vited by the Formosan Government to serve as parasitologist, but will stay in Tokyo till next year.

With best thanks for your sympathy, I am

Yours very truly,

SEITARO GOTO

IMPERIAL UNIVERSITY,
TOKYO, JAPAN, OCTOBER 30, 1923

EXTRACT FROM A LETTER TO DR. DAVID STARR JORDAN

No doubt you have had details from the press, but in case it may be of interest to see how quickly the American ships got started for relief we might mention that, of the two divisions (each six ships; squadron leader making 13 in all) of Destroyers, that known as the "38th" reached here from Dairen, Chinwangtao, etc., on the fifth to seventh, and Division No. 45, from Tsingtao got here about the eighth or ninth. The transport Merritt, from Manila, delayed by a typhoon, got here on the fifteenth, and the Meigs on the seventeenth—with large quantities of food, blankets and hospital supplies, etc. The destroyers practically stripped themselves of their own stores besides what extras they had been able to bring.

The Japanese have been greatly moved by the swift and open-handed policy of America and other nations; this has meant much for the morale of the nation as well as for their physical relief.

There are nearly 55,000 people still living in barracks in the chief centers for these temporary structures in Tokyo—parks, palace and temple grounds and the like, from recent official statistics. Problems of clothing, housing and employment are most difficult at present. There are over 6,000 in the little barrack village—long rows of frame (one-room divisions)—right in Hibiya Park here. You would be surprised to see the cheerful aspect of their neat little "streets"—the one where they have opened most of their shops having strings of gay lanterns suspended overhead across the street at close intervals.

We hope that the little quakes that have occurred since September 1 have not been exaggerated in the press abroad. They have not amounted to anything, being just the minor adjustments to be expected after the main shock, except perhaps for yesterday's which is said to have been independent, but not at all serious.

When we consider the courage and hard work to be seen here on every hand, and the history of San Francisco after 1906, we are sure that it will not be long before that history will be repeated here. Even now no one who may have been planning to come here need change plans.

T. INAMURU

TOKYO, NOVEMBER 6, 1923

The Imperial University of Tokyo lost its entire library, which, as I understand, though encased in a fire-proof building, had its roof lifted by an explosion in a neighboring medical school. There were between 500,000 and 700,000 volumes, many of them of ancient Japanese literature and irreplaceable.

Professor Kenzo Takahashi is now visiting the universities of America and Europe with a view to securing donations for this library. It is to be hoped that all our universities and scientific societies will respond to this appeal. Any person or institution which may wish to send one or more volumes may do so either through Professor Takahashi, or by sending them directly to Mr. T. Komatsu, director of the Toyo Kisen Kaisha, Market St., San Francisco, who will forward them without charge to Japan.

DAVID STARR JORDAN

STANFORD UNIVERSITY

THE SELECTION OF SUBJECTS FOR RESEARCH

IN the August 10 issue of SCIENCE, Dr. Eugene C. Bingham gives a discussion of this subject, with particular reference to subjects for the university. I should like to add a few words with reference to a selection for the younger students.

After stating the importance of having research problems of some value, "If the result will not be worth publication, the work is not worth attempting," he goes on to make the point that "the particular problem is of little moment to the student." For "one tiny problem quickly branches out into more fields than any one mind can compass." It is a little difficult to see how Dr. Bingham introduced philology into the study of the flow of matter, but that merely shows that Dr. Bingham has the imagination to see the connection. Another might fall down in a similar research problem, because he could not see it.

The young student can not ordinarily see such a connection, and it may be for this reason that it has come to be common practice to give them the multitude of varied courses, instead of starting them learning research. But I think the cause is more in the subjects selected. The professor is mostly interested in the fields that have been extensively studied. He wants to carry research one step further in the well-trodden road, in such directions as radioactivity, or isotopes, to mention two examples from Mr. Bingham's article. To go ahead with such subjects it is necessary first to learn the work of other leading men. Students in our colleges find it impossible to get ready to accomplish anything in such a line before graduation.

Turning to the industrial field, we find many lines which have never received the attention of a single intellect of the highest grade. There are plenty of real problems with results that would be worth pub-

lishing. Furthermore, many of these problems could be handled with but little equipment and at small expense. Why not start the student on such problems and give him a chance at learning research methods before graduation?

To be sure, such problems do not extend our knowledge of scientific laws, and so it might not be proper to call it scientific research. Instead, they are a study in finding what laws apply to particular cases in which we are interested. It is technical research rather than scientific. But it is just as truly research and uses the same methods, but the subject-matter is more in line with the age of the student.

To try to put such problems into the college course does not seem practical. One difficulty is the difference in the ability of the student and the professor to handle the problem. The professor would want the results and would see that they were obtained promptly, in this way reducing the research practically to the position of present-day laboratory experiments.

I would, therefore, suggest that the student go into the industry for his first experience at research, to some place where the results of his work would be appreciated from a financial as well as from an educational standpoint, and where he can obtain results on his own initiative that are worth publishing. As he sees the need for more general courses in various subjects, he can take these up with more interest than would be possible without his research practice.

Several advertisements have appeared recently in SCIENCE for a boy to do exactly this, but so far not a single reply has been received, not even a request for further particulars. What can be the reason? Do all parents feel that the college is the only place to study research? Or possibly they do not want their sons to go into research work? Do they feel that no business firm would take on a young boy for such purposes, and so there must be some hidden deceit about the advertisement? Is the fact that the boy receives pay instead of having to pay for it the obstacle? Or what is the reason that not a single person has been sufficiently interested to inquire about it?

A. W. FORBES

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REACTIONS OF CARBON DISULFIDE WITH ALDEHYDES

IN the presence of metallic sodium, carbon disulfide condenses with bodies containing "active" hydrogen to give unstable dithio acids. The reaction has been applied to compounds which contain the group

$$-\overset{\overset{O}{\|}}{C}H \quad \text{or} \quad -\overset{\overset{O}{\|}}{C}-\overset{\overset{H}{|}}{C}-$$

(aldehydes, ketones, esters, salts of organic acids) and is probably general for all substances capable of aldol condensation.

Aldehydes yield α-keto dithio acids, with ketones ethers of dithio acids are produced; ethyl formate reacts irregularly, giving sulfo-methane dicarboxylic acid. The new dithio acids have only been studied through their salts, etc.; the free acids are very unstable and have so far not been isolated.

Further work will extend the study of this reaction to other types of substances which undergo aldol condensation, and will report the preparation of the esters of the new dithio acids, which appear to be stable.

E. WERTHEIM

UNIVERSITY OF ARKANSAS

SCIENTIFIC AND INDUSTRIAL RESEARCH[1]

THE Report of the Committee of the Privy Council for Scientific and Industrial Research for 1922–23 shows the far-reaching importance of the work carried on under the auspices of this committee. The civil departments concerned in public administration, it is noted, are making larger use of the machinery now existing for the scientific attack upon problems that affect them. As part of the policy of coordination, periodic conferences have been held between representatives of the Department of Scientific and Industrial Research, the Development Commission and the Medical Research Council, at which the biological secretary of the Royal Society has been present. These conferences, the report states, have provided valuable opportunities for the consideration of such matters as the responsibility for the conduct of investigations at borderlines, the possibility of cooperative action in the conduct of investigations in which more than one of these departments may be interested, and the continuance of research work which has developed in such a way as to bring it outside the scope of the fund originally aiding it. These discussions have helped to define the common problems of human and animal disease, and have emphasized the interdependence of biological and physical research. They have driven home to the committee the conviction that a national policy in research, complex though it might be and directed by diverse and suitably designed organs, must be conceived and implemented as a unity. A series of conferences were held during the year with the management of the British Empire Exhibition, and a departmental committee was appointed to consider how science and the application of science to industries could best be represented. It was agreed with the exhibition authorities that they should ap-

[1] *The British Medical Journal.*