

tinued existence in most of the higher plants. The carbon dioxid given off is sometimes equal in amount to the oxygen taken in, but this ratio is a variable one. Most plants are able to respire for limited periods without taking in oxygen. Some of the lower plants are able to do this for prolonged periods—perhaps for a whole life cycle. This phase of the process is called intramolecular or anaerobic respiration and is much the same as certain kinds of fermentation. The steps of the processes of respiration are imperfectly known.

CHARLES H. SHAW

QUOTATIONS

'NEWSPAPER SCIENCE'

IN the last number of *SCIENCE*, a correspondent, dealing with 'fakes and the press,' urges Congress "by some legal enactment to check the publication of all items that convey erroneous impressions relative to matters in which the whole community is interested." The immediate occasion of this somewhat sweeping recommendation is the wide publication late in January of a paragraph to the effect that the Jamaica earthquake, by disturbing the subterranean strata, had increased the flow of oil from the wells of northern Texas and Louisiana, while diminishing that from the southern counties of both states. The tale, it appears, was not true, and certain geologists declared at the beginning that it could not possibly have been true. Nevertheless, the writer is unfortunate in having illustrated his arraignment of 'newspaper science' by an example of a plain 'fake,' which is not typical of 'newspaper science' at all.

If the term has any meaning, it applies not to malicious stock-market rumors, or to wild fantasies which no one would pretend to take seriously, but to the journalistic treatment of matters that have really a scientific status. Just now 'newspaper science' is concerned chiefly with the weight of the human soul. Two days ago some Boston physicians announced that they had demonstrated a loss in weight of from one half ounce to one ounce at the moment of death, or a little later in the case of very slow-witted persons. This morn-

ing 'an eminent physiological chemist' adds the information that 'a group of German students' determined years ago that a mouse lost a milligram of weight when it died in an open vessel, but not when in an hermetically sealed bottle. We feel sure that this is not the last, but confidently await the story of the Indiana investigator who found some years ago that the soul of a lizard could be made to keep for years in any climate when contained in a bottle of pink glass. All this will be very interesting, it harms nobody, and at the beginning of the serial story there was some definite information furnished by men of standing.

There is much less guile about newspaper science than the laboratory scientists would have us believe. For instance, last fall, if we may infer causes from results, a newspaper correspondent at a small western lake resort picked up on the beach a defunct specimen of the common 'mud puppy.' He had never seen such a creature before, and took it to a local naturalist, who told him something about its amphibious habits and superabundant breathing apparatus. He also gave the generic name, *Necturus*, which the correspondent or the telegraph operator afterwards misspelled in the account of the monster—its size was a detail not mentioned—which possessed both lungs and gills, four legs, a mouthful of sharp teeth, a long tail, and was 'believed to be the Nocturis.' The finding of a mud puppy would have been no news at all, yet by means of this ingenuous dispatch, some perfectly correct and remarkable bits of scientific information were brought within the reach of a million newspaper readers.

By and large, there are probably quite as many commonplace and elementary scientific facts thus exploited as there are outright fabrications. Set any layman to report the lecture of a scientist who, in going over the field of his own specialty, mingles old with new matter, and he is just as likely to hit upon the former as the latter. If he is looking simply for sensation, he will send out an account, like so many which have emanated from the University of Chicago, bearing very little relation to anything a competent scientist could have

said, but is not likely to have the diabolical ingenuity that sometimes is put into the political 'fake.' The corroborative detail which could give verisimilitude to, say, the story that man is in danger of being ousted by birds from the primacy of the animal kingdom, could only be supplied by the trained scientist, and the trained scientist is above doing such a thing.

A dozen of the colleges are attempting to disarm the unscrupulous journalist by sending out with their own *imprimatur* accounts of the discoveries made by members of their faculties. If this does not drive out the mendacious reporter, the fault can perhaps be justly laid at the door of science herself. Man continues to ask questions about his environment, and to want them answered. Yet it is growing increasingly hard to make real science intelligible. We may instance the perennially interesting sea-urchin eggs of Professor Jacques Loeb. His experiments in developing them covered a long period. Every now and then he established a new point. To the initiated these steps were as distinct as the several equations in an algebraical demonstration; yet to the layman the official accounts of these experiments read so much alike that headline writers hardly attempted to distinguish them, and many undoubtedly thought that the same news was being sent out over and over again. If really epochal discoveries are of such character that they can no longer be described in plain language, the temptation arises to invent discoveries which, though they never really occurred, are perfectly easy to talk about.

Nor, in spite of the scientists' insistence that plain reporters ought not to write about things they do not understand, is the confirmation of a recognized authority a perfect safeguard against the charge of inaccuracy. The *Evening Post* has printed accounts of scientific matters taken down verbatim from the lips of the leaders in particular branches of science, and had them disputed vehemently by other scientists. As the scientific tortoises creep on slowly from point to point, they do not always agree who is ahead; but that, we admit, does not make any less reprehensible

the conduct of the irresponsible cottontail who occasionally jumps a few rods ahead of the whole lot.—*The New York Evening Post*.

BOTANICAL NOTES

STUDIES OF TEXAN VEGETATION

FROM time to time it has been a pleasant task of the editor of these notes to call attention to the work of Dr. Bray, of the University of Texas, on the vegetation of his state. The vastness of the territory covered, and the exceedingly varied character of soil, temperature, rainfall and other factors make the task of the botanist one of unusual difficulty. When it is remembered that Texas covers an area nearly as large as the northeastern states from Maine to, and including, Ohio and Virginia, and that north and south its length is about that from Boston to Charleston, and its width east and west about that from Boston to Chicago, one may begin to appreciate the amount of labor involved in what Dr. Bray has already accomplished. He has now added to his previous publications a paper entitled 'Distribution and Adaptation of the Vegetation of Texas,' and published as Bulletin No. 82 of the University of Texas. He tells us that it "was begun under the stimulus of desiring to present to the teachers in the public schools of Texas a point of view from which to study the vegetation of the state." He hastens, however, to say that "the aim is not to supplant other phases of botanical study, but to supplement them," which indicates that the author is not one of those who think that a general observation of the plants of a region, without their particular study, should constitute the content of a course in elementary botany.

The pamphlet, which includes 108 pages (and 14 plates), first takes up the 'Factors of Plant Environment and how they affect Plants,' to which about one half of the space is given, and this is followed by a discussion of the 'Plant Societies of the Texas Region.' In the first the rôles of water, temperature, light, the atmosphere, soils and biological factors are discussed clearly and helpfully. For it must be borne in mind that the purpose of the publication is to help teachers and