Three introductory lectures on the science of thought

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THREE INTRODUCTORY LECTURES

ON THE

SCIENCE OF THOUGHT

BY

F. MAX MÜLLER

WITH A CORRESPONDENCE ON "THOUGHT WITHOUT WORDS" BETWEEN
F. MAX MÜLLER AND FRANCIS GALTON, THE DUKE OF ARGYLL,
GEORGE J. ROMANES, AND OTHERS.

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Though the three lectures on the "Science of Thought," which I delivered in March, 1887, at the Royal Institution in London, and which were afterwards published in *The Open Court*, hardly require a preface, being themselves a kind of preface or introduction to a larger work on the same subject,* yet as I had just been writing to a friend of mine in answer to several questions which he had addressed to me on the principal purpose of my book, I gladly give here a few extracts from that letter, which may serve to prepare the reader for what he has to expect in this small volume.

You tell me that my book on the Science of Thought is thoroughly revolutionary, and that I have all recognized authorities in philosophy against me. I doubt it. My book is, if you like, evolutionary, but not revolutionary. I mean it is the natural outcome of that philosophical and historical study of language, which began with Leibniz, and which during our century has so widely spread and ramified as to overshadow nearly all sciences, not excepting what I call the Science of Thought. If you mean by revolutionary a violent breaking with the past, I hold on the contrary that a full appreciation of the true nature of language and a recognition of its inseparableness from thought will prove the best means of recovering that unbroken thread, which binds our modern schools of thought most closely together with those of the Middle Ages and of ancient Greece. It alone will help us to

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reconcile systems of philosophy hitherto supposed to be entirely antagonistic. If I am right—and I must confess that with regard to the fundamental principle of the identity of reason and language I share the common weakness of all philosophers that I cannot doubt its truth—then what we call the history of philosophy will assume a totally new aspect. It will reveal itself before our eyes as the natural growth of language, though at the same time as a constant struggle of old against new language, in fact, as a dialectic process, in the true sense of the word.

The very tenet that language is identical with thought, what is it but a correction of language, a repentance, a return of language upon itself? We have two words, and therefore it requires with us a strong effort to perceive that behind these two words there is but one essence. To a Greek this effort would be comparatively easy, because the word Logos continued to mean the undivided essence of language and thought. In our modern languages we shall find it difficult to coin a word that could take the place of Logos. Neither discours in French, nor Rede in German, which meant originally the same as ratio, will help us. We shall have to be satisfied with such compounds as thought-word or word-thought. At least I can think of no better expedient.

You strongly object to my saying that there is no such thing as reason. But let us see whether we came honestly by that word. Because we reason, that is, because we reckon, because we add and subtract, therefore we say that we have reason, and thus it happened that reason was raised into something which we have or possess, into a faculty, or power, or something, whatever it may be, that deserves to be written with a capital R. And yet we have only to look into the workshop of language in order to see that there is nothing substantial corresponding to this substantive, and that neither the heart nor the brain, neither the breath nor the spirit of man discloses its original whereabouts. It may sound violent and revolutionary to you when I say that there is no such thing as reason, and yet no philosopher, not even Kant, has ever in his definition of reason told us what it is really made of. But remember, I am far from saying that Reason is a mere word. That expression, “a mere word,” seems to me the most objectionable expression in the whole of our philosophical dictionary.

Reason is something, namely language, not simply as we now hear it and use it, but as it has been slowly elaborated by man through all the ages of his existence on earth. Reason is the
growth of centuries, it is the work of man, and at the same time an instrument brought to higher and higher perfection by the leading thinkers and speakers of the world. No reason without language, no language without reason. Try to reckon without numbers, whether spoken, written, or otherwise marked, and if you succeed in that, I shall admit that it is possible to reason or reckon without words, and that there is in us such a thing, or such a power or faculty, as reason, apart from words.

You say I shall never live to see it admitted that man cannot reason without words. This does not discourage me. Through the whole of my life I have cared for truth, not for success. And truth is not our own. We may seek truth, serve truth, love truth; but truth takes care of herself, and she inspires her true lovers with the same feeling of perfect trust. Those who cannot believe in themselves, unless they are believed in by others, have never known what truth is. Those who have found truth, know best how little it is their work, and how small the merit which they can claim for themselves. They were blind before, and now they can see. That is all.

But even if I thought that truth depended on majorities, I believe I might boldly say that the majority of philosophers of all ages and countries is really on my side,* though few only have asserted the identity of reason and language without some timorous reserve, still fewer have seen all the consequences that flow from it.

Some people seem to resent it almost as a personal insult that what we call our divine reason should be no more than human language, and that the whole of this human language should have been derived from no more than 800 roots, which can be reduced to about 120 concepts. But if I had wished to startle my readers, I could easily have shown that out of these 800 roots, one-half could really have been dispensed with, and has been dispensed with in modern languages;† while among the 120 concepts not a few are clearly secondary, and owe their place in my list ‡ merely to the fact that in Sanskrit they cannot be reduced to any more primitive concepts. To dance, for instance, cannot be called a primitive concept; perhaps not even to hunger, to thirst, to cook,

* See Science of Thought, p. 31 seq.
† Ibid., p. 417.
‡ Ibid., p. 619.
to roast, etc. Only it so happens that in Sanskrit, to which my statistical remarks were restricted, we cannot go behind such roots as NART, KSHUDH, TARSH, PAK, etc. It is in that limited sense only that such roots and such concepts can be called primitive. The number of really primitive concepts would be so alarmingly small that for the present it seemed wiser to say nothing about it. But so far from being ashamed of our modest beginnings, we ought really to glory rather in having raised our small patrimony to the immense wealth now hoarded in our dictionaries.

When we once know what our small original patrimony consisted in, the question how we came in possession of it, may seem of less importance. Yet it is well to remember that the theory of the origin of roots and concepts, as propounded by Noiré, differs, not by degrees, but toto calo from the old attempts to derive roots from interjections and imitations of natural sounds. That a certain number of words in every language has been derived from interjections and imitations, no one has ever denied. But such words are not conceptual words, and they become possible only after language had become possible, that is, after man had reached his power of forming concepts. No man who has not himself grappled with that problem, can appreciate the complete change that has come over it by the recognition of the fact that roots are the phonetic expressions of the consciousness of our own acts. Nothing but this our consciousness of our own repeated acts could possibly have given us our first concepts. Nothing else answers the necessary requirement of a concept that it should be the consciousness of something manifold, yet necessarily realized as one. After the genesis of the first concept, everything else becomes intelligible. The results of our acts become the first objects of our conceptual thought, and with conceptual thought language, which is nothing if not conceptual, begins. Roots are afterwards localized and made the signs of our objects by means of local exponents, whether suffixes, prefixes, or infixes. What has been scraped and shaped again and again becomes as it were “shape-here,” i.e. a shaft; what has been dug and hollowed out by repeated blows, becomes “dig-here,” i.e. a hole. And from the concept of a hole dug, or of an empty cave there is an uninterrupted progress to the most abstract concepts such as empty space or even nothing. No doubt, when we hear the sound of cuckoo, we may by one jump arrive at the word cuckoo. This may be called a word, but it is not a conceptual word, and we deal with conceptual words only.
Before we can get at a single conceptual word, we have to pass through at least five stages:

1. Consciousness of our own repeated acts;
2. *Clamor concomitans* of these acts;
3. Consciousness of that *clamor* as concomitant of the act;
4. Repetition of that *clamor* to recall the act;
5. *Clamor* (root) defined by prefixes, suffixes, etc., to recall the act as localized in its results, its instruments, its agents, etc.

You can see from my preface to *The Science of Thought*, that I was quite prepared for fierce attacks, whether they came from theologians, from philosophers, or from a certain class of scholars. So far from being discouraged, I am really delighted by the opposition which my book has roused, though you would be surprised to hear what strong support also I have received from quarters where I least expected it. I have never felt called upon to write a book to which everybody should say *Amen*. When I write a book, I expect the world to say *tamen*, as I have said *tamen* to the world. I have been called very audacious for daring to interfere with philosophy, as if the study of language, to which I have devoted the whole of my life, could be separated from a study of philosophy. Professors of philosophy are happily not the only philosophers in the world. I have listened very patiently for many years to the old story that grammar is one thing and logic another; that the former deals with such laws of thought as are observed, the latter with such as ought to be observed. No, no. True philosophy teaches us another lesson, namely that nothing is except what ought to be, and that in the evolution of the mind as well as in that of nature, natural selection is in reality rational selection. We must learn to recognize in language the true evolution of reason. In that evolution nothing is real and remains real except what is rational, and even the apparently irrational and anomalous has its reason and justification. Towards the end of the last century what used to be called *Grammaire Générale* formed a very favorite subject for academic discussions; it has now been replaced by what may be called *Grammaire Historique*. In the same manner *Formal Logic*, or the study of the general laws of thought, will have to make room for *Historical Logic*, or a study of the historical growth of thought. Delbrück's essays on comparative syntax show what can be done in this direction. For practical purposes, for teaching the art of reasoning, *Formal Logic* will always retain its separate existence; but the best study of the real
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laws of thought will be hereafter the study of real laws of language. If it was indeed so very audacious to make the identity of language and reason the foundation of a new system of philosophy, may I make the modest request that some philosopher by profession should give us a definition of what language is without reason, or reason without language.

In writing thus unreservedly to a friend I have perhaps spoken of myself and my work with greater freedom than I should have done in addressing the public at large. But as the public, and more especially the American public, has been a friend to me for many years, I hope I may be forgiven for having addressed it as a friend, and having counted on its sympathy and forbearance.

F. MAX MÜLLER.

Oxford, September 2, 1887.
THE SIMPLICITY OF LANGUAGE.

It is more than a quarter of a century since I ventured for the first time (June, 1861) to address the members of the Royal Institution, and I well remember the feeling of fear and trembling that came over me when in this very place I began to deliver my first lecture on the Science of Language as one of the physical sciences. I was young then, and to find myself face to face with such an audience as this Institution always attracts, was indeed a severe trial. As I looked round to see who was present, I met in one place the keen dark eyes of Faraday, in another the massive face of the Bishop of St. David's, in another the kind and thoughtful features of Frederick Maurice, while I was cheered with a look of recognition and encouragement from dear Stanley. I could mention several more names, "men, take them all in all, we shall not look upon their like again." To address such an audience on a subject that could never be popular, and without any of those charming experiments which enliven the discourses of most lecturers in this room, was an ordeal indeed. But painful as the ordeal was, I do not regret having
passed through it. Many of my most valued friendships date from that time, and though in advocating a new cause and running full tilt against many time-honored prejudices, one cannot always avoid making enemies also, yet I feel that I owe a large debt of gratitude to this Institution, and not to my kind friends only, but likewise to my honest opponents.

It is hardly remembered now that before the time when I boldly claimed a place among the physical sciences for what I called the Science of Language, Comparative Philology was treated only as a kind of appendix to classical scholarship, and that even that place was grudged to it by some of the most eminent students of Greek and Latin. No doubt, the works of Bopp, Grimm, Pott, Benfey, Curtius, Schleicher, had at that time attracted attention in England, and the labors of such scholars as Donaldson, Latham, Garret and others, could well claim a place by their side for originality, honesty of purpose and clearness of sight. But there is a difference between Comparative Philology and what I meant by the Science of Language. Comparative Philology is the means, the Science of Language is the end.

We must begin with a careful analytical and comparative study of languages; we must serve our apprenticeship as phoneticians, etymologists and grammarians, before we can venture to go