and new discoveries and not of killing and destruction. In the Kaiser Wilhelm Institute für physikalische Chemie, directed by the famous Friedrich Haber, I met Professor N. Freundlich, from whom we all more or less learned colloid chemistry. He invited me to remain and work awhile in Germany, but I was in a hurry to get home.

All this now seems to be a dream from long ago. Haber and Freundlich have died in exile. The Germany of to-day does not offer us joint scientific work but the destruction of our cities and the physical extermination of their populations. All our thoughts are turned to the assistance of our country. And in this fierce fight which we are waging for ourselves and for all humanity, we are glad to know that we have behind us all the might of the great American nation.

A. FRUMKIN

NEON LIGHTS

IN the December 19, 1941, issue of SCIENCE, there appears a note entitled "Extra Strong Heliotropic Effect of Neon Lights." The writer points out that insects have been observed to collect around neon lights to a greater extent than around "white lights." He then suggests that the "neon lights may emanate invisible rays which connect with the antennae of various insects and pull them to its source." The belief is implied that the insect eye is sensitive only to visible radiation, that is, wave-lengths to which the human eye is sensitive (approximately 3,900 to 7,200A).

Experiments by Bertholf on the honey-bee[1] and *Drosophila*[2] show that in these two insects sensitivity to wave-lengths in the near ultraviolet is far greater than sensitivity to those wave-lengths visible to the human eye. The sensitivities of these insects have maxima near 3,600A several times the sensitivity to any wave-lengths in the visible; and there is general high sensitivity between 3,000 and 4,000A. The spectrum of neon shows a number of strong lines in this region, whereas the spectra of tungsten filament lamps, presumably the source referred to as "white lights" by the writer, is weak in this region. Even without an estimate of relative intensities one might expect that these insects, both of which are positively oriented by light, would collect in greater concentration about neon lamps than about tungsten filament lamps. It is reasonable to assume that the eyes of many other insects have spectral sensitivities similar to those of the honey-bee and *Drosophila* and would behave in similar fashion. Lacking complete knowledge on this point and with no estimate of the relative intensities of the sources, no final explanation of the writer's observation can be given, but there seems no reason to postulate that any organ other than the insect eye is involved.

It seems appropriate to call attention here to the fact that many interpretations of behavior of lower organisms have been based on the assumption that their light receptors are strictly comparable to the eyes of man. Accurate information on the photoreceptors of invertebrate organisms is more scanty than could be desired, but, nevertheless, many instances of mystifying behavior of organisms in light fields may be quite simply explained if spectral sensitivity and visual acuity are taken into account.

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[1] L. M. Bertholf, *J. Agric. Research* (1931) 42, 379; 43, 703.

[2] L. M. Bertholf, *Ztschr. vergleich. Physiol.* (1933) 18, 32.

GALENA IN CONCRETIONS OF POTTSVILLE AGE

THE writer is interested in the article written by Alfred C. Lane in the issue of SCIENCE of November 14, 1941, concerning the occurrence of galena in sedimentary rock. Lane calls our attention to the fact that sedimentary galena from Joplin, Mo., has a relatively high proportion of isotopes which may be of radiogenic origin. He urges that galenas from sedimentary formations be collected and kept for further scientific research, and the Committee on Measurement of Geologic Time be informed about it.

Near Marshallville, Ohio, in a railroad cut near that village, is an excellent exposure of the unconformity between the Mississippian sandstone and the basal Pennsylvanian, known as the Pottsville. Not far above the unconformity, in a black, bituminous, thinly laminated shale, occur numerous clay iron-stone concretions of the septarian type. These contain an association of minerals similar to that in the lead and zinc deposits of the Mississippi Valley. In addition to galena are found sphalerite, barite and pyrite. Sphalerite occurs in greatest abundance and barite is quite common. Galena is rare in occurrence and it required the cracking of large numbers of concretions to find one crystal, which is embedded in the concretion and measures about one quarter inch long and one eighth inch wide.

KARL VER STEEG

COLLEGE OF WOOSTER

A PURE NITROGEN NATURAL GAS WELL

WHAT is believed to be the first pure nitrogen natural gas well ever to be discovered in the United States, in so far as the writer has been able to ascertain, has been discovered at a shallow depth in eastern Wyoming, during the past season.

In the course of drilling a well for water on the

W. H. Cross ranch, near the southern rim of the Powder River Basin, at a depth of only 156 feet, the bit penetrated a sand member containing a non-inflammable gas, under considerable pressure, so the well was shut down for a check and testing.

Warren D. Skelton, Wyoming state mineral supervisor, took a sample of this gas, and turned it over to the U. S. Geological Survey testing laboratory, in Casper, Wyoming. The analysis made by J. G. Crawford, chemist there for the Geological Survey, shows this sample to be 100 per cent. pure nitrogen gas. In a letter concerning this unusual occurrence to the writer, Mr. Skelton states: "I am certain the sample was in good shape for analysis when taken, as the gas was allowed to flow through the tube for some time before the connections were closed and the sample taken confined."

The official report furnished to me by the state mineral supervisor shows that this nitrogen gas developed a rock pressure of eleven pounds in ten minutes. As the top of the sand was barely penetrated, according to information furnished by the drillers, it is probable that this does not represent the total rock pressure present here. It has been the writer's observation that actual top pressures may take much more time than this to develop, with other natural gas wells of relatively low pressures, even when the sands have been fully penetrated by the drilling bit, particularly where such sands tend to be "tight," *i.e.*, of low porosity, or partially cemented up. Consequently, a considerable pressure of this nitrogen gas may be present in this formation and locality. The well was shut down and closed.

Because of the possible use of this remarkable natural gas for present war emergency purposes, it seems important to call general attention to its existence at this time.

HAROLD J. COOK,
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AGATE, NEBRASKA

ADVERTISEMENTS IN SCIENCE

I HAVE just received the issue of SCIENCE for February 6, 1942. I wish to raise again a question of which I spoke once before, namely the small amount of report and discussion of the scientific matters of the annual meeting and the large amount of advertising.

I check 23 pages of reports and accompanying discussions, and 65 pages of advertising. The reports and discussions are preceded by a little more than half of the advertising. When I first picked up this issue its size gave me the impression that we would have a more than usually full account of the meetings. Examination showed that my first impression was decidedly wrong. Indeed, as I turned the pages looking for the reports, I was disturbed and much disappointed in being forced to the conclusion that the science meetings, so far as the reports go, are merely the agencies for carrying a huge amount of paid-for advertising. I am fully aware that the advertising is what pays mostly for the publication, as well as for profits beyond costs. Although the magazine is the property of the editor it is listed as an official organ of the American Association for the Advancement of Science and undoubtedly many members think of the American Association for the Advancement of Science and the magazine as closely related in policies. Hence my brief comments from which I omit a good many points which occur to me.

OTIS W. CALDWELL

As Dr. Caldwell's point of view may be shared by other members of the American Association for the Advancement of Science, it seems desirable to give an explanation of the situation. SCIENCE issues one special number a year and selects the one containing the report of the annual meeting of the association which is sent to all members of the Association and to some scientific men who should become members. Consequently, the issue for February 6 had a circulation of 30,000 copies.

This provides an attractive opportunity to publishers of scientific books, makers of scientific instruments and dealers in scientific supplies to reach practically all the scientific men of America through the insertion of a single advertisement. If such an advertisement were inserted in each of the special scientific journals the cost would be perhaps fifty times as much. There is no advance in charges for advertisements in the special issue, which has twice the usual edition. Consequently, profits to the journal are much smaller than in the regular issues. It is an opportunity for advertisers to come in contact with scientific men and to demonstrate their interest in research work. The special issue of SCIENCE is welcome to scientific men for the report of the annual meeting of the association and because the advertisements are of interest to them. The number can be kept through the year as a summary of the work done and as a directory of what is being accomplished by publishers and manufacturers to cooperate in work for the advancement of science. For this end publications and apparatus are as essential as the work of scientific men.

The special issue contains the same number of reading pages as the regular issues of the journal, which prints two volumes a year of about seven hundred pages each. In 1940 the number of pages of reading matter in the first volume was 704; in the second volume it was 698. This is equal to the contents of twenty books which might sell for three dollars each. Members of the American Association pay three dol-