etiology of the disease to *B. alvei,* which is almost invariably found in large numbers in infected larvae, much work has been done to corroborate their results. In no case, however, has an isolated culture of *B. alvei* been known to produce the disease. On the other hand, G. F. White and others have refuted the claim of Cheshire and Cheyne and ascribed infection in this disease to *B. pluton.* Owing to their inability to cultivate and isolate the organism, however, their claim has remained hypothetical; for it could not be determined whether this organism was itself merely a secondary invader—as they said was *B. alvei*—or whether the infection was mixed, or whether, indeed, these organisms played any pathological rôle in the disease.

It has been the writer's fortune, however, to develop a medium admirably suitable for the growth of *B. pluton* (White). An 0.15 per cent. concentration of agar, together with certain nutrients, is employed as an enrichment medium; and a concentration of 1.5 per cent. agar for the isolation of the organism at 37° C. By this method pure cultures of *B. pluton* can be readily obtained, provided the larvae used contain a preponderance of this organism.

The writer has obtained infection in a healthy colony of black bees in four days, using as inoculum cultures of the organism derived from isolated colonies. The symptoms of the diseased larvae accorded with those observed in naturally infected larvae, and the microscopical picture was typical—*B. alvei* forms being also present, though only in small numbers. The organism has been reisolated successfully.

Morphological studies thus far suggest the identity of the two organisms. While the results in this are not yet complete, cultures of *B. pluton* have been observed to change to *B. alvei* form, resembling biologically the *B. alvei* isolated from infected larvae. This further corresponds very closely with the changes observed in brood naturally infected, where the ratio of *B. alvei* to *B. pluton* generally increases as the putrefaction of the larvae progresses, so that *B. pluton* is almost eliminated. The more conclusive substantiation of this is anticipated, and its accomplishment should lead to the demonstration of important relations between the pathogenicity of microorganisms and their life stages.

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NOTE ON A SECOND OCCURRENCE OF THE MOSASAURIAN REPTILE, GLOBIDENS

IN 1912 (Proc. U. S. Nat. Mus., vol. 41, p. 479) the new genus and species, *Globidens alabamaensis* Gilmore, was established on a rather meager specimen from the Upper Cretaceous of Alabama. The unusual globular form of the teeth as contrasted with the pointed, sharp-cutting teeth of other Mosasaurians made this an outstanding genus on which Dollo has subsequently founded a distinct family, the Globidensidae.

Recently I have received for examination the crowns of two teeth collected from the Selma Chalk, in the vicinity of Saltillo, Lee County, Mississippi, by a student of Prof. J. M. Sullivan, of Millsaps College, Jackson, Mississippi.

The crowns of these teeth show no evidence of wear and this fact, in conjunction with their relatively small size, would indicate that they were probably germ teeth which had not yet come into use. The globular form of their crowns, with wrinkled enameled surfaces, however, are in perfect accord with the teeth of the type specimen.

The fragmentary character of the specimen contributes nothing new to our knowledge of this little known Mosasaurian, but it is of interest as recording a new occurrence, and especially in definitely locating its geological occurrence as being in the Selma Chalk.

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MORE AND BETTER ETHICS FOR SCIENTIFIC MEN

THAT the code of ethics[1] adopted at the Santa Fé meeting of the Southwestern Division, American Association for the Advancement of Science, has been found by Dr. Kempton[2] a subject for genial mirth, seems to call for comment from some other quarter than that immediately involved, the members of the Southwestern Division having, one might say, cramped their style in controversy by the adoption of Rule 4. Thus, as so often, a new law works hardship first upon the law-abiding.

Dr. Kempton, as a resident of the Atlantic coastal plain, can hardly be expected to understand the distressing conditions prevailing in scientific and educational circles in outlying provinces west of the Appalachian Highland. It is a source of deep gratification to us in the West to learn that the conditions deprecated in the resolutions mentioned are nonexistent in the East, which we have so long been taught to look to as the home of culture, truth and grace. The writer is glad to be corrected in his evidently erroneous assumption that Rule 10, for example, might, in the awkward gambols of its play-

[1] "A Code of Ethics for Scientific Men," SCIENCE, Vol. LXVI, No. 1700, pp. 103–104, July 29, 1927.

[2] Kempton, J. H., "Scientors appear in the Southwest." *Ibid.,* Vol. LXVI, No. 1711, pp. 354–355, Oct. 14, 1927.

ful youth, tread upon as many corns east as west of the Mississippi River. Be that as it may, if the wild scientists of the woolly west desire to pass resolutions to protect themselves from outside aggression and internecine strife, we should expect such ambition for self-improvement to be lauded rather than condemned by the cultured exponents of an older civilization east of the Alleghany Mountains.

In defense of the southwest code, we note first that it is specifically stated to be "tentative." We take this to mean that any of the rules may be altered or stricken out to which there is sufficient objection at home or abroad. Furthermore, it appears that the code is intended by members of the Southwestern Division to apply only to themselves; as we understand it, they have no intention—and probably no hope—of applying their reforms to scientists at large. There is, therefore, no occasion for immediate alarm, unless it be on the part of individual eastern scientists who intend, for climatic or other reasons, to migrate to the Southwest.

Now it would be invidious to intimate that Dr. Kempton would personally violate, or condone the violation of, any of the rules in question. We interpret his attitude rather as a kind of Menckenese objection to the appearance of anything savoring of a Rotarian philosophy among scientific men. For this point of view there is much to be said. But as between the two extremes of super-sanctity and sub-Menckenism we plead for a carefully weighted mean.

We should like to believe that scientific men as a class are above the need of a code of ethics. But the enthusiasm with which we commonly refer to an admired colleague as a gentleman *and* a scholar seems to involve a tacit admission that the virtues connoted by these two terms may exist separately as well as in combination.

It may be urged that, if a scholar be not already a gentleman, he can not be made one by any array of rules or resolutions. Alas, too true! But it would appear advantageous at any rate to have a definite code, by which one might decide for himself whether or not he is a gentleman, instead of depending on his colleagues to tell him, which sometimes causes lasting embarrassment on both sides. Then, too, even if it be antecedently improbable that anything can be done about the ethics of the present generation, there is the coming generation to consider—the nascent Ph.D.'s and innocents yet unborn. Is it not our duty to provide that they may learn by precept what it is not wholly certain we can teach them by example?

If, in view of these weighty arguments, it should seem desirable to follow the lead of the physicians, southwestern scientists and other groups of professional men in semi-public service, and to adopt a code of ethics to apply to scientists at large, we propose that, somewhere near the bottom of the list of needed reforms, the following be included:

Rule 160z. Scientific men shall be restrained from flailing each other through the medium of the press. The following penalties shall be provided:

(a) For gentle sarcasm the offender shall be given n black marks, in a large book to be kept by the Secretary of the National Research Council.

(b) For open satire he shall be given black marks to the number of $2n+1$.

(c) For burlesquing or lampooning colleagues, he shall receive a number of black marks to be represented by the expression

$$-\log\frac{1}{(n+1)^{10}}$$

(d) For comparing colleagues, by direct statement or implication, with realtors, insurance brokers, chirotonsors or morticians, he shall be turned over to the ministrations of practitioners of said professions, successively, in the order named.

In conclusion, I hasten to specify, on behalf of both Dr. Kempton and myself, that such rule shall not be retroactive in its application. *Ex hoc malo proveniat aliquod bonum.*

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SCIENTIFIC BOOKS

Les Physiciens Hollandais et la Methode Experimental en France au XVIIIème Siécle. Par PIERRE BRUNET, Paris, 1926.

An Introduction to the Study of Experimental Medicine. By CLAUDE BERNARD, translated by HENRY COPLEY GREENE and LAURENCE J. HENDERSON. New York, Macmillan Co. 1927.

THERE never was a time when man did not use the experimental method of investigating his environment. There never has been a time when man did not form hypotheses on observations made thus and in other ways. An editor of Bacon's *Novum Organum* more than a hundred years ago remarked that Sir Isaac Newton had a very extraordinary method of making discoveries. When he was engaged in his famed inquiries about light he seemed first to have imagined in his mind how things were and afterwards contrived his experiments. Newton boasted he made no hypotheses, but no mind will work without hypotheses. There can be no doubt Newton made hypotheses both before and after he contrived his experiments on light or gravitation either. It is remarkable there was once a majority of scientific men who, less than a hundred years ago, talked about the experimental