Homoousion, Homoiousion,* Are the Father and the Son of the same substance? Is the Son of a substance similar to that of the Father? How much blood and ink were expended over this subtle distinction!

Similis has taken the place of *sama* in Latin composition; yet we still find in Plautus *simitu,* at the same time, and on an inscription *simitus* (compare *noctu* and *subtus*). Another form is *simulis,* whence *simul,* together; *simulare,* to imitate, and *simultas,* doublet of *similitas.* The inscriptions give also *semul, semol,* and Plautus uses *semel* also in the sense of "at the same time" (Aulul. iv. 3, 1): *radebat pedibus terram et voce crucibat sua,* "(the crow) at the same time raked the earth with its feet, and tortured the ears with its croaking." *Semper,* continuously, always. From *at once*

the idea passes to *all at once, once only. Simplex,* that which has only one fold. From the idea of similitude, of community, we pass to the idea of *nearly, half; sami, hemi, semi; semivir, sinciput* (*semi-caput*). Forms like *sem* and *sim* bring us back to the Sanscrit prefix *sam,* which is either the accusative of *sa* or the abbreviation of *sama: sam-prati,* now; *sam-udra,* the gathering of the waters, the sea; *sam-gam* (*samgatchati*), to gather together, to assemble; *samhitâ,* collection of hymns; *santchaya,* heap, multitude; *sandhi,* bond, euphony; *samantât,* from all sides; *santamas,* complete obscurity. Note that *sam* corresponds closely to *cum* in Latin; the latter bears the same relation to the relative *ka, qui,* as *sam* to the demonstrative *sa.*

In Zend *ham* or *hâm,* together, which is sometimes found alone, corresponds exactly to the Sanscrit *sam* A comparison with the Greek occurs naturally to the mind, and in spite of certain difficulties I am inclined to identify the two forms. Initial *s* does not always disappear in Greek; moreover, it may come here from a primitive *t,* as the root *sa* alternates with *ta* in the declension. I may mention the double forms τυ and συ, *Selene* and *Helene, Selloi* and *Hellenes* (the Hellenes of Epirus called themselves Selles), ὗς, σῦς, the wild boar. The Attic and Ionian ξὺν points to an effort to preserve the primitive sibilant. The Sanscrit *sam* and the Greek σὺν have exactly the same office as prefixes: σύμμαχος, companion of the strife; συμβαίνω, to walk together. As an isolated preposition, since the final *m* is rejected in Greek, συν could only terminate in *n.*

The Germanic languages have made a considerable use of the forms *sama, sum, som,* and *sam.* Gothic, *so-sama, so-samo, that-samo,* the same; *samakuns* (ὁμογενής), of the same family; *samaleiks,* of the same body, the

same aspect, similar. Old High German : *den samum* (*eumdem*, the same), *der selps samo*, the self-same ; *samalih*, like; *samankunft*, assembly; *samana*, together; *zu-sam-ana* (*zusammen*), together ; *samanon* (*sammeln*), to assemble ; *saman*, with ; *mit saman iu*, together with you. Old Norse declines *samr*, *söm*, *samt ;* English *same*, *some* (Anglo-Saxon *sume*, Gothic *sums*, *suma sumata*). With a dental suffix (neuter accusative), the Gothic *samath* (*samathgegangan*, *samathrinnan*, to run together or towards a same place) recurs in Old High German, *samant*, *samet*, *samt*, and in German, *sammt*, *sammtlich*. *Sammt* is sometimes an adverb, and sometimes a preposition governing the dative. This is very common ; the preposition being only an adverb endowed with transitive force.

Sam, despoiled of almost all meaning, has furnished the Germanic languages with an adjectival and verbal suffix. Old High German, *anc-sam*, anxious, *arpeit-sam*, painful (*arbeit-sam*, laborious), *leid-sam*, loathsome ; modern High German, *muot-sam*, courageous, *gruoz-sam*, horrible, *lob-sam*, honourable. In modern German these forms are multiplied, and *sam* may be joined to all sorts of nouns, and even to verbs.

The combination of *sa* with *dha* and *ha*, with *tra*, *ka*, or *tcha*, with *na*, leads to similar developments ; but it then takes, as a rule, the sense already noted in *semper*, always, universal, eternal ; German, *sinngrün*, evergreen ; Anglo-Saxon, *sinbirnende*, ever burning. But the meaning of *sin* is no longer understood, and *sin-vluot*, the deluge, has been replaced by *sünd-fluth*, the sin-flood.

Such has been the fortune of a pronominal root which has answered to the ideas of unity, equality, resemblance, community, coincidence.

I shall choose one more example, which will lead us from meaning to meaning and from idiom to idiom. *A-bhi*, which will be more readily recognised under the nasalised form *amphi*, is already composed or declined by the aid of a root *bhi*, which has furnished terminations to *tibi*, *ibi*, and *sibi*, and which, either isolated or prefixed, still lives in the *bei*, *by*, *be*, of the Teutonic languages: *bei Gott*, *believe*, *before* (it is the prefix of a number of words, reduced sometimes to the single letter *b*—*but*, for *be-out*, *bange*, fear, *barm-hertzig*, full of compassion for the poor, &c.). As for *a*, it has served as the point of departure for so many meanings, that I will not stay to consider it. Returning to *abhi* suffix and prefix, adverb and preposition, we find it implies, in the first instance, movement towards some object, and is opposed to *apa*, *apo*, *ab*, *off*. Rig-Veda, i. 123, 7: *apa anyad eti*, *abhi anyad eti* (*abit aliud*, *adit*, *venit aliud*), "one thing goes, another comes." But it is also used in the sense of against, upon, in, for. While *abhi-mukha*, "turned towards," means favourable, *abhimâti* means ambush, enemy; *abhikram*, *abhitchar*, *abhijug*, *abhikr*, to walk, to act against, to attack; *abhibhu*, to be above, *abhirashtra*, he who rules afar; *sa manushir abhi viço bhati*, he shines on or in the dwellings of men; *abhi lomani*, in the hair; *abhi subhagam*, for riches. This comprehensive word has also the sense of around: *abhi-tas*, on either hand, from all sides. *Tam abhitas âsînâs*, being seated all round him. *Sarvê Pradjapatim abhita(s) upaviçanti*, all approach Pradjapati from all sides.

Zend and Persian have retained *abhi* under the forms *aibi*, *aiwi*, *abis*, with the meaning *towards*, *upon*. Greek has adopted ἀμθί, ἀμφίς, and with the dual ἀμφώ, in, for, round, afar, from both sides, both;

ἀμφί and ἀμφίς are sometimes prepositions and sometimes adverbs: ἀμφικτίονης, those who dwell in the same house; ἀμφί κταμένης ἐλάφοιο, for the possession of a stag. It would seem that the sense "around" had need of commentary. Homer often strengthens ἀμφί with περί: ἀμφὶ περὶ κρήνην, round about the spring; yet he employs it alone, as a rule: ἀμφὶ δὲ λειμών, the marsh extends all round; ἀμφὶ δὲ ἕταιροι εὗδον, the comrades slept round about; ἀμφι δὲ Παρθένιον, near the Parthenios; ἀμφίνοος, irresolute; ἀμφίβολος, who strikes or is stricken on all sides, whence ἀμφιβολογία, ambiguity of phrase.

It is curious that ἀμφίς should pass from *around* to *far from*, from the idea of contiguity to that of distance: βαρὺς δὲ Τάρταρος ἀμρίς, and the deep Tartarus around, at a distance; ἀργαλεον, τόσον χρόνον ἀμφὶς ἐόντα, εἰπέναι, difficult to say, for one who has been so long at a distance; but this notion of distance is still very vague: βάλε κύκλα ἀμφίς, she placed the wheels at either side; ζυγὸν ἀμφις ἐέργει, the yoke parts them; here we have the idea of separation. The columns of the Atlas, says the *Odyssey*, support and separate earth and heaven, γαίάντε καὶ οὐρανὸν ἀμφίς ἔχουσιν. The horses left the track, ἀμφίς ὁδοῦ δραμέτην. Athene and Hera stood apart from Zeus, Διὸς ἄμφις. To hold different opinions, ἀμφὶς φρονεῖν.

The inquiry leads to even more curious results in Latin, because the use of *circa, circum*, having prevailed, the traces of the primitive *abhi*, and even of the first term *a* or *am*, must be sought in words which are often but ill explained. The most developed form appears to us at once in *ambo*, both, *ambivium, ambidens;* in *ambire, ambitus, ambitio*, to go round, circuit, ambition; *ambigere, ambiguus, ambages*, to tergiversate, ambiguous,

ambages; *ambulus, ambulum,* formed like *circulus,* whence *præambulum,* little introduction; *funambulus,* rope-dancer; *ambulare,* to come and go, to walk; *amptruare, redamptuare,* to dance in a circle; *ambesus,* gnawed on all sides; *ambarvalis,* victim carried round the fields; *amburbium,* procession round the city. What of *amplus?* Is it for *ampulus?* More probably the suffix is the same as in *duplus, simplus.* In any case, the sense of *am* is not doubtful in the word *ample,* nor in *am-plector,* I embrace, in *am-putare,* to cut round, *am-terminum* (in Cato the Elder), around the boundary; *amicire, amictus,* to wrap, mantle. In *ampulla* we hardly detect ἀμφί, but Latin has borrowed it from the Greek ἀμφίφορα, vessel which is borne round, *amphora, amporula, ampulla,* little amphora, little flask. We should not expect to find the word in the French *an, anneau;* yet the Oscian *amnud* is the ablative of a noun *amnus, annus,* the circle, of which the diminutive *annulus* has retained the meaning. The year is the circle of days. We may mention also *ancisus,* cut in a circle, and *ancile,* circular shield; *anceps,* two-headed, uncertain, *amsegetes,* whose harvests border the road; and in Virgil *amsancti valles,* sacred valleys on all sides.

The Celtic dialects have kept this *am* (Breton) in Irish *imm, imme,* around; and it would seem that we have it in the name of an ancient Gallic king, *Ambigat,* and in *ambactus,* a slave walked up and down for sale, then servant and messenger, the humble prototype of our *ambassadors* (*ambactiator*).

Amb is wanting in Gothic and English, which have preferred the simple form *bhi,* but it has taken many forms in the other Teutonic dialects. Old High German, and even Middle High German, have adopted it:

umpisehen, to see round; *umbi-hanc*, veil; *umbi-hrinc*, circle; *umbe-gang*, circuit, frequentation (German *um-sehen*, *umhang*, *umgang*). The Saxon *ymbe* belongs to the same times. In Dutch *omm*, in Danish *om*, in Norse and in German *um*, at once adverb, prefix, and preposition, represent in modern times the ancient *abh*, *abhi*, and correspond exactly to the Latin *am*; *erum*, around; *darum*, therefore. *Er geht um*, he makes a circuit; *umgehen*, to go round, to elude; *umschreiben*, to paraphrase, to transcribe; *Umlaut*, change, deviation of the sound of a vowel; *umdrehen*, to reverse; *unkommen*, to perish. *Es ist um uns gesehen*, it is all up with us.

The history of *ana*, nearly allied to *abhi*, is yet more varied, especially if we consider the various uses of the second member *na*, affirmative, interrogative, and negative: Gr. *ναι*, *νυ*, *νῦν*; Lat. *nam*, *num*, *ne*, *nunc*, *nempe*, *enim*, *non*, *nisi*, the suffix of so many verbs, nouns, adjectives, or adverbs (*u-nu-us*, *do-nu-m*, *do-na-re*, *po-ne*, *si-ne*). *Ana*, a demonstrative which is declined in Sanscrit, in Zend, in Lithuanian, in Polish, has, combined with the diminutive *lo*, given to Latin *unu-lu-s*, *ullus*, *olle*, *ul-tra*, *ul-timus*, *olim*; to the Celtic, Persian, and Armenian languages the pronoun *an*, the article *an* and *n*; Welsh, *an cu*, the dog; Breton, *ainm n'apstil*, the name of the apostle; Armenian, *mart'n*, the man, the mortal. Its scattered cases, become invariable, have taken the meanings: *certainly* (Sanscrit), *on*, *upwards*, *towards*, *with*, *in*, *through*, *while*, *by turns*, *again*, *backwards*. It is more especially in Greek that these variations are multiplied; we find the forms *ανά*, *ἄνω*, *ἄν*, *ἐνι*, *ἐνς* (*ἐις*) even *ἰν* (in Arcadian and Cypriote). Homer has *ἀλλ'ἄνα*, "up, then;" *ἄν δ'Οδυσσεὺς πολύμητις*

ἀνίστατο, "then rose the wise Odysseus;" μέλανες δ' ἄνα βότρυες ἦσαν, "above hung the black grapes;" ἀνάθημα (*ex-voto*), an object dedicated to a god; ἀνὰ νεὼς βαίνειν, to go on board; χρυσέῳ ἀνὰ σκέπτρῳ, on or with a golden sceptre; ἀνὰ ποταμὸν πλέειν, to go up the river; ἀνάβασις, a climb in high land; ἀνα πᾶσαν ἡμέραν, throughout the day; ἀνὰ μέρος, by turns; ἀναπιπρήσκω, to sell again; ἀναράομαι, to retract. Latin has only *an-helare*, to take breath again; but Gothic has *ana fotuns*, on the feet; High German *ana-sikt*, view; *an*, towards, on, as; *erkomm an*, he comes, he arrives. English, *on*. The combination of *upa* with *ana* (Gothic *infana*, *afana*) has produced the English *upon*, OHG. *fana*, *fona*, the German *von*, and the Dutch *van*.

Under the forms *ein*, *en*, *in*, the ancient *ana* has caused the gradual disappearance of the locative in Greek, Latin, and the Germanic languages; it has expressed all shades of movement towards or against, and thence of rest in, a place. It has been questioned how εις could be derived from *en*. Ενς, the Cretan form, is to *en* as *ex* to *ek*, *aps* to *apo*, *pros* to *pro*, and in Latin *abs* to *ab*, *subs* to *sub*; it may be an accusative plural or a contraction of εντος. We know that the Greek ν readily gave place to an ι (ἐντι = εἰσι); for the rest, the identity is complete; so much so, that the Dorians used εν with the accusative in the sense of movement towards; εις is a later variant which the language has made use of.

But it is time to draw some conclusion from these lists. All show us the reciprocal action of the form and the thought, the precision of the meaning increasing with the number of variants. Whether we have simple prepositions, *par*, *pour*, *de*, *à*, or compounds, *sur*, *en*

(*inde*), *dans* (*de intus*), *sous* (*subtus*), &c., or conjunctions, either relative or dubitative, *dass, denn, when, ob, if, que, quand, si*, whether copulative or disjunctive, *at, et, que, und, and*, everywhere we find a primitive pronominal root, or group of roots, of indetermined meaning; these syllables, which served for suffixing and to form the declension, were also capable of independent life. As, by inflexion, they were gradually atrophied in the body and at the end of words, the freedom, or the more extended use, of prefixation retained their forms while it varied them and accentuated their diverse meanings. They were thus prepared to supply with advantage the place of the worn-out terminations. As they gave to the phrase and to thought greater exactness and elasticity, they broke the fetters of grammatical synthesis, and urged language forward along the open road of analysis. Auxiliaries simplified and developed the verb, invariable words broke up the declension. Philologists are sometimes inclined to regret the ingenious mechanism which has been unable to resist the slow action of these dissolving particles; but however great our admiration for the stately Latin phrase, for the luxuriant wealth of Greek and German, we cannot see that the language of Rabelais and of Ronsard, of La Fontaine, of Molière, of Voltaire, of Merimée, or of Victor Hugo, that the tongue of Cervantes or of Ariosto, or finally that of Shakespeare, Swift, Byron, Shelley, and Dickens, need fear comparison with the famous idioms of Homer, Æschylus, Aristophanes, Lucretius, Virgil, Cicero, Horace, and Tacitus, or with the languages of Schiller and Goethe, of Tolstoi or Mickiewicz. Regrets, moreover, are unavailing. Language resists all efforts of the will; it has fatally, unconsciously, followed its destined path.

In the course of these researches numerous comparisons have shown what metamorphoses, what accretions, what mutilations, what changes in form and sense are produced in the elements and the combinations of Indo-European speech by the preferences, the aptitudes, the decadence, and the progress of the various nations which have received an Aryan education. Among the circumstances, the natural causes, which have most contributed to the differentiation, and thus to the respective originality of the idioms, the most powerful was undoubtedly the original or acquired difference in the vocal organs. Why does the Frenchman say *mois* and *voir* where the Latin pronounced *mensis* and *videre?* Why do the English say *tooth,* the Germans *zahn,* and the Latins *dens?* Why have we πέντε in Greek, *quinque* in Latin; τέσσαρες instead of *quatuor* or *tchatvaras;* ὕπνος for *svapna* and *somnus?* Because at a given time among different peoples the larynx, the teeth, the lips, and the third frontal circonvolution of the brain worked differently. These initial divergences cannot be detected by physiological examination, because the observation could only be taken after death; but if it is almost impossible to discover them in themselves, it is interesting and comparatively easy to describe their effects and to classify the results. This comparative study of the different pronunciations of a same vowel or consonant, or of the same original vocal group, is the object of phonetics. Its importance will be seen if I indicate beforehand the conclusion arrived at: it is a general rule that, except in the case of borrowed words, or of accidental similarity, or of particular affinities, the same word cannot exist in the same form throughout the series of kindred idioms. This is the first principle of scientific etymology.

CHAPTER V.

INDO-EUROPEAN PHONETICS.

I. THE CONTINUOUS LETTERS.

Dialectic variation—The primitive vowels—The metamorphoses of the *a*—Bopp's theories on the weight of vowels—The variants of *i* and *ou* (*ü*, *i*, *y*)—Contraction and abbreviation of Latin—A word about spelling—*R* and *l*, vowels; guttural and dental *r*—Vowel scale—The semi-vowels *y* and *v* in Sanscrit and in Latin, in Zend and in Greek—The sibilant *s* and its transformations in Greek and in Latin; its affinities with the hard breathing and with the liquid *r*—The nasal *n* both liquid and dental—The labial nasal *m*.

THE respective individuality of languages which have a common vocabulary and a common structure results from two distinct though connected phenomena: the varied use of attributive or demonstrative roots and of grammatical artifices; the different pronunciation of the phonetic elements. These are the two factors in dialectal variation; they have acted together, and under the rule of circumstances which are as little understood as they are evident: the progressive distance and isolation of the various groups imbued with the primitive Indo-European culture, contact and crossing with foreign groups, unequal or varying development of the variously proportioned mixtures which have constituted the nations as we now know them, the influence of climate, of new needs and interests. These are causes of an historical nature, yet of which the history is often unknown to us, even

in the case of languages such as the Neo-Latin or English, which have grown up as it were under our eyes. But whatever share, and it is a considerable one, we must attribute to these historical causes in the growing separation of Sanscrit and Greek, of Latin and Slav, of Teutonic and Persian, we must seek the starting-point of these divergences in cerebral and vocal aptitudes. It may even be doubted if there ever was a time when the common speech was pronounced in the same manner by the seven or eight tribes destined to scatter it over the world; whether the children of the first chief who first pronounced distinctly a few Indo-European syllables did not modify them from the beginning, one inclining to a thickness of speech, another to a lisp, another hardening or suppressing the aspirate, or perhaps unable to distinguish the *r* from the *l*, the *v* or the *s* from the hard or soft aspirate. The comparison, letter by letter, of a number of words, of which the identity is no less obvious than their differences, of such forms, for instance, as *padas*, *ποδός*, *pedis*, *fotus*, *foot*; or again *hṛdaya*, *καρδία*, *cordis*, *hairts*, *heart*, *herz*; *çunas*, *κυνός*, *canis*, *hund*; *djanu*, *γόνυ*, *genu*, *kniu*, *knee*, has shown that the observed changes are constant, and thus the phonetic laws peculiar to each idiom have been established. And while the general regularity of the corresponding changes threw into relief the physiognomy of each language, it was itself an evidence of the primæval unity. Thus the deviations proper to French, to Provençal, and to Italian bring us back to an original Latin form which dominates and throws light upon them all. The rôle which belongs to Latin in the phonetics of the Romance languages is therefore precisely that of the lost mother-

tongue in Indo-European phonetics, and this lost idiom has been restored, according to the indications given, by the agreements and the divergences of the derived idioms. Each variation may be traced back to a vowel or a consonant of an original alphabet, which serves as the point of comparison and the common measure. The thousand details noted by a patient and intelligent observation have their place in a natural classification, and the study of phonetics has become the science of the evolution of articulated sounds. Like every other science, it formulates laws, the summary of observed phenomena—laws which record, but do not govern. These laws allow us to supply by legitimate hypothesis the lacunæ of experience; but they yield before that which resists them, and do not pretend to embrace more than they can fairly hold. They are no imperious rulers, but convenient data, the instruments of investigation. This is the case in every department of knowledge; but here, in the domain of language, in which reigns the mobility of life, here more than anywhere it is desirable to recall the empirical origin and the relative character of laws.

We now approach the history of the vowels, the simplest of the continuous sounds, if not the most primitive, which were uttered by man. There is reason to believe that certain other sounds, also continuous —the sibilants, the aspirates, and other confused groups from which the consonants were afterwards developed—belong also to the earliest attempts at human speech. But Indo-European is far removed from the origin of speech, and its phonetic system is already clearly constituted. It has three vowels, short or long, *a*, *i*, *u*, and two diphthongs, *ai*, *au*, which tend

already to be pronounced *ê* and *ô*. A species of trill, *r* or *l*, is reckoned by the grammarians of India in the number of the vowels, but Sanscrit alone makes use of it.

The absence of two familiar letters, the short *e* and *o*, will be noticed. It has caused wonder that these two sounds, so easy to utter and so widely spread among the nations, should have been wanting among the Aryans. They were, in fact, unknown to Sanscrit and Gothic. Zend has only the *e*. It has been said that Sanscrit pronounced them without writing them; but why, then, have they no signs in the Devangari alphabet, which notes the least shades in the consonants, and which was adopted in India when Sanscrit survived only as the speech of the lettered? Why did not Ulphilas, who created in the fourth century the Gothic alphabet, borrow the *e* and the *o* from Greek and Latin? Why do *e* and *o* in all the languages which possess those sounds invariably correspond to a Sanscrit *a*? Why do they alternate with this *a*, of which they appear to be doublets or varieties? Why, when it modifies an *a*, does Sanscrit change it into *i* or *u*? Because the intermediate sounds were wanting. Lastly, a comparison which has its value: the Semites, when they invented their alphabet, fifteen or sixteen hundred years before our era, did not distinguish the *e* or the *o*; they assigned special characters only to the *aleph*, the *iod*, and the *vav*, and even these they confounded with the soft breathing, and with the semi-vowels *y* and *u*. They had not even a clear conception of *a*, *i*, and *u*. *A fortiori*, then, we may admit that Indo-European only possessed these fundamental sounds.

A, which is the most frequent sound in Sanscrit, has rarely remained pure in Greek and Latin, as in

aga, ἄγειν, *agere*; *agra*, ἄγρος, *ager*; *aksha*, ἄξων, *axis*; *ang*, *angor*; πατήρ, *pater*; *açrou*, δάκρυ, *lacruma*. More often the primitive *a* is represented by a short *e*. Root, *gan*, to engender; γένος, *genus*; *dakan*, δέκα, *decem*; *daksha*, δεξιτερός, *dexter*; *sarp*, ἕρπω, *serpo*; *bhar*, *fero*. Gothic, more faithful, still has *vasti*, dress; *avi*, sheep.

The change to *o*, which is also very common (*avi*, ὄις, *ovis*; *pati*, πόσις, *potis*; *aktau*, *octo*), is especially common in terminations; *dama*, *domos*, *domus*; the Latin terminal *o* being blunted into *u*. Greek and Latin are sometimes agreed in the change in the *a*, as if this phenomenon had begun among them before the division of the Hellenes and the Latins; but as they diverged, each claimed its liberty, using each one *e* or *o* at will. The one has δασύς, thick; βραχύς, short; ἐλαχύς, ἑκατόν, the other *densus*, *bre(g)vis*, *levis*, *centum*; or again, *magnus* and *caput* correspond to μέγας and κεφαλή, δαμᾶν to *domare*, καρδία to *cordi*, *sapiens* to σοφός, *genu* to γόνυ, *pedis* to ποδός, ἐμεῖν to *vomere*, νέ[ϝ]ος to *novus*, λέγοντος to *legentis*. In Greek sometimes the fall of the nasal has preserved the *a*: *adiksham*, ἔδειξα, ἔλυσα, λέλυκα, &c., πατέρα, πόδα, δέκα, ἕπτα, where the Latins have preferred *patrem*, *pedem*, *decem*, *septem*. If Greek, like Latin, has adopted the *e* in πέντε, in *quinque*, it is because the final nasal had already fallen from *pankan*, Sanscrit, *pantcha*. Latin especially affects the *o* when the primitive *a* is followed or preceded by a *v*; but there are exceptions: *navan* becomes *novem*; *navas*, *novus*; *svap*, *sopor*; *vam*, *vomere*; *vak*, *voc-s*.

In fine, the *e* and the *o* proceed alike from *a* and represent it equally; and the proof is that we find them alternately in the same language, in the same word: γένος, for example, or κλέος, reproduce *ganas*

and *kravas*, but their *o* may be changed into an *e*, γένεος for γένεσος (*ganasas*). In the nominative λόγος and the vocative λόγε the *o* and the *e* are equivalent; so also in the imperfect ἔλιπον, ἔλιπε. In φέρειν the *e* is the same letter as the *a* of φαρέτρα, as the *o* of φόρος; βένθος and βάθος, depth, πάθος, emotion, and πένθος, pain, are two forms of the same word. The vowel varies according to the dialect, but not regularly. Dorian usually prefers the *a*, in στράφω, to turn, τράχω, to run, ἰαρός, sacred, compared with the classic στρέφω, τρέχω, ἱερός, but it has ἔρσην, τέσσερες, and τέττορες for ἄρσην and τέσσαρες.

These variations are a source of great wealth to the Greek language; from the single class of the causative verbs in *aja* Greek derives its three contracted conjugations φιλέω, τιμάω, δηλόω; from a root *trap*, to turn, it derives the present and the imperfect τρέπω, ἔτρεπον, the aorist ἔτραπον, the perfect τέτροπα, the noun τροπός. The variants serve to indicate certain cases or tenses, and facilitate derivation. Latin uses them in the same manner and less rigorously; compare the forms *genus* and *generare*, *scelus* and *scelestus*, *sceleratus*, *pars* and *portio*, *ager* and *peregrinus*, *terra* and *extorris*, *velim* and *voluntas*, *verto and vorto*, *prex* and *procus*, *sequi* and *socius*, *tegere* and *toga*, *pendere* and *pondus*; *facio*, *infectus*, *inficio*; *patrare* and *perpetrare*, *fallo* and *fefelli*, *cano* and *cecini*.

The Teutonic languages have adopted analogous methods in their conjugations, reserving to the present, the perfect, the subjunctive, and the past participle respectively some one of the variants of the primitive root vowel, *e*, *a*, *ä*, *o*, *u*: *ich bind*, *ich band*, *gebunden*, &c.

The long *ā* which is very common in Greek and Latin, is often the result of the juxtaposition of two

similar or different vowels, of the presence of two consonants, or of the dropping of a consonant; thus τιμᾶς for τιμάις, κέρα for κέραα, κέρατα, horns; μέλαν for μέλανς, *amasti* for *amavisti*. *A* was originally long in the feminine terminations ἡμέρα, θύρα, φιλία; in Ennius's time the final *a* of *aquila* was still considered long, but it has usually been modified into a long *ē* or *ō*. In the choice of the vowel there is no very marked agreement between Greek and Latin; often also it is represented by a short *a*, *e*, or *o*. *Dhâ*, to place, gives in Greek τίθημι and θήσις, in Latin *dere*, *subdere*; *dâ* gives δίδωμι, δῶρον, δόσις, in Latin *donum*, *dare*; *sthâ*, ἵστημι, *stare*, *stetit*; *âku*, rapid, ὠκύς, Latin *ocior*; *sâmi*, ἡμι, *semi*; *pâ*, to drink, πῶμα, *potus*. The Greek μήτηρ is the Latin *mater*; βραχύτης, *brevitas*; φήμη, *fari*, *fama*; *bhrâtar*, φράτωρ, *frater*; γενετήρ, *genitor*. The Greek dialects interchange the long *o*, *a*, and *e*: μουσῶν and μουσᾶν (genitive of μοῦσα or μούση); φιλία and φιλίη, πρῶτος and πρᾶτος, first; φάμι and φήμι, ποιμάν and ποιμήν, shepherd. Gothic keeps the long *a*; Old High German takes an *e* or a modified *a*: *yar*, *yäre*, *year*; *blasou*, *blesa*, I suffer. Nothing is more capricious than this distribution of the *a* and its variants.

The vowels *i* and *ou* short are primitive or secondary. In *giv*, *vivere*, βίϝος, to live, life, in *imas*, *imus*, we go, in *tchid*, to cut, the Greek σχίζω; Latin *abscidit*, in the innumerable uses of the suffix *ti*, *mati*, μῆτις, *mentis*, thought, *devatati*, deity, *voluntatis*; in the terminations of *bharanti*, φέροντι, ἐστί, there is no doubt that we have the primitive *i*. So with *ou* (*u*) in the supines *sthatum*, *datum*, *visum*, in *svaçru* and *socrus*, mother-in-law, *bahu* and *pechus*, arm, elbow, *ruk* and *luks*, light.

But *hita*, the participle of the verb *dhâ*, *kurmas*, first person plural of *kar*, to do, reduplications such as *tishthami*, *δίδωμι*, show us these letters already as secondary vowels. They conceal an earlier *a*, of which they are the weakened form. This is sufficiently proved by a comparison between *statut* and *institution*, between *capio*, *accipio*, and *aucupium*, between *sam* and the Greek *σύν*, with, between *gani* (Sans. *djani*), wife, Old Prussian *gannan*, Greek *γυνή*, and the English *queen*.

Bopp, who is the true founder of the science of phonetics, has tried to establish among the vowels a gradation of weight, which pronunciation is ever seeking to lighten. *A* being the fullest sound, the various languages attenuate it into *ĕ* and *ŏ*, and shorten it as much as possible into *ă* and *ĭ* in compound words. This would be an application of the law of the least effort, which has so many exceptions, such as the strengthening of the Teutonic consonants, and of the Greek aspirates, or the excessive development of the Greek passives. This ingenious observation is supported by examples; it agrees with the effect of accentuation. Accentuation subordinates the whole word to one more weighty syllable, and forces the others to contract or disappear. This idea is familiar to those who have compared in any degree the Romance languages with each other; these, as it is well known, are derived from Low Latin under the influence of the Latin tonic accent, and differ from each other according to the unequal effect which this accent has had upon their respective vocabularies. Unfortunately nothing is more variable or more arbitrary than accent; if it is very regular in Latin, it is also purely artificial, depending entirely upon the quantity of the penultimate syllable. In Greek and

Sanscrit, if it appears sometimes to fall upon the root syllable, sometimes upon the suffix which most determines the meaning, yet the application of these two contradictory principles is so entirely unsystematic, or at any rate determined by laws so complicated, so subtle, and so fantastic, that the ablest specialists are often at a loss. We readily believe that there is a relation of weight among the vowels, but this relative weight appears to vary according to the caprices of accent; and we can hardly say that *i* or *ou* are more or less light than *e* or *o*. Bopp himself recognises that *e*, heavier than *i* in *legere* as compared with *legimus* and *eligere*, is lighter in *admirabile* compared with *admirabilis*, in *sequere* compared with *sequeris*.

Admitting, then, in a certain degree, the law of least effort and the relative weight of vowels, combined with the caprices of accent, we would add to these causes of variation two causes more general in their application, the one physical and the other intellectual. The first is so simple that we hardly dare to propound it: it is the want of definiteness of the primitive vowels and the reciprocal nearness of their variants. The second is the instinctive and growing need of fixing the significant variations and grammatical values as new sounds were developed and noted, a need which found its expression in a use gradually fixed by custom, assigning in Latin, for instance, *e* to past tenses, *i* to roots of which the meaning had been modified by prefixes, *o* and *u* to the terminations of certain nominatives and accusatives, or to certain links between root and suffix.

But I would insist upon the primitive confusion of vowel sounds, and on the insensible transitions which connect the variants. *E* stands half way between *a*

and *i*; *o* occupies the same place between *a* and *u* (*ou*). Between *e* and *o* we have *eu*; between *i* and *ou*, *u* (*u*); the slightest movement of the veil of the palate is enough to change *a* into *e*, *i* into *o*, *ou* into *u* and *i*; but *a* keeps the summit of the double ladder; it may be exchanged for one of the other vowels, but itself takes the place of none. We may conclude from this fact, that *a* is the earliest vowel in the Indo-European language, and even in pre-Aryan speech.

Greek, says Bopp, is less sensitive than are Sanscrit, Latin, and Teutonic to the relative weight of the vowels, and offers no change of *a* into *u* or *i*, which appears at first sight to be regular. We have already given a few reduplications above, δίδωμι, τίθημι; we may add ἵκκος (ἵππος), for *akva*; λιγνύς (Lat. *lignum*), from the root *dah*, *dagh*, to burn; the Homeric form πίσυρες, for *katwaras*; νύξ, νύκτα (Lith. *naktis*, Goth. *naht*), for *naktam*; ὄνυξ for *nakhas*, *nail* (Lith. *naga*), γύνη, σύν.

I and *ou* are not less interesting, both from the point of view of origin and of pronunciation. The latter has passed from the sound *ou* to *ü* and *i*, and at the same time it became a semi-vowel *v* before a consonant, or between two vowels (ἐϝαγγέλιον, βασιλεϝς); the former, the *i*, has frequently taken the place of the semi-vowel *y* or *j*. Greek has not this sound at the beginning of a word (where it replaces it by a consonant, *yugam* = ζυγόν), and in the middle of a word it transcribes it by an *i*. Nothing is more strange than this partial repugnance for a sound which is, it would seem, so easy to pronounce; but similar rejections may be observed in all languages. Such forms then as φιλοσοφία, φιλία, πάτριος, ἅγιος, φιλόιην, θεοῖο, ἀρίων, ἡδίων, all include the suffix *ja* or *ya*; and

this is true also of the Latin *patrius, siem, siet, durior, melius.* Greek goes farther, weakening *i* into *e*: πλευσέομεν, φευξέομαι, for πλευσίομεν, φευγσιομαι. The Sans. *kunja* becomes κενεός, empty (whence the Æolian κεννός and the Classic κενός, which we have in *cenotaph*); στερεός, solid, Æolian στερρός, corresponds to an ancient *starya* (from *star*, to extend, στορέννυμι). In the proper name *Eteocles* we recognise the Sans. *satyaçravas* (owning a true glory), *satya*, that which is. When *i* takes the place of *y* after a liquid (*r, l, n*), it readily passes into the preceding syllable, as in the French *faillir* from *fallire, despouiller* from *despoliare.* This is the explanation of doublets like μελανία and μέλαινα, πότνια and δέσποινα. The Sans. *tanyami, tanyamas*, should give in Gr. τενίω, τενίομεν, but we have τείνω, τεινομεν, φθείρω, κτείνω, ὀφείλω, μαίνομαι for φτερίω, κτενίω, ὀφελίω, μανίομαι; in the Homeric and Æolian forms ὀφέλλω, κτέννω, φθέρρω, the transposed *i* has disappeared by assimilation.

It is not surprising that *i* should take the place of the semi-vowel *y*, but we should hardly expect to find it in the place of an *n*. Yet this is what happens in εἰσί, τίθεισι, λυθεὶς, λυθεῖσα, μοῖσα, for ἐντί, τίθεντι, λυθέν̣ς, λυθεντία, μοντία; similarly in our French words *gaulois, françois, provinois, mois, prise,* from the Latin words *gallensis, francensis, pruvinensis, mensis, prehensa.* It has been said that this substitution is more apparent than real, that it is explained by a compensation for the loss of the letter *n;* but the compensation in its turn is only explained by a physiological affinity of *i* with the nasal. In pronouncing *i*, the veil of the palate is raised towards the nasal cavities, whence a peculiar resonance, already sensible in an *e*, a little weaker in an *a* or an *o* pronounced from the throat; thence

the frequent phenomenon of nasalisation, common to all languages, and so difficult to distinguish from the insertion of the primitive consonant *n*. With the sounds *i* and *ou* the leaning to the nasal approaches identity. We have already observed that the accusatives τοὺς, λόγους, ἡμέρας, πατέρας, stand for τονς, λογονς, &c.; the terminations of λέγουσι, ποιοῦσι, ἄρχουσι, are for λεγοντι, &c. If we seek the original of the Greek diphthong, we shall find a primitive *a* replaced by an *o*, and an *n* supplied by *u*: *bharanti*, *ferunt*, φέρουσι. There is no doubt that the sound was simple and answered to the Indo-European vowel *ou* or *u*. But the Greeks being used to write it with two letters, like the Beotian γλουκου, soft, του, thou, the upsilon lost its ancient pronunciation, gradually narrowed down to *u*, and towards the first centuries of our era became confounded with *i*; certain dialects said λέγοισι, φέροισι, instead of λέγουσι. The pronunciation *v* in the words quoted above (ἐν, βασιλεύς) is to-day the only vestige of the original sound, for *v* is to *u* as *j* to *i*. Still we should not pronounce ancient Greek authors in the modern fashion: in Homer and Sophocles, in Plato and Callimachus, upsilon was never pronounced *i*. It was the first *ou*, then *u*, the French *u*.

Latin had this *u*, intermediary between *ou* and *i*, slighter than the one, stouter than the other, says Marcus Victorinus; nearly resembling the ipsilon, says Priscian. The Emperor Claudian wished to distinguish it by a special sign, which may be seen on a few inscriptions, and Quintilian recognises its existence. But it was in the end confounded with *i*, as was the ipsilon, which became our *y*. But the Latin letter *u* regained and kept the sound *ou*, more or less akin to

the short *o*, and the substitute of a primitive *a*. We note in passing that the diphthong *ou*, retained in Greek, was lost in Latin; the ancient forms *jous, doucere, plous*, were contracted into *jus, ducere, plus;* and this is why the letter *u*, after having hesitated between the sounds *o, ü*, and *i*, returned to its primitive value.

To give a few examples of this variation of the Latin *u:* From the time of Plautus and Ennius it was pronounced *o* in verbal terminations and case-endings and in certain suffixes; men said *servos*, the slave, *dominos*, the master, *pravos*, wicked; *makistratuos, senatuos, domuos* (inscriptions); *nominos, Veneros, Cereros, partos* (written with a *u* in the inscriptions); *pokolom*, drinking-cup (Osc.), *oraclom, quæsumos, legimos, volumos, sumos.* They pronounced *septumos* (Gr. ἕβδομος), *dekumos, optumos.* Cæsar preferred *dekimus;* Augustus from archaism affected *optoumous, maxoumous.* The alternation between *o* and *i*, *i* and *u*, *i* and *ou*, is visible in *olle, ille*, and *ultra; incola, inquilinus, cultus; silva*, and the Greek ὕλη, οὔλη; *exsul* and *exsilium, facultas* and *facilitas, cornu* and *corniger, arcus* and *arcitenens, manus* and *manibus, monumentum* and *monimentum, mancupium* and *mancipium* (taken with the hand), *lubet* and *libet, existumat* and *existimat, inclutus* and *inclitus* (Greek κλυτός, Sanscrit *çroutas*). But whatever was the pronunciation finally adopted, it is easy to see what a variety, what a wealth of forms was assured to Latin by these diverse transformations of the Indo-European *a*. From *salio*, to leap, are derived *insilire, insultare;* from *capere, incipere, inceptus, aucupium, occupare, nuncupare;* from *tango, tetigi, attingere, tactus;* and each root had thus its family of derivatives, in which the words are counted by ten and twenty.

Sanscrit has made a similar use of its long *e* and *o*, which it could strengthen into *ai* and *au*. These latter diphthongs are peculiar to Sanscrit. The long *e* and *o* were not yet simple sounds when the Græco-Latins separated from the common cradle. For the rest, their composite nature is revealed, even in Sanscrit, by their perpetual changes into *ai* and *av* before a vowel. The Greek renders the former by *αι*: *φέρεται* for the Sanscrit *bharatê*, and also by *οι* and *ει*; Latin by *ae* and *oe*, contracted into *ū* long; by *ei*, contracted into *ī* and *ē* long; *αυ*, *ευ*, *ου*, in Greek, *au* and *u* in Latin correspond to the Sanscrit long *ō*. There are analogous gradations in the Teutonic *ai*, *ei*, *iu*, *ie*. Sanscrit *êmi*, *êti*, Greek *εἶμι*, Latin *ire*, to go. *Gô*, for *gau*, Greek *βοῦς*, Latin dative *bubus*. Root *ôg*, to shine, Greek *αὐγη*, brilliancy. It is curious to remark in Latin the transformation of *ai*, *aï* (*materai*, *terrai*, *rosai*) into *ae* (*terræ*, *rosæ*); of *oi* into *oe* and *u*, Greek *ποινή*, Latin *pœna*, *punire* (Fr. *peine*, *punir*); *mœrus* (*Po-mœrium*), *murus*; *mœnia*, *munire*; *mœnera*, *munera*, *co-itus*, *cœtus*; Greek *φοινιξ*, Latin *pœnus*, *punicus*. Elsewhere *oe* becomes *e*: *fœtus*, *fetus*.

Classical Latin is a contracted language, in which the diphthongs are almost all reduced to long vowels, excepting *aut* (Gr. *αὖθις*), *autem*, *aufero* (but *au* is for *ab*, *av*, *au*), with a tendency to abbreviation. *Virtutei*, which we read on the tomb of the Scipios, becomes *virtuti* and *virtute*. Ennius still wrote *ei*, or at any rate made the *e* long: "Tum cava sub montei late specus intu' patebat."

The forms *mihei*, *tibei* (Umbrian, *te-fei*) are lightened into *mihi*, *tibi*, *ubi*, *ibi*; *domoi* into *domĭ*. The Oscan *svai*, Latin, *svei*, *sei*, *si*, is abbreviated in *sĭquidem*, *sĭcubi*; *jous*, *jousare*, *jūrāre*, gives *pĕjĕrare*, to perjure oneself;

nōscere, notus, co-gnĭtus. Dĕdĕrunt stĕtĕrunt. Ennius, speaking of Prometheus, says: "Vulturius miserum mandebat hĕmōnum." *Hĕmōnum* has become *homĭnem. Monĕo* represents *mâna-jâmi.* Final liquids shorten the preceding vowel: *laudatŏr, longiŏr* (*or* represents *ōns*); *nihil* for *ni-filum* (not a thread, nothing); *rogāsne, rogăn?* *T* has the same influence: *amăt, monĕt, audĭt.* Ennius reckoned *esset* as two longs, *init* a short and a long: "Alter init oculos. Omnibu' cura viris uter esset induperator." Virgil still has *revocabāt.* "Cum clamore Gyas revocabat; ecce Cluentus;" but this was then an archaism.

We seem to see the hesitation in the quantity of the finals. Beside *pulchre, valde, recte,* of which the last syllable is still long, we have *malĕ, benĕ, probĕ, supernĕ;* beside *videre* we have *vidĕ, jubĕ, cavĕ, valĕ;* beside *Cnaeō* for *Gnaivod, dominō, fagō,* we find *modŏ, citŏ, illicŏ.* It is no longer doubted that *homŏ, virgŏ, indignatiŏ, egŏ,* were originally *homōn, virgōn, indignatiōn, egōn.* The quantity of *ago, volo, veto,* is at most doubtful; in *sciŏ, eŏ,* it is shortened by the influence of the previous vowel. We find the two quantities in a verse of Horace: "Omnia legisti, credō, sciŏ, gaudeŏ." The grammarian Diomedes, finding *amō* in Virgil with the *ō* long, concluded that the poet had lengthened the vowel in imitation of the Greek verbs, and his observation proves that all the finals in the verbs were short in his time. From the Augustan age we feel that Latin was altering rapidly; the great break-up from which the Romance languages at last emerged had already begun; the permanence of the spelling alone conceals from us the progress of the change. It is very certain that, with the exception of a few errors, we read a far more correct Latin than that which was

spoken, I do not say in the provinces and among the soldiers, but at Rome itself, where *cavneas* meant either "do not go" (*cave ne eas*) or "figs to sell" (*figs from Caunas*).

When in French we say *j'aime*, we only continue the tradition of centuries which has mutilated into (*k*)*amao*, *amo*, the original *kamajama*, modified the primitive *a* into *e* and *o*, and then gradually dropped the final syllable. Here an objector might urge the forms in *ment*, in *on*, *el*, *ail*, *ait*, *at*, *aut*, *ot* or *e*, *grognement*, *poison*, *poitrail*, *fait*, *mai*, *seigneur*, *été*, *état*, *grelot*, *faux*, where the final is precisely the long syllable. But this is an illusion; in the feminine terminations the mute *e* no longer counts, but in the masculine it is not written, and this is the only difference; it is enough to compare the analogous Italian forms, *movimento*, *pozione*, *fatto*, *signore*, *stato*, *falso*, in which the final is still sounded. The fact is that in the Romance languages quantity being confounded with accent, the accentuated syllables are the only true longs. Now in French, the most strongly accented of the Neo-Latin languages, the tonic accent, having contracted what precedes and devoured what follows it, falls with the quantity on the last syllable which is pronounced, and which sometimes seems to be the penultimate, but only in versification.

It is sometimes asked why we continue to write what is no longer pronounced. Simply in order not to take away all the rhythm from the poetry of Corneille, Racine, La Fontaine, André Chénier, De Musset, and Victor Hugo. This is to me an all-sufficient reason, and renders me very sceptical about the proposed reforms in spelling. There are others. In many cases the *e* mute could not be removed with-

out being replaced by an apostrophe, or how should we distinguish *charmant* and *charmante*, or *Sem*, the son of Noah, from *sème?* For the rest, French spelling, which I am far from defending, be it observed, is capable of defending itself by the mere force of inertia, and if it allows an occasional useless letter to be dropped, it will never, being the result of long use, of ancient custom, yield all at once to the laws of a narrow reason. Spelling reform is advocated with excellent sense, but it is none the less an empty hobby.

There remains one vowel to be considered, a doubtful vowel, employed only by Sanscrit, but it is at any rate one of the continued sounds which hold the debatable land between the vowels and the consonants. This is the liquid *r*, doubled with an *l* in Sanscrit, which is also regarded as a vowel. Most philologists consider these letters to be the contraction of a syllable *ar*, *iri*, *ere;* they point out that in all Indo-European languages *r* is replaced by one of these groups, and that even in Sanscrit it generally disappears from most of the cases of the nouns in *tr: pitri*, *pitaras;* *mâtri*, *mâtaram;* and that in *bibhrmas* it takes the place of *ara: babharamas.* Yet, as there are several manners of pronouncing *r*, it is probable that this *r* answered to something particular. *R*, says the master of M. Jourdain, is pronounced by "carrying the tip of the tongue to the roof of the palate; so that, being pressed by the air as it is emitted with force, it yields, and returns always to the same place, producing a species of trembling *r*, *rrra.*" This *r* is the dental *r* of singers, who learn to pronounce it by repeating *td, td.* But there is also a guttural *r*, very difficult to pronounce at the end of words, *soir*, *gloire*, *art*,

piqueur, *monsieur* (whence *monsieu* and *piqueux*). The *r* which figures as a vowel in the Sanscrit alphabet appears to be closely related to *a;* it is dropped from the nominative of the nouns in *tr: pita*, *mata*, *bhrata*, and only reappears when a vowel follows it. It is represented in Prakrit by an *i*, and not by the group *ar: hidaya*, heart, for *hrdaya*.

In any case, the vowel *r* corresponds in Greek and Latin to *er*, *or*, *ar*, *ur*, and *ra*. *Bhrtas*, carried, is the Greek φέρτος (in ἄφερτος); *drshtha*, seen, δέρκτος (in ἄδερκτος); *str-na-mi*, στόρνυμι, I extend; *mrtas*, death, βρότός for μορτός; *rksha*, bear, ἄρκτος; *jakrt*, ἧπαρ, liver; *pitrshu*, πατράσι. Latin shows *fertis*, *fertilis*, *sterno*, *mortuus*, *jecur;* *vermis* for *krmis*, *cord* for *hrd*, *mordeo* for *mrd*, to crush, *stratus* for *strtas*.

The terminations in *tr*, *tar*, which abound in Sanscrit, play a great part in Greek and Latin. Greek has them under the two forms τηρ, τωρ, long and short. δοτήρ, giver; βοτήρ, shepherd; οἰνοποτήρ, wine-drinker; ῥήτηρ and ῥήτωρ; μνηστήρ, bridegroom; ὀπτήρ, spy; ἀφρήτωρ, inhuman (not a brother); μητροπάτωρ, maternal grandfather; ἵστωρ, witness (whence historian); ἀλέκτωρ, cock, and ἠλέκτωρ, the sun; ἀφήτωρ, archer; ἀλάστωρ, avenger. Latin has comparatively few words in *ter: frater*, *arbiter*, *magister;* but the number of words in *tor*, such as *dator* and *stator*, *monitor*, *bellator*, *pastor*, *quæstor*, is considerable; from these proceed, as we have seen, the future participle, *futurus*, *daturus*, *natura*, and the desideratives, *pasturire*, *esurire*, *emptuire*, &c.

Zend and Persian are also without the vowel *r*, and present the same phenomenon as our two classical languages. In the inscriptions of Persepolis, *barta*, *karta*, correspond to *bhrta* and *krta*. *Tarsno* is *trshna*,

thirst; *parst* is *prshtha*, the back. Zend prefers *ere*, *are*. *Sukrta*, well made, becomes *hu-kereta*, *hu-kareta*; *bhrta*, *bereta*; *Vrtra*, *Verethra*; *prastrta*, extended, *fraçtareta*; *hrdaya*, heart, *zaredaya*; *prthu*, wide (Gr. πλατύς), *perethu*, whence *Huperethu*, *Hufratu*, the Euphrates, the wide river.

The vowel *l* was invented by the grammarians of India for symmetry; it exists only in one Vedic word, *klp*, to succeed (perfect *tchaklpe*), participle *klpta*, well made, constituted; whence *kalpa*, rule, order, one of the great periods of the Brahmanic universe. This single root, *klp*, will account for one of our most useful and most frequently employed words.

Since the two liquids *l* and *r* were not clearly distinguished the one from the other before the separation of the idioms, we have more chance of finding the root *klp* under the form *karp* or *kerep* in the Indo-European languages, and the Veda itself presents it to us under this form: *uttishtha daivyâ krpa*, "arise in thy divine form." What is this *p* joined to *kr*? Probably the remains of a suffix of causation, *pa*; *kr* (*creare*), to do; *krpa*, to fashion; whence the Zend *hu-kerep ta*, well made, beautiful; *karefs* or *kerefs*, the body, genitive *kehrpo*, *kehrpam*, accusative *kehrpem*. Old High German has *href*, Anglo-Saxon *hrif*, the body, the womb (cf. mid-*rif*). We have here the original of the Latin *corpus*, an isolated word, which has no allies in Greek, nor even in Latin, and which has come down to us with its numerous derivatives, *corporeal*, *incorporate*, *corporation*, *corpuscle*, &c.

The Indo-European vowel system may be represented by a triangle, of which *a*, short and long, occupies the summit, *i* and *ou* the two lower angles; beside the two last are placed the two diphthongs *ai* and *au*, which

have given to Sanscrit its long *ê* and *ô*. The short *a* has furnished to all the idioms, except Sanscrit and Gothic, the short *e* and *o;* from the long *a* arose the long *ê* and *ô* of all the Western languages. Side by side with the primitive *i* and *ou*, a secondary *i* and *ou* were developed as weaker forms of the *a*, by the intermediary of the short *e* and *o;* a sound *u* (upsilon) served as link between *ou* and *i*. Two semi-vowels, the labial *v*, the dento-guttural *y* or *j*, issued from *ou* and *i;* and perhaps a liquid *r* was the result of a guttural pronunciation of the *a*. Finally, a naso-dental closely connected with *i*, *e*, and *ou*, modified from the beginning the *timbre* of the vowels. The few examples I have been able to give will have shown what Greek, Latin, and Zend owe to the various uses of these resources.

Letters, says Molière, are divided into vowels, so called because they express the voice; and consonants, because these sound with the vowels and serve to mark the various articulations of the voice. But the science of phonetics brings an amendment to this summary definition; it points out that the vowels, or pure continuous sounds, are connected with the explosives by mixed sounds, which may be at once and by turns continuous and explosive, the semi-vowels, liquids, and spirants, which partake of both natures.

In dealing with the vowel *i*, we have seen that in Greek and Latin, in the middle of a word, it frequently represented the sound *y* (*ie*), which belongs to both vowels and consonants. Distinctly retained at the beginning of words in Zend, Latin, and Teutonic, this *y* has undergone various alterations in Greek which have changed it, now into an aspirate, now into a soft sibilant, now into a dental. Finally it became con-

founded with a softened, palatal guttural, *genus, genre,* and took in French the value and the sound of *j*. These changes are partly determined by the proximity of certain soft consonants; but some can only be explained by a defect of pronunciation proper to the Greeks. Where Sanscrit has *yuhsma,* we, Greek has ὕσμες, ὔμμες (classical ὑμεῖς); *yas, yâ, yat,* the relative pronoun, becomes ὅς, ἥ, ὅ; the root *yag,* to sacrifice, to sanctify, whence the Persians have derived *Yaxata* (Ized), the name of the divinities who form the escort to Ahuramazda, furnishes to Sanscrit the verbal adjective *yagyas,* worthy to be sacrificed; this same word must be recognised in the Greek ἅγιος, saint. Aspiration is the great resource of the larynx when embarrassed. Greek, in using it here and in many other circumstances, as we shall see, does not differ from Spanish and Florentine, of which the one replaces the *y* and the *x* by the *jota, Quijote, Quexada, Jeres,* or the *f* by an *h, hijo, humo, hablar;* the other, initial *c* or *g* by an *h, hasa,* house, *hrazie,* thank you.

Z is another sound which imitates a certain number of allied sounds; half way between the gutturals and the liquid dentals, *z* is as near as possible to the semivowel *y*. In Zend, *Yama,* the god of death, has become *Djem-schid* from *Yima-Kshaeta,* as if a *d* had placed itself before the inconvenient syllable. This is pretty much what has happened in Greek in the case of ζευγνυμι, ζυγόν, ἔζυγην, compared with *yugam, jugum, jungere;* with ζέω, I boil, corresponding to the Sanscrit *yasâmi;* with barley, from *yava.* The Greek transcription of the Latin words *Julia, Jesus, Maia, conjux,* was very often Ζουλία, Ζήσυ, Μαζα, κοζουξ.

What was the exact pronunciation of this *z*? Slightly dental no doubt, more like *dz* than *z* sibilant. This is

indicated by the change of *Dyaus* into *Zeus*, and of all the verbal terminations in *dyô* into ζω. A slight effort of the tongue applied to the palate produces a prosthetic *d*; from the confusion of the two sounds arose *dz*; the reverse order appears to have the same effect: when the *d* is preceded by an *s*, the same *z* replaces the group *sd*: συρίζω for συρίσδω. Perhaps the group *sd* represented the simple *z*, itself the result of very various origins. In any case, the primitive sound *y* (the agreement of Zend, Latin, and the Teutonic languages witnesses to its antiquity) is not less related to the consonant *d*, perhaps to the consonant *g*, than to the vowel *i*.

V, which is rightly called consonantal *u*, offers even more striking examples of these transitions between vowel and consonantal sounds. It presents itself either as the substitute of *u* before a vowel: *divas*, genitive of *dyu*; or as the link between *u* and a termination: *çravas*, *dya*, *vas*; *dhenva*, with a cow; or in a group beginning with a sibilant: *sva*, a guttural; *gva*, *kva*, or a dental; *tva*, *dva*; or finally in the pure state: *va* enclitic, or *va* suffix (*sarva*, *viçva*, all; *nava*, now), *vant*, termination of Sanscrit adjectives and participles; *vâ*, to blow; whence *vâta*, the wind; *vid*, to know, to see; *vagh*, to drive; *vam*, to vomit; *vak*, to speak; *vart*, to turn; *avi*, sheep.

Classic Greek has no character to represent *v*, but it had existed. It was the Phœnician *vav*, which remains, for the rest, in Greek numeration, where it represents *six*. Grammarians have called this letter *digamma*, because its form resembles a double gamma; it may still be read on a few inscriptions: ϝοῖδα, ϝοῖκος for οἶδα, οἶκος (Latin *veicus*, *vicus*, Sans. *viça*). The Beotian, Laconian, and Æolian dialects long wrote

and pronounced it: *ϝέργον* (work, root *varg*). The digamma has disappeared from the Homeric texts as they were compiled at the time of Pisistratus, but it certainly existed in the older songs from which the editors of the sixth century composed the *Iliad* and the *Odyssey*. Many verses would be incorrect if it were not supplied. Here are two:—

τὸν δὲ ἄρ' ὑπόδρα ἰδὼν πόδας ὠκὺς Ἀχιλλεύς.
μύθων τε ῥητῆρ' ἔμεναι πρηκτῆρά τε ἔργων.

To restore the rhythm we must read *ϝιδὼν*, *ϝρητῆρ*, *ϝέργων*. Philologists have noted hundreds of similar passages.

The letter at last fell into desuetude, and the sound with it. It is very singular, when we recollect that Greek pronunciation had no repugnance to the sound *v*; far from it, the *b* and *u* have very often that sound: *ϝασιλὲϝς*. One would expect at least to find the primitive *v* represented by one or other of these characters; but this is rare: we have *βούλομαι*, *βουλή*, compared to the Sanscrit *val*, and with *volo* and *voluntas*, and a few Laconian forms such as *βεργον*, *βιδειν*, *βεργιλιος*. In *γουνος* from *γόνυ*, knee; *δουρος*, from *δόρυ*, lance; *νεῦρος*, *παῦρος* (compared with *parvus* and *nervus*), *u* seems to be the equivalent of *v*. *V* is *u* in *δύο*, in *βοῦς*, and in *ὕπνος*, for *svapna*.

It is probable that the digamma was abandoned because *b* and *u* were commonly pronounced like it; but its loss has none the less materially altered the physiognomy of the language, and separated Greek from its congeners, Latin and Sanscrit. Sometimes the soft breathing, as in *ἔμω* (emetic) for *vam*, *ἐχῶ*, for *vagh*; the hard breathing in *ἕννυμι*, *ἑσθής* (*vestis*,

vestire), in ἵστωρ, witness, historian, in ἕσπερος (*vesper*, the evening), takes the place of the *v*; sometimes it disappears completely: δώδεκα, *duodecim*; διπλοῦς, *duplus*; βοός, *bovis*; νηός, *navis*; νέος, *novus*; ἐννέα, *novem*; ὄις, *ovis*; ῥέω, πλέω, νέω, εἶδον, κλέος, and the suffix κλης (*crava*), instead of κλέϝος, ἔϝιδον, ῥέϝω, πλέϝω, νέϝω. It is true that in the case of the three last the forms πλεύω (*pluo, pluvius*), ῥεύω, νεύω, present equivalents. But who would recognise in ὅλος for σόλϝος the Latin *salvus*, in λαιός the Latin *lævus*, in σκαιός, *scævus*, in ἡδύς, *suavis*, in ὕλη for σύλϝη, *silva*, in ος for σνος, the theme *sva*, the Latin *suus*? Probably the *v* was not precisely either *b* or *u*; it was the *w*, as is shown by the transcription Ουεργιλιος (Virgilius); and this sound was not familiar to Greek.

Latin is here much more faithful to the original type. It has *vinum*, *vicus*, *verto*, *vigor*, *valere*, *volere*, *videre*, *vehere*, *vir*, *vis* (Greek ἴς), *nervus*, *parvus*, *salvus*, *novus*, *curvus*, *eqvus*, *boves*, *novem*, *divus*, *Jovis* (Διός), *arvum*, *alvus*, that which is ploughed, from *arare*, that which nourishes (cf. *alu-mnus*). Yet two special causes have often in Latin brought about the modification or the loss of the *v*. The first is the confusion with the sound and the letter *u*; the second the tendency to contraction.

Latin had attributed to the spirant *f* the *vav* of the Phœnician alphabet, and therefore had but one character to represent the *ou* vowel and the *ou* consonant. Claudian, who had a few valuable ideas, had proposed to represent the pure *v* by a reversed *f*, which is found on a few inscriptions of his time; but custom was too strong for his reform, and we do not know whether *quatuor*, *vacuus*, *reliquus*, *fatuus*, *equus*, were pronounced *quatvor*, *reliqvos*, *fatvos*, *eqvos*, or

katour, *vacous*, *reliqous*, &c. In *duo* and *duplex*, the *v* was a true *ou*, as in *boum*, *bubus*, for *bovum* and *bovibus*. In *te*, *se*, *sibi*, *dio*, *diu*, *dies*, the *v* had simply disappeared; a species of friction had obliterated it. Sometimes it is hidden in a contracted syllable: *nolo* for *non volo*, *nuper* for *novumper*, *nauta* for *navita*, *upilio*, shepherd, for *ovipilio* (organic, *avipalayan*), *prudens*, for *providens*, (the prudent man is he who foresees); *seorsum*, *seversum*; *rursum*, anew, for *reversum*; elsewhere it leaves no trace; compare *retrorsum* with *retroversum*; *sursum* with *subversum*; *concio* with *conventio*; *ditior*, *junior*, *nonus* with *dives*, *juvenis*, *novem*; *malo*, *commorunt*, *petii*, *probai*, with *magvolo* (which is partly recovered in *mavult*), *commoverunt*, *petivi*, *probavi*. A primitive *aiva-s*, time, from which the Greek derives ἀΐων, αἰέι, gives in Latin *ævum*; the addition of the suffixes *tas*, *ter*, *nus*, *lis*, *cus*, lengthens it into *ævitas*, *æviternus*, *æviternalis*, *æviternitas*, *ævitaticum*, of which we know the Latin and French forms, *ætas*, *æternus*, *æternalis*, *éternel*, *éternité*, *édage*, *éage*, *aage*, and finally *âge*. Thus *age* and *eternity* are without a doubt derived from the same root. In the second of these words the initial *e* still represents the first syllable of *ætas*; but in *âge*, the circumflex accent alone reveals the strong contraction which has devoured the significant parts of the word.

Zend uses *v* largely; and though it often changes this letter into *u* (*dœum* for *dævam*, the demon), it sometimes retains it where Sanscrit alters it: *vavatcha*, "he speaks," is nearer the primitive form than the Sanscrit *uvatcha*; *vaz* (*vagh*), *viz* (*vid*), *viç* (inhabitant), *haurva* (*sarva*) *bavami*, *vayu* (*vayou*), the wind, are, as far as the retention of the *v* is concerned, faithful to the organic form; *w* in the accusative *thwam*, thee,

in *rathwo*, *rathwe*, of the master, to the master, is only a reinforcement for the sake of euphony.

There are other metamorphoses which we shall encounter here and there in Greek and Latin, dependent on the consonant with which *v* is associated in a sort of indissoluble group. *Kva*, *gva*, *sva*, *dva*, are usually considered as a species of national caprice, a phenomenon attributable to a more or less tardy preference, and presenting interesting but entirely secondary variations, as, for instance, in *Wilhelm*, *William*, *Guillaume*, *Gilles*. I am rather disposed to recognise in these groups very ancient transitions between the semi-vowels and the consonants.

If we compare the relatives *kas* (Sanscrit), πῶς or κῶς (Greek), with the Umbrian *po-ei*, with the Latin *qui* and *quis*, with the German *hva*, "who," we shall see that they only differ by the abandonment or the retention of the semi-vowel *v*. The original theme appears to have been *kva*. The same observation applies to the forms κύων, *canis*, *çvan*, Zend *çpan*. The root *kvit*, *çvit*, to shine, retained in the Sanscrit *çvetas*, Gothic *hveits*, German *weiss*, English *white*, gives in Zend *çpaeto*, brilliant. Whence are these *u*, *v*, *p*, if the *v*, vocalised into *u* or hardened into *p*, be not part of the original root? The *ç* of the Zend and Sanscrit words *çvan* and *çpan* always represents a primitive *k*, as in *açu*, rapid, Greek ὠκύς, *açva*, Latin *equus*. The Zend *açpa*, *viçpa*, all, helps us to understand ἵππος. The Greeks received the horse from Asia, where it was already called *aspas* or *ispas* (*Ispahan*); the *s*, a weak representative of the primitive *k*, became assimilated to the *p*, in which the Greeks no longer distinguished the original *v*; certain dialects, which confused the sounds *p* and *k*, adopted the form ἵκκος, which corre-

sponds only in appearance with *equus*. The two words are in truth derived from the same root, but they have a different descent. But the point of departure of these changes is the presence of a *v* in the root. So with *quatuor*, *tchatvar*, τέσσαρ, πίσύρ, *patur*, *fidvor*, the type is *kvatvar*.

The soft guttural *g*, often palatalised into the Sanscrit *dj*, frequently corresponds in Greek and Latin to a *b* or to a *v*: *gaus* is βους, *bos*; *ga* (Sans. *gam*), to go, becomes in Greek βαίνω, in Latin *va-do*; *djiv*, to live, becomes βίος, for βίϝος, *vivere*, *vita*. Zend has *zbayemi*, I invoke, for *ghvayâmi*, Sans. *hvayâmi* (whence *hotar*, the priest, in Zend *zaotar*); in the same way the differences between our classical languages reveal to us the primitive forms *gvaus*, *gvam*, *gviv*. The first has preferred the guttural, the others the *v* pure, or hardened into *b*.

The example of the groups *tv*, *dv*, lends support to this explanation. We will not recur to the changes of *tvam* into *te*, into *tibi* (for *tve*, *tubi*), except to show that *vos* (Sans. *vas*), probably the remains of a plural *tvas*, is connected with it. But *dv* has a special interest; the Zend *dbis*, to hate, for *dvish*, *baê* for *dvê*, show us the evolution of *v* into *b*; much more so Latin: compare *duo*, *duellum*, *duonus*, *duplex*, with *bis*, *bellum*, *bonus* (Ital. *buono*, Span. *bueno*), *bidens*. Greek, rejecting the *u*, has kept the dental: δώδεκα, δίς, for δυόδέκα, δυΐς. Thus these are forms of the same root, not because *d* changes into *b*, but because, when two sounds are combined to make one group, the different languages have made a different use of them.

The group *sva* has an equal number of variants. It remains pure in Sanscrit: *svan*, to resound; *svar*, to shine, the heavens; *svaçura*, father-in-law; *svasar*,

sister; *sva*, he; *svadu*, sweet; *svapna*, sleep. Latin has rarely retained it (*suadvis*, *suadere*, *suus*); it is generally contracted into *so*: *sonus*, *sonare* (note the Italian *suono*); *sol*, *socer*, *socrus*, *soror* (for *sosor*), *somnus*. Greek has made an effort to imitate the sound in σφός, σφέτερος, but it has abandoned the *v*, and never likes the initial *s*, which it changes into the hard breathing; consequently this sound is usually represented by ἑ, ἡ, ὑ, ὁ; ἥλιος, ἑλληνη, for *svarya*, *surya*, *svarana*, the brilliant; ἑκυρος, for *svaçura*, *socer*; ὕπνος, for *svapna*; ἡδύς, for *svādu*.

But it is in Zend that the difference is most considerable. The sibilant is rejected at the beginning, and even in the middle of words, and is supplied by a very marked aspirate, sometimes accompanied by a nasal; *hasanhrem*, for instance, represents the Sanscrit *sahasram*, a thousand. *Hva*, *hvarê*, correspond to *sva*, *svar*. The initial aspirate is often so strong that it is equivalent to a hard guttural; in that case all trace of the *v* disappears, and the sibilant becomes *q*. *Qa* represents *sva*. *Qâdata*, which has been modified into *Koda*, a god, *Qâdata*, the eternal, he who finds in himself his law, his basis, is the Sanscrit *sva-dhata*, and might be found in Greek under the form σφεθετος, αὐτοθετος. *Qafna* is *svapna*, ὕπνος, *somnus*; *qap*, *sopire*; *qar*, to shine, and to eat, from *svar*, *svorare*, *vorare*; *qan*, to resound (cf. the Latin *canere*, *canorus*); *qanhar*, *svasar*, *soror*; *Haraqaiti*, land of rivers, *Sarasvati*. The Greek transcription, *Arachosia*, allows us to surmise that a *v* or an *o* was still heard after the aspirate.

After these various examples, no one would venture to assert that the labials *b* and *p* are not a hardening of the *v*, which itself is issued from the vowel *ou*, and that the gutturals and their aspirates are not

the result of the effort made to vary or to utter the sound *v;* this effort would have produced at first a confused sound, gradually growing more precise as the friction of agglutination obliterated the semi-vowel. This is perhaps more than a hypothesis. In any case, these considerations will not appear out of place in a philosophical study of language and the formation of sounds. They seem to grasp those physiological causes, so long ignored, of the deviations which concealed from the Latins, Persians, and Teutons the fundamental identity of their vocabularies.

The pure sibilant, *s*, which has been so differently treated by all peoples according to its position, whether initial, final, or in the body of a word, and according to the letters, vowels, or consonants with which it found itself in contact, may be ranked among the first elements of language; it is common to man and many animals, such as the goose and the snake; it is even one of the sounds of inanimate nature. Human breath produces it in the same manner as the breath of the wind. *S* is sometimes, and rightly, classed among the dentals; through the *z* it is allied to *d*, pure or aspirated; it constantly permutes with *t;* but *ch* connects it also with *ç*, with the palatal *tch*, and through these with the gutturals. Lastly, with the Persians and the Greeks it is confounded with the aspirate; with the Latins, with the liquid *r*. These manifold affinities render its history most complicated.

We will be content with a few rapid notes. In Sanscrit the primitive *s* is sometimes replaced by the palatal *ç: çushka*, Latin *siccus*, Zend *hushka; çvaçura*, Latin *socer;* by *sh: ush*, to burn, Latin *æstus*, *ustus* (*aurora*, *aurum*, from *urere*); *tarsh*, to dry, Greek τέρσω, Latin *tersa*, *terra*, the dry land. Often before certain

consonants, and according to euphonic laws proper to Sanscrit, it is dropped in the terminations, and its place taken by a slight aspirate; the *a* which precedes it becomes *o*; *divas, divah,* and *divô;* this phenomenon is common in Zend: *Mazdaô* for *Mazdas.* It is frequently dropped in Greek, and in the older Latin poetry: *omnibu', intu',* in Ennius. Otherwise it keeps its original value in Sanscrit. Many roots begin with the sibilant: *sad,* to sit, whence *sadas* (Greek, ἕδος) and *sadanam; satch* (for the organic *sak*), to follow; *su* and *sû,* to water, to bring forth, whence *sôma,* the sacred liquid, and *sunu,* son; *sru,* to flow; *svid,* to sweat; *stha,* to stand; *star,* to stretch; *smar,* to remember, &c. *S* persists also (except in the cases above mentioned) in the middle and at the end of substantives and verbs: *asti, bharês, abharas, svasar, vakchas* (*vocis*), *manas.*

We have already seen what changes initial *s* suffers in Zend and Greek. According to a constant law, ἑδ, ἕδος, ἕδρα, correspond to *sad, sadas,* so that in the French words *chaise, chaire, chayère,* derived from καθέδρα, nothing recalls the root *sad. Saptan* gives ἕπτα, whence *hébdomadaire,* which as little resembles *semaine; sak* becomes ἑπ, ἕπομαι; *sru,* ῥυ; ὕω, to rain; and υἱός, *son,* are in the same relation as *su* and *sunus.* The disappearance of *s* between two vowels has thrown confusion into the declension, and even into the conjugation. ἀγροῦ, λόγου, θεοῦ, conceal ἀγροιο, ἀγροσιο, λογοσιο, θεοσιο; μένους, γένους, μένεος, μένεσος, γένεσος; εἶην, ἔσιην; φερη, φερεαι, φηρεσαι; ὤν, "being," ἔων, ἔσων; λελυκυῖα, λελυκόσια. *S* falls before and after *r*: ῥέω, πατήρ, χείρ; it is often substituted for *t,* τεσσαρες, θάλασσα, μέλισσα, ποιοῦσι, φέρουσι, "they do," "they carry," πόσις (*patî*), φύσις (Sans. *bhuti*), μοῦσα (*montia*),

all the ancient ablatives in ωτ are become adverbs in ως: ὁμῶς, τηλίκως, ἀληθῶς, σοφῶς, &c.

It is a curious fact that, in spite of these anomalies, *s* is still in Greek one of the letters which occurs most frequently. Sometimes it has been preserved at the beginning of a word by the consonant or vowel which follows it: σθένος, force; στένος, groan; στήσω, I will place; στόρνυμι, I stretch; σκῶρ, σκατος, whence *scoria* and *scatology* (which must not be confounded with *eschatology*, a science consecrated to metaphysics), σῖτος, bread (perhaps *çveta*, white), σελήνη, σείριος, for *svar;* lastly, all the words with the prefix συν. These are departures from the more general use; but we must admit that the pronunciation changed in process of time, and that the double forms *Selene, Helene; Sellos, Hellen; Seirios, Helios*, belong to different periods of the language. Sometimes *s* is maintained in the body of the word or in the terminations: ἔσομαι, λύσω, ἔλυσα, λύσας, λῦσαν. Finally, it abounds, in general, in various cases of the declension, notably in the nominative and genitive singular, and in the nominative and accusative plural: δόμος, νεανίας, ποδός, ὀπός, πόλεος; πατέρες, ἄνδρας, λόγους.

Latin, which has none of these aversions to certain sounds, especially sounds so easy to utter as the *y*, the *v*, or the *s*, has preserved better than other languages, even than Sanscrit, the Indo-European pronunciation. It allows the *s* at the beginning of the word, as well as *y* or *j*, unless a too great accumulation of consonants necessitates the abandonment of some of them. *Locus*, the grammarians tell us, stands for *stlocus; lis*, trial, for *stlis* (from a root *str*, Ger. *streit*). But *s* pure, or accompanied with a moderate number of other sounds, remains unaltered in all the words which we have quoted: *sedes*,

sedeo (root *sad*, Gr. ἑδ), *sudare*, *sudor* (root *svid*, Gr. ὕδωρ), *sonare* (*svan*), *sequi*, *septem*, *serpere* (ἕρπω, ἕρπετον), *servus*, *salvus* (*sarva*, ὅλος), and *sollus*, *sum*, &c.; and also everywhere that we find it in the Greek terminations: *dominus*, *dominos*, *dominis*, *genus*, *tempus*, *manus*, *manibus*; *fratris*, *fratres*, *fratribus*, *dies*, *materies*, &c. Yet, as we have said, there is a tendency to efface the *s* in the terminations. I will add a few examples of this to those already given: *vita dignu' locoque*; *omnibu' princeps*; on old inscriptions: *Furio*, *Terentio*, for *Furius*, *Terentius*; even in a more dignified style, *exoriare aliquis nostris ex ossibus ultor*; *amare*, *sequere*; for *exoriaris*, *amaris*, *sequeris*; *mage* for *magis* (*magius*), *pote* for *potis*. Messala, says Quintilian (in the time of Augustus), wished to omit the final *s* in writing. It has disappeared from the middle of a few words, such as *pono* (*posno*) compared to *posui*, *positus*, *repostum*; *remus*, the oar, for *resmus* (Gr. ἐρεθμός); *Camillus* for *Casmillos*; *camena* for *casmena* (root *ças*, *çans*, to sing).

But the most interesting fact about *s* in Latin is its affinity with *r*: *nasus*, *naris*; *carmen* for *casmen*; *ara* for *asa*. In a whole class of words between two vowels, of which the last is an *i* or an *e*, sometimes an *a*, the primitive *s* is constantly changed into *r*. This phenomenon affects, for instance, all the words of the third declension which end in *us* short; in *ûs*, in *as*, and in *os*. In *corpus*, *genus*, *onus*, *pecus*, *opus*, *latus*, *vetus*, *scelus*, *Venus*, *jus*, *mus*, *mas*, *glis* (dormouse), which correspond to Greek words in ος, to Sanscrit words in *as*, *s* is part of the root, and is found in such derivatives as *musculus*, *masculus*, *corpusculum*, *onustus*, *venustus*, *vetustus*, *scelestus*, *justus*; so with *arbos*, *arbustum*; *honos*, *honestum*; *robur*, *robustus*; *flos*, *flosculum*; but all the oblique cases are declined upon

a theme in *or*, *er*, or *ur* : *muris, maris, glires, corporis, pecoris, juris, generis, operis, lateris, veteris, sceleris, veneris, roboris ;* and in the second series, *arboris, honoris, floris, odoris, coloris, laboris,* &c., and these forms, reacting on the nominative, have in almost all cases changed *os* into *or*, *arbor, honor, color, odor, labor, sapor, amor, robur.* The nominatives in *us* have persisted ; but *r* has triumphed in the derivatives, and has given us a whole number of verbs, nouns, and adjectives which are found in all the Romance languages. *Opera, œuvre, operare, ouvrer,* and *operate, operarius, ouvrier, urere, aurora,* for *usere* and *ausosa ; jurare, juratus, perjerare, generare, generosus, sceleratus, veternum, venerari, onerare, onerosus.* I may mention also the French words *arbre, arbricole, honneur, labeur, odeur, couleur, honorer, honorable, colorer, corroborer, incorporer, odorant, veteran, laborieux, liquoreux, savourer, savoureux,* all of which are taken straight from the Latin. The Latin conjugation has been no less influenced by this permutation of the *s* into *r*, if indeed it be true that the *re* is everywhere the substitute for *se* in the infinitives. This is my opinion. It seems hardly possible to separate *esse, posse, fuisse, amavisse, legisse, audiisse,* from *legere, audire, amare, fore, gignere,* especially when we compare them with *amore, genere ;* the same cause alone could produce effects so similar. The passive is entirely founded (*amor, amaris, amamur, legor, legeris*) on the same metamorphosis of the *s.* The attraction of the *r* must have been very powerful to have lightened the suffix *jans, ion,* of the comparative into *or ; major, pejor, suavior,* &c. (corresponding to the Greek *μειζων, ἡδίων*), which have passed through intermediate forms such as *magions, magios, majosis, majus ;* the earlier *s* is still heard in *majestas.* No

accident of phonetics, except perhaps the rejection of the aspirates, more clearly separates Latin from its Indo-European kindred. The substitution of the liquid for the sibilant remains one of the principal characteristics of this language, and of the Romance languages derived from it. The Latin *r* is not only allied to the sibilant, it is also akin to the soft dental: *meridies*, stands for *medi-dies*; we find *arvena* for *advena*.

The liquid seems to have as many affinities as the sibilant; both may be at once guttural and dental. In the Semitic languages the double guttural aspirate is confounded with *r*: *Ghadamês* is pronounced *Rhadamês*. In Greek it is easy to distinguish two pronunciations of the *r*, aspirated at the beginning of words (ῥέω, ῥήγνυμι, &c.), soft in the suffixes ρα or ρο, which occur so frequently in our languages, ἡμέρα, λύρα, ἄνκυρα, ἰσχυρός; its influence even adds an aspirate to the preceding consonant, ἐρυθρός, red, ἄνθρωπος for ἄνδρωπος, φρατώς, as in the Sanscrit *bhratar*; when two *r*'s come together, the first is marked with a hard breathing, the second by a soft breathing. This aspirate is constantly attached to the initial *r*, which is always announced by a labial breathing; whence the dialectic variants βρόδον, the rose; βρήτωρ, the orator.

The primitive liquid was a sound which hesitated between *r* and *l*. In the Veda the Sanscrit root *lith*, Greek λείχω, Latin *lingo*, French *lécher*, is still written *rih*; *plu* (πλέω, *pleure*, *fluere*) appears as *pru*. Zend and Persian are without the letter *l*. In other languages there is a perfect equivalence between the two liquids; at least, in the middle of a word euphonic reasons alone determine the use of the one or the other; Greek has κεφαλαργία, λεθαργία from ἄλγος,

pain (Latin *algere, algidus*), to vary the sound; in the same way Latin uses indifferently the suffix *aris* or *alis: salutaris, floralis, militaris, mortalis, normalis, jocularis.* But at the beginning of a word, Sanscrit, Latin, Greek, and the Teutonic tongues have generally adopted either *l* or *r* once for all, and use it consistently. Sanscrit, for instance, has chosen *lump* for the meaning to break, Latin *rump;* Sanscrit has *rik, ritch,* to abandon; Greek λίπ, λείπω, λοιπός; Latin *liv, reliquus, relictus, linquere.* "To shine" is in Sanscrit *ruk, rutch,* in Greek λευκ, λυκ, λευκός, white, Λύκειος, the Lycian Apollo (the shining one), in Latin *luc: lucere, lucidus, Lucina, lu(c)na, lu(c)men, lusciniola,* the nightingale, which sings towards the day; here French has shown a tendency to revert to the *r; scandalum* gives *esclandre, apostolus, apôtre.*

N, which we have already encountered as the nasal utterance of the vowels, is reckoned among the liquids, for its independent existence is anterior to the separation of the idioms; it is none the less nearly related to the *i,* which often takes its place in Greek terminations; one of the most visible traces of this affinity is the addition of *n* to many Greek terminations in *i* and *e: φιλοῦσιν,* they love, *ἐποίησεν,* he made. Greek makes almost as much use of *n* as German. As a liquid, *n* is rarely confounded with *l* or *r;* yet λύμφα and *νύμφα* are clearly the same word, and *donum* and *plenum* are the equivalent Latin forms for *δῶρον, πλῆρον,* in Greek. In *ullus* for *unulus, bellus* for *bonulus,* the *n* has been assimilated to the *l.* Finally, the French *diacre* for *diaconus,* the Provençal *canorgue* for *canonicus,* is a further proof of the relationship among the three liquids. *N,* as a purely initial consonant, persists in a great number of words, *nac,* to kill, *necis,*

necare, *νέκυς*, corpse; *nam*, to take, to rank, *νέμειν*, *νομός*; *nava*, *novus*; *nara*, *nero*, *ἀνήρ*, man; but more frequently it is the remains of a guttural-nasal group, *gn*: *γνητός*, *gnatus*; *γνωτός*, *gnotus*, *notus*, *nomen*, *noscere*, Eng. *know*.

M, at once liquid and labial, preferred in terminations by Zend, Sanscrit, and Latin, familiar also to the Teutonic languages, alternates with *n* in compound words, according to euphonic laws peculiar to each tongue; it replaces *n* before labials: *emmener*, *embonpoint*, *ἄμβροτος*, *immortalis*. At the beginning of words it is simply a soft labial or the remains of the group *sm*: *smar*, to remember, *smemor*. I give a few examples: *mar*, to die, *mors*; *marta* and *mard*, man in Zend; *Ariomardas*, the famous mortal, *Gayomareta*, mortal life, the first man (*Gaiomarz* in Pehlevi); *marg*, to mark; *Marcus*, the distinguished; *margo*, *mark*, *margin*, *march* (border); *mrdj*, to knead, to soften; *mulcere*, *mulgere*, *mollis* (for *moldis*); *mardjara*, the Sanscrit name for the cat, that which is always licking or polishing itself; *man*, to measure, to think, *manu*, man; lastly, *ma*, *me*, the famous *ego* which has played so great a part in history, in social life, and in philosophy. But here I pause; we have already studied the root *ma* and its derivatives.

CHAPTER VI.

PHONETICS—II. THE EXPLOSIVES.

Consonantal diphthongs—Indecision and variations in the primitive consonants—Attempt of M. Regnaud to trace back all articulate sounds to a group, *sk* or *kch*—Numerous examples—The aspirate is the link between the consonantal group and the pure consonant—The palatals in Zend, in Sanscrit, and the Romance languages—The substitution of consonants in the Teutonic languages—First stage : Gothic and Low German—Second stage : High German—The three periods of German—Numerous exceptions to the law of permutation—A sixteenth-century English lesson.

We have shown by what insensible transitions the semi-vowels, the spirants, the sibilants, the liquids, and the nasals have detached themselves from the continuous sounds, and attained the position of independent consonants ; we have reached articulation, but it has yet to frame the explosives, sounds which cannot be pronounced without a supporting vowel or consonant preceding or following them.

But it seems that a stage, that of consonantal diphthongs, still separates us from this last state. We have already considered a few of these in the groups *kv*, *bv*, *dv*, *sv*, *sr*, *gn*, but there are others, which are often explained as contracted syllables, and the juxtaposition of explosives which are already distinct. This is often true, and it is easy to prove and to admit that suffixing continually brings the different classes of consonants into relations with each other, and forces them into combinations which are modified according

to the euphonic laws of each idiom. Yet when alliances of this nature occur in the root itself under its most primitive form, when the groups issued from this concourse of consonants are differently heard and pronounced by the different idioms; when we note, moreover, that there have existed, from the time of the common Indo-European speech, numerous forms derived from these by the loss or weakening of some one of their elements, there is reason in the inquiry, first, whether these groups are not earlier than the utterance of the pure consonant; secondly, whether they do not belong to the age when the primitive gutturals, dentals, and labials were still confounded; lastly, whether they do not allow of the reduction to a hundred, even to twenty types, of the fifteen hundred Sanscrit roots, or the five hundred called Indo-European? Such is the theory, if I do not mistake him, of the eminent philologist, M. Paul Regnaud. He argues it with an ardour which is most attractive, if not entirely convincing; and, while leaving to specialists the task of controlling and checking in detail the numerous comparisons suggested and ably defended by M. Regnaud, we cannot refuse a general assent to his doctrine and his method.

We have already quoted several of the series which he gives, where, alternating with ingenious boldness the consonants of the three orders, he follows at the same time the phonetic variation and the fluctuating evolution of the idea. Here, for example, in the famous class *brûler, briller* (to burn, to shine), is what may be called a species derived from a type *kshar*, a type which M. Regnaud recognises under twenty disguises: *kshar, kshir, krch, kar, kra, har; gharsh* or *ghrsh, ghar, ghrâ, gaur; tchar; djurv, djûr, djval; darç; star, tarsh, trish; sphurj, sphur, sphul, sphut*

(for *sphurt*); *sphar*; *priksh*, *prish*; *plush*; *pal*; *bhru*; *bhradj*, *bharg*, *vark*, *ark*; *smarg*, *marg*, *mardj*, *mark*, *mar*; *svar*, *sûr*, &c. And each of these roots, as it recedes from the type, gives birth to a family of words, all bearing some relation to the notions of burning, heat, or light. We leave Sanscrit, but Greek and Latin, which are nearer to us, owe to these variants a number of terms among which we can trace at least a collateral relationship. Thus we should rank under the first or guttural sub-group such words as χρυσός, χρώς, golden and colour, χρώζω, χρώννυμι, to colour; χλωρός, green, pale; χλόη, turf, foliage; κάλλος (καρσος), brilliancy, beauty; κεραυνός, lightning; γλαυκός, shiny, green; γλαύσσω, to shine. Compare λεύσσω, λύχνος, and, from the root *rukch*, γλαγ, γαλακ, milk, and γαλαξίας, milky, γαλερός, laughing, γαλήνη, serenity, γλυκύς, γλεῦκος, sweet, sweet wine, γλῆνος, γλήνη, light, eyeball. In Latin, *croc-us*, *corusc-us*, *col-or*, *cal-or*, *calidus*, *h*(?)*aridus*, *ardor*, *areo*, *area*, *arena*; *clarus*; *carbo*; *galbus*, *gilvus*, yellow, green; (*g*)*viridis*; (*g*)*lact*. In the dental sub-group: θάλλω, θαλπος, θήρω, θερμός, δαιδάλλω (for δαρδάρσω), to make shining, to embellish; στέλλω, to shine, to sparkle; δέρκομαι, to see; τέρσω, to warm, to dry; τρανής, brilliant, piercing; τέρας, star, prodigy, portent; *torreo*, *torridus*, *tersus*, *sterla*, *stella*, *astrum*. To the labial variety belong πυρσός, torch, πυρρός, burning red, πῦρ, fire, πυρετός, fever; πολιός, white; Latin, *splendor*, *pallor*, *palam*, *pareo*, *purpura*, *purus*, *purg-o*, *pulcher*, *pol-io*, *burrhus*; Greek, φρύγω, to grill, φλόξ, flame, φλέγω, πορφύρα, πορφύρω, to die red, to redden, to tremble, πρήθω, to burn, πρηστήρ, meteor, storm, πίμπρημι, to set fire to. Latin, *fulg-or*, *fulg-ur*, *ful*(*g*)*men*, *fulvus*, *formus* (hot), *fornus*, *fornax*; *frondis*, *flos*, *flagro*, *flagma*, *flagmen*

(who sets fire); *flavus*, *far*, and *farina*, *haru* (lightning); Greek, σμάραγδος, σμυρίζω, to polish, μάργαρος, mother of pearl, μάρμαρος, shining, marble, μαρίλη, hot cinders; Latin, *margarita*, pearl, *marmor*, *merus*, *mirus*, brilliant, admirable; lastly, all those words we know so well: Σείριος, σέλας, lightning, fire, σελήνη, εἰρήνη (for συειρήνη), peace, *Hermes* (for *Svermes*), *Helene*, the fair, &c.; *serenus* (*cf. Sirene*); *sol*, *Soracte* (shining summit).

This ramification admits, no doubt, of more than one foreign member, yet it would seem that all the branches are really connected with each other. M. Paul Regnaud's work has extended to thousands of words, each form being only ranked in a given category after it has been examined in every way, analysed and reconstructed. As a result of these researches, he has caught sight, with the faith of the seeker, of the primary group from which all consonants are issued. This microcosm is *ska*, a very common group in all our languages, *skand*, to mount, *skarp*, to hollow, to engrave, and which often alternates with *kcha*, *ça*, *gha*. M. Regnaud, of course, considers that *sk* = *st* = *sp* = *ks* = *ts* = *ps*. We are not altogether able to share this faith; but the antiquity of the vague group *ska*, *kscha*, or *tcha*, is manifest, and this ancient syllable has had the most varied fortunes.

There exists in the Romance languages a word *pecho*, *petto*, *poitrine*, *poitrail*, which is obviously connected with *pectus*, *pectorina*, *pectorale*. All the Indo-European languages have lost this word except Sanscrit, where it appears under the form *pakchas*, flank, side, wing (of a bird), wing (of an army), party, opinion. It is remarkable how near in this instance the Spanish is to the Sanscrit form, both languages having pala-

talised one of the elements of the complex syllable in which Latin has distinguished a guttural and a dental. The same group evidently existed in the original type of the Greek πέκτων, builder, mason, of the Latin *tectum* and *tegula*, tile, words nearly allied to the great Vedic god *Tvashtar*, the architect, or the smith, only here Sanscrit has obliterated the guttural; it has retained it, on the contrary, in *rkchas*, Greek ἄρκτος, Latin *ursus*. By a yet unexplained confusion, *rkchas*, very near to the Sanscrit *arkas*, the sun (*cf.* the Greek hero *Arkas* son of Kallisto, the nymph changed into the Great Bear), *rkchas* signifies both bear, and the constellation of which Plautus invoked the final star, *Arcturus*, "the tail of the bear;" a softening of the root, *richi*, has added to the confusion, so that Bear and the seven *Richis*, or wise men, are names for the same group of seven stars: *septem striones* or *triones*, the seven oxen or stars of our north. Similar coincidences are not rare: *urka*, the wolf, another probable variant, owing to its Greek name λύκος, has been associated with Phœbus Apollo, the god of light.

Nakch, night, *vakch*, voice, *akch*, the eye, are in close relations with *nox*, νυκτός, with *vox*, Greek ὄφ, with *oc* of *oculus*, and with ὀφθ of ὀφθαλμός.

Kchan, *çans*, *ças*, *ghan*, *ghna*, *dhan*, and *han*, in Sanscrit, signifying to kill, to cut, and analogous forms in Zend, *Verethra-ha*, *Verethra-gna*, slayer of Vritra, are sufficient to connect the Greek word κτείνω with θάνατος, θνητός, θνήσκω. Sanscrit *kcha*, *kchâm*, *kchama*, *kchma*, *djma*, *gham*, *gam*, *gau*, the earth, has its equivalents in the Greek καίω, to burn, χθών, χθαμαλός, χαμαί, γαῖα, γᾶ, γῆ, δη (in Demeter, mother earth); in the Zend *zâm*, *zâo*, and *zem*, which is still the Persian word for the earth, the world (a prince of

the "Arabian Nights" bears the name of Camaralzaman, the moon of the world). In Latin, *humus, humi, homo,* previously referred to the root *bhu* (*bhumi,* the earth), may equally be attributed to *gham, ghumus, ghumôn* (the meaning is the same).

When by the fall or effacement of one of the elements of the diphthong, the explosive, whether guttural, dental, or labial, remained alone, the aspirate took the place of the lost sound, marking the weakened effort of the throat, or as it were the surprise of man before the simple pure consonant to which his tongue at last gave utterance. This character of the aspirate escapes us at first, because different languages have kept certain aspirates side by side with the explosives, or rather have invented them to vary their vocabulary. Thus Sanscrit, not content with the soft aspirates *gh, dh, bh,* which seem to be earlier than the separation of the idioms, has developed a symmetric series of rough aspirates; while Zend, after rejecting the primitive aspirates, has adopted new ones before *v* and *r: thwam* for *tvam, Mithra* for *Mitra.* Greek, Latin, and the Teutonic languages have had recourse to similar artifices proper to each idiom. But when we remember that the original aspirates permute or alternate either with each other or with pure consonants of the same order, and that use is constantly abandoned to dialectal or even to individual caprice, when we note, moreover, that *b,* the soft labial, did not yet exist, but was included in the aspirate *bh,* the transitional part which we attribute to the aspirates will be more readily admitted. They are intermediate between the groups of consonants and the distinct utterance of the explosives.

We will consider them in Greek, where they are still marked; in Latin, where they tend to disappear, chang-

ing, as in Sanscrit and in Zend, into continuous sounds such as *h* and *f*.

Greek replaces the soft aspirate by the rough breathing. Primitive: *stigh*, to walk, becomes στείχω; *vagh*, to bear, to lead, ἔχω, ὄχος, chariot; *ligh*, to lick, λείχω; *migh*, to water, *megha*, cloud, ὀμιχέω, μοιχός, adulterer, the soiler; *angh*, to stifle, ἄνχω; *ghima*, winter, snow (Himâlaya, the abode of snow), χεῖμα, χειμών, χιών; *aghi*, serpent, ἔχις; *brghu*, short, *baghu*, thick, *laghu*, light, βραχύς, παχύς, ἐλαχύς; *ghansa*, goose, χήν.

In the dentals we have: *dha*, to place; in Greek, τίθημι, θετος; *dhā*, to give suck; θήσθαι, τιθήνη, nurse; θῆλυς, feminine; *dhvar*, door; θύρα; *budh*, to know; πυνθάνομαι, Πυθαγορας; *dhuma*, smoke; θύω, to sacrifice; θυμός, soul; *rudhira*, red; ἐρυθρός; *dharsh*, to dare; θάρσος, θρασύς; *idh*, to burn; αἴθω.

So with the labials; we know almost all these roots: *bha*, to shine, to speak; φάος, φάσις, φημί; *bhar*, to bear; φέρω, φορός, φρατρία; *bhru*, eyebrow; ὀφρύς; *ubhau;* ἄμφω; *bhu*, to grow; φύω, φύσις; *nabhas*, cloud; νέφος, νεφέλη; *grabh*; γράφω, to engrave, to write.

Sometimes, especially in the case of the guttural aspirate, Greek employs the soft explosive: ἐγών, for the primitive *agham*; γένυς, cheek, for *ghanu;* μέγας for *maghant*, great. This proves that the Greek aspirates were not so marked as the written character would seem to indicate, and that their true affinity is with the soft consonants; and this explains their subsequent softening into *ch*, *th*, *f*. But it is not a matter of doubt that before the time of Alexander they were pronounced as double letters, and were long so written. The Latins of the classical epoch transcribed χάος by *chaos*, Ἀχιλλεύς by *Achilles*, Ὀρφεύς by *Orfeus*, and even Φιλίππος, Διφίλος, by *Pilipos*, *Diphilos*, and pre-

cisely because the Latin *f*, a simple spirant, did not correspond in sound to the Greek φ. In classical Latin there are no longer any true aspirates; the dental aspirate has left no trace, or is confounded with the labial aspirate; the latter is represented, as we shall see, by *f*; the guttural aspirate by a faint sibilant, soon neutralised, *h*. But in most cases it is the soft explosive, *d*, *g*, *b*, which has taken the place of the primitive aspirate. *Dare*, *condere*, *subdere*, root *dha*; *credidi*, *çraddadhami*; *medius*, *madhjas*; *ædes*, hearth, temple, house, root *idh*; *ad*, *adhi*; sometimes a *t* corresponds to a *th*: *latere* (λανθάνω); *pati*, to suffer, Greek ἔπαθον; *rutilus*, Sanscrit *rudhira*. The primitive *gh* has disappeared in *ego*, *magnus*, *lingo*, and *ligurio*, *mingo*, *angor*, *angustus*, *anguis*, *vecsi*, *vectura*, *gratus* (*kharis*), *pinguis*, *legvis*, *bregvis*; the *bh* in *ambo*, *nubes*, *nebula*, *nimbus*, *lubet*, *libido* (cf. Eng. *love*, from *lubh*), *ibi*, *ubi*, *partibus*, *amabo*, *amabam*, *scribere*, &c.

In the beginning, as we have said, the *h* took the place of the aspirate *gh*, as in *vehere*, *hiems*, *hesternus*, *heri* (from χθές), *humi* (χαμάι); *f* of *bh*, as in *flamma*, *fero*, *fui*, *futurus*, *fabula*, *fari*, *fateor*, *frater*. But this Latin *f* came soon to be pronounced in a manner peculiar to that people, so much so, that a Greek could not pronounce *fundanius* correctly, and this *f*, which Quintilian and others define as a breath, served, as in Oscan (*mefiai viai*, for *mediæ viæ*), to render the dental aspirate; cf. *inferus*, *infimus*, with *adhara*, *adhamas*; *fumus* with *dhuma*, Greek θύμος, *fumus*; *fera* with θήρ; *fores* with θύρα; *rufus* with ἔρυθρος; *fetus*, *fecundus*, *felix*, *femina*, with θῆσθαι and θῆλυς; *farstus*, *fastus*, with θάρσος. Then came the turn of the guttural: *gharma*, hot, was represented by *formus*; χόλος by *fel*; χέω by *fusus*, *fundere*. Finally, the confusion between

f and *h* became complete, people wrote indifferently *filum* and *hilum*, *folus* and *holus*, *fostis* and *hostis* (Ger. *gast*, Eng. *guest*), *fœdus* and *haedus*, *fordeum* and *hordeum*, *farena* and *harena*, *faba* and *haba*. They went even further, adding an *h* where this letter had nought to do: *hauctoritas*, *haditus*, *humerus* (from ὦμος, Sans. *amsas*), and omitted it where it might have been expected: *nemo* for *nehomo*, *prendere* for *prehendere*, *debeo*, *præbeo*, for *dehibeo*, *præhibeo*, *asta*, lance, for *hasta*, *ircus*, he-goat, for *hircus*, *omini* for *homini*, *oc* for *hoc*, *anser* for *hanser* (χήν, *ganz*, goose).

The Latin aspirates are thus in process of decay, and this disintegration continues in the Romance languages, resulting, in Spanish, in the abuse of the sibilant *h*: *hijo*, *hablar*, *hacer*, *hambre* (Lat. *fames*), *hombre*, *hierro*, *henno* (*femina*), &c., and in the loss of the aspirate in Italian: *uomo*, *onore*, *umore*. Wallachian has *hoblu* for *fabulari*, *hiliu* for *filius*, *heru* for *ferrum*. Portuguese keeps the *f*.

Nor are these variations limited to the Latin group; Russian and Polish differ by the employment of the *th* and the *f*: *Timofeo*, *Feodor*. Even in Homer we find φήρ, the Centaur, for θήρ; in Sappho, ποικιλόφρονος for ποικιλόθρονος; in Æolian, ὄρνιχος for ὄρνιθος; ἔχις and ὄφις (serpent) are doublets of the same root. And in Sanscrit it has not been sufficiently noted how frequent are the alterations and permutations; sometimes the aspirate stands alone, *hita* for *dhata*, θέτος; *pa-hi* (protect) for *padhi*; sometimes it is of another class: *lidhe*, I lick, *ledhi*, he licks, compared with *leksjasi*, he will lick, root *ligh*, Greek λείχω.

In sketching the changes of the consonantal groups and of the aspirates, we have already in great part traced the history of the Indo-European pure explosives, which are five in number: two gutturals, *k* and *g*,

which are not very clearly distinguished in Italy for want of distinct characters; two dentals, *t* and *d;* one labial, *p*. Before pursuing their metamorphoses in the Germanic languages, where they offer the most remarkable results, it will be well to recapitulate generally the diverse forms or causes of phonetic changes. They result almost always from the need of simplification, of softening of the sound; it is what has been called the law of the least effort. *Adjnâpajatu aryah,* may the Lord permit, said the Brahmans; *Anabedu adjo,* said in Prahkrit the ladies of the court. *Imperatrix,* the Latins said; the English have reduced the word to *empress.* So with all the languages of the family, the words are contracted, letters dropped, syllables omitted.

We have seen how the loss or the assimilation of the *s*, *v*, and *y* has altered the physiognomy of Greek. We have also to take into account the reciprocal influence of letters, which modify, compensate, and devour each other. Sometimes an *i* or a *u* replaces an *n* or an *s*: *εἰσί, φιλοῦσι*; *εἰμι, ὀρεινός* for *ἐσμί, ὀρεσνός*; sometimes a dental is effaced: *ποσί* for *ποδσι*; *σώμασι* for *σώματσι*; sometimes a semi-vowel disappears before a doubled consonant: *τέτταρες, ἵππος*; *ἄλλος* (Sans. *anyas*), *κτέννω, κρείσσων* (*κρατίων*), *ἐλασσων, ὅσσε* (*okje*); or a dental changes into an *s* before another dental: *πειθτός* (*πιστός*); *ᾀδτέον,* to be sung, *ᾀστέον.*

This last phenomenon occurs constantly in Latin. *Rodere,* to gnaw, gives *rod-trum,* the gnawing instrument, *rostrum,* the beak; *claudere, claudtrum, claustrum;* in *cœlestis, palustris,* in *potestas, egestas,* the theme is *cœlit, palud, potent, agent.* Assimilation is also common: *summus* (*supmus*), *flamma* (*flagma*), *sella* (*sedla*), *lapillus* (*lapidlus*), *asellus* (*asinlus*), *stella* (*sterla*), *villa* (*vicla*), *vanus* (*vacnus*), *puella* (*puerla*), *corolla* (*coronla*).

Latin is a much-contracted language: it abridges diphthongs, drops final letters (we have already pointed out these characters), and especially omits from the middle of the word letters, and even whole syllables: *columna* (from *colus*, shaft), *alumnus*, *Vertumnus*, have lost an *e;* so *gigno*, *privignus*, *malignus*. *Objurgare*, *purgare*, are for *objurigare*, *purigare;* *retrorsum* for *retroversum;* *costæ* for *compositæ*, placed together; *quinus* for *quintnus;* *consuetudo*, *veneficus*, *nutrix* for *nutritrix*, *venenificus*, *consuetitudo*.

On the other hand, euphony has introduced into the words a number of adventitious letters: *u* in *sum*, *sumus*, *volumus*, *oraculum*, *poculum*, *singularis*, *Æsculapius* (Greek Ἀσκληπίος); *i* in *aridus*, *frigidus;* *e* in *humerus*, *Numerius* (*Numsius*); in *ager*, *niger*, *teter*, *ruber*, &c.; *p* in *sumpsi*, *redemptus*.

The same phenomenon occurs in Greek: ἀνδρός, ἄμβροτος, for ἀνέρος, ἄμροτος; another, very common in Greek, the prosthesis of a vowel (ὄνομα, ὀδούς, ἐμέ, ὀφρύς, εἴκοσι (ϵ-ϝικοσι), ἔρυθρος, ἐλαχύς ἀστὴρ), is foreign to classical Latin. It is only in the fifth century of our era that we begin to find in inscriptions *istatua*, *ispiritus*. Nothing is more common in the Romance languages: *esprit*, *este*, *escole*, *estable*, *espaule* (*scapula*), *echelle* (*scala*), *estatue*, &c. Examples are not wanting in Persian, Celtic, Slav, nor even in the Sanscrit of the Vedas (*uloka*, the world, *iradjati*, he reigns).

This reappearance of transitory fashions of pronunciation after a lapse of ten centuries is not rare. Such is the so-called palatal pronunciation of the explosives and the aspirates, the ancient practice of the speakers of Zend and Sanscrit, unknown to classical Latin, and now so common in all our modern idioms; so that the *tch*, *ch*, *ç*, *c*, *dj*, *j*, of English, French, and Italian: *Tchit-*

cherone, Ciceron, cheval, prigione, prison, istituzione, institution, giorno, jour, gender, &c., are nearer the ancient Indo-European pronunciation than the Latin *Kikero, caballus, kinis, diurnus, genus*, whence the Italian and French vocabularies are directly derived.

Such are a few of the innumerable phonetic phenomena which, together with differences of accent, the free choice of suffixes, of grammatical forms, of methods of composition and of derivation, have determined the direction, the respective physiognomy, the individual or original character of each of the branches growing from the same stock, of each smaller branch of those which grow from the same limb.

To all these causes of divergence the Teutonic languages add a species of perversion of sounds, *Lautverschiebung*, which has, among them, altered, destroyed the impress of the common type. It is not that the substitution of one consonant for another is a fact new to us; far from it, since it dominates all Indo-European phonetics, since it has been the object of these laborious summaries. But it here presents itself with a regularity which might appear to be the effect of a preconceived system, if it were not purely physiological and involuntary. The Germanic alphabet includes all the hard, soft, and aspirated consonants which are known to us, and the German pronounces them easily; but the German ear does not hear, nor the German throat utter, the sound which strikes a Latin ear, which the Latin lips pronounce. The German says *blanche planche* for *planche blanche*; *projet* becomes *brochet; bon, pon; danser, tanser; cœur, guier*. This habit is so inveterate that it extends even to sounds fixed by writing, turning *v* into *f; von, vater;* changing *Berlin* and *Bismarck* into *Perlinn* and *Pismarck*. It is thanks to the regularity of these permutations that philologists such

as Grimm and Bopp have been able to trace the original roots of which the Latin or Sanscrit form was more familiar to them, and to formulate laws, to which, however, the caprice of languages occasions many exceptions.

A difficulty presents itself at the outset: of the two great divisions of the Germanic family, Low and High German, the first alone obeys the general law as a whole; the second introduces a partial amendment, which is very important, as it constitutes the principal distinction between the two groups; there are thus two degrees, two stages in the substitution, and the question arose whether the second proceeded from the first, or if the one and the other grew up simultaneously and independently. Now, except for a few quoted words, which seem to prove that in the first century the first substitution was already accomplished, we do not know the primitive state of the Teutonic idioms. Although, no doubt, nations belonging to the High German group occupied from the time of Marius the mouths of the Elbe and of the Weser, and the banks of the Rhine at the time of Cæsar—the Teutons beaten at Aix and Verceil, the Suevi or Suabians of Ariovistus driven back by the conqueror of Gaul—yet we know nothing of their dialects: neither Tacitus nor Marcus Aurelius gives us any information about the speech of the Cherusci, of the Marcomans, or of the Quadi. The best example which we have of ancient German is the Gothic of Mœsia, dating from the fourth century. Gothic is the eldest of the Low German dialects, which include: Scandinavian, Norse or Icelandic, and Danish, Swedish, Norwegian, Platt Deutsch, spoken in North Germany between Cologne, Cassel, Magdeburg and the sea, ancient Anglo-Saxon, Frisian, Dutch, and Flemish; these last intermediate between German and English.

We will briefly recall the most ancient documents left by these languages, which all participate in the first substitution of consonants (first, that is, in chronological order). Gothic of the fourth century is known to us from the Bible of Ulphilas. This man, of Cappadocian origin, born among the Goths of Christian parents, lived from 311 to 381. Bishop and Arian apostle of the Goths, he dwelt at Constantinople; he knew Greek and had some acquaintance with Latin. Fragments of his translation of the Gospels, the Epistles of St. Paul, the books of Esdras and of Nehemiah remain to us. The principal manuscript, purple, with letters of silver and gold, originally from the convent at Bobbio, transported to Werden at the time of Charlemagne, then to Prague, then to Holland, and finally preserved at Upsala, dates from the fifth century. We also possess in this language, which became extinct in the eighth or ninth century, two contracts of sale, a calendar, and some alphabets. Gothic was spoken in Italy by Alaric and Theodoric, at Toulouse by Ataulf and Thorismund, at Toledo by Recarede and Totila, perhaps at Aix by the Austrasian Franks.

The poem of Beowulf (seventh century), and the *Heljand* (eighth), attributed to Louis le Débonnaire, make known to us the language of Hengist and Horsa, and that of Witikind, the brave adversary of Charlemagne—the language which constitutes the groundwork of modern English. Finally, the two Eddas of Iceland (twelfth and thirteenth centuries) have preserved for us ancient Scandinavian as it was spoken in Norway in the ninth century, when king Harald Harfagar drove into exile the nobles who had revolted against his power and against the Christian propaganda.

The alteration of the explosives throughout this great group affects the three orders of consonants, working by regular stages; there are, of course, exceptions. The Indo-European soft consonant is changed into the hard consonant, the hard into an aspirate, the aspirate into the soft consonant. It is not, as has been said, a mere strengthening of the sound, since the aspirate is weakened. I will give a few examples among the gutturals, which are, in the Indo-European alphabet, *g*, *k*, *gh*.

With *gan*, to engender (*gignere*, *genus*), and with *gan*, *gnâ*, to know (*γιγνώσκω*, *gnoscere*), are connected *kuni*, *kind* (Goth.), *race*, *son*; Anglo-Sax. *cild*; Eng. *child*; Norse, *kynd*, *kan*, *know*; Ger. *Kunst*. With *gnâ* (pronounce *djna*, woman, Gr. *γυνή*) correspond *quino*, *queen*, Scand. *kona*; cf. the well-known masculine forms *König* and *king*. *Genu*, *gonu*, give the Gothic *kniu*; *gula*, *kele*, *gala* (*gelu*, *gelidus*), *kalds*, Eng. *cold*; *gau*, *kuh*, cow; *gam*, *kommen*, come; *gush*, to try; *kiusan*, to choose; *gust*, taste; *kustus*, trial; *gena*, cheek, Scand. *kinn*; *reg-ere*, *reg-em*, *regula*, *reiks*, kingdom; *varg* (*ἔργον*), *waurkjan*, work; *agros*, *akr*. The original soft consonant has become hard.

We have already mentioned the words *cor*, *cordis*, *καρδία*, *çrad* (in the verb *çrad-dadhami*). What will be the Gothic form? Evidently *hairto*, Eng. *heart*; the Sanscrit *hrd* is already German. *Collum* becomes *hal-z*; *calamus*, *halm*; *canis*, *hunths*; *cornu*, *haurn*, Scand. *horn*; *quis*, *hvas*, *hvo*, Eng. *who*, *what*; *kveta* (Sans. *çveta*), *hvit*, white; *capio*, *hafjan*, to take; *κλύω*, *hlu*, ear, *hliuma*; *hlut*, heard, Ger. *laut*, sound, *letter*; *caput*, *heafod*, Eng. *head*; *precari*, *fraihan*; *dico*, *taihan*, teach; *pecu*, *faihu*; *κρέας*, Scand. *hrae*, corpse; *cutis* (skin), Scand. *hud*; Goth. *svaihra*; *dekem*,

taihun, ten; *centum* (Gr. ἑκατόν), hundred. The original strong consonant becomes an aspirate.

The original aspirate *gh* is represented by the Greek letter, by the Latin *h*; we shall see that it is replaced in the Teutonic family by the corresponding soft consonant. *Stigh*, Gr. στείχω, to advance, to march, στίχη, file, rank, becomes in Goth. *steigon*; *vagh*, Goth. *gawagjan*, Scand. *ega* (cf. Gr. ἠχώ); *ligh*, *bilaigon*, to lick; *khu* (*fundere*), Goth. *giutan*, Dan. *gyder*, I overturn; χθές, for *ghjas*, *hesternus*, Goth. *geistra*, *gestern*, yesterday; χόλος, bile, Dan. *gali*, Eng. *gall*; χήν (*hansa*), *ganz*, goose. We find *homo* under the form *guman* in Goth., Ger. *brautigam*; *hostis*, for *ghostis*, becomes *geist*, *ghost*, and *guest*, the stranger.

The same phenomenon occurs in the dental consonants. *D*: *duo*, *duplus*, *twei*, *tweifels*, two; *drus*, Goth. *triu*, Eng. *tree*; *domare*, *tamjan*, Scand. *tamr*, tame; δείρω, to cut (whence δέρμα, thin slice, skin); *tairan*, to tear; *dakru*, *taihr*, tear; *ducere*, *tiuhan*; Scand. *dantas*, Lat. *dentis*, Goth. *tunthus*, tooth; *suadvis*, Goth. *suts*, sweet; *ad*, to eat; *sedere*, *sitan*, set, sit. *T*: *to*, *tum*, *tad*, Goth. *thata*, the, that; *treis*, *threis*, three; *tu*, Goth. *thu*, thou; τείνω, Goth. *thanjan*; *tonitru*, thunder; *tenuis*, thin; *tarsh*, to burn; *tharsjan*, thirst; *tauta*, town, people, Lat. *totus*, Goth. *Thiodisc*, Ger. *Deutsch*; *mater*, mother. *Dh*: *dha*, to place, Gr. θη, Eng. *do*; *doms*, doom; *dhars*, Gr. θάρσος, Goth. *ga-daursan*, to dare; *rudh*, red; θήρ, Anglo-Sax. *deor*, wild beast, Eng. *deer*; θύρα, door, Dan. *dyr*.

The labials *p* and *bh* remain to be considered (*b* is not primitive). *P*: *pater*, father; *primus*, Goth. *fruman*, Eng. *first*; πούς, ποδός, Goth. *fotus*, foot; *priya* (dear), Goth. *frijon*, friend; *pur*, fire; *pellis*, Goth. *fel*, leather; πέμπε, *fimf*, *funf*, five; πολύς, Goth. *filu*,

numerous; πλέος, full; *super*, *ufar*, over. *Bh*: *bhar*, Goth. *bairand*; *bhratar*, brother; *bhu* (φύω), *ich bin*, Anglo-Sax. *beom*, to be, φηγός, *fagus*, Goth. *boku*, Dan. *bog*, beech; *frangere*, *fregi*, *brukjan*, to break; ὀφρύς, (eyebrows), *braue*, brow; νεφέλη, *nebl*.

This substitution presents itself in the Gothic stage with great regularity; but the exceptions (which I have omitted) throw some shadow over the picture. Thus a secondary law preserves from all change the hard consonant preceded by an *s* or an aspirate. *Fisks* corresponds to *piskis*, beside the English form *fish*, of which the *h* appears more regular; *ist*, and not *isth*, corresponds to *asti*; *stairno*, and not *sthair*, to *stara*, star; *skaida*, *speva*, *staiga*, I separate, I spit, I mount, to *scindo*, *spuo*, στείχω. Elsewhere, but without sufficient regularity to form a law, the aspirate is wanting to the initial consonant; for instance, in *band*, I bound, *budum*, we offered, *grêdus*, hunger, *gavi*, country, *grip*, to take, *dauthar*, daughter, *daur*, door, *ail-s*, party; and in the body of the words *fadar*, father, *fidvor*, four, *sibun*, seven (Anglo-Sax. *seofon*), *biuga*, I bend (root *bhug*), *skadus*, shadow, *slepa*, I sleep, the substitution does not take place. Sometimes Anglo-Saxon, or even German, are more regular than Gothic. There is nothing to astonish in these uncertainties, which are common in all languages, and would be very easily explained if we knew all the circumstances of place and time which influenced pronunciation.

It is the general opinion that the first or simple substitution, to which all the dead or living branches of the Low German group have remained more or less faithful, was up to the seventh or eighth century common to all Teutonic nations. Towards that epoch Old High German applied to the Low German conso-

nants the same modifications which Gothic had applied to the Indo-European consonants, changing the soft Gothic consonant (originally an aspirate) into a strong one, the Gothic strong or hard (originally a soft) into an aspirate; finally, the Gothic aspirate (originally hard) into a soft consonant. Or, in other words, the Indo-European soft consonants, *d*, *g*, *b*, become German aspirates or sibilants, *z* (*ts*), *ch* or *h*, *f* or *pf*; the Indo-European hard consonants, *t*, *k*, and *p* become soft, *d*, *g*, *b*; the Indo-European aspirates *dh*, *gh*, *bh*, become hard, *t*, *k*, *p*.

Before showing how far this new change is real and how far it is imaginary, we will mention the most ancient documents which remain to us in Old High German.

The Franks, the Suabians, the Alamans, the Austro-Bavarians had no Bishop Ulphilas, and their troubled existence in the fifth and sixth centuries scarcely allowed them to become conscious of themselves. Harried and invaded by the Huns and the Slavs, urged across Europe by the invading hordes, they form no true German state before the reign of the Carlovingian Louis the Germanic. The Franks alone succeeded at the end of the fifth century in including the greater part of Gaul in the domain of Clovis, but it was soon divided among his descendants. Too few in number to impose their language upon populations which for four centuries had spoken Low Latin, they were forced to have their own Salic law drawn up in the idiom of their subjects. The Frankish language was spoken only at the court of the kings of Austrasia. In fact, nothing has remained of the ancient poems of which Tacitus had heard; there is no doubt, however, that the Franks knew and recited a great number;

and Charlemagne, who loved his mother-tongue (or rather his father's, for his mother was a Gallo-Roman), undertook to have them collected. Of this treasure, which would have been of inestimable value, nothing remains but a fine fragment, *Hildebraht and Hadebraht*, the terrible combat between a father and son. This, with the obscure commentary on the Salic Law, is the only Frankish text which is as early as the eighth century. A description of the sea (*Merigarto*, Mer-garten, the garden of the sea), a poem in honour of Louis III., conqueror of the Normans, the *Ludwigslied*, a prayer in verse, and a rhymed Life of Jesus are attributed to the ninth and tenth centuries; finally, the numerous prose translations of an industrious monk, Notker, prolong into the twelfth century the life of Old High German. Middle High German, the dialect of the Suabians, flourished from the twelfth to the fifteenth century, under the brilliant dynasty of the Hohenstaufen, the Suabian emperors; it is the idiom of the "Book of Heroes," a collection, unfortunately small, of precious legends, which relate the exploits of Etzel and of Dietrich of Berne (Attila and Theodoric), and the famous battle of Ravenna, in which fell the empire of Otokar (Odoacer); it is the tongue of the *Nibelungenlied* and of *Gudrum;* the two national epics, and of the Minnesänger, the poets of chivalry. With Luther's translation of the Bible the modern period begins, that of the New High German, an artificial composite language, borrowed by the great reformer from the style of the lawyers of Mediæval Germany, especially of Saxony, in which the various elements of Suabian High German, of the old Low German Saxon, and a few reversions to the Gothic pronunciation are all confounded.

From the point of view of philology, the distinguishing marks of the various phases of German are, first, the gradual muffling of the sonorous vowels, the loss of the *u*, *a*, and *o* of the terminations, and the abuse of the finals in *n*; and secondly, the more or less rigorous use of the second substitution. All the dialects of High German, says M. Hovelacque, have changed into *t*, *z*, and *d* the *d*, *t*, and *th* of the Germanic idioms of the first phase. In this they are all strictly High German. But the other two orders of consonants do not follow the rule so rigorously; only part of the High German idioms altered the *k* and *g*, the *p* and *b* of the first or Gothic stage. Thus the first or Gothic change remains in *Kinn* (chin, *kinnus*), *kann*, can, *Hund*, dog, *Gast*, guest, *gebe*, give, *fange*, take, *Vieh* (Goth. *faihu*), cattle, *binde*, I bind, *biege*, I bow. On the other hand, *Pracht* (splendour), whence *Berthe*, *Albrecht*, *Dagobert* (brightness of day), &c., corresponds to the Goth. *bairhts*, Anglo-Sax. *beorht*, Eng. *bright*, and to Sans. *bhrag*, to shine, φλέγω, *flagro*, *fulgeo*; *breche*, I break, *flehe*, I implore, *frage*, I ask, *hange*, I hang, *lecke*, I lick, *schlafe*, I sleep, *laufe*, I run, *b-leibe*, I stay, *Joke*, yoke, correspond to the Gothic *brika*, *fleka*, *fraihna*, *haha*, *laigo*, *sepa*, *hlaupa*, *af-lifnan*, *jog*; *ich pim* was developed correctly from *ik bin*, *prinnan* from *brinnan*, *chunnan* from *kunnan*, *kilih* from *galeiks*; but the German of Luther returned to *bin*, *brennen*, *kennen*, *gleich*.

The dental evolution alone is complete and persistent. The Gothic *t* becomes *z*, *tz*, *sz*, *ss*; *twau*, *zwei*; *taihun*, *zehn*; *to*, *zu*; *taihan*, *ziehen*; *tunthus*, *Zahn*; *fotus*, *fuoz*; *tamjan* (*damayami*, to tame), *zamom*; *ita*, to eat, *izzu*; *Tuesday*, *Zientag*; *taihr*, *Zehre*; *vet* (wise), *weiss*, *wissen*; *sitan*, *sitzen*. The Gothic *d*

becomes *t*: *do, tuom; day, Tag; ga-dars, ge-tar; rod, red, rot; deer, Tier.* The Gothic *th* becomes *d*: *brother, Bruder; thou, du; three, drei; thin, dunn; the, der; that, dass; thorn, Dorn; through, durch; thunar, Donar; thirst, Durst; thorp* (*trapa, tribus*), *Dorf.*

No other group in the Indo-European family has had such vicissitudes, nor is so far removed (in appearance) from the primary type from which it springs. I say *in appearance*, for there is no Aryan idiom richer in ancient roots and elements. The probable cause of the Teutonic modifications has been sought in the contact, perhaps the mixture of race, with the Finns. But it is simpler to attribute them to one of those physiological phenomena which are peculiar to each race. Another problem is whether the two substitutions were produced independently of each other. Max Müller inclines to believe that they were; but it is difficult to explain in that case the period when the first change was common to all the idioms, and the tardy and partial development of the second, or to understand why the latter always took the former, even in its exceptions, as basis and point of departure. The root *grabh* ought to give *krab* in Gothic and *chrap* in High German; yet Gothic has *greipan*, German, *greifen.* Gothic has *fadar*, where by the rule it should have *fathar;* German takes *fadar* as its point of departure, and changing the soft into a hard consonant, has *vater.* This ingenious observation was made by M. Michel Bréal.

We must admit that the two series of modifications arose from the same desire of strengthening the sound, or of change, and that the second being the consequence of the first, would have taken place with more or less uniformity in all the Teutonic languages,

if Gothic had not perished, if the idioms of Scandinavia and of England had not had, owing to isolation and other historical causes, an independent career. This may be assumed from two facts: the dental evolution has taken place even in Flemish and Dutch, where *the* is *de*. Even in English the soft aspirate *th* maintains itself with difficulty; the *th* of *them* is often dropped in popular speech. Shakespeare, in the scene of *Henry V.* where Catherine of France learns English from her waiting-maid, represents *th* by *d*, the hand, *de hand*, &c. The whole scene is curious, but we need only here retain a valuable hint on phonetics.

CHAPTER VII.

TWO ANALYTICAL LANGUAGES.

The Saxons and the Angles—Formation of Anglo-Saxon : Saxon and Anglian texts—Anglian has felt the influence of Danish—Low Latin and rural Latin : formation of French—The Oath of Strasburg, &c.—The Song of Roland—French introduced into England by the Normans and by the Angevins (Plantagenets)—The French vocabulary permeates and disorganises Anglo-Saxon (twelfth to the fifteenth centuries)—Old and Middle English—Two languages in English—The two stages of French : popular and learned French—Lament of the Romanists—Doublets—French words borrowed from Italian, Spanish, German, and English—Greek suffixes—Vitality of derivation in French, of juxtaposition in English—Conclusion.

We have nearly reached the end of this philosophical review of language. After having connected human speech with the cry of animals, we established the co-existence of monosyllabic, agglutinative, and inflected idioms, and we accepted as probable the succession of three periods, corresponding to these three stages of languages : we regarded inflexion as the fusion of agglutinated syllables. But we have not been guided by any preconceived system, by any prejudice ; we have adopted with perfect indifference the order which seems most in accordance with the facts observed. We are not of those who lament the loss of the Sanscrit instrumental, of the Æolian digamma, or of the two cases of Old French. We do not in the least believe in the decadence of language ; we see in the thousand phonetic substitutions and modifications

adaptations of speech to the temperament of the various peoples, and to the growing complexity of intellectual needs.

We have a great admiration for the synthetic idioms which mark by varying terminations the relations of one word to another; but we prefer the simplified languages in which the word is even more the willing servant of the thought, in which prepositions and auxiliaries supply with greater subtlety and precision the vanished forms of the declension and conjugation.

Among the European tongues which have attained more or less completely to the analytic state, we will choose two, those which have the greatest interest for us, the one Teutonic, the other Latin, very different and yet inseparable, English and French.

Towards the middle of the fifth century the tribes who spoke the Low German language formed in the south the vanguard of the Teutonic body, and in the north its rearguard. The half-civilised Visigoth of Ataulf and Euric learnt Latin, and forgot their own idiom at Toulouse, at Narbonne, and soon beyond the Pyrenees; but the Scandinavians, the Saxons, the Frisians, and the Dutch, confined towards the east by the Lombards, the Rugii, and the Heruli, on the south by the Alamans, separated by the Franks from the Rhine, the Meuse, and the Scheldt, were driven out, partly into the great peninsula of the north, or into Jutland and the Danish isles, partly into the district lying between the Elbe and the Weser, and towards the mouths of the Ems, the Eider, the Rhine, and the Meuse. They were a seafaring people, pirates and adventurers, constantly visiting the British coasts. In 448 a band of this hardy race, Saxons and Jutes, established themselves on the coast of Kent, in the

Isle of Thanet; their chiefs, Hengist and Horsa, who were at first engaged in the service of a British prince to aid him against the incursions of the northern tribes, were not long in establishing a claim to territory. Horsa was killed, but reinforcements of Saxons and Jutes gradually drove the ancient inhabitants, disputing every inch of the ground, as far as the Severn and the Welsh mountains, and in less than a century had conquered all the south of England and the basin of the Thames. Towards 560 the Angles who inhabited the south-east of Schleswig established themselves in great numbers in the neighbourhood of the Humber and on the marches of the Cambrians and the Scots. By 586 the Celtic element was completely expelled, and the little kings of the Heptarchy were eagerly disputing the suzerainty one with another; those of Wessex in the ninth century had succeeded in bringing them all into subjection, when the Teutonic invasion, which had ceased for a space, was renewed with great ferocity. Other Northmen, those who from Friesland, Denmark, and Norway fell upon the Carlovingian empire and took possession of Normandy, founded in the land of the Angles a kingdom of Northumbria. Then, in spite of the victories of Alfred and of Athelstan (871–941), Danish kings, Sweyn and Knut, became masters of England. A lucky rebellion in 1035 re-established for thirty years Saxon autonomy, but the Danes did not readily renounce their pretensions, and at the very time when William the Conqueror disembarked at Pevensey (1066), Harold, the last national king, was occupied in the north in destroying a Danish and Norwegian army.

The Anglo-Saxon language, if we omit a few variations of dialect, was sufficiently strongly constituted in

four centuries (500–900) to reduce to small importance the mixture of the Danish vocabulary, which was, moreover, almost identical with its own; it had only retained a very few traces of Celtic, names of places, for instance, and about fifty words such as *kiln, crook, wicket, clan, claymore,* &c. This disappearance of Celtic is at first sight surprising; it had survived the four centuries of Roman dominion, and it disappeared before an idiom as little cultivated as itself. The reason is that the Saxon invasion was the substitution of one race for another; the conquered British fled into Armorica, or to the west, into the territory of the Cambrians, Wales, and Cumberland.

The Roman occupation had been intermittent and superficial; when, in 412, the legions withdrew from Britain, Latin went with them. English soil, indeed, retained the ruins of cities and traces of Roman roads, but in primitive Anglo-Saxon there are only three words of Latin origin: *coln, Lincoln* (*Lindi colonia*); *caestre, castra,* and *straet, strata.* The establishment of Christianity in the seventh century introduced a certain number of terms which have been transmitted by Anglo-Saxon to modern English: *ancor* (*anachoret*), *apostol, postol, biscop* (*bishop*), *aelmœsse* (*alms*), *calic, candel, clustor* and *claustre, discipul, deofol, deacon, engel, mynster, pistol* (*epistola*), *predicyan, profost* (*propositus*), *purpur, sanct, ymn, culufre* (*columba*), *castell, douther* (*doctor*), *gigant, meregreot* (*margarita*), *pund, plant, ylp* (*vulpes*), *yncia* (*uncia*). Latin letters were very little cultivated in the time of the Heptarchy. Bede urged the Archbishop Egbert to have the Lord's Prayer and the Creed translated by the most learned of the clergy or laity of his diocese. In Alfred's time not a single priest understood the mass. The Norman inva-

sion raised the level of classical studies; Latin became the language of the law, of theology, and of public proclamations. But we have to say a few words of Anglo-Saxon itself, the language which is the foundation of modern English. It is, as its name indicates, the fusion of two groups of the Low German dialects, of which we studied the phonetic system in the last chapter. It must be noted that these idioms, far from being derived from German, are the elder brothers of the oldest High German, that though they have the same grammar, and essentially the same vocabulary, they are not its descendants, and that in the consonantal permutations the most modern English has generally remained at the Gothic and Scandinavian stage.

Among the Saxon dialects that of Wessex, of which Winchester was the capital, spoken under Egbert and Alfred, naturally held the first place, as the kingdom of Wessex gradually absorbed the other states of the Heptarchy. To it belong the most important texts that we possess: the poems of Beowulf, Cædmon's paraphrase of parts of the Bible, *Andreas and Elene*, the *Codex Exoniensis*, the *Cronicon Saxonicum*, King Alfred's translation of the historian Rosius, the vernacular version of Bede's "Ecclesiastical History," the Anglo-Saxon Laws, and Ælfric's translation of the Gospel and Homilies.

The Anglian dialects are represented by two MSS. of the *Cronicon Saxonicum*, which are believed to be from Mercia, and by the Durham Book, which was drawn up in Northumbrian in the time of Knut. In the latter text we find the most frequent traces of Danish influence, such words as *afledd*, begotten (Scand. *afla*, to engender), *agede*, lasciviousness (Scand. *agæti*), *beggse*, bitter (Scand. *beiskr*), *bule*, bull (Scand. *boli*),

blunt, stupid (Scand. *blunda*, to sleep), *bulaxt*, hatchet (Scand. *boloxi*, cf. πέλεκυς), *kide*, kid, are of Danish origin. The suffixes or terminations, *legge*, *sunnd*, *agg*, *egg*, *eunde* (pres. part.), *inn* and *enn* (third person plural), are attributed to Scandinavian. The characteristic of the Anglian dialects is the indistinctness and comparative uniformity of the vowel sounds. West Saxon, on the contrary, the type family, possesses an elaborate and complicated vowel system, even more varied than that of Gothic. Some traces of reduplication remain in the verbs, and the present and past tenses are often distinguished by a modification of the vowel of the root, of which the so-called irregular verbs in modern English offer numerous examples : *do*, *did*, *done* ; *bear*, *bare* or *bore*, *born* ; *begin*, *began*, *begun*. This method of internal modification is for a language almost reduced to the monosyllabic state a source of infinite wealth ; a simple change of the vowel makes of the same word of four or five letters a verb, a preterite, a participle, a noun, an adjective, an adverb. What has already in Anglo-Saxon suffered most is the declension ; like the German declension, it is thrown into confusion and tends to disappear. Prepositions take the place of cases. But nothing, so far, distinguishes the English of the future from the other Teutonic idioms.

It is doubtful whether Anglo-Saxon alone could have developed into the rich and delicate language which we now know as English ; it might, indeed, have given it the strength and poetry in which it abounds, but hardly the simplicity of structure and the subtlety and variety in the means of expression which make it the type of the analytical languages. It was the infusion of the French blood and ways of thought which made English what it is, freed it from

its grammar and complicated inflexions, and completely disengaged it from its German swaddling-clothes.

For French was arising, full of the vigour and promise of youth, just at the time when the Teutonic idioms were vegetating on the Continent, and when the Anglo-Saxon element, both language and race, was languishing in complete intellectual and political stagnation. The leaders of the Visigoths, Burgundians, Saliens and Sicambri, more fortunate than Hengist and the Anglian Idda, had found in Gaul a population far too numerous to be destroyed, or even absorbed, by its half-savage conquerors, and still possessed of sufficient cultivation to civilise to a certain extent their barbarian masters. In spite of their sincere disdain for the conquered race and of the self-content which they display so naïvely in the preamble to the Salic Law, Clotaire (Clotachar, the illustrious), Hilperic (mighty protector), Dagobert (brightness of day), surrounded by astute and politic bishops, had to learn Latin, and to have their laws and proclamations drawn up in the language of those who knew how to write. For five centuries Latin had been spoken everywhere in Gaul, except in Armorica and in the Basque country; the official and administrative Latin in the cities, the Latin of the people and of the camp in the country districts and in the neighbourhood of the garrisons. Frankish was spoken only at the Austrasian court, in a few districts of Hainault, and along the Rhine, just where the invaders formed sufficiently compact groups. The rise of the Carlovingians, Franco-Belgians, with a strong infusion of Roman blood and culture, did not change the habit of centuries. Though Charlemagne had the excellent idea of collecting the songs of his ancestors, he does not seem to have dreamed of estab-

lishing anywhere a Germanic school. Latin alone was spoken and written at his court, but a thousand Teutonic words, Latinised for the most part, came to be added in current speech to a small number of Gallic words, and the Teutonic pronunciation, exaggerating the tonic accent, modified yet further the Latin words, already transformed by Celtic utterance. An insensible change, begun in the seventh century, developed from Latin a new language, an embryonic French, which all, counts and villeins, priests and laity, spoke, but which was not yet written. In 660 a certain Mummolin was elected bishop because "he excelled in the Romance language;" in 750, Adhalard, abbot of Corbie, was "clever in Romance, brilliant in Tudesque, elegant in Latin;" thus the three languages were very distinct. This Adhalard, adds his biographer, preached in the vulgar tongue with an abundance full of sweetness. In 768, the year of Charlemagne's accession, we find *manatces* for *minas, helmo* for *galea, solament* for *singulariter, macioni* for *cæmentarii.* The Church hastened to consecrate this patois, which was strongly recommended by the Councils (813, 842, 851). Preaching was everywhere in French, and there can be no better proof that the common people no longer understood either Latin or German. There is also documentary proof, the text of the Oath of Strasburg (842), preserved by Nithard (843).

The eldest son of Louis le Débonnaire, Lothair, invested with the imperial title, finding himself too much confined in his long, narrow kingdom, which included Italy, Provence, Alsace, Lorraine, and the provinces of the left bank of the Rhine—territories which did not belong in any sense to Germany—Lothair wished to enlarge his boundaries at the expense of

his brothers, Charles, king of the Franks, and Louis, king of the Germans. These latter, having met at Strasburg, took an oath of alliance in the presence of their assembled troops, and Louis pronounced the following words: "*Pro deo amur, et pro christian poblo et nostro commun salvament, d'ist di en avant, inquant Deus savir et podir me dunat, si salvarai cist meon fradre Karlo.*" (For the love of God, and for the common safety of the Christian people of our own, from this day forward, as God shall give me knowledge and power, so will I safeguard my brother Charles), "*et ab Ludher nul plaid numquam prindrai qui, meon vol, cist meon fradre Karle in damno sit*" (and with Lothair no accord will ever take, which, of my will, shall bring harm to my brother Charles).

This is the most ancient document not only in French, but of the whole Romance family. Poor as it is, it is yet so precious that we might pass hours in analysing it word by word. I will only note the presence of the Romance future, *salvarai, prindrai,* one of the creations of our languages (*j'ai à sauver j'ai à prendre*), and of a form proper to French, *meon vol,* "will," of which there are three hundred examples (*viol, vol, dol, recel, recul, recueil, accord, pli, affront*), happily conceived abbreviations of the indicative or of the infinitive, which might have spared us many words in *ion* and *ment.*

French was soon cultivated as a written language. Without pausing to consider the naïve complaint of Sainte Eulalie (ninth century), the short poems of the Passion and of Saint Leger (tenth century), or the too long Saint Alexis (eleventh century) texts, which are valuable to specialists, we find as early as the eleventh century the *Chanson de Roland,* certainly the earliest, and perhaps the best, of modern epics. According to

tradition, it was sung, in a form which we no longer possess, at the battle of Hastings. What is certain is that the most ancient text of the Chanson (that at Oxford) dates from the first half of the twelfth century; that all the details of manners, the descriptions of arms, of dress, &c., carry us back to the end of the preceding century, and that we must attribute the poem to some Franco-Norman who accompanied William the Conqueror to England. This origin is curious from more than one point of view, and we shall return to it. But in the first place, the *Chanson de Roland* gives rise to certain observations. It is documentary evidence against the prejudice which denies to the French the epic genius; it teaches historians that Charlemagne, so constantly claimed by the nations beyond the Rhine, of whom he was the bitter and unrelenting enemy, founded not the German, but the French nationality, which was nearly destroyed after his time by the feudal system; it reveals to critics how popular epics are formed, before history or alongside of it, round real events and persons, transfigured by distance. The central event here is the strife of Christianity against Islam, a strife which did not end at Poitiers, but was prolonged into the ninth century in France and among the Pyrenees; the *dramatis personæ* are a nation, France, and a man, the great Karl, the emperor with the flowing beard, who strove to constitute the civilised West, attacked on the one hand by barbarians, belated in the East, and on the other by the Saracens pressing in from the south, and who, driving back in each case the invading flood, restored the equilibrium of Germany and forced Islam into retreat. These memories were not very ancient; hardly three centuries separated the *trouvère* from the

great Charlemagne; but the whole civil order had changed; there was a great gulf between the centralised empire conceived by Charlemagne and the feudal system of parcelled-out territory; and from the depths of this new chaos, which was so slowly and painfully reduced anew to unity by the persevering ambition of the little kings of the Isle of France, the men and the events of the eighth century appeared gigantic and clad in a magic glory. Some have sought to find a Germanic character in the "Song of Roland;" there is no trace of it, unless it be found in the crudity of manners and of the thought; but everywhere the France which is no more is invoked by the France which is not yet formed. The name recurs a hundred times, accompanied always by a Homeric epithet: "*France la doulce.*" Even Aix-la-Chapelle is *Ais en France;* the generals are *pairs de France,* the soldiers are *Français;* Roland, striking Marsile, cries, "*Que dulce France par nuz ne seit hunie!*" and weeping over the dead: "*Terre de France, moult êtes doux pays!*" Oliver, lying on the ground in his death-agony, prays for Charles, for *douce France.* The Emperor faints on the body of Roland, and on coming to himself, tears his beard and cries, "In France strangers will ask, where is the captain? I shall tell them he died in Spain, and a hundred Frenchmen mourned with him." The style, sober and strong, is not unworthy of the subject:—

> "Ce Sarrazin semble moult hérétique;
> Plutôt mourir que de ne pas l'occire!
> Oncques n'aimai les couards ni la couardise. . . .
> Sempre ferrai de Durandal grans colps!
> Sanglans en iert li brans entresque a l'or."

What a difference between this simple style and the insipid padding with which the *jongleurs* of the

thirteenth, fourteenth, and fifteenth centuries filled out the old Chanson, in order to change the assonance into rhyme and the ten-syllabled verse into an alexandrine! But the important point is the European renown of this epic, the germ of innumerable lesser epics which arose in the twelfth century; translated and imitated in all languages, German, Icelandic, Dutch, Spanish, Italian, it carried the fame of the French name to all courts and all nations; it had at length the honour to inspire the *Orlando* of Ariosto. Because of this poem French was in the Middle Ages the universal language, written by Marco Polo, by Brunetto Latini, the master of Dante, "because French is the most delightful and the most general speech." Lastly, French was for nearly three hundred years the official language in England; and our tongue reckons among its earliest texts the laws of William the Conqueror, published in 1069. Here is the preamble: "*Cessount les leis et les custumes que le rei Willams grentat à tut le puple de Engleterre après le conquest de la terre.*"

Why was the *Roland* composed in the west of France? Because the first author wished to celebrate the ancestors of Norman and Angevin, Lord Geoffroi Grisegonelle and Richard the Fearless. Why is Roland, Hruodlandus, who is hardly mentioned by the historian Eginhard, become the hero of the poem and the nephew of the Emperor? Because he was prefect of the marches of Brittany, and his memory was kept green in the country of the unknown poet. This poet, or his successor, followed the troops of William the Conqueror into England, where he wrote in French for his companions in arms; for French only was spoken in the Continental estates of William; so much so, that

the Norman dialect was, with Burgundian, Picard, and the speech of the Isle of France, one of the principal elements of the French language.

The Scandinavian origin of the famous bastard was one source of his ambitious designs on England, which had been so often pillaged by the renowned Vikings or kings of the sea, the rivals of his own ancestors; but he was quite ignorant of the language of the North, which his subjects had never learned. When Rollo, the founder of the duchy of Normandy, came, in the beginning of the tenth century, to pay homage to Charles the Simple, he had hardly pronounced the first words of the oath, "*By Got,*" than the whole Carlovingian court, Germanic also in its origin, burst out into laughter. He was not understood; it was the same at Rouen and at Falaise, and the Scandinavian tongue fell into disuse.

A similar lot would have befallen French in England if William had come to govern the English, but he had only conquered the country in order to dispose of its wealth. He distributed land, offices, and honours to his vassals so systematically that the whole country was enveloped in a close network of which every knot represented a barony, a county, a Norman domain. The accession of the Plantagenets introduced a new influx of greedy strangers, the honoured ancestors of the noblest families. In each town, each rural district, the proprietor, the judge, the civil or military chief and his vassals constituted a French centre.

But in creating a dominant caste, the Conquest really reanimated Anglo-Saxon, of which the decadence is apparent in the eleventh century under Edward the Confessor. The speech of the vanquished resisted energetically the language of the conquerors; they

subsisted side by side without mingling for about two centuries. The barons, the monks, the soldiers from the Continent were obliged to learn some Saxon in order to speak to their vassals and serfs, who refused to learn French. In 1205 the conquest of Normandy by Philip Augustus, by isolating Great Britain from France, arrested for a time the foreign immigration and created the English nationality. Henry III., in 1248, was forced to publish the deliberations of Parliament in the vulgar tongue. From the year 1350, according to Chaucer, the use of French was confined to the court and to the public acts. In 1363 Edward III. commanded that English was to be used at all tribunals. From that time every one spoke English; yet Henry V. still considered French to be his mother-tongue.

Saxon, however, had but a partial victory. Towards the end of the twelfth century it had accepted and made its own a few French words. In the fifty-eight thousand lines of Layamon's *Brut* there are eighty words of French origin. At the end of the thirteenth we find a hundred in the first five hundred lines of Robert of Gloucester. Nor is this all; the grammatical structure is modified. The case-endings are beginning to disappear; the final vowels, changed into *e* mute, are no longer pronounced. These features are most sensible in the *Ormulum*, a Northumbrian text of the thirteenth century. At this period we pass from semi-Saxon to Old English, represented by the Chronicles of Robert of Gloucester, by Langtof, and by an ancient Psalter. The conjugation, already poor, as in all Teutonic languages, loses a few more of its shades. The internal changes in the verbs diminish; *lufode* or *lufede* and *gelufod* are confounded in *loved;* and the

old forms, of which a great number have survived to modern days, come to be considered as irregularities and exceptions. The plural terminations of persons are dropped. The so-called regular verbs have now only three persons in all, the first, second, and third person singular of the indicative, and two forms, the infinitive and the past. The noun loses the plurals formed by the weakening of the vowel, such as *feet, teeth, men, mice*, its genitive plurals in *ene;* the genitive singular in *is, es*, soon reduced to *s*, alternates with the prepositions *of* and *to*. The adjective is still declined, and often forms its plural in *e*, but the insignificance of this termination causes it to be soon lost. The finals have no longer any meaning in a language which ever throws the accent back towards the beginning of the word; this marked feature of English pronunciation was already appearing, and it has been one of the factors of the language. It is this remarkable volubility of the accent, joined to a strange guttural effort, which, slurring over the rest of the word for the sake of the first syllables, has produced those violent contractions of which the spelling preserves the traces.

This Old English period was naturally a crisis of disorganisation, full of the new life. In the succeeding period, that of Middle English, Saxon accepted its losses and its gains, abandoning the shreds of grammar which have no longer any use, and adopted with its own accentuation and pronunciation the Norman and Latin vocabulary. Wycliffe's translation of the Bible (1324–1384), Maundeville's "Travels" (1300–1371), "The Vision of Piers Plowman," by Langland, and especially the poems of Chaucer, are the principal works written in Middle English. Chaucer is the father of English poetry; his "Canterbury Tales" will

ever be famous for the perfect ease and freshness of their style.

The tendency to analysis continues in the English of the Tudors and of the Renaissance, and a great number of Latin terms are introduced, both by the classical revival, which extended even to the women, and by the theological mania, which prevailed in England fully as much as in France and Germany. From the sixteenth century English literature took a wonderful development, of which in this rapid sketch we cannot even give an idea. It is the language, moreover, which concerns us. The undecided spelling, the presence of numerous final mute *e*'s, the use of the *th* for the *s*, seem at the first glance to be the only distinguishing marks between the English of Surrey, Thomas More, Spenser, and Shakespeare, and that of Bacon, Milton, Locke, Pope, and Swift. But we soon perceive that the authors of the age of Elizabeth are distinguished by a freedom and originality, by an abundance of strength and vigour, not without a certain extravagance, which, however, is not unsuited to youth. Their successors feel the need of the greater correctness, of that studied elegance which has given a certain monotony to our own classical literature. Finally, the nineteenth century seems to have restored to English, as to French, freedom, ease, and variety.

It is interesting to know in what proportions the Teutonic and the Latin elements are mixed in modern English, what sacrifices Saxon had to make to French, what resources it drew from its rival. These calculations have been made. Out of 1069 words used by King Alfred, Turner has counted 230, or more than a fifth, which are no longer in use. He also reckons that the proportion of Norman to Saxon words in the

vocabulary is as two to three. And in counting all the words in the dictionaries of Webster and Robertson, M. Thommerel has shown that out of 43,566 words, 29,853 come from the classical languages, 13,230 from the Teutonic. Now of these 30,000 French or Latin words, which for the rest are entirely Anglicised in pronunciation, more than a third are but doubles of Saxon words. Hence there is an infinite wealth of synonyms—that is, of expressions applicable to the subtlest variations of the same idea. The Teutonic element predominates in all that relates to the products of nature, minerals, plants, living animals, to the structure of the human body, to temperature, and to atmospherical phenomena, in the names of utensils, furniture, and tools. All which marks the relation of words to each other, articles, prepositions, conjunctions, is also Saxon. Politics, law, social functions, wealth, honours, philosophy, art, science, trades, and cooking derive their terms from French and Latin. Poetry uses Saxon words by preference, and this it is which renders it so difficult for foreigners to understand; there are two languages in English, and he must know them both who would read Shakespeare and Byron.

English, in short, received in the eleventh century from a more advanced civilisation, and has continued to borrow from it, the expression of those ideas which it had not had time to acquire. French presents a similar phenomenon; only it was from the same source as it had drawn the elements of its popular form that it sought the new terms required by the progress of science and thought. Having exhausted the Latin of the people, it borrowed freely from classical Latin. It therefore remains far more homogeneous than English; but it has drawn similar advantages

from a parallel method. All the other Romance idioms have done the like; they have continually increased their vocabulary by borrowing from Latin, their common source, and from the sister languages issued from Latin. If philologists have not found in Spanish or Italian this so-called learned formation which they complain of in French, it is because these languages are less contracted and have from the beginning followed more closely the original type. They are astonished and aggrieved that Frenchmen have not treated the Latin of Cicero as the Gallo-Franks treated the Latin of the people; that the new acquisitions were not passed through the popular channel, and thus did not suffer that insensible transformation which, I readily allow, has given to our tongue its proper character and aspect. I do what I can to share in these regrets, but I cannot prefer Villehardouin, Joinville, Beaumanoir, to Froissart, Commines, Villon, much less to Rabelais, Montaigne, or Ronsard, to La Fontaine, Molière, Voltaire, Musset, or Victor Hugo.

I will give in a few words (for Littré, Gaston Paris, and Brachet have made an exhaustive study of this matter) in what consists the popular formation, and in what the learned.

Four fundamental laws governed the development of French: (1) the persistence of the Latin tonic accent and the alteration of the accented vowel; (2) the suppression of the short vowel before the accent when this is not the initial vowel; (3) the loss of the middle consonant; (4) the contraction or the loss of the termination. By these marks we recognise the words of the first formation, of popular origin: *claritatem, clarté; comitatum, comté; simulare, sembler; videre, voir; audire, oüir; magistrum, maître; vicarius, viguier;*

advocatus, avoué ; augustus, août ; tepidum, tiède ; male-aptum, malade ; mansion, maison ; regem, roi, &c.

This popular derivation constitutes the foundation and the substance of the French language: as it sufficed for the mental condition of the people, confined in the narrow limits of Christianity and feudalism, the people allowed towards the thirteenth century this method, of which it no longer felt the need, to fall into disuse. But with the revival of learning new words were required, either to translate the ancient authors, or to render more complex thought, to express a greater variety of ideas.

In the fourteenth century, therefore, began a new formation, called learned, because it was the work of the lettered class, who, without considering the laws of internal contraction and phonetic alteration, simply adopted the Latin word. To this formation we owe so many of the doublets which enrich our tongue. When we compare terms such as *inclinaison* and *inclination, poison* and *potion, avoué* and *avocat, esclandre* and *scandale, dimanche* and *dominique, chez* and *case, combler* and *cumuler,* &c., we recognise that of these double forms issued from the same Latin word, the first is of popular formation, the second the invention of scholars. To these two main sources of the French vocabulary we must add numerous terms borrowed from Greek, Italian, and Spanish (sixteenth and seventeenth centuries), from modern English and German (eighteenth and nineteenth centuries), the whole scientific and technical terminology, an interesting class of Eastern words, and finally the Greek suffixes *mane, morphe, gone, graphie, logie, isme, iste, iser,* of which the abuse is common, and we have an approximative idea of the history of the French tongue. From this composite

material we are continually producing, by derivation and juxtaposition, new forms. For French, no less than English, is full of life, as Darmestetter has shown, and is continually drawing farther away, with all respect, from the classical models, which are a little stiff in their solemnity.

Which of these two languages, French or English, both disengaged from the trammels of grammar, both arrived at the term of the linguistic cycle, shall obtain the prize? It is not for us to say. English, justly proud of its wealth and of its immense expansion; French, with its ancient origin, its early literary development, its lucidity, its pronunciation, clear without undue emphasis, have both had a career which need fear no comparisons; both have been employed in every style, for the expression of the deepest thought and of the subtlest ideas.

And now, making our excuses to interesting and beautiful languages which our narrow limits do not allow us to enter upon, Persian, Italian, Spanish, we leave with regret this vast domain of language, where we have everywhere found speech in exact correspondence with the intellectual and moral needs of man. The evolution of language is parallel to the evolution of humanity. The descendant of the animal cry, it has raised man above the brutes; at once factor and instrument in our progress, creator of the conscience and of science, it is the link between nature and history, between physiological and moral anthropology.

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