misunderstanding in biological discussions arises from the misuse of such terms as mutation and saltation? We would not quibble with Archbishop Trench's remark that words simply will not stay tied as regards their meaning but are "constantly drifting from their moorings," but the more the scientist allows his vocabulary to drift the more is he disturbed by the redefined or original terms of his colleagues who, believeing it impossible to use words of two, three or more meanings, continue to inflict long-suffering humanity with an ever-increasing nomenclature. Rather do we agree with Alice who, after listening to a dissertation by Humpty Dumpty in which he makes his words mean what he chooses them to mean-""neither more nor less," comes to the conclusion that his remarks are not particularly illuminating. Of course Humpty Dumpty was, among other things, a poet, not a geologist!

But Professor Miller also states that

The definition proposed by ... Field ... is faulty in that it errs in the time concept. He has committed the popular error of considering historic synonymous with the present geological epoch.

This is an unfortunate misstatement by Professor Miller and it is only necessary to quote from the original text to show that Field was not making the "popular error" implied.

A fossil is an object which indicates former existence of an organism which has been buried and preserved previous to historic time. According to this definition the mastodon preserved in the arctic ice is a fossil; the leaf buried in the gutter is not.

It is also worth noting that Schuchert and others distinguish the recent or *historic* period as beginning the Psychozoic era. If in agreeing with this concept an error has been committed, it is certainly not a "popular" one.

Paleontology, the study of ancient life, is literally the study of fossils. *Paleo* is accepted in earth science as meaning geologically ancient. As a last analysis, which is the more "apt," paleo climates or "fossil climates"? Professor Miller's constructive criticism consists of the new definition already quoted. It has the advantage of being brief, but in using the expression "past geological age" (subdivision of the present geological epoch, *i.e.*, Bronze Age) he appears to make a very slight geological time distinction indeed. After careful reading of the whole text, we are under the impression that he means "past geological epoch" or *pre-historic*!

RICHARD M. FIELD

DEPARTMENT OF GEOLOGY, BROWN UNIVERSITY

## THE BIOGRAPHICAL DIRECTORY OF AMERICAN MEN OF SCIENCE

THE third edition of the Biographical Directory is now in type; it will be published as soon as the printers can complete their part of the work. The editor ventures to ask for the return of all proofs and also for information in case proof has not been received. A second copy of the proof (by letter post and with return letter postage) has been sent to those who did not return the first copy within a reasonable time. If it is not known that a scientific man can be reached at the address given, or even that he is living, it will in most cases be undesirable to include the biographical sketch.

It is gratifying that the number of those engaged in scientific work in America has increased from about 4,000 in 1905 to about 10,000 at the present time. This circumstance, however, has greatly enhanced the labor and the cost involved in the preparation of the work, and it is not possible to write individual letters of enquiry in all cases where this might be desirable. The editor consequently makes public this request for the return of the corrected proofs of all biographical sketches.

J. MCKEEN CATTELL

GARRISON-ON-HUDSON, N. Y.

## QUOTATIONS

WHEN AN INVENTION IS NOT AN INVENTION

THERE exists in our patent and copyright laws a gap which has always seemed to us a