any one who has the proper material to contribute, are the technical journals, whose contents generally are concisely written and therefore, while of the highest value, commonly intelligible to only a limited class of specially trained readers. They form the library, for which any one can subscribe, of the creative scholar, to which he turns for the most exact and for the most accessible information on every subject in which he is interested. It is here that the scientist is expected to publish in condensed form, for the use of his fellow specialists, his every discovery, the methods and the results of his every investigation; and that too as soon as possible.

Entirely different from either of the foregoing types, and for a different purpose, are the annals, year books, bulletins and other publications of observatories, societies, government bureaus and departments. Here the pages are seldom open save to those officially connected with the particular institution, society or bureau specifically represented. In most cases they appear irregularly at long intervals and are restricted in circulation practically to a limited free distribution. They are for the purpose of preserving for reference in extended form, with all helpful minutiæ, those investigations of the particular observatory or bureau concerned which, because of their length or their diffuseness, are not adapted to the technical press.

For the sake, therefore, of reaching a larger number of interested readers, and often, too, for the sake of an earlier publication, it is desirable to send to the technical journals many articles that are expected to appear in a more extended, or even in substantially the same, form in official bulletins and annals. And this is all the more important in the case of those articles that also concern some science in addition to the one commonly dealt with in the bulletins or annals in which they appear.

The scientific public expects that whatever one may print officially he will, as soon as possible, come out in the open with what he believes to be contributions to knowledge, and submit them where they will be accepted or rejected according to their merits; and where if accepted they will be read and subject to criticism. This is publishing in the true sense of the term, and is incumbent upon every investigator. Confining an article to an official bulletin, however excellent and necessary it may be, often amounts to but little more than mere printing for private distribution, because scholars do not and will not wade through tedious bulletins and annals for that which they expect to find in a more condensed form in more accessible journals.

When, for official reasons, the author is not free to do as he chooses, publication of any kind must have the sanction of the proper authority. Commonly, however, those in authority are glad to grant this privilege to any one capable of writing a paper acceptable to the technical press. In fact they often urge it upon him for the sake of those who can profit by such articles, and incidentally for the well-deserved encouragement of the authors themselves, and for the credit their work will bring to the institutions with which they are connected. They realize that it is an honor to any man to have his papers accepted by a discriminating scientific journal, and that the reputation of any institution is that of its work that is known and no more.

Every scientific question should be investigated carefully, honestly, thoroughly; the results published quickly, openly, fully.

To discover is the scientist's reward, to publish is his duty.

W. J. HUMPHREYS

REFLEX ACTION AFTER DEATH

ON the afternoon of April 27, 1909, while returning from the day's work on precise leveling, over the Santa Fe Railroad, to Goffs, California, the velocipede car on which I was riding passed over a rattlesnake, which was lying between the rails. It rattled, and I stopped the car and went back to investigate. It was what is locally known as the "sidewinder," by which I understand it to be the horned rattlesnake, or *Crotalus cerastes*. It was lying stretched to nearly its full length, and rattled again, without coiling. Taking a

spud-bar (an iron implement shaped like a crow-bar, with a chisel-blade at one end, for digging) with one blow I cut its head squarely off. The body was taken back to camp. This was about 5 P.M.

About eight o'clock that evening, wishing to skin the snake, I placed the body upon my desk, noting as I did so that there was the slightest movement of the body. I took a scalpel, and holding the tail in one hand, started to cut off the rattles. The snake had no sooner been touched by the blade of the scalpel than it snatched its tail away, rattled viciously, and struck at my hand with its headless neck three times. I postponed the skinning until a later time.

The snake was a small one, being about eighteen inches in length, with five rattles. It was killed at an elevation of about 1,150 feet.

Some weeks later I found another of the same species stuck fast in a pool of the crude oil with which the Santa Fe track is sprinkled. Large numbers of small animals, especially mice, lose their lives in this manner. In places the track is nearly covered with the remnants of dead bodies.

HENRY W. MAYNARD
COAST AND GEODETIC SURVEY,
KINGMAN, ARIZONA,
May 30, 1909

QUOTATIONS

A LONGEVITY TRUST

THE term "life insurance" never meant the insuring of lives until this year, when Dr. Burnside Foster and Professor Irving Fisher interested the life companies in their plans of preventing premature death. One company has this week announced its purpose to save one third of the amount awarded for death claims of tuberculous policy holders by a campaign of cure and prevention. The agents of the companies might easily be transformed into a militant body of health agents, armed with pamphlets and advice to each holder of the millions of policies. A staff of visiting physicians, specialists in the chief diseases, may treat patients in every community who can not otherwise command skilled services. By such work the companies would have fewer death claims to pay. They could promise larger benefits. But this, which has hitherto been a deciding argument in insurance competition, is only incidental to the added promise that the policy holder's life, which is of quite inestimable value to his family, would be guarded.

The competition of the life companies, once started toward the prolongation of their patrons' lives, will not end until not only tuberculosis but all the diseases that figure largely in the actuarial tables become the subject of skilled attention. The lives of most men who can afford to employ a doctor are already "insured." Ultimately, we presume, those physicians not retained by the companies would be reduced to treating minor ills, or they would be forced quite out of their profession.

The organization of preventive medicine has reached startling proportions, but it has failed to keep pace with the progress in medical science. This progress is so rapid that the medical colleges complain that they can not catch up in their equipment. But if the new departure in life insurance means anything, it means that the companies are beginning to resolve themselves into what they have an inherent right to be, companies of physicians—a longevity trust.—The New York *Times*.

SCIENTIFIC BOOKS

GAUDRY ON PYROTHERIUM [1]

THE venerated author of "Les Enchaînements du Monde Animal" was engaged until within a few days of his death upon a series of monographs dealing with the fossil mammalian faunæ of Patagonia and based upon specimens collected for the Paris Museum by M. André Tournouër.

The first of these monographs[2] dealt with

[1] "Fossiles de Patagonie: le *Pyrotherium*," *Ann. de Paléontologie* (Boule), tome IV., 1909, pp. 1–28, pll. I.–VII.

[2] "Fossiles de Patagonie—Dentition de quelques Mammifères," *Mem. de la Soc. géol. de France, Paléontologie*, Mem. XXXI., 1906, 4° (42 text figures).