for posterity and hope that the record will be intact a thousand years from now.

SAMUEL T. FARQUHAR
THE UNIVERSITY OF CALIFORNIA PRESS

PROFESSIONAL SERVICES VS. "LABORATORY INDUSTRY"

THE object of this communication is to arouse all professional men, and especially scientists, to the dangers involved in the proposed "Code for Commercial Testing Laboratories," the title of which was changed to "Code for Commercial Research and Testing Laboratories." This change was the response of the code makers when it was pointed out that the wording of the proposed code was broad enough to include all professional men—chemists, engineers, physicists, psychologists, doctors, dentists, etc.—providing only that they maintain or operate any kind of a "laboratory" for the establishment of facts incidental to the practise of their respective professions.

Professional service is essentially a personal service and responsibility, generally demanding a confidential relationship to the client. It is against public policy to permit the professional man to hide his personal responsibilities behind the screen of incorporation. On the contrary, he personally is held to strict account not only by the law, but also by the code of ethics of his profession. He should be encouraged to establish his practise on the basis of his personal integrity and ability rather than to become an employee in some "professional" corporation, where the stockholders of to-morrow, if not those of to-day, may have interests opposed to those of the "clients" for whom work is done. All this is of the highest importance, for, once the individual professional man is under a "code," the Code Authority will have the right and duty under the enforcement rules to pry into his confidential records and thus often find items interesting to themselves or the corporations controlling their business. This destroys the chief protection the public has against possible deception by corporations.

In its broad sense, this proposed code appears to me to be an attempt on the part of industry to dominate the professions. Lawyers maintain libraries. Should they be included in a "library industry code"? Surgeons when operating may use a knife or a saw. Are they therefore to be included under the codes covering butchers and carpenters? A physician does not become a "Commercial Research and Testing Laboratory" when he makes blood, urine or other tests incidental to his practise. Neither does the professional chemist, when he makes the tests needed to guide him in forming his opinions and giving his advice to clients, or in giving his testimony in court.

The article printed on pages 341 and 342 of the issue of SCIENCE for April 13, entitled "A Code for Chemists?", fails to point out this major issue, although it lists six other reasons why professional scientific men oppose codification under NRA. So far as I can see, the four methods mentioned by the author (H. H. Bunzell, chairman, Code Committee "Organized Food Laboratories") as "ready to be put into operation" under the code proposed by his group, and which "may be unorthodox as codes go," are all forms of advertising, even though the suggested "bi-weekly news letters," with material of interest to manufacturers, are to serve "as a clearing house for new methods and improvements of old ones." Perhaps this is to give the publication the odor of scientific sanctity, for it appears otherwise useless. SCIENCE for February 16 states that last year 64,190 abstracts, covering the literature of the world, were published in *Chemical Abstracts* by the American Chemical Society. This enormous organization, with its 17,000 members making it the largest organization of all kinds of chemists in the world, has come out strongly against codification.

Dr. Bunzell states that in his group there are 75 or more independent food laboratories, most of them small, many with only a porter or office boy. He further states: "There is overwhelming evidence at hand that the food industries, still prosperous, in general consider laboratory work a luxury." The overwhelming evidence is precisely the opposite. Every important food industry maintains many laboratories, employs many competent chemists and runs its plants on the basis of ceaseless laboratory work. That is why comparatively little work is passed over to the outside "laboratory industry," which deals mainly with specialties and service to firms too small to have laboratories of their own. When the food industry was affected by the general business decline, there was naturally less work for outside laboratories.

Dr. Bunzell laments the fact that "the chemist is not rendered the same degree of recognition or business courtesy as his professional brothers, the legal adviser or the advertising counselor." Depending on their behavior and competence, the professional chemists I know are accorded the same recognition as members of any other ethical profession. Chemists employed in an industry come under the codes of their respective industries. There is no reason why a man trained professionally may not conduct or work for an industry. Professional chemists refuse to be thrust into the "laboratory industry" or any other industry.

So far as I can make out, the main sponsors of the proposed "Code for Commercial Research and Testing Laboratories" are certain corporations whose animus could very well be "more tests, higher prices and larger profits," instead of their ostensible slogan,

"more chemists employed." The evidence is "more chemists would be discharged." It is a question whether, under the proposed code, professional men in many fields may not be compelled to have their tests done by these corporations.

Last summer, in response to the President's appeal for cooperation, both the Association of Consulting Chemists and the American Institute of Chemists inquired of National Industrial Recovery officials how they might best cooperate, and whether professional codes, based primarily on codes of ethics (rather than the expediencies of business), were contemplated. After consideration, both organizations were informed that professional chemists and professional chemical engineers were not to be "coded." Therefore, when a code for commercial testing laboratories was proposed and discussed, the vast majority of professional men paid little or no attention to it. It was only when the letter of resignation of Arthur D. Little, Inc., was published that it became evident that into the "Commercial Testing Laboratory Code" there had been inserted wording of great danger to professions in general and to the chemical profession in particular. It is against public policy to allow incorporated testing laboratories controlled by public utilities and manufacturing corporations to dominate professional work.

JEROME ALEXANDER

NEW YORK, N. Y.

UNUSUAL STROKES OF LIGHTNING

LAST night (May 9, 1934) about one o'clock there was an occurrence which I believe is rather rare. In the course of a severe electrical thunderstorm lightning "struck" a tree about 100 feet from our house. The peculiar facts about the phenomenon are that it "struck" the same tree twice within about a second's time, and that the tree is a *dead* (walnut) tree, whereas within 75 feet of it, near our house, are two tall *live* Lombardy poplars. The old tree, about 50 feet tall and with a trunk close to 4 feet in diameter at its base, died several years ago, but had been left standing (it being in a vacant lot).

The lightning blasted off a layer of wood, a few inches to nearly a foot wide and two to three inches thick in pieces from a few inches to five or six feet in length from opposite sides of the tree from about twenty feet up to about two feet from the ground, hurling the pieces as far as a hundred feet from the tree. There was no searing or burning effect.

I have never heard of a case where lightning "struck" more than once so close to the same spot within so short a time.

E. P. WIGHTMAN

KODAK PARK
ROCHESTER, N. Y.

CLOCKWISE ROTATION IN PARAMECIUM TRICHIUM

As Wenrich[1] and others have pointed out, the rotation of all species of Paramecium except *P. calkinsi* is typically counter clockwise while swimming freely. Inasmuch as the clockwise rotation of *P. calkinsi* is one of the characteristics given by Wenrich as diagnostic for this species, the following observations may be of interest.

I have seen numerous specimens of *P. trichium* change the typical counter clockwise rotation for a clockwise one. The clockwise rotation may be for a few turns only or it may persist for some time. In no case, however, has the "abnormal" rotation been observed to persist for longer than about twenty-five complete rotations of the body. Often an individual will rotate counter clockwise for fifty or more turns of its body, change to a clockwise rotation for from three to ten turns, and then resume the counter clockwise rotation. Rarely, individuals reverse this process, temporarily turning clockwise more than counter clockwise. If one individual be watched for an hour or more the counter clockwise rotation is always seen to be the more frequent.

These observations were made upon organisms cultured in a standard hay infusion. The animals showed no sign of abnormalities.

ARTHUR N. BRAGG

ANDOVER, MASS.

THE "GUNS" OF SENECA LAKE

IN SCIENCE for April 13, Professor H. L. Fairchild explains the nature of certain mysterious muffled sounds or explosive noises long noted about or over Seneca Lake. These sounds, it may be said, are conclusively shown to be due to escape of gas from the deep Dundee gas area making its way through the glacial drift filling the bottom of the great canyon-like Tertiary river valley of central New York now occupied by the lake. As gas bubbles make their way upward, first through the drift and then through the deep water, heavy pressures are gradually released, and as the surface of the lake is reached the noises like those of muffled guns are heard. Although, exploitation in the Dundee field having greatly reduced the original pressure of 770 pounds per square inch, it is believed the ghost guns of the Seneca are about "silenced."

Is there not here seen a partial illustration of the nature of some of the mysterious sounds of the Yellowstone? Elsewhere I suggest a more physicochemic explanation. The conditions about the Yellowstone and Shoshone lakes producing sounds which vary from explosive blurts to highly musical pitches must be complex. That any one explanation may suffice is unlikely. But it would be of interest to know what the impressions gained from hearing the

[1] *Trans. Am. Micros. Soc.*, 47: 280, 1928.