DISCUSSION AND CORRESPONDENCE

PROFESSOR FIELD'S USE OF THE TERM FOSSIL

In examining copies of Science which accumulated during the vacation just closed, a contribution on the "Use of the Term Fossil" in the number of date June 25 has attracted my attention and challenges criticism.

The definition proposed by Professor Field in this contribution 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. The remains of an animal or plant may antedate human history (be prehistoric) by many thousands of years without belonging to a past geological epoch.

In constructing a definition of the term fossil, it is difficult to improve upon the essential ideas connoted by the term as used by Dr. Karl Von Zittel in his "Palaeozoologie." According to this authority fossils need not be mineralized, nor the remains of extinct organisms, but must possess a certain antiquity—they must have come down to us from a geological age earlier than the present.

We would propose then as a concise definition of fossil, "Any trace of an organism that lived in a past geological age."

While agreeing that accuracy in scientific definition is an object worth striving to attain, we can not concur with Professor Field in objecting to a use of certain scientific terms in a derived sense—commonly figurative. Language is being constantly enriched by such usage.

The expression "fossil botanist" may be criticized as objectional, because ambiguous, but "fossil ripple marks," "fossil suncracks," "fossil flood plains" (Shimer) are illuminating and apt and are valued contributions to geological phraseology. It is futile to inveigh against such usage or against "literary persons" for coining the terms "fossil poetry" and "fossil statesman." Rather should we rejoice in this evidence that our science is not altogether out of touch with modern life. Whether we approve or not, such expressions have come to stay. Not only new words, but old words with a new meaning content are being constantly introduced into a growing language. Words simply will not stay tied, but as Archbishop Trench put it are, as regards their meanings, "constantly drifting from their moorings." The term fossil, itself, is an illustration in point; also the names of certain fossils, as *belemnite, ammonite* and *nummulite,* which embody original erroneous conceptions as to their nature.

As an illustration of a fossil that as the result of refusing to be straight jacketed has made an important contribution to English we have *mammoth,* from the Tartar word *maimon.* In the space of about one hundred years this word has given us in its adjective use a synonym for *huge* so thoroughly incorporated into our speech that few people recognize its exotic character. It may be of interest to some to learn that the first recorded use of the name of this animal in an adjective sense was in Kentucky. John Filson in describing Big Bone Lick in his History of Kentucky, written in 1784, referred to the animal as *maimon.* Within three years, however, we find Thomas Jefferson and others, also in describing Big Bone Lick, calling the animal *mammoth.* Within twenty-five years from this time we find the word beginning to be used as an adjective in the sense of *very large.* The earliest recorded instance of its use in this sense in in 1812, when in a deed it was applied to a very large saltpeter cave in what is now Edmonson but was then Warren county, Kentucky. That this use of the word had not spread to England by 1818 is evidenced by a passage in the letters of James Flint, who writing to England at that date and referring to this large cave in Kentucky remarks that "they call it *Mammoth Cave,* but why I do not know, for there are no mammoth bones found there." Evidently at that time the use of the word in the sense of *large* was too much of an Americanism to be comprehended by this Englishman.

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