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eliminate the notion of imponderables from the phenomena of light?

I know many men of sound science who deplore the departure of so many modern scientific men from the sound method of induction, for the dreams of inventors of hypotheses. The hazy notions of Mr. Grove and kindred philosophers, on the nature of force and matter, are supported more by theoretical dreams than by sound deductions from facts.

While Mr. Grove speaks with contempt of mysterious fluids and so-called imponderables, (supported by an array of facts not much less numerous, and by mathematical analysis as rigid as that by which the law of gravitation is proved,) he can regard with complacency, where facts and arguments fail, the imagined perpetual-motion shower of innumerable meteors into the sun; a hypothesis unsupported by a single fact or observed phenomenon of nature, but invented solely to make tenable those theories of force and matter which evade the existence of imponderables.

If I take the most transcendental views of matter that have ever yet been imagined by men, I am led on the one hand to regard all interplanetary space, not as filled with imponderable fluid, but by something very like a solid combination of matter; while on the other hand, the Boscovichian theory would lead me to regard all this matter ultimately, as having no physical length, breadth or thickness, but to be absolute geometrical points—mere centres of force. Either of these hypotheses I may hold, without laying aside my claim to the rank of a philosophical thinker. But if I talk of a supposed Hebrew firmament, or believe that God made all things out of nothing, I must be derided as centuries behind the progress of modern thought!

Apologizing for having allowed my observations to run to such a length, I now call on Professor Young to read his paper.

The following paper was then read:—

*ON THE LANGUAGE OF GESTICULATION; AND ON THE ORIGIN OF SPEECH. By J. R. Young, Esq., late Professor of Mathematics, Belfast College.*

**I** AM about to invite your attention this evening to a subject which has, I think, received as yet too little notice from philological speculators in their inquiries into the origin of articulate language.

Much learned and successful research has been devoted to

the consideration of the question,—Is it possible that all spoken languages can have sprung from a single root? Can they possibly be all but so many corruptions or modifications or offshoots of one primitive form of speech?

Professor Max Müller, after a laborious investigation of the matter, upon purely philological considerations, decides this question in the affirmative. His conclusion is, that however dissimilar the various dialects, “they are all nevertheless derived from one primeval language.” (I quote from his Lectures on the Science of Language, Lecture VIII.) This conclusion has been also reached and confirmed by the Rev. Dr. Thornton, and the results of observation which justify it were placed before you, in this Society, in that gentleman’s recent paper on Comparative Philology.\*

Still the important question remains,—Whence came this primeval language? Was it of human invention, or was it supernaturally communicated to our first parents? Here,—putting revelation aside, as in every independent investigation we are bound to do,—we have nothing to guide us except reasonable conjecture and the balance of probabilities; and therefore, at whatever result under this guidance we may arrive, we can never pronounce our conclusion to be indisputably and irresistibly true.

But this character of indisputable truth is not stamped upon *any* of our conclusions as to the origin of things, to whatever department of nature our investigations are directed. In every such inquiry it behoves us to proceed, not only with caution, but even with distrust. Whatever conclusion, within the entire range of human research, is arrived at otherwise than by demonstration, or by observation, or by experiment, is not a *scientific* conclusion. Demonstration is confined exclusively to *necessary* truths,—to things that could not possibly be other than what they are. Observation and Experiment, on the other hand, deal exclusively with phenomena,—with things which, for aught we know to the contrary, *might* be other than what they are. Such are the objects with which strict science has alone to do. And it is deeply to be deplored, for its own sake, that in recent times the dignity of science has been usurped by speculative conclusions based upon neither demonstration, nor observation, nor experiment, but upon the unsubstantial foundation of pure fancy,—the appeal being, not to our convictions, but to our credulity.

Yet it is a precept universally admitted in theory, however

\* *Journ. of Trans. of Vict. Instit.* vol. I. p. 148, *et seq.*

widely departed from in practice, that the revelations of science should always be read,—not with a feeling of credulous assent, in the absence of evidence, but with a reasonable scepticism ; while the revelations of Scripture, on the contrary, must be read with an equally reasonable faith. But the modern doctrine reverses the application of these precepts : science is to have all the faith, and the Bible all the scepticism.

If I am required to admit that man is developed from the ape, and the ape from a fish, I am quite ready to admit it, provided I be shown this developing principle in operation,—provided I be shown only a few consecutive steps of the approximating process. I am ready to admit it even, if the propounder of the doctrine seriously tells me that he himself has witnessed this onward and continuous advance from ape to man, or from fish to ape, though in but a single instance. I go further : though neither he nor I have seen anything of the kind, yet I will admit it, if he can only point to the recorded testimony of trustworthy eye-witnesses of the phenomena in bygone times.

If not even one of these items of evidence exist, then the belief in this, or in any other physical theory equally unsupported,—though a few men of unquestionable science may embrace that belief,—may be fitly characterized, not as scientific conviction, but as scientific superstition,—an appellation quite as appropriate as the similar appellation sometimes applied to the extravagances of really religious minds.

If I could not submit to you this evening better and sounder reasons in support of the position that the speech of man came from the Creator of man, than the philosophers alluded to can furnish in favour of *their* position that the human being came from the ape, I certainly should not presume to appear before you. I think and trust, as the event will show, that I shall not incur the charge of arrogance or egotism in preferring these pretensions. Yet, as I have already hinted, the evidence which I shall offer, in support of this position, must not be expected to reach the high character of scientific proof. The inquiry is not one in reference to which the rigid demands of science *can* be satisfied. It is an inquiry out of the range of strict science ; for, as Sir John Herschel truly states, in his beautiful and masterly *Discourse*, “to ascend to the origin of things is not the business of the natural philosopher.”

I shall, however, appeal to that which is of little less authority. I shall appeal to that which, independently of science, is the guiding principle,—not only in ordinary

matters, but even in matters of high moment,—of all rational intelligent beings. I shall appeal to that important though undefined principle called common sense, to the unbiassed decisions of a sound practical understanding, in reference to a matter in which absolute certainty is not attainable.

I have already stated that the great question for our consideration, on the present occasion, is this: Was speech of human invention? This may be divided into two other questions, which, together, embody the same inquiry:—

1st. *Could* man, placed speechless upon earth, without any external aid, have invented articulate language?

2nd. *Would* he, of himself, have originated and elaborated speech, even if he could?

I have just said that (as you will at once perceive) the two questions here proposed may replace the single question—Was speech of human invention? The first of these two may, however, be dismissed: it will be sufficient, admitting hypothetically that man *could* originate speech, if it be shown, with a high degree of probability, that he would never have addressed himself to the task.

The single question then to be discussed is this,—Is it probable, that if man had been placed speechless upon the earth, he would have been urged by necessity to contrive for himself an articulate language?

Now, under whatever circumstances man made his first appearance,—whether he was placed here by a gorilla or by God, is a matter of no moment in this inquiry. Come how he might, he brought a language with him—the language of gesticulation, implanted in him by what is called Nature; and by nature he was prompted, and even constrained to use it. That is my first position. Man has, and was never without, a natural language, a language which is no more an invention of his own, or the gradual acquirement of ages, than his outward manifestations of love and hate, joy and sorrow, pleasure and pain, or any other of the promptings of nature, are conventional signs, agreed upon by social compact, taught and acquired.

Wherever man is found, he is found (unless he be in a condition of idiocy) in possession of this natural language;—he never learns it, he never loses it. It is universal throughout the whole human family. It is employed as a means of inter-communication among the most degraded races of savages, and it is employed in the most polished societies of Europe,—in the animated war-palavers of the wildest Indians, and in the cultivated conversation of courts and palaces. *But* there is

this difference,—the savage gives full and unrestrained gestural expression to his feelings and emotions,—*his* articulate language is often too limited and feeble to supply the place of gesture; whereas we, with our copious vocabulary, can dispense with it; and we not unfrequently use effort to check and suppress what, if we were speechless, would be our only resource, and what, *therefore*, it would be our great object, as social creatures, to cultivate and amplify.

Whenever *we* use gesture,—and use it we do, in spite of all our endeavours to curb nature,—we use it, for the most part, unconsciously; and therefore, to ourselves, it escapes notice. I wish this evening to invite your attention to some of the principal of these natural gestures, to show you what they really are; and, by directing your special notice to what, when engaged in animated discourse, you yourselves do, to show you, by ocular proof, that you unconsciously employ the language of gesticulation to an extent you little suspect; in short, that you use the natural signs of the deaf and dumb, which, in fact, are no other than the natural signs of the whole human family.

[Here Professor Young exhibited various gesticulations and explained their meaning. It was specially noticed, that in all cases where feeling or emotion was expressed, the eye of the observer was steadily directed to the *countenance*, the manual signs being but auxiliary—natural, but subordinate.]

I think it has now been sufficiently shown that, by whatever agency man made his appearance in the world, he came endowed with the ability to communicate with his fellows in a language intelligible to all, a language requiring no conventions to establish, no long and laborious efforts to construct, yet amply sufficient for the expression of all his physical wants, and for social intercourse respecting all the natural objects and circumstances with which he might be surrounded.

Now it must be remembered that, according to theories ancient and modern, the primitive race of mankind was a barbarous race,—a race inferior even to the present natives of the Fiji Islands or of the interior of Australia: without speech it must have been so. It has been said that such a people could teach themselves articulate language, as well as they can teach themselves to make a fire. But the savage is driven by necessity to devise means for kindling a fire. What stern necessity is there to drive him to originate a spoken language, even supposing him to possess the ability? What is there in

his condition, at the present day, that would make him feel the want of articulate sounds, even if he were to lose the scanty vocabulary he now has,—the language of gesture being still preserved? In Major Long's expedition to the Rocky Mountains, there is an account of certain tribes of the aboriginal inhabitants of the country west of the Mississippi, who, though speaking different languages, readily communicate with one another in the common natural language of signs: many of these are described in Major Long's volumes, and, as might be expected, they closely agree with those employed by the deaf and dumb.

It may be said, however, that man, even in this primitive and barbarous condition, would instinctively know that the organs with which he was endowed all had their appropriate offices, and that he would not be *man* without an instinctive propensity to use them. This is true. But I submit, that previously to his having witnessed articulation in others, or exercised it himself, he would not be conscious that he *possessed* organs of speech, as such, at all. The larynx, the tongue, the palate, the teeth, and the lips, he would naturally employ for other and even more important purposes, at least for more important purposes. How is he to know that in addition to those offices these parts of his frame *can*, by certain mechanical adjustments, convert mere voice into an artificial system of intelligible sounds, conventionally to be employed to express thoughts, and actions, and things? His throat is a channel for his food; his tongue and palate,—the organs by which he tastes it; his teeth,—the instruments by which he masticates it; while his lips he employs in the act of drinking. Who, or what, is to tell him that these same organs could be employed, not only for the nourishment of his body, but also for the elevation and enlargement of his mind? Is it likely, in the primitive low condition we are here contemplating him, that he would ever think of these ministers to his physical wants and enjoyments in connection with any intellectual or moral purposes; or of using *them*, with the view of supplanting his natural and significant language of signs by non-natural and non-significant utterances?

There can be no doubt, on the hypothesis that speech was the gift of God to man, that there would have been what may be called a pleasurable instinctive propensity to speak, but this is very different from an instinctive propensity to *invent* speech;—to invent that of which (if in his primitive condition he were without) he would neither have felt the want, nor have known the value.



But if, in spite of these considerations, it be still maintained that savage man invented speech, I would ask,—How comes it that civilized man, when in danger of losing this precious treasure, instead of using every effort to prevent the threatened calamity, always feels a strong propensity to accelerate it? Those who have the misfortune, after they are grown up, to lose their hearing, are always found inclined voluntarily to give up their speech also. They well know, since the avenue to the speech of others is now closed, that, without exercising their own, it will in time be lost and forgotten, and that they will inevitably lapse into permanent dumbness. They *know* this; and yet, by their willing neglect, they seem to say: “Well, let it go;” and, in many instances, they do let it go, never to be recovered. I appeal to facts.

Most persons here have, no doubt, heard of Dr. Kitto, the author of “The Pictorial Bible,” and other excellent works. He was totally deaf, having lost his hearing at the age of twelve years, by a fall from a ladder, at which period he was of course in full possession of articulate language. In his interesting book called “The Lost Senses” he gives this account of himself in the deaf state:—

“Although I have no recollection of physical pain in the act of speaking, I felt the strongest possible indisposition to use my vocal organs. I seemed to labour under a moral disability which cannot be described by comparison with any disinclination which the reader can be supposed to have experienced. The disinclination which one feels to leave his warm bed on a frosty morning is nothing to that which I experienced against any exercise of the organs of speech. The force of this tendency to dumbness was so great, that for many years I habitually expressed myself to others in writing, even when not more than a few words were necessary; and where this mode of intercourse could not be used, I avoided occasion of speech, or heaved up a few monosyllables, or expressed my wish by a slight motion or gesture. . . . In fact, I came to be generally considered as both deaf and dumb, excepting by the few who were acquainted with my real condition. I rejoiced in the protection which that impression afforded; for nothing distressed me more than to be asked to speak: and from disuse having been superadded to the pre-existing causes, there seemed a strong probability of my eventually justifying the impression concerning my dumbness which was generally entertained. I now speak with considerable ease and freedom, and, in personal intercourse, never resort to any other than the oral mode of communication.”—(*The Lost Senses—Deafness*, p. 19.)

This return to speech, however, was not voluntary, but coerced. Two friends who accompanied Dr. Kitto on his first visit to the Mediterranean, conspired, in conjunction with the captain, to disregard every word he said otherwise than orally

throughout the voyage. As no request was attended to, and no inquiry answered, which was presented in writing, he was thus *driven* again to speak.

I will mention another instance,—the case of an accomplished lady with whose writings many persons here are familiar. I allude to the late Mrs. Tonna, under which name, however, perhaps few will recognize the celebrated authoress I am advertising to,—“Charlotte Elizabeth.” The following interesting particulars respecting this lady were communicated to me by her husband, Mr. Tonna, shortly after her death, in a letter which I have the writer’s permission to make public:—

“Mrs. Tonna [Charlotte Elizabeth] lost her hearing at the age of nine or ten. It was entirely gone—I believe from a thickening of the membrane of the tympanum. No sound of any kind reached her, as a sound, although she was acutely sensitive to vibrations, whether conveyed through the air or through a solid medium. In this way the vibrations from an organ, or from the sounding-board of a piano-forte, gave her great pleasure; and from her recollection of Handel’s music, she took great delight in it; and from the vibrations would *recollect* the sounds so familiar in her childish days. You will see some particulars of this in her ‘Personal Recollections.’

“On one occasion, at the age of twenty-two or twenty-three, a new country dance was played: the tune was called the ‘Recovery,’ the rhythm of which is very peculiar. She was as usual at her station, with her hand on the sounding-board, when some friends present expressed a doubt as to the possibility of her forming any idea of the tune. She sat down at once, and wrote a song, which I possess, most perfectly adapted to the tune in all its changes.

“There is a poem of hers beginning ‘No generous toil declining,’ which it is quite difficult to read as poetry until informed that it was written to the tune of ‘A rose-tree in full bearing,’ and to that it is perfectly adapted. The poem is included in the volume of ‘Posthumous Poems’ about to be published, in which it will be plainly seen that most of her poems were written to mental tunes. All conversation was conveyed to her by the fingers—spelling each word, without any attempt at shorthand, which she said always confused her. After repeating to her sermons and speeches from the most rapid *Irish* speakers, I have often been distressed at the apparent impossibility of her having understood me; for I felt that I had repeatedly rather indicated than completed the formation of each letter. Seeing my distress, she would often begin and give me every head of division of the sermon, together with the most striking passages, *verbatim*, as the orator had uttered them.

“We never divided the words, but spelt on the letters as fast as it was possible to form them on the fingers. When in society, I have been repeating to her a general conversation, and communicating the remarks made by each individual, her eye would incessantly range about the room, catch the expression of each speaker’s face, and yet never lose a word of what was said.

Strangers were amazed at seeing a smile on her face at the very instant that a humorous remark was being made. The power and quickness of her eye was truly surprising."

I have made this long quotation from Mr. Tonna's letter, because I thought that, apart from the general purposes of this address, many persons present might feel an interest in particulars, not generally known, respecting Charlotte Elizabeth. But my special object, in this extract, is to draw your attention to a passage in it further confirmatory of the fact I have already mentioned; namely, that people who lose their hearing are content to lose their speech too. The passage is this:—"We never divided the words, but spelt on the letters as fast as it was possible to form them on the fingers." Now this lady still retained the faculty of speech: Instead of employing *it*, why should she, even when conversing with her own husband, habitually use the finger-language of the deaf and dumb?

Dr. Kitto accounts for this repugnance to speak on the hypothesis that the loss of hearing is attended with injurious effects upon the organs of speech, from some mysterious sympathy between the two sets of organs,—the auditory and the vocal; the destruction of the former set occasioning a functional derangement of the latter, or of some of them. And I am amazed to find that so distinguished a physiologist as Professor Huxley, in his recent work on *Man's Place in Nature* favours the same view. It is a mistaken view. There is no necessity to resort to anatomical or physiological considerations to settle the doubt. Deaf-mutes, whether their deafness be congenital or the result of disease or accident in after-life, *can all be taught to speak*, unless there be a malformation of their organs of speech entirely independent of their deafness. I have witnessed hundreds of such persons taught to speak,—to pronounce all the vocal articulations that we utter, and with equal accuracy. Of all these hundreds of deaf and dumb children, I never knew even *one* who had the slightest defect in his vocal organs. The records of the Royal Institution for the Deaf and Dumb at Paris also abundantly testify to the same fact, namely, that although the ear is paralyzed, the organs of speech remain unimpaired.

The propensity to silence on the part of those who, after long familiarity with the exercise of speech, have become deaf, arises, I am convinced, not from any functional impediment, but entirely from the *changed character* which, to the utterer, his speech assumes. To him, as to every hearing person, speech is the utterance of articulate *sounds*, and not mechanical *actions* merely of the organs of speech. These actions, however indispensable to speech, are executed almost uncon-

sciously; our attention is not directed to them, and they go on unobserved; we are wholly occupied with the result, and not at all with the machinery which produces it. With the recently deaf, however, the language which had grown up with him from infancy,—which had become natural to him, and which had always been graced, too, by features of Nature's own,—tones of voice,—upon the loss of hearing, suddenly wears an altered aspect. He has hitherto been accustomed to it, associated with modulation,—cadence,—clothed in all the harmonious drapery of sound. It is now stripped of this, and presents itself to him shorn of its vitality,—a non-natural, lifeless skeleton, formed by artificial adjustments of the vocal organs, but emitting no sound to his own ear.

The fact is, that our vernacular tongue, descending to us, as it were, by inheritance, and acquired imperceptibly in childhood,—and a wonderful acquirement it is,—seems, to the child, as natural to him as eating, or drinking, or sleeping. He scarcely feels conscious that it is an acquirement at all; and even when grown up, he little reflects that the words he uses are all but so many artificial conventions, in themselves all, or nearly all, non-significant; and not only that “a rose by any other name would smell as sweet,” but that any other name would be just as significant, or rather just as non-significant of its fragrance. But when his hearing is gone, and with it all that was really natural in his speech, vocal sound, gone too, he becomes painfully awakened to the fact that nothing but what is wholly artificial is now left to him; and that what were once articulate sounds to his own ear, are henceforth to be, to him, only inaudible movements of the vocal organs.

It is this sudden apparent transmutation of speech, from the natural to the artificial, that creates in the mind of the deaf person the repugnance to employ it. That this aversion must be very great is obvious, since those who entertain it well know the trouble and inconvenience it occasions to all with whom they converse,—forcing them to read on the fingers,—an art in which few are expert, or else to receive in writing, still more slowly executed, every sentence addressed to them.

Now I would ask,—If a highly enlightened and educated people, at great cost to themselves and others, knowing too the full value of speech, cherish this almost unconquerable repugnance to the use of it, so soon as the only touch given to it by nature has become effaced, is it likely that an unenlightened savage community, already in possession of an expressive *natural* language, a language fully commensurate with

all their physical wants and desires,—and other than physical they have not—is it likely that they would apply themselves to the difficult and strange task of inventing, to supply its place, an artificial, non-natural language of vocal articulations? Where would be the incentives—what the motives? They had never witnessed speech,—it did not exist. Whence would originate the impulse?

Is it not more likely that as their experience enlarged and their wants increased, if this sign-language were felt to be inadequate, that they would engraft upon it conventional gestures, just as the deaf and dumb do? If circumstances were favourable to it, or necessity required it, the gestural language of the deaf and dumb might be carried to a much greater extent than it ever has been carried. The deaf and dumb do not congregate together in distinct communities while in their uneducated state: they are isolated, coming into contact with one another only accidentally and occasionally, and never in any considerable numbers. They thus have no opportunity, in that state, of amplifying their language by general compact or agreement. And when they assemble together in institutions set apart for their education, it is the business of their teachers to discourage and suppress the use of gesture so soon as it has served the purpose of facilitating the acquisition of a spoken language. But that gesture-language *can* be greatly amplified there is no doubt, and this is the language that speechless savages would cultivate, and not an entirely new language, a language of articulation, an artificial contrivance they had never witnessed, and one which it is hard to imagine they could have any conception of.

I think it therefore to be a reasonable conclusion that, in the absence of all aid from without, a speechless community would be, and would ever continue to be, a gesticulating community. To gesture they would add inarticulate vocal sounds, but nothing more. And this is my second position.

In further confirmation of it I will merely submit to your consideration an additional remark or two.

A primitive speechless race of men would be but little more than mere animals. Their gestural language, though amply sufficient for their uncivilized condition, would be very inadequate to elevate them to a state of civilization; for gesture alone could never be an adequate exponent of aught but animal feelings, material objects, and visible appearances, a fact which must be especially borne in mind in speculating upon the capabilities of gestural language, to whatever extent it be cultivated. Speech (or the written symbols of it) is indispensable to any progress in moral, religious or intellectual

education. Nobody has ever succeeded, or ever can succeed, in conveying spiritual instruction to the deaf and dumb by gesture, unless indeed *conventional* signs be used as translations of previously-understood written or spoken words, as in the case of the finger-alphabet for instance, which no uneducated deaf-mute can use. Such an isolated race of human beings as we are here supposing might, indeed, become more and more morally *degraded*; but without speech, and excluded from all example and all external influence, they could never morally *advance*. In a late number of the *Quarterly Review* (No. 211) the writer of an article on the Poleyinian Islanders observes that "the present state of these people shows the tendency of men to descend lower and lower in the social scale, as they become more widely scattered and separated into small isolated bodies."

Now if it be true that without speech civilization could not be attained, it is equally true that without civilization speech could not be invented. No people would invent what they had no felt need of.

Here then is a dilemma. Speech is indispensable to civilization, and civilization is indispensable to the invention of speech. How can such a contradiction be avoided on the hypothesis that speech is of *human invention*? "Modern science" may perhaps discover some way of reconciling the apparent inconsistency, but common sense, I think, cannot. And this, be it remembered, is the only tribunal to which I here appeal. Its functions are definite and unmistakable, whereas, in the *modern* acceptation, "science" means anything—except *knowledge*.

In what has hitherto been said, however, the advantages of the ear, even to a speechless community of uncivilized men, have not been dwelt upon. There is no doubt that the possession of the organs of hearing would place them in a position superior to that of deaf-mutes. They could recognize sounds, and would thus be conscious of noises made by themselves or others; of the cries and growlings of land animals, and of the shrieks and melodious utterings of the feathered tribes. Certain of these sounds they would find that they themselves could imitate, and that they could thus, in their description of a quadruped or a bird, or of any natural sounding object, as the rushing torrent, or the moaning wind, add to those peculiarities which address the eye or the organs of touch, the other characteristics which address the ear. The congenitally deaf know no difference between the notes of the cuckoo and those of the nightingale. They can dis-

tinguish one bird from another, in their descriptions, only by the size, the shape, the plumage, the bill, and such-like external features, and by the visible bearing and habits of the individual. A community of human beings without speech, but in possession of the ear, would be superior to the deaf and dumb only in these natural advantages; besides expression of countenance and gesticulating with their limbs, they could imitate sounds, and *call* at a distance. But these additional powers would render the possessors of them even more independent of, and therefore, less urged by necessity to invent, articulate speech. I have not the slightest doubt, if I were brought into communication with a savage on his own soil, (safety, of course, being guaranteed,) that I could enter into instant converse with him, without a single articulate sound being uttered by either of us, and, allowing me only half an hour to feel my way, that I could understand everything he had to communicate, and he as readily understand me, as if we were two persons speaking the same articulate language. The more of the savage he was, the better I could converse with him; and every one who has paid sufficient attention to the language of natural signs could do the same.

It has often occurred to me that many of the tragical disasters which have befallen early missionary enterprise, and our exploring expeditions, both by sea and land, might have been averted if a person having this familiarity with gesture-language had been among the unfortunate party. I have thought that even poor Bligh and his wretched companions would not have been so cruelly repulsed from every island at which they sought succour during their unparalleled voyage of nearly 4,000 miles in an open boat, if one of those nineteen unhappy wanderers had been deaf and dumb; if but one among them could have made their case known in a language intelligible to all.

When Basil Hall endeavoured to conciliate the natives of the coast of Corea, they rejected his overtures, as he thought, by making the sign for cutting throats. A person familiar with gesture-language could have ascertained in a moment whether by this sign they threatened to be the perpetrators or merely expressed a dread of being the victims. From their subsequent behaviour it would seem that they meant to convey the latter impression. On Captain Hall proceeding to land, he says, "This movement the natives did not seem to relish in the least, for they made use of a sign which, though we could not determine exactly to whom it referred, was sufficiently expressive of their alarm and anxiety. It consisted in drawing their fans across their throats, and sometimes across ours, as if

to signify that our going on would lead to heads being cut off; but whether they or we were to be the sufferers was not very clear."—(*Voyage to Loo-Choo*, second edition, p. 11.)

It has been affirmed, both by ancient poets and modern visionaries, that primitive man must have herded with the beasts of the field, feeding on acorns and on the roots he could scratch up with his fingers. This imagined association with brutes could never be. The two parties could not communicate; the language of human gesture, as a medium of social intercourse, could be intelligible only to human beings, who would therefore naturally and necessarily congregate together in a wholly distinct and separate society. A *single* human being, having no such society, could, of course, have no other companionship.

But it is time that I brought this paper to a close. In the course of it I have not insisted on the absolute impossibility of man inventing speech; I have merely aimed at showing, by an appeal to facts and to reasonable considerations, that, even admitting his ability, the improbability of his actually doing so is very great; for I feel less hesitation in affirming that he *would* not do it, than that he *could* not do it; and this because, cast about as I may, I cannot discover anything in the low condition, hypothetically assigned to him, to stimulate him to the undertaking. When I find it to be a fact that the natural language of gesture, which every human being possesses, is amply sufficient for all his social requirements in such a primitive uncivilized state; when I find it to be a fact that when the spoken language of a person who has employed it from infancy, and which has become natural to him—his vernacular tongue,—becomes to that person changed to a non-natural system of organic actions merely, he being conscious of nothing more—nothing that is nature's own,—that this non-natural speech is repulsive to him, that he would rather have none at all, I ask myself in vain, Why should primitive speechless man *invent* artificial language? With a natural and expressive means of intercourse commensurate with all the demands of his then condition, why should he be at the *trouble* even of devising and settling by general compact another language, consisting of symbols purely conventional and artificial? To these questions no satisfactory answers suggest themselves to my mind.

I reflect, too, that civilization presupposes the exercise of speech; and, yet, that a considerable advance in civilization must precede the invention of speech; and that no result can chronologically be antecedent to that which brings it about. I bear in mind, further, that those who never possessed a faculty



given to others care but little about it: a faculty they never had, they never miss. And a faculty that *none* ever had cannot be even conceived, any more than we can conceive a sixth sense, or could conceive a fifth, if we had but four. I well remember conversing, some years ago, with a boy who was born blind; he was about 16 or 17 years old, highly intelligent, well informed, and well educated. I put this case to him—"Suppose a person, having the power to give you eyesight without subjecting you to any pain or inconvenience, should say to you, 'John, which would you rather have—the ability to see, or five pounds?'" He raised his sightless eyeballs upwards, in the act of reflection, for a few seconds, and replied, "I think I would rather have the five pounds"! This is an uncoloured and strictly literal fact. The boy's name was John McCallion, and he was an inmate of the Ulster Institution for the Blind.

From all these considerations I find myself constrained to conclude, quite independently of Scripture, that speech was *not* of human invention. I am constrained to conclude that the universal existence of speech among savage tribes, though in a poor and imperfect form—testifies (as they themselves testify), not to the elevation to which they have risen, but to the degradation to which they have fallen; not to what they have acquired, but to what they have lost. Just as a once beautiful face, though marred by accident or disease—though even overspread by the pallor of death, will still retain some faint lineaments of its former comeliness—so, even in the debased and benighted savage, all trace is not lost of what man once was. Speech, Heaven's direct bestowment, in one feeble form or other, survives the decay of all else, and ever continues a mark and memento of man's high origin.

Yes: reason and Revelation alike tell us that when our first parents trod the groves of Paradise they communed with each other, not in dumb pantomime, but in heaven-born speech; and that they *learnt* to speak just as much as the bee learnt to construct its cell, the spider to weave its web, or the sparrow upon the house-top to build her nest. No mortal instructor taught *them*—they had no rudimentary training to go through—no long apprenticeship to serve. Their lesson was the lesson of an instant, for their CREATOR was their TEACHER.

What this primitive language was we know not. Hereafter, perhaps, we may know. The language of Eden may, in a future state, be our own, if permitted to dwell in the paradise above. And, as the Apostles of old "spake with other

tongues, as the Spirit gave them utterance," so there,—“Parthians, and Medes, and Elamites, and the dwellers in Mesopotamia, and in Judæa, and Cappadocia, in Pontus, and Asia, Phrygia, and Pamphylia, in Egypt, and in the parts of Libya about Cyrene, and strangers of Rome, Jews and proselytes, Cretes and Arabians,”—may all, in one language and one tongue, “speak the wonderful works of God.”

The CHAIRMAN.—I think I may at once thank Professor Young for his exceedingly valuable and logical paper, which I think will be read, as it has been listened to, with the greatest interest. I call upon any gentleman for any remarks he may wish to make on the subject.

Mr. WARINGTON.—In order to lose no time, as we have but little left for discussion, I will at once mention that it struck me, in listening to Professor Young's paper, that there was this flaw running through the whole of it,—that he argued, because people who became *deaf* were not anxious to retain the power of articulation, therefore others, who had not got it, but who were *not deaf*, would not think of inventing articulate speech. But surely all here turns upon the fact of the people being deaf. They could not *hear* the sounds made by them, and so were disinclined to use them as a medium of communication. But now apply this principle to a parallel case. Suppose a man who knew the gesture language became blind, would not he in like manner give it up? You won't find a man use the gesture language in the dark. Even if perfectly certain that another man could see he was using gestures, he yet would not use them, because he could not see them himself. But again, is it quite certain that those who are deaf are always thus disinclined to use articulate language? Let me read a short extract from a chapter on gesture language, written by Mr. Tylor.\* He writes thus :—

“Teuschner, a deaf-mute, whose mind was developed by education to a remarkable degree, has recorded that, in his uneducated state, he had already discovered the sounds that were inwardly blended with his sensations. So, as a child, he had affixed a special sound to persons he loved,—his parents, brothers and sisters, to animals, and things for which he had no sign (as water); and called any person he wished with one unaltered voice.”

Mr. Tylor accumulates several distinct cases of deaf-mutes who were thus anxious to use articulate language, although quite unable to hear what was said; he refers also to the most remarkable case of all, that of Laura Bridgman, who though deaf, dumb and blind, was yet so anxious to use sounds that she was obliged to be restrained from making them, because it was inconvenient and painful to those who were near her. Then there is another point in Professor Young's paper, I wish to allude to. He says that savages would not invent language of this kind, because they have no need for it. And if man was created in an utterly savage state, of

\* *Researches into the Early History of Mankind.* By E. B. Tylor. Chap. iv. p. 72.

course this is a good argument. But if we take it the other way, that man was not created in a savage state; then, according to Professor Young's own principles, he was created with wants and feelings, to express which a gesture language would be utterly inadequate—

The CHAIRMAN.—The question is, whether, having been created without language, he would have invented one.

Professor YOUNG.—You are going into a case not contemplated. I have been proceeding distinctly upon the hypothesis, and have discussed the phenomenon, of a community of people sent into the world in a savage and barbarous condition. You are drawing something from a civilized state, which does not affect my argument. Will not that be infringing upon our time?

Mr. WARINGTON.—I think not, for this reason; because, if we take only the hypothesis which Professor Young has put before us, we are taking so one-sided a view, that we may be running away with a conclusion which only refers to that one hypothesis, and yet may fancy it refers to the whole subject—

Professor YOUNG.—You must stick to the hypothesis; do not change it, I pray.

The CHAIRMAN.—I think you are travelling away from the question under discussion.

Mr. REDDIE.—I think it would be valuable to hear this other hypothesis also discussed.

Mr. WARINGTON.—Our subject, I believe, is the origin of language, connected with gesticulation. I want to prove that if man had been (upon another hypothesis) created in a state similar to what we are in now, he would have naturally invented an articulate language, and that therefore the facts which Professor Young advances will not prove anything on this hypothesis. According to Professor Young's statement, which I agree with, gesture language only refers to things physical and material. Then if a man has feelings which he wants to express as to things which are not physical and material, would he not at once employ articulate language? There is an objection which is raised to this. It is said that all these languages are arbitrary, and that the idea that man invented arbitrary word-language, is too difficult to be credited. But is it quite certain that articulate language, when first spoken, was arbitrary? We know that written language at the present time is arbitrary, and that the signs we put on paper have not the slightest connection with the sounds or the things for which they stand; but there is yet nothing more certain than that in the primitive alphabets the signs were used, not merely as signs, but as pictures of the things they were intended to denote; and therefore that written language has had its origin in picture language, and afterwards became gradually arbitrary. Then why may not the same have occurred in respect to spoken language? We can see that written language was originally a picture language, in which there was a natural connection between the sign and the thing signified, because we have certain very ancient and primitive alphabets

still existing. But we have not the old primitive sounds, and so cannot say whether there was or was not in spoken language as natural a connection between the sign and the thing signified as in written language. In the case of mutes, however, they *have* articulate signs which they connect with certain things, and are able to put words together (some of the instances go as far as that), and to form compound words. I think these facts go to prove, then, that it is possible,—I do not say that it is certain,—but that it is possible, that man, if created in a high moral condition, would have had power and inclination to invent articulate language.

Professor YOUNG.—I have said nothing to the contrary.

Mr. REDDIE.—I regret that I cannot quite accept the hypothesis of Professor Young, anxious as I am to have it established by all means that language was originally a gift of God to man. But neither can I quite agree with Mr. Warrington in the latter part of his remarks, that if man had been created in a high condition, with the feelings and wants of civilized man, he could have invented language, if he means language such as we have it among civilized races. I do not deny that he would have endeavoured to speak, or that he could probably invent some kind of language ; but it is a very important hypothesis that Professor Young puts before us, namely, that if man was created in the low and savage condition, which it is now the fashion to assume, he would begin with mere gesture language and would be content with it. But be that as it may, I venture to go further and say, that if man was originally speechless he must have been lower than any known savage, and even if we conclude that man in that low condition could invent a spoken language, we are bound to infer that it would only be language such as we do find it among actual savages. And if that be so, we are then still left without any explanation of the origin of the most ancient and perfect languages that exist,—as for instance the Sanskrit,—which never could have been invented by man in this low condition. But as the time of the meeting has been already so much exceeded, I think it will be more valuable, instead of pursuing such speculations, that I should appeal to some further facts, like those which the author of the paper has brought before us. I ventured to give Professor Young's paper to a friend of mine to read—a gentleman who, although he is a "deaf-mute," is in the same public department as myself, and, I may add, a very able man of business. I consider his is a better instance to cite than those adduced by Professor Young ; because Dr. Kitto lost his hearing at twelve years of age and Mrs. Tonna at nine or ten, but the gentleman whose case I am about to cite became deaf at a very much earlier age, and all that he knows of vocal articulation he learnt before he was four years old. Well, I gave him Professor Young's paper to read, and requested to have the benefit of his remarks upon it ; and he has been kind enough to allow me to make use of the letter that he wrote to me in reply, which when printed in our Proceedings will I think be read with great interest, both as an acute criticism upon the paper, and as giving his own experience as regards the supposed disinclination of deaf-mutes to speak. His letter is as follows:—

“ROEHAMPTON, 10th October, 1866.

“DEAR MR. REDDIE,—

“I return, with many thanks, the paper on the language of gesticulation, which you kindly lent me to read.

“The argument derived from that language, on the question as to the origin of speech, is apparently that, *because* there is a natural language of signs sufficient for all ordinary necessities, therefore it is not reasonable to suppose that savages would set to work to invent such a complicated and arbitrary structure as human speech; and it is sought to strengthen the argument by showing that deaf people, although able to speak, have no great inclination to do so.

“I confess that I cannot see the value to the argument of these latter considerations. If we push the argument to its conclusion, viz., that speech and language must have been the gift of God, then that conclusion itself reduces the value of the premises on which it is sought to found it. Speech being concluded to be the gift of God, and there being a natural healthy pleasure in the exercise of all the faculties God has given us, any repugnance to use the faculty of speech must arise from *ill* of some kind or other. If so, the whole point is foreign to the argument.

“That is what I think; nevertheless the facts of my experience are very much at the service of any one who thinks he can make any use of them.

“When I was four years old, I had two attacks of scarlet fever in quick succession. The doctors gave up all hope of saving my life, but I recovered, with the loss of my hearing. Before my illness I had been taught to read, and I understood spoken language as well as any child of four years old. I learnt the finger alphabet for myself when recovering from my illness, and I was able at once to understand what my brothers or sisters told me by means of it. There was not in my case that difficulty which arises with those *born* deaf and dumb, or who lose their hearing before their education has at all begun, viz., the absence of any language, other than the very imperfect one of gesture, wherewith to work. I *had* acquired sufficient knowledge of language to understand the force of a sentence, and to be able to put my words together in grammatical order. That one small fact made a world-wide difference to me.

“Although *quite* deaf, I never did otherwise than *speak* to my brothers and sisters; and to this day I never have said a sentence to any of them by signs or by spelling on my fingers.

“At six years old I was sent to a school for the deaf and dumb, and there I remained till fifteen. At this school once or twice a week there was a speaking lesson; but the main teaching was carried on by signs, and out of school nothing else was used. Therefore I may say, speaking generally, I was dumb while at school, and my speaking ability of course fell off from want of practice. Yet, when at home for the holidays, I invariably *naturally* spoke. After leaving school, (and I may observe in passing, that it is an entire mistake to send any one who has merely lost hearing,

but who possesses language, to a deaf and dumb school,) I saw very little of the deaf and dumb, and I gradually got into the habit of speaking more and better.

“The reason why I do not speak to every one is, simply, that every one cannot understand me, and I am reluctant to give people the trouble of trying to understand. Being deaf, I cannot always pitch my voice at the right tone with reference to surrounding noises. I mispronounce some words, and have little skill in modulation; hence I cannot expect to be immediately understood, except for single words or common expressions; but I infinitely prefer being with people who *can* understand me, and I have not the smallest hesitation or reluctance in speaking to them, or to my servants, or others to whom I do not mind giving the trouble of finding out what I say. Most people understand me readily enough, and after a few days’ acquaintance and practice find it hard to believe they ever could *not* understand me.

“Of course I am silent in company; the reason being, simply, that I cannot hold by the thread of the conversation going round. If I do get hold of it now and then, I have no hesitation in saying anything I wish; but of course the thread drops off again directly, unless, indeed, there is some one by who takes the great trouble to repeat to me on his fingers or by writing the main points of the conversation as it goes on.

“I never think of using signs, or of speaking on my fingers, except to persons deaf and dumb. In fact, I hardly ever meet with a hearing person, other than a teacher of the deaf and dumb, who can read spelling or understand signs.

“It is much more difficult to read spelling than to spell. I was much astonished at the statement in the paper that Mrs. Tonna always spelt on her fingers, and did not speak. If the statement rests only on the words quoted, ‘We never divided the words, &c.’ I should be inclined to doubt whether the ‘we’ is not here exclusive of Mrs. Tonna herself. It would be quite true for one of my sisters to say, ‘We never divided the words, &c., *in talking to Arthur* ;’ but not one of my family or friends would understand me if I spelt a sentence on my fingers to them, unless I did it with most emphatic slowness.

“To sum up; although I do not speak to every one, and am silent in mixed or large companies, it does not arise from any kind of ‘moral disability’ or ‘disinclination,’ such as Dr. Kitto appears to have laboured under, but from reasons easily understood, and of which I feel quite certain.

“I started by saying that I did not think the case of the deaf and dumb strengthened the main argument of the paper; therefore, my experiences, which differ from those brought forward, must be equally immaterial to it.

“The conclusions of the paper have my *sympathy*, although I remember reading a very ingenious argument to prove that speech had its origin from men trying to imitate the sounds of nature and of animals, the

mitation standing for the name of the object. It is easy to see how, from these first simple sounds, which a savage might make as naturally as gesticulation, a language might be elaborated; at least there are no such great difficulties as lie in the way of the transmutation of an ape into a man. I thought I had read the theory in Goguet's *Origin of Laws*, but I cannot now find it in that book.

"Believe me ever faithfully yours,

"A. H. BATHER.

"JAMES REDDIE, Esq."

I consider, Sir, that this is an important communication; and with reference to Mr. Bather's want of any disinclination to speak, such as was experienced by Dr. Kitto, I think it may be explained thus. Having as a child only heard up to four years old, he would not be afterwards so conscious of the marked difference between his condition as a person who once had heard, and one who does not now hear; which would probably be acutely felt in the case of Dr. Kitto and by "Charlotte Elizabeth." Mr. Bather's case also is more nearly analogous to that of those who are deaf-mutes from their birth, and who consequently never heard at all. And here lies, I think, the great weakness of Professor Young's argument. He has himself slightly noticed it,—but I think it ought not to be noticed merely incidentally, for it is the most important point of all,—namely, that the theory is only good if applied to a community of deaf people! The argument is founded upon only two cases, and those are of people who did not hear. They, of course, could have no pleasure in speaking, and therefore would not use speech, unless convinced of the usefulness of speaking. I may observe, that although Mr. Bather does not hesitate to speak, yet he speaks in an awkward monotone, and one requires to get accustomed to his imperfect articulation to understand him readily. I am sorry I have not got from him an explanation of one point, where his letter would seem to be discordant with Professor Young's statement, that all those people who cannot hear, may yet be taught to articulate perfectly. But Professor Young has also not told us whether congenital deaf-mutes are disinclined to use that power of speaking which, he tells us, they all may acquire. With reference to the question whether speech could be invented from imitating sounds in nature, I must say, (if man had not a gift of speech originally, and the ideas that come with the power of speaking,) it appears to me that he would scarcely have been able to express with his hands what is meant by such gestures as those which Professor Young has exhibited. But, at any rate, he could surely do quite as much in making signs of various kinds with his tongue, when he had the power of uttering sounds, as he could by merely moving his hands. And people who are not deaf cannot help being aware of their power of vocal utterance, because even children from their birth utter sounds naturally, and man hears every variety of sound in nature all around him, especially the cries of birds and beasts, which he would naturally imitate. I must also say, with reference to those gesture-signs which Professor Young exhibited, that I can scarcely believe that a

single one of them would be intelligible to any person, unless taught their meaning by means of spoken language. Nine-tenths of the gesticulations which Professor Young exhibited before us appeared to me to be rather speech interpreted by signs, than signs significant in themselves; and but for his verbal explanations, I confess I should not have understood their meaning in the least. There is a curious passage in one of Montaigne's Essays, perhaps bearing on the Professor's side, with which I shall conclude. Montaigne considered that beasts may speak, for all we can tell, because, he observes, we can say all we have to say by signs. Then he goes on:—"Quoi des mains? Nos requerons, nous promettons, appellons, congédions, menaceons, prions, supplions, nions, refusons, interrogeons, admirons, nombrons, confessons, repentons, craignons, vergoignons, doubtons, instruisons, commandons, absolvons, injurions, mesprisons, desfions, despitions, flattons, applaudissons, benissons, humilions, mocquons, reconcilions, recommandons, festoyons, rejouissons, complaignons, attristons, descomfortons, desesperons, estonnons, escrions, taisons, et quoi non?"

There we have the same idea as in the paper; but I must add that I do not understand how any savage, who only knew gesture-language, could ever have such ideas at all, or understand one half of the things signified by those words, and the fine shades of thought they often express.

Rev. Dr. IRONS.—I think we are scarcely doing justice to the paper of Professor Young, if we forget he began by telling us he could pretend to no demonstration in such a matter. He merely endeavoured to accumulate all the probabilities of the case; and with respect to those examples of deaf-mutes, they were by no means all his argument,—they were only illustrations which he introduced, like the mythical savage with whom he could communicate, who was not deaf; and I think without at all proving his point, which he never attempted, he suggested the great probability of the difficulty of originating a language, if man had been created a mute savage. And when Mr. Warrington affirms that there is a probability, if man was created in a civilized condition, that he would form a language for himself, I think he is bound, in fairness to Professor Young, to show how he could meet the dilemma which the Professor put before us, that civilization implies language, as much as language implies civilization. Let us meet the issue fairly, and see whether there is a probability, or an improbability, of savages inventing speech. It occurs to me that the illustrations drawn by Mr. Warrington do not apply to the Professor's argument, which was put forward to meet the idea of man being a monkey previously, and gradually becoming man. The primitive men were said to be of the lowest type, and the Fiji Islanders were particularly mentioned as an instance. Now they have no civilization surrounding them to suggest the thoughts like those which might be suggested to civilized mutes by what they see. The very language originating thought and producing high desires could not have been excited if these mutes had been in the position of the Fiji Islanders, or of a still lower class, namely, a people just risen above the monkey.

Rev. Dr. THORNTON.—At the risk of being called to order, I shall first, Sir,



return you my thanks, and I think I may say those of all present (hear, hear,) for your very able and lucid introductory remarks. Everybody must be glad to be told that he may be a Christian and a man of science at the same time ; and that if he reads the Bible, he need not fling away science, or if he studies science he need not fling away the Bible. (Hear, hear.) I beg also to offer a few remarks on the paper of Professor Young ; in doing which, I shall not detain you long.—I would say to the learned Professor, that I listened to his paper with interest ; and if I take the liberty of criticising it, it is not because I deny his facts, or disagree with his conclusion. I think he has stated his argument from probability very clearly. He says it is probable that man would not have supplied a spoken language for himself out of his own powers ; therefore it must have been given him, as he has it, from above. I believe that it was given him from above ; but not for this reason ; and we must be careful, while defending a truth, to defend it with correct arguments ; for a weak argument is an evil ; and therefore, if we bring forward a probability which will not hold water, we are really doing harm to truth. I would suggest to the Professor, whether those signs, which he so clearly put before us, are really capable of forming a language ? I fail to see in them a power of representing complicated objects. I can understand their representing the sun, or the moon, or the stars ; but how represent a special thought, or even a particular animal by a sign of that kind ? It is there that articulation steps in. A man has a certain feeling or emotion, for instance ; he strives to express it, and utters a sound ; but his utterances are inarticulate. What are they ? Sounds not yet reduced to law. When they are reduced to law, they are articulate. There is no more inarticulate sound than “Boo ;” but that in Greek has the meaning of “bull.” There is “O” inarticulate, but it becomes an articulate sound. The original words of human speech were inarticulate sounds, and they were forced by the energy of man’s nature, into something like order and articulate condition. I therefore should say, with all due deference to the arguments that Professor Young has placed before us, that primeval language—speaking of course without consideration of what we know from revelation—primeval language would be a sort of compound of gesture and half-articulate sound ;—gesture to express certain ideas and emotions, and sound to express others. One might multiply instances ; but to select one. In Hebrew, if the lion is represented, I find the word is the expressive sound *ari* ; and in Coptic the Egyptian represents the same animal by *moui*. I find in all such names, in the words employed to express both emotions and individual objects, a transition from the inarticulate to the articulate states of sounds ; and therefore I suggest, with all due deference to the Professor, that his theory has only given us half the truth. Is there not a probability, on the other side, that man would invent an articulate language ? Many may remember the sceptical question asked by Tindal in his *Christianity as Old as the Creation*, relative to the miracle of Balaam’s ass,—how many ideas the ass had ?—and how Waterland points out, in answer, that not a syllable is mentioned about ideas ; it is merely said that the ass spoke ; and he humorously adds that it probably had as many ideas

as asses commonly have,—the number of which, Mr. Tindal might reckon up for himself at his leisure. Now, I do not wish man to be considered as being in the position of Balaam's ass, uttering sounds without corresponding ideas. There is a current of ideas which must pass through the mind of every man, civilized or savage ; and the natural striving of his mental being will be to express those sounds in some way, partly by gesture and partly by sounds, varying from the merely inarticulate to those developed as in the Sanskrit and our own language.

The CHAIRMAN.—I shall now call upon Professor Young to reply to the observations made, though perhaps I may say that I agree with his paper, and think he has most logically carried out all that he attempted to set before us ; a matter which I think in some of the replies has been lost sight of. Professor Young's paper altogether proceeds as an answer to a certain hypothesis which has been brought strongly forward,—namely, that man is derived from the monkey, from the lower orders of creation, and in that position he has invented language. As I understand Professor Young's argument (and he will correct me if I am wrong), he proceeds to answer that hypothesis—his argument is altogether founded upon that ;—and it is no answer to him to state what man would do in a civilized state, or if created in that state ; for it does not touch his hypothesis. His argument is, if man was in such a low position as that, he would take that which is natural and not artificial. He maintains that spoken language is as arbitrary in its character as the signs which the deaf and dumb acquire in the finger alphabet. He shows us that the deaf and dumb possess one language with people who speak, a gesture-language, which would be sufficient for uncivilized man, and that having a natural language, man would not be forced to invent an artificial one. And I think all the arguments of the paper would stand in all their strength if he omitted everything with regard to the deaf and dumb. I do not think that altogether the case of Mr. Reddie's friend so far contradicts Professor Young's examples. It depends upon the different circumstances in which the deaf and dumb person is placed. This deaf and dumb gentleman I suppose was in an educated family, and he found it convenient to keep up the language he possessed, rather than give to others the pain of spelling out their words ; and I can easily conceive that as a child brought up that way, he was forced by a kind of necessity to use language, however disagreeable at the time. Dr. Kitto recovered his language when forced upon him by a similar necessity, and I think the same kind of necessity which caused Dr. Kitto to recover his language would have also caused Mr. Reddie's example to do the same.

Professor YOUNG.—Mr. Vice-President, you have anticipated a good deal of what I should say in reply on this subject. With reference to Mr. Warrington's observations, I have little to say, because he has not kept to the hypothesis on which I started. He instances a case of man in a civilized state, who had got very considerably in advance and ahead of the people I had constructed my observations upon, and I have nothing to say to that. As to the interesting letter that Mr. Reddie has read from this gentleman who became deaf so young, that is one instance in opposition to those two

instances I have given. That gentleman says that he has continued to cultivate his language notwithstanding his loss of hearing. I think you will find that that is rather a remarkable case, because I have had a great deal of experience with persons in that condition. I am sure I have held intimate conversation with at least four hundred deaf and dumb persons, and that is a large amount of experience. Everything I have said in this paper has been the result of that enlarged experience, and not the reflecting upon the matter merely for a few weeks. I have long, from intimate and lengthened consideration of the phenomena presented, entertained the convictions I have come to. There has been a great deal of theorizing on this subject. I cannot but say that much I have heard is purely theoretical, for I do not think a single speaker in reference to this paper has had any experience with the deaf and dumb. They may have had intercourse occasionally with one or two, but as for any amount of experience that would warrant anything like deductions for a trustworthy theory or statement, I do not think that such experience has been possessed by any person who has made observations on this paper. In reference to what has been said respecting a primitive race or community of persons having no speech, but hearing, that they would frame a language, partly gestural and partly vocal, I think, to a certain extent, that is likely. I have not the slightest doubt they would give sound-names to every sounding object, but they would consider it ridiculous to give a sound-name to a soundless object. And as for not giving a gestural name to an animal, I think that is very simple. Every animal I have seen, I can describe by signs. If I want a horse, what have I to imitate but the ambling of the horse? or a dog, what but to imitate the action that we generally perceive in a dog? Or, if a cat, the whiskers and the stroking of the cat; the cow, by the milking operation; thus distinguishing the cow from the bullock. [The appropriate signs were here given.] And I say there is no difficulty in giving a gestural description of any animal that has been seen. The deaf and dumb are extremely expert in this method of description; and I remember an instance in which a deaf and dumb boy explained to his companion that he had for the first time seen a steamboat, and he gave a rough but very ingenious idea of the motion of the boat. This was done by covering the back of the left hand with the palm of the right, advancing the hands thus placed with a wave-like movement, and giving a rotary motion to the thumbs. [These gestures were exhibited.]

The Meeting was then adjourned to 3rd December.