

nascent concepts in some forms of bodily expression by means of which they would quickly understand one another.

As to the expressions "reason" and "reckoning," I would observe that a study of an organism's embryonic development is a most valuable clue to its nature, and no doubt a similar utility attends historical investigations in Prof. Max Müller's science. Nevertheless, we cannot understand the nature of an animal or plant by a mere knowledge of an early stage of its existence; and an acquaintance with the outcome of its development is even more important. Similarly, I venture to presume, the ultimate meaning of a word is at least as much its true meaning as is some archaic signification which may have grown obsolete. The word "spirit," if it once meant only the breath, means more now—as we see from the Professor's first letter. Similarly, if "reason," in its Latin form, once only meant "reckoning," that is no "reason" why it should only mean reckoning now. Here it would seem as if we had an instance of the *verbum mentale* having acted upon and modified the *verbum oris*. I cannot but regard the representation that affirmative and negative propositions are mere cases of addition and subtraction as an incorrect and misleading representation, save when they refer to mathematical conceptions. I am compelled also to object to another of the Professor's assertions. He says:—"There is a wide difference between our apprehending our own activity and apprehending that A is A. Apprehending our own activity is inevitable, apprehending that A is A is voluntary." It is true there is a great difference between these apprehensions, though they both agree in being instances of apprehensions which are not inferences, and as such I adduced them (NATURE, February 16, p. 364). Nevertheless in my judgment the difference between them is not the difference which the Professor states. Both are alike voluntary, regarded as deliberate reflex cognitions, and both are alike inevitable, regarded as indeliberate, direct perceptions. The labourer inevitably perceives that his spade is what it is, though the nature of that perception remains unnoticed, just as he inevitably perceives his own continuous being when he in no way adverts to that fact.

I must further protest against the assertion that the idea "therefore" is "present in the simplest acts of cognition"—that every perception of an object is an inference. This I regard as one of the fundamental errors which underlie all the madness of idealism. Akin thereto is the notion that a philosopher who desires to speak with the very strictest accuracy ought, instead of using "the big I," to say, "a succession of states of consciousness." To me it is certain that even one state of consciousness (to say nothing of "a series") is no more immediately intused by us than is the substantial ego; each being cognized only by a reflex act. What I intue is my "self action," in which intuition both the "ego" and the "states" are implicitly contained, and so can be explicitly recognized by reflection. I was myself long in bondage to these two errors, from which it cost me severe mental labour to escape by working my way through philosophical subjectivism. These questions I cannot here go any further into, and I only mention them in consequence of Prof. Max Müller's remarks. I will, however, in turn, refer him to my "Nature and Thought," as well as to a larger work which I trust may before long be published, and which, I venture to hope, he will do me the honour to look at.

My object in calling attention to the fact that one word may have several meanings, and several words one meaning, was to show that there could not be "identity" between thought and language. This point the Professor seems practically to concede, since he now only calls them "inseparable, and in one sense identical." I do not understand degrees of identity. No mere closeness of resemblance or connection can make two things absolutely identical. I did not, however, content myself with denying this "identity" on account of polyonymy and homonymy; I also referred to common experience (which shows us that men do not invent concepts for preformed words, but the reverse), and I appealed to certain facts of consciousness. To my assertions about consciousness the Professor replies: "The object of all scientific inquiry is the general and not the individual." But this is a quite inadequate reply, since our knowledge of general laws is based on our knowledge of individual facts, and if only one man could fly, that single fact would be enough to refute the assertion that flight is impossible to man.

With respect to evolution, I never said that Prof. Max Müller misunderstood "natural selection," but only that he misrepresented it—of course unintentionally. It is of the essence of natural selection not to affirm teleology as formerly understood, although, of course, it can say nothing (for the whole of physical

science can say nothing) about a primordial teleology at the foundation of the entire cosmos. I, in common with the Professor, look forward to "the ultimate triumph of reason and right," but my confidence is not due to any "faith" I have in "Nature" or anything else. I profoundly distrust "faith" as an ultimate basis for any judgment; I regard my conviction as a dictum of pure reason—the certain and evident teaching of that science which underlies and gives validity to every other. I therefore agree with Prof. Max Müller in regarding it as a lesson which "true philosophy teaches us."

ST. GEORGE MIVART.

Oil on Troubled Waters.

IT may interest some of the readers of Captain Wharton's paper on this subject to have their attention called to a curious narrative in Bede, illustrative of the power of oil over troubled waters. When a certain presbyter, Utta, was sent from the North of England by Oswiu to fetch his bride from Kent, he applied to Aidan, the greatest teacher of his day, for his blessing. Aidan gave him not merely his blessing, but some consecrated oil, and told him that on his way back from Kent by sea he would encounter a storm, and thereupon he was to pour the oil on the sea, which would immediately become calm. It happened as St. Aidan had foretold. Utta and his fair charge were duly overtaken by a fearful tempest; the waves were breaking over the ship, when Utta bethought himself of Aidan and his oil. "Assumpta ampulla, misit de oleo in pontum, et statim, ut prædictum erat, suo quievit a fervore" ("Historia Ecclesiastica," lib. iii. cap. 15). Aidan had been brought up at the monastery of Iona. Did the boatmen of the Western Islands in the seventh century know of this use of oil? and did Aidan bring the knowledge from thence that saved from shipwreck Utta and the bride Eanfleda?

EDW. FRY.

Were the Elephant and Mastodon contemporary in Europe?

ONE of the most effective services which NATURE does for the cause of science is to enable students who live far apart to exchange ideas in its correspondence columns. May I be allowed to ask a question of some interest, perhaps, to others besides myself? It is a singular fact that we probably know less of the *sub-aërial* conditions prevailing in so-called Pliocene times than we do of those of most geological horizons. The marine Mollusca of this age have been preserved in large numbers and in many places, but the remains of the land fauna are singularly sporadic and broken.

I know of no fragment of a land surface of this age which exists in Britain. In the Craggs we have a very puzzling medley of mammalian bones and marine shells mixed heterogeneously, and pointing unmistakably to the beds having been rearranged, and, as the French say, *remanié*.

Unfortunately the Pliocene period has been largely defined on the evidence of these very unsatisfactory beds—unsatisfactory not merely because it is certain that the remains of land and marine animals are confusedly mixed up in them, but also because it is exceedingly probable that the debris of two geological stages have been mixed together also.

It seems clear to me that, if the Pliocene age is to be clearly defined, we must not rely upon the evidence of the English Craggs for defining it, but go elsewhere—namely, to France, Italy, &c.

It is very well known that nowhere in France has the mastodon, which is generally accepted as a very typical Pliocene mammal, been found in the same beds with the elephant. In the English Craggs, no doubt the older type of elephant (the *E. meridionalis*) and possibly also molars of the later forms (*E. antiquus* and *E. primigenius*) have occurred with mastodon remains and the remains of other so-called Pliocene beasts; but the mixed character of these deposits puts them out of court, and we are bound to follow the evidence of the French beds, which occur *in situ* and unmixed, if we are to be assured of our position.

My purpose in writing is to ask whether the Italian evidence is the same as the French. Unfortunately the Italian beds do not seem to me to have been studied with the minute care which they deserve. No doubt enormous numbers of mastodon remains and also of remains of *E. meridionalis* occur close together in Italian deposits, but so far as I know the question has not been critically tested as to whether they occur in the same beds