

THE WORLD'S BABY-TALK,
AND THE EXPRESSIVENESS OF SPEECH.

IT will be universally admitted, I think, that Mr. A. R. Wallace¹ has brought a very interesting contribution to the study of the origin of language, while the excellence and fresh insight of his work, in other questions of origins, entitle everything he says to the most careful and respectful consideration.

Yet it seems to me that, in his highly suggestive study, Mr. Wallace has paid too little attention to certain general considerations which may greatly modify, if not entirely neutralise, some of his most important conclusions.

In the first place, there is probably no language less adapted to his special purpose of illustrating the tendencies of primitive speech than the language Mr. Wallace has chosen. Of all the languages in the great family to which it belongs, English is the most highly developed—or from another point of view, the most degenerate; it has departed farthest from the original type of inflection; its vocabulary is the most heterogeneous; its loan-words are borrowed with a probably unparalleled disregard for their original pronunciation, and, very often, with a high carelessness of their original meaning; and, lastly, its sounds are farthest from any natural phonetic type, more artificial, conventional, evasive, difficult to represent correctly, than any, perhaps, within the knowledge of philological science. These may be defects of

“our harsh northern whistling, grunting guttural,
Which we're obliged to hiss, and spit, and sputter all”—

or they may be its beauties; but the fact remains, that English can be shown to have gone through such a series of changes during extensive periods, led up to in their turn by far greater changes, extending over far longer periods, that any attempt to reason from this elaborately developed—or extremely degenerate—tongue of ours to the language of primitive man, can hardly fail to be misleading.

Then, again, Mr. Wallace seems, very naturally, to have overlooked the fact that a very large part of the suggestiveness of the words he quotes is due to the association of ideas; that we have, so to speak, trained these words to call up in our minds a vivid picture of the idea they represent; so that their sound seems to contain all the vividness which is in reality due to a quite different cause—the habit of our imaginations. For us, perhaps, to quote the poet from whom Mr. Wallace has chosen his best illustrations,

(1) FORTNIGHTLY REVIEW, October, 1895.

“Where'er you find ‘the cooling western breeze,’
 In the next line, it ‘whispers through the trees’;
 If crystal streams ‘with pleasing murmurs creep,’
 The reader’s threaten’d (not in vain) with ‘sleep’ :”

for us, perhaps, a high degree of expressiveness is reached when “Zephyr gently blows,” or when “the smooth stream in smoother numbers flows”; but will it be so for a Frenchman, a German, a Turk, for one of Mr. Wallace’s Malays, or for any one else who is not familiar with English words, whose mind is not accustomed to call up certain vivid images on hearing them?

Fortunately, this is a question we can easily settle by an example; here, for instance, is a passage from a famous poet, whose gift of music has hardly ever been excelled; such a passage as would be quoted by any of his compatriots, as specially illustrating this very property of expressiveness in speech:

“Î nad vershînami kavkâza
 Izgnannik râya proletâl.
 Pod nîm kazbek, kak gran almâza,
 Snyegâmi vyetchnymi siyâl,
 Î, glubokô vnzîû tchernyêya,
 Kak trestchina, jilîstche zmêya,
 Vilsyâ izlutchistuy daryâl;
 Î terek, prygaya kak lvîtza,
 C kosmatoi grîvoi na khrebye,
 Revyêl.”

This passage, which is part of a very brilliant description, I have transliterated with the closest regard for the sound of the original; it is full of music and colour, very characteristic; will any one, relying solely on the expressiveness of speech, venture to guess what it is about? Here is another passage of a different kind, from a language of a very different age and land, but also a highly-coloured description, containing just the kind of words Mr. Wallace uses all through as illustrations:

“Jambvâmrâlodhrakhadîra—sâlavetrasamâkulam,
 Padmakâmalakaplaksha—kadamboḍumbarâvṛtam,
 Vadarîvilvasaũchannam nyagrodhâishcha samâkulam
 Priyâlatâlakharjûra harîtakavibhitakâih̄.”

This is part of a very elaborate piece of word-painting which has been the admiration of centuries, and a remarkably close parallel to which, by the way, might be found in one of Mr. Wallace’s own delightful books; will he, girding up his loins valiantly, and calling to mind all he has written about the expressiveness of words of this particular class, venture to divine its purport?

Or, to take a case particularly favourable to his argument, that of

onomatopœic words, whose sound is supposed to express their sense with exceptional vividness; here are a series from a language, the speakers of which have a sense of harmony and melody far higher than our own: *batsnut, khlopnut, trakhnut, khliupêt, zhuzhzhat, shelis-tit, shushukat, vskhlipyvat*; every speaker of this language will go into raptures over these particular words, but to us, I am afraid, they will be but airy nothings. Or, to take this time a few instances from a writer in a Teutonic language, whose works have probably reached more editions than Faust, what meanings are conveyed to Mr. Wallace by words like these: *schluppdiwutsch, schlapp, patsch, schnupp, witsch*?

Need one go further, to show to what an enormous extent the association of ideas contributes to the expressiveness of "sound and sense" words, even in the case of words consciously recognised as expressing their sense by their sounds? These words are admirably suggestive *after we know their meanings*, but till then—let any reader, who is still in doubt, go over again the two passages I have quoted. They are written, if not in choice Italian, at any rate in languages whose literatures are not less rich and beautiful than that of Italy, or even Greece itself.

Yet another general consideration. Mr. Wallace has, I think, two quite different ideas in his mind when he writes of the expressiveness of speech; these are mouth-gesture, and something else entirely different from mouth-gesture, some quality of meaning supposed to lie in the sounds themselves; the former, visible, appealing to the eye; the latter invisible, appealing to the ear.

Of the former, the visible mouth-gestures, the most noticeable is undoubtedly the Malay's habit of pointing with his lips; but is it certain that this has more to do with articulate speech than the Madrasi's habit of pointing with the side of his head, or the Irishman's habit of pointing with his pipe? In each case, a very important factor is, that the pointer's hands are occupied, whether in rolling the meditative *sirih*, in handling the Tamil *mamoti*, or in fathoming the void of the Hibernian breeches' pockets. But there is a rather serious difficulty in the application of this principle of mouth-gesture, it is this: to speak generally, there are five points of contact in the mouth at each of which a series of consonants—surds, sonants, aspirates, nasals, sibilants—are formed: the throat, the palate, the roof of the mouth, the teeth, and the lips; and only the motions of the last are visible, while the motions of the four others are to all intents and purposes quite invisible. Therefore, at a rough estimate, we may say that four-fifths of speech is carried on invisibly, and cannot come within the range of mouth-gesture at all. Or can the sense of mouth-gesture be subjective in the speaker, as Mr. Wallace seems to suggest in writing of the word *growth*? But one has only to read our own accounts of the vocal organs and their actions, before our

grammarians had the good fortune to come across the scientific phonology of Sanskrit, to see how extremely difficult it is to arrive at a correct conception of the relation between organs and sounds, and therefore to apply the invisible motions of the organs to the purposes of expressiveness in speech.

If, as we have seen, four-fifths of speech cannot possibly be the subject of visible mouth-gesture, there may yet remain a certain expressiveness in the sounds themselves, invisible, appealing only to the ear. And although Mr. Wallace speaks of mouth-gesture as the fundamental idea of his article, he is really far more occupied with the other quality, the expressiveness of invisible sounds, and especially that of final syllables. But here again there is a serious difficulty, not at first sight apparent. In modern, highly analytic tongues, like English, there is a certain stability in the final syllables of words, which is quite absent from their inflected parents, whether Gothic, or Latin or Sanskrit; for in inflected languages almost every word will, at some part of its career, end in almost every sound, or letter, and thus the expressiveness of its last syllable will be evasive in the extreme.

Then again, to take a concrete case, languages like French and Italian are formed of almost exactly the same elements, conveying almost exactly the same ideas; but Italian words tend preponderatingly towards vowel endings, French words towards consonants; and, further, Italian words almost invariably keep a syllable more than their French synonyms, so that in French the tonic syllable is the last, in Italian the last but one; here again the final syllables of words identical in origin and meaning will be completely different through the whole of the two languages.

If we take a few of the instances Mr. Wallace quotes, we shall very soon see how difficult it is to reach any fixed principle along his lines; how extremely fugitive and contradictory the expressiveness of words is; how easy it is, for every instance, to quote others in an exactly contrary sense. *This* and *that* are contrasted; but to go no farther, there is no such contrast between *questo* and *quello* in Italian; *come* and *go* are contrasted; but the contrast disappears in the Sanskrit *āgam* and *gam*, or the Hindi *ao* and *jao*; *va* means *go* in French, but *come* in Tamil. *To* and *from* may be suggestive, but *a* and *da* in Italian, or *vo* and *so* in Russian, can hardly be; *up* and *down*, to quote an instance familiar to Mr. Wallace, are represented in Malay by *atas* and *bawah*, with exactly the same vowels, while in Tamil they are *mele* and *kile*, with exactly the same final syllables. *Fall* and *rise* have contrasted vowels, but the Sanskrit *pat* covers both ideas. If *far* and *near* suggest their meanings, do the Russian *dalyeko* and *blizko*? One may fancy a vowel contrast in our personal pronouns *I* and *thou*, *we* and *you*, but will it hold good for the Sanskrit *aham*

and *tvam*, or the Russian *muy* and *vuy*? The breathing in *here* and *there* may offer a marked contrast, but in the Bengali *iha* and *uha* the breathings are practically the same. *Wind* may be suggestive, but does this suggestiveness remain in *ἄνεμος*? *Sky* and *high* may have a mystic connection, but *cælum* and *altus* can hardly. *Difficult* and *easy* may be contrasted with the Malay *payah* and *snang*, or their synonyms *susah* and *mudah*.

Then again, though one doubts whether the *mouth* can strictly be said to remain open in pronouncing the word *mouth*, there may really be a certain roundness in the word *moon*, but *new moon* seems to be far rounder. There is a profane story which I should like to quote, if this were not a serious scientific discussion. "Why are you like the moon?" "I don't know!" "Because you look round!" "But I don't always look round!" "Neither does the moon!" Of course, in the present circumstances, illustrations like this must be strictly avoided. *Mum* may suggest silence, but the Russian *tishinâ* suggests rather sound. Then again, if the *d* in *thud* is abrupt, how does the *d* in *slide* become continuous?

Tin, or rather *fer blanc*, iron coated with tin, may *tinkle* in English, but *timah* in Malay, *zhest* in Russian, *trapu* or *kastira* in Sanskrit, suggest sounds more varied than a dulcimer could compass. *Glass* may be resonant; *vitrum* is somewhat dull; *lead*, again, may be dull; but *sisa* in Sanskrit positively tinkles; if *ice* suggests shivers, *ushna* should double the suggestion, but in Sanskrit it means *burning heat*. *Fir* may suggest *fire*, but does *sosna* suggest *ogôn*? And yet Russia is pre-eminently the land of the fir-tree. *Step* and *stop* come from the root *sthâ*, which means to stand still, and therefore silently. If *blush* suggests growing colour to an Englishman, why does *bläss* suggest paleness to a German? *Growth* may begin with the throat and grow outwards, but the Sanskrit *vrddhi* begins with the lips and grows inwards; if *grass* is connected with it, *tr̥ṇa*, *trava*, *herba*, and *rumpūt*, in Sanskrit, Russian, Latin, and Malay, are not connected with the idea of growth at all.

These instances are not exhaustive at all; they are simply the first that suggested themselves on reading Mr. Wallace's essay; but I think they are quite sufficient to show how fugitive are the principles he has tried to evoke, how difficult to define, how contradictory. They really show, I think, that in dealing with a language where the association of ideas has full play, Mr. Wallace has been led to mistake its action for that of something quite different; that these sound-and-sense words are expressive—after we know their meanings, but not before; that even in the extremely small class of directly imitative sounds, every language will form words of its own, hardly intelligible, or, in the mass, totally unintelligible to the speaker of any other language.

A far more general conclusion may very justly be drawn from our subject, so far as we have gone in considering it—that any attempt to solve the problem of the origin of speech, based on the analysis of a language which can be shown to have passed through such an enormously long development as English has, is necessarily foredoomed to failure; its results can only be the more misleading, the more skill and ingenuity are brought to bear in obtaining them.

I should like to draw the same deduction for the attempt to reach a knowledge of primitive speech, from the languages of people whom we call savages; to show that “savage” covers two quite different ideas, ferocity and simplicity, which are quite as likely to belong to the second childhood of a race, according as it is reached in folly or in wisdom, as to the first; to point to the fact that many half-savage races are the descendants of the peoples of Chaldæa or Egypt, Mexico or Peru, whose past has been pretty well forgotten, or only just recovered; while it is at least entirely possible that many of the peoples we unhesitatingly call completely savage, may simply be races whose long past is forgotten utterly, or not yet unearthed from their wild rocks and forests. To assume, from their ferocity or simplicity, that races we call savage resemble primitive man, is to assume that we know what primitive man was like; in other words, to beg the whole question. To assume that their languages resemble his, is to forget that every language existent to-day must have behind it ages of change, whether of development or degeneration, every step of which must have led it farther away from primitive speech. But to do justice to this question would demand far more space than is at present available, and, rather than treat it inadequately, it is better to postpone its discussion to a future date.

We are thus, it would seem, debarred from profitably following up the problem of the origin of speech, along either of the lines suggested in Mr. Wallace's essay; is there any other, along which more reliable results are likely to be obtained?

I think there is; I think we can take up quite a different line of research, far more in harmony with the ascertained principles of science, far more likely to lead us to sound general conclusions as to the beginnings of language. The idea of this new method I have tried to suggest by the title of this essay—“The World's *Baby-Talk*”; it is this: that the human race began to talk as babies begin to talk; that in the prattle of every baby, we have a repetition in a minor key of the voice of the earliest man; and that by watching the first movements of speech in a baby, we can see once more the first steps in articulate language, which the whole world of man once took in dim ages long ago.

This idea may be supported at the outset by a very cogent kind of evidence, which, I think, will appeal in a special degree to Mr.

Wallace, and to all who, like him, have been trained in the theory of development. Mr. Wallace has often had to lay stress on the very rigid way in which the unfolding of life in a baby still unborn follows the great march and progression of all organic life, from simple to complex, from less to more developed forms; the strange retention of primitive character, with its gradual obliteration, as the work of development goes on; the wonderful repetition of the whole gamut of life in each individual, which, as Mr. Wallace says, is "one of the most marvellous chapters in natural history."

And from this rigid correspondence between the life of a yet unborn child and the life of humanity in the long past ages, before man was truly man, we find a perfectly scientific basis for the belief that the early life of the new-born babe repeats once more the early life of the human race.

If this be true in general, it should be true in particular; it should be true in the particular case we are considering, the case of language. But this particular line of proof I shall merely suggest, and proceed to describe the general development of speech in babies, when it will become apparent how very natural and regular that development is, and how fully it corresponds to all we can postulate of the earliest language of our race.

The psychological side of this subject has been treated by M. Taine, writing a few years ago in the *Revue Philosophique*; ¹ I need not say that it has been treated with grace and acuteness. And although M. Taine was led in quite a different direction from that which I shall take, I cannot, perhaps, do better than quote a few sentences of his essay.

The subject of M. Taine's observations was a little girl "whose development was normal, neither precocious nor slow," and he describes delightfully her first instinctive and spontaneous attempts at motion, "the enormous multitude of movements perpetually tried," from which "by gradual selection, were disengaged intentional movements, having an aim and reaching that aim." M. Taine continues: "Exactly the same spontaneous apprenticeship in cries as in movements. The progress of the vocal organ goes on like that of the limbs; the child learns to utter one sound or another as it learns to turn its head or eyes—by perpetual trials and attempts." "Towards three months and a-half, in the country, it was put in the open air on a carpet in the garden; there, lying on its back or on its breast, during whole hours it moved its four limbs to and fro, and uttered an abundance of varied cries and exclamations, but *nothing but vowels, no consonants*; this lasted thus for several months."

Further on, underlining the spontaneousness of these beginnings of speech, M. Taine writes: "To become convinced of it, one has only to listen to its prattle for an hour; its flexibility is astonishing;

(1) Janvier, 1876.

I am persuaded that every shade of emotion, wonder, gaiety, contrariness, sadness, are translated in it by varieties of tone; in this it equals or even surpasses an adult."

The two points which one would wish to call especial attention to are: the entire spontaneousness of the whole process, and the existence of a long vowel-period, of wonderful richness, expressing, as M. Taine says, every shade of feeling. To begin with, during the first period of articulate life, the baby only uttered vowels, repeating each vowel an indefinite number of times, and making words like a-a-a-a-a-a, or o-o-o-o-o-o, or u-u-u-u-u-u, and so with the other vowels. At present we can hardly pause to discuss the question whether each of these vowel-words came to express a single emotion; whether a-a-a expressed wonder and contentment; i-i-i, delight; o-o-o, pain; and so on; the flowing and formless emotions of babyhood finding expression in these soft and flowing sounds. We shall, for the present, content ourselves with recording the fact that the primary epoch of baby-talk consists of vowels only, indefinitely modulated and prolonged.

As the speaking muscles gradually grow firmer, what we call consonants, but what the Indian grammarians more accurately call contacts, begin to appear, led up to by a long transition period of breathings, semi-vowels, and liquid sounds, which are very difficult to describe.

Sounds are no longer poured forth only in flowing streams, modulated into different vowels; the stream of vowel-sound is cut off at intervals by a closing of one or the other organs of contact. As far as my observations go, the first contacts seem to be the nasals, the vowel-stream being cut off as far as the mouth is concerned, but continued through the nose; thus are produced words like m-m-m-m, n-n-n-n, ng-ng-ng-ng. Of the acquisition of these nasal words by the subject of his observation, M. Taine writes: "She first made the sound *mm* spontaneously by breathing noisily with her lips closed; this amused her, and was for her a great discovery." M. Taine hesitates between throat-sounds and lip-sounds for the first full contacts, but it clearly lies between these two. So that we get words like gu-gu-gu-gu and pa-pa-pa-pa, repeated continuously as long as a liberal lung capacity can hold out. Here one notices a very marked phenomenon of baby-talk—the tendency to repeat or rhyme or reduplicate the syllables. This tendency gradually gets worn down to a single repetition, so that words like pa-pa are formed. The baby's first experiment in consonant words seems to coincide with the first experiment in definite perception as opposed to flowing emotion, to the time when a somewhat clearer sense of outer objects seems to take the place of the soft stream of hardly-formed feelings belonging to the earlier vowel period; in other words, the arresting of the vowel-stream

by a consonant or contact corresponds to the arresting of a stream of feeling and its concentration on a definite object. At first indicating any definite object whatever, the word pa-pa comes, much later on, a male adult, and last of all, the child's own father. In the dialects of the Austrian Alps, the word simply expresses contentedness with some particular object, a sort of "thank you" for some present given to the child. Along with this word comes its nasal variation, ma-ma, meaning, apparently, an object not quite so definite, of softer nature and wider extension; but we need not press these meanings too closely. About the same time comes the word ka-ka-ka-ka. Unlike pa-pa, ma-ma, and gu-gu, this new acquisition invariably carries with it an unpleasant meaning. In the baby-talk of England, Ireland, Scotland, France, Italy, Germany, Austria, Russia, it has exactly the same meaning, and this meaning is, as we have seen, unpleasant. To the baby it conveys the idea of unpleasantness in general; for the baby's relations the idea is more clearly limited and defined.

This leads us to two important conclusions: that baby-talk is as strictly international as it is spontaneous; and that all its words convey broad general ideas, whether, as in the case of the vowel-words, of subjective feelings, or, in the case of the consonant words, of objective sensations. The limiting and defining of the words is our work, not the baby's.

After the long vowel period and the transition epoch of breathings and hardy-formed semi-vowels, there came, as we have seen, the contact or consonant period, beginning with nasals, which are not true consonants in the strict sense, and then leading on to sounds like pa-pa, ka-ka, and the like, with different vowels and correspondingly different meanings. Then is added the dental ta-ta, which seems to record a sense impression made on the baby, and thus wavers between meanings like "thank you," "touch," "grope," "parent," and the like; again, a broad general idea of a sense-impression borne in upon the consciousness of the child.

We have thus a range of vowels, three consonants or contacts, and their breathings and nasals, all, as we have seen, spontaneously produced by the baby under the influence of an inner necessity, coming as strictly from within outwards as does the pre-natal development of the eye. Again, as in the case of the eye, this is supplemented by a secondary tendency from without inwards, as the speech of its parents is gradually grafted on the child, struggling for a long time with its own self-evolved language, and at last obliterating it.

Our study of baby-talk has therefore led us to these conclusions: it is strictly spontaneous, from within outwards; it is the same in babies of different lands, whose parents speak entirely different tongues. And these two conclusions very strongly point in the direction I have

suggested, that baby-talk is strictly a survival, a repetition, by each individual of the long past life of the whole race.

We shall greatly strengthen our case if we can show, among the families of languages in the world, a series of parallels to what we have observed in baby-talk, not so much in the case of single words, which are certain to be misleading, but for broad general facts.

Our phonetic results were these: first, a long period of vowel-words only; then, after a transition period of breathings and semi-vowels, the formation of three contacts—of throat, lips, and teeth—with the corresponding nasals. At first sight it would appear that the phonetic range thus reached is entirely inadequate for the purposes of articulate speech; that no language can exist so scantily furnished with sounds. The answer to this objection is, that, in the great Polynesian family of tongues, we have a whole series of allied languages, rich in legends, songs, incantations, histories of war and emigration, whose range of sounds is exactly what we have described in the second period of baby-talk.

And it is very remarkable that, though we have now no pure vowel languages, we have, in the Polynesian tongues, an abundance of pure vowel-words which strongly support the presumption we have already reached, of a prolonged vowel epoch of speech for the whole human race before any consonants were formed at all.

Vowel-words in Polynesian are—*a, ae, aeaea, ai, aio, ao, au, aua, auau, aue, e, ea, eaioa, ei, eia, eo, i, ia, iaia, ii, io, ioio, o, oi, oioi, ou, oue, ouou, u, ua, uaua, ue, ueue, ui*; each with a variety of meanings partly marked by the different lengths of the vowels, partly by context, partly, I think, by intonation. Beside these pure vowel-words there is a vast series of semi-vowel words, containing the sounds of *ha, wa, wha, and ra*. They go through every possible shade of meaning, of every part of speech—pronouns, verbs, nouns, interjections, and the rest; they are either concrete or descriptive, or purely abstract, metaphysical ideas; they are abundant enough to compose a language in themselves. I have a list of a good many hundreds of these words, containing no real contacts or consonants at all, not even nasals; they often almost amount to the sum of possible permutations and combinations of given sounds, as for instance: *ahu, ahua, ahuah, ahuahua, ahuhahuka*; *ora, oraora, ore, oreore, ori, oriori, orira, oro, oroora, ororua, oru, oruoru*; *wera, werauwera, were, werewere, weri, weriweri, wero, wewero, werowero, weru, weruweru, weweru*. If I were not afraid of making my readers very, very weary, I might go on quoting words like these for page after page, without using a single full consonant or even a nasal. Pure-vowel words like *aeaea*—meaning “to rise to the surface” like a bubble, with a whole series of collateral meanings like “panting, exhausted, talking disconnectedly, out of breath, breathless, gasping, dying, fulness, shortness of

breath, dying breath, bequest, hereditary wisdom" ¹ and the like—and *caoià*, suggest a wealth of vowel-language that we should hardly believe possible.

Then, again, we find in words like *ihì, ihì ihì, irì, irì irì, iro, iroiro*, exactly that tendency to reduplication which we noticed in baby-talk; and this tendency penetrates the whole Polynesian group through and through. This fact, as well as the extreme simplicity of the consonant range—embracing, as it does, only the consonants *k, t, p*, and their nasals *ng, n, m*—lead us to find in the Polynesian group probably the closest analogy existing to baby-talk; and this group is, very likely, one of the oldest in the world, kept, by the well-known conservatism which everywhere affects insular or oceanic life, almost at the same point of development for ages.

We can easily find in other groups of languages, phenomena characteristic of baby-talk: a blurred sense of the difference between substantive and attributive; an avoidance of difficult sounds; a substitution of similar, easier sounds, as *l* for *r*; *f* or *d* for *th*; and a whole series of interesting phenomena, to do justice to which would require a treatise, though a few examples may easily be given. Everyone has noticed the trouble children have with the letter *r*, which they often overcome by substituting *l*. The same difficulty has been met in the same way by the Chinese, from the time of Hiouen Tshang, when they softened Sanskrit names like Mahârâshtra and Turkhâra into Mo-ho-la-ticha and Tou-ho-lo,—to that of Hume Nisbet,—when Brother Morris became Blothel Mollis. It may be noticed, in passing, that the Central European peoples, from Poland to Paris, always try to evade the same letter, changing it, in talking, to a guttural or sibilant. Again, we know children—nay, even a young lady of fifteen—on whose lips “with three” invariably takes the form of “wif free”; and the same expedient is resorted to, with marked success, by the coloured people of the Southern States; the latter, by the way, distinguish between the surd and sonant *th*, changing the former into *f*, the latter into *d*, so that “with the” becomes “wif de.” For philologists of a future race this may serve either as a valuable clue to English pronunciation or as a hopeless enigma. Thus the speech of Polynesians, Chinese, and Negroes,—of the red, brown, yellow, and black races—corresponds to definite stages of baby-talk. We have, therefore, found in our examination of certain existing languages, chosen for their extreme phonetic simplicity, exactly that analogy with baby-talk which we were entitled to expect; and the postulate that, judging from the known facts of ante-natal development, we ought to seek for the analogies of primitive speech in the development of language in babies, becomes thereby

(1) *Maori-Polynesian Comparative Dictionary*. By Edward Tregear. *Sub voc. aeaea*.

greatly strengthened, and almost reaches the rank of a demonstrated fact.

In accordance with this conclusion, we are justified in adhering to a vast period of vowel-language, preceding by a long interval all consonant speech; a transition period of great wealth and variety, where breathings and semi-vowels were added to pure vowels; then probably nasals; and last of all, pure consonants or full contacts—of which, in highly developed languages, there are five varieties. When we become accustomed to this view, we shall see the futility of approaching the question of primitive language by analysing, let us say, Sanskrit, with its twenty pure consonants, as against three in Polynesian; its five nasals, three sibilants, and five semi-vowels. We shall see, on the contrary, that Sanskrit is one of the most highly developed consonant languages in the world, and, therefore, one of the farthest from the original type of speech. Of course, Sanskrit is extremely rich in vowels also, so that the proportion in a printed page is about fifty per cent. consonants to thirty-nine per cent. vowels, and eleven per cent. breathings or semi-vowels; with this we may contrast, on the one hand, German, a page of which gave fifty-eight per cent. consonants, thirty-eight per cent. vowels, and four per cent. breathings; and, on the other, Maori, with only thirty-four per cent. consonants, sixty per cent. vowels, and six per cent. breathings or semi-vowels. Chinese probably excels German in the relative number of consonants; but comparisons like these are hampered by the difficulty of applying a purely phonetic and uniform system of transliteration.

The study of languages like Maori and its Polynesian relatives, in which the vowels play a leading part, while the consonants are simple in the extreme, suggests that both vowels and consonants may originally have had a definite inherent meaning, some remnant of which may survive even in languages as far removed from the original type as Sanskrit or English; and here, perhaps, we have the germ of that natural expressiveness of speech which Mr. Wallace tries to show still in full force in our own tongue, but which we are in reality only justified in expecting in languages of vast antiquity, or idioms which, like those of Polynesia, have been kept almost stationary, by an accident of situation, for periods so long that their broad elements approach the baby-talk of the human race.

CHARLES JOHNSTON.