

MILITARY SCIENCE

**"Live" Mines at Canal
No Danger to Navigation**

THE "live" mines planted across the approaches to the Panama Canal constitute no danger to ships in those waters, because they are controlled by electrical connections to observation stations on shore, and are rendered harmless to all except hostile vessels.

Ordinary contact mines, such as have been sown by scores of thousands in European waters by both belligerents, are independent of all controls. They explode on first contact; being brainless robots, they can not discriminate among friends, foes or neutrals.

Mines such as those used at Panama and elsewhere for harbor defense purposes are serviced by the Coast Artillery Corps. Elaborate submarine cable connections must be laid before the mines are launched. Planting such a mine field requires the services of expert electricians and takes considerable time. At least the skeletons of controlled mine fields are maintained even in time of peace, and frequent practice is expected of the technical troops in charge of them.

Science News Letter, July 6, 1940

GENERAL SCIENCE

**Scientific Workers Urge
Aid to the Allies**

THE UNITED STATES government is urged "to take all steps necessary for hemisphere defense, including such aid to the Allies as most effectively furthers this aim," as the most reasonable program to keep the United States at peace and to restore peace to the world, in a statement by 30 members of the Boston-Cambridge Branch of the American Association of Scientific Workers. It appears in *Science* (June 21). The group of signers includes Dr. Walter B. Cannon, Harvard physiologist, last year's president of the American Association for the Advancement of Science, of which *Science* is the official organ, and Dr. Karl T. Compton, president of the Massachusetts Institute of Technology.

The statement refers to a resolution passed by the Boston-Cambridge Branch of the Association in March, which recommended the "support of all reasonable programs . . . which will preserve peace for the United States and bring peace to the world." This, it is said, was passed by a minority of the 180 members of the Branch, so "it cannot be stated, therefore, that this resolu-

tion expressed adequately the position of the members even in March, much less that it expresses their position now."

It is denied, however, that this resolution was, as has been charged, a statement of a "peace at any price" policy. "It states, if anything," according to the new declaration, "a 'peace-it's wonderful' policy." (See *SNL*, June 1)

Reference is also made to a statement by the same group early in 1939 urging boycott of German scientific instruments and materials. (See *SNL*, April 8)

"The events of the past few months have demonstrated the ludicrous ineffectiveness of such measures," the present statement continues. "The Nazi system against which the boycott resolution was directed has since extended its dominion by brutal aggressions which feature the perversion of science and technology to promote destruction on an unprecedented scale."

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GENERAL SCIENCE

**Committee Urges Rescue
Of Exiles in France**

A LAST minute effort is being made in Washington by representatives of the American Committee for Democracy and Intellectual Freedom to obtain the intervention of the United States government and the Red Cross for the rescue of thousands of exiles in France in danger of their lives as a result of French capitulation to Germany.

These men and women "whose only crime is that they have fought for years to preserve democracy in Europe against the onslaught of fascism" are endangered by the provision in the French-German armistice that "the French government is to hand over all German subjects indicated by the German government who are in France or French overseas territory."

A delegation including Prof. L. C. Dunn of Columbia University, Oliver LaFarge, and Prof. Roland H. Bainton of Yale Divinity School is asking congressmen to support efforts to secure release of exiles from French concentration camps, to extend U. S. consular protection until evacuation through the Red Cross or other international relief organizations, and to provide the right of asylum in the United States.

Some of the exiles, among them the pediatrician Dr. Rudolf Neumann, already have visas for entry into the United States.

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IN SCIEN

MEDICINE

**National Cancer Council
To Attack Stomach Cancer**

THE National Advisory Cancer Council is launching an attack on stomach cancer. It will sponsor a conference of experts in this field to be held in Washington on October 11 and 12, Dr. Ludvig Hecktoen, executive director of the Council, announced after a meeting at which plans for research on stomach cancer were discussed.

Cancer of the stomach is one of the forms of cancer against which cancer fighters have made slow progress, chiefly because of the difficulty of detecting cancer in the stomach in early stages when treatment would have most chance of success.

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METEOROLOGY

**27-Day Rotation Period
Found in Weather**

NEW evidence of the relation between solar activity and weather on earth is contained in the discovery by H. Helm Clayton, meteorologist, that a 27-day period is shown in weather records, corresponding to the rotation of the sun. His researches were announced by the Smithsonian Institution.

Past work has shown that there is an intricate connection between the sun's activity, shown by the varying number of sunspots, and weather. The spots become most numerous every eleven years, and weather changes over the same period have been found.

Spots, however, are not equally numerous over the entire sun. Since it turns once in 27 days, Mr. Clayton assumed that there ought to be 27-day weather cycles, as disturbed areas were successively aimed earthwards. This has now been found in a changing pattern of air currents.

However, the effects on weather are extremely complex, and will have to be worked out in further detail before they have much practical application in weather forecasting, it is stated.

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CE FIELDS

CHEMISTRY

Need Explosives Chemists For National Defense

IN ORDER that the National defense program may not be hampered by a lack of chemists familiar with explosives, the U. S. Civil Service Commission has just issued a special appeal for applicants to take the examinations now open for these positions. A large number of well-qualified explosive chemists and chemical technologists are wanted to be immediately available as vacancies occur.

Positions for which examinations have been announced pay salaries ranging from \$2,600 to \$4,600 per year. From states east of Colorado, applications must be on file in Washington not later than July 15. Applicants in Colorado, or farther west, have until July 18. Copies of announcements, and application forms, may be secured from the secretary of the Board of U. S. Civil Service Examiners, at any first or second-class post office, or from the offices of the Commission in Washington.

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AGRICULTURE

Foresee Restoration of Aristocracy of the Soil

THE RISE once more in this country of a true aristocracy of the land was predicted by Prof. Lawrence C. Wheating, State College of Washington research professor of soils, speaking before the American Association for the Advancement of Science. Social and scientific readjustments now underway will bring this about in Prof. Wheating's opinion.

"Land is the one natural resource that is capable of a continuous production of new wealth, year after year," Prof. Wheating said. "Other natural resources such as coal and iron, when once used are gone permanently, but the continuous production of crops on the same piece of land, when properly managed, yields a continuous flow of wealth that has never been in existence before.

"This attribute of land is of extreme importance to any nation. Most of the mercantile processes exist only by the exchange of wealth already gained from

the soil or through the final utilization of other natural resources. With the ultimate exhaustion of the latter, and the tying-up of profits from the exchange of goods, there would be no source of new capital were it not for the productivity of the land.

"The injection of \$8,000,000,000 of new wealth derived annually from the land, into the national economy, is the largest single factor keeping the wheels of our nation turning."

Not all land is equally useful for all purposes, Prof. Wheating observed. The most intensive land use, truck crop production, may bring annual gross sales amounting to \$1,000 an acre by producing several crops per year from the same acre. Forestry, at the other end of the scale, may require 100 years or more to mature a crop. In some cases, the time required for the release of vital nutrients to the crop is extremely important. A crop of green peas develops completely in 75 days, a corn crop in 90 days. Perennial crops on the other hand, may use 300 days to produce a single crop.

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ENTOMOLOGY

Scientist Offers Students Experimental Insects

OPPORTUNITY for student clubs to carry on studies with the same varieties of *Drosophila*, or fruit flies, that are used in advanced genetic researches is offered by the genetics department of Washington, from its laboratories in Cold Spring Harbor.

Drs. M. Demerec and B. P. Kaufmann state that they have stocks of the little insects, from which they can send sufficient specimens to start laboratory colonies. The flies will be shipped in small vials, with sufficient food to last them until they reach their new homes.

They can be raised in pint milk bottles, and all they need for their support is a bit of fermenting banana. Since they produce a new generation every two weeks they multiply rapidly, and for this reason are about the most useful of all organisms for demonstrating the operation of Mendelian principles of heredity.

It is proposed to ship the first insects about Sept. 15. Student science clubs interested in this work are requested to have their faculty advisers write to The *Drosophila* Laboratory, Carnegie Institution of Washington, Cold Spring Harbor, N. Y., about a month before they need their initial stock of fruit flies.

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PHYSICS

Super-Heavy Element Reported From Japan

MANUFACTURE of a very long-lived superheavy element, number 93, is reported by a team of Japanese scientists. (*Physical Review*, June 15) It is formed as the result of the bombardment of uranium, commonly accepted heaviest element and possible atomic power source, with fast neutrons.

In addition to splitting, the uranium under such treatment emits electrons or beta rays, with a period of 6.5 days. The result of this artificial radioactivity is the formation of the relatively stable element 93. The uranium or element 92 from which the element 93 is obtained is probably uranium of atomic weight 237 produced from uranium 238 by loss of a neutron.

The same issue of the *Physical Review* gives details of the discovery of element 94 and the positive identification of element 93 through research at Berkeley, California, previously announced.

The Japanese scientists who did their work at Tokyo were: Y. Nishina, T. Yasaki, H. Ezoe, K. Kimura, and M. Ikawa.

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GENERAL SCIENCE

British Intern Refugee Scientists From Germany

FACED with the Battle for England and a Nazi invasion, British scientists are backing their government's safety action interning all enemy alien scientific workers whether or not they are refugee scientists from Germany and other enemy countries.

Information contained in the British journal, *Nature*, (May 25) just arrived in this country, states that the general feeling is that any preferential treatment for scientific workers in connection with measures against fifth column activity "would carry with it a grave element of risk which cannot be justified."

The fear is that among the genuine anti-Nazi scientists from Germany, who have worked effectively in British universities and research centers, there may be some Hitler supporters who would be dangerous in time of invasion.

German anti-Nazi scientists who have been interned are reported to view the matter philosophically with the attitude that the action is good from Britain's point of view.

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