

# The Month in Focus

## Oil Is Ammunition

HALLAN Marsh's article, "Oil Is Ammunition," is especially timely as borne out by events of the past few weeks since Mr. Marsh wrote this article. In paragraph 8 on page 7 Mr. Marsh states, "Rumanian crude production, which constitutes over 35 per cent of the whole European Axis output, is confined to a small area, definitely known, where continuous bombing could within a short time make effective inroads upon the German oil supply. . . . Extensive efforts are justified toward the destruction of Axis sources of petroleum supply wherever they can be found."

At the time Mr. Marsh's article for this issue of *Engineering and Science Monthly* was in preparation, the Allied victory in Sicily facilitated a mission by American bombing planes over the Ploesti oil fields in Rumania, with spectacular and gratifying results.

Despite these military successes which effectively decrease the supplies of the Axis countries, a problem still faces the Allied Nations in the field of petroleum. All of us will profit by reading "Oil Is Ammunition," for it presents a logical explanation for the necessity for conservation of petroleum products.

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## Government War Plants

The development of government-owned industrial plants and facilities is brought out by the latest figures on government-financed plants. During the past three years the government has spent 25 billion in financing plants and facilities.

Steel production has been expanded to such an extent that the government at the end of the war will own approximately 10 per cent of the total steel production capacity of the United States. Among its properties at the present writing are a quarter-billion dollar steel mill in Utah, a plant of approximately half that value in Pennsylvania, one costing 85 million in Illinois, and over a hundred smaller plants scattered throughout the United States. Most of these plants are operated by private industries for the government. Government investment in these plants is approximately a billion dollars.

The annual aluminum producing capacity of government plants at the end of the war will be greater than that of all plants owned by private industry. Plants built for the aluminum industry by the government since the beginning of the war have cost 760 million dollars.

Magnesium production in government plants will amount to 92 per cent of the total capacity of government and private projects. Government investment in this industry is approximately half a billion dollars.

Synthetic rubber plants costing 625 million are in operation, with an annual output one-third greater than total peace production prior to the war.

Government investment in aviation tops the list with a total of 10 times the value of privately-owned industry—a total of nearly three billion dollars. The government owns 521 plants for the production of aircraft and parts and accessories.

What is to become of these plants after the war? Before venturing an answer to this question it should be recognized that the important thing now is to operate these plants efficiently. However, some thought should be given to the problem of what is to be done with this great investment when peace comes, and whether or not such plants will have a salvage value. Three possible methods of solving the problem may be considered:

1. To dismantle any plants which would represent a liability either to government or industry and scrap the machinery.
2. To sell or lease the plants to private industry for postwar operation on the basis of the inevitable heavy demand for all types of commodities and equipment. Many of these plants could be converted to peacetime manufacturing in newly-developed fields.
3. Operation by the government of government-owned and controlled factories. The government's policy may cause serious difficulties for private industry or, if properly directed, may be of considerable assistance in establishing a sound peacetime economy.

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## Productionists and Militarists

The article by Lawrence Appley calls to mind the necessity for clarification of our ideas regarding the importance of the contributions which men are making in winning the war. The man on the street who is unfamiliar with production, engineering and science may be unjust in his evaluation of the contribution the young civilian is making to war industry. Patriotism does not always wear a uniform. Young men with active and creative minds are required not only by the armed forces, but also by industries producing war materiel and by agencies engaged in research and in development of new and improved weapons, methods and materials. The men and women in civilian occupations who are contributing their share to the successful conclusion of the war will not receive campaign medals, nor will they gain public and individual acclaim when the war is over. They are, however, a vital part of the war program, serving their country as patriotically as the men in uniform.

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## Civilian and Military Administrators

Events during the past few months have given a strong background to the War Department's plan for training engineers and executives for positions in occupied countries as administrators for rehabilitation of municipalities, industries, utilities, and agricultural areas. Many of the men trained for that purpose are now actually serving in North Africa, Pantelleria, and Sicily.

The United States Army School of Military Government of Charlottesville, Virginia, trains qualified commissioned officers in filling these positions.

Columbia University has established a course of training which continues for a period of 48 weeks and is

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## ELECTROSHOCK

**A** SUCCESSFUL device for administering electroshock treatment to overcome certain types of insanity has been developed in the Caltech laboratories. The instrument, developed by a group of physicists and physiologists, is now in satisfactory operation at numerous state hospitals, and at the Langley-Porter Clinic in San Francisco.

The electroshock treatment has been in use for several years, but physicians were handicapped because there was no way of determining in advance the resistance of the patient, and therefore the strength of the current administered could not be accurately controlled. The resistances for the required large shock currents show appreciable variation, not only from patient to patient, but also in the same patient at different times. These resistances vary from about 100 to 300 ohms. This new device automatically adjusts the voltage to compensate for differences in resistance, thereby enabling the physician accurately to prescribe the necessary current dosage.

The electroshock treatment consists in the passage of alternating current for a few tenths of a second through electrodes placed on the temples of the patient. The treatment is administered two or three times a week for four to six weeks. The shock produces unconsciousness, followed by convulsion lasting about one and one-half minutes. Five minutes after the shock the patient is normal, remembering nothing of the experience.

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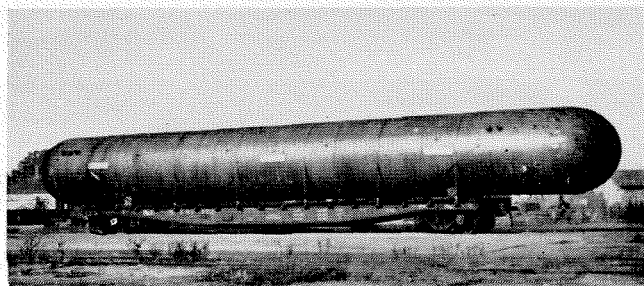
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divided into a civilian section and a military section. The military section consists of naval officers being prepared for foreign service in military government and corresponds with the Army School at Charlottesville.

The Columbia University training program differs from the Charlottesville plan in several respects. The army program is under direct military planning and control, and the naval plan is under civilian direction with civilians acting as director and as regular professional staff members of the University. The training program is accommodated within the graduate facilities of the school. Non-military personnel are permitted to enroll there for foreign training. The Navy, however, has not planned to utilize the service of civilians in this capacity on completion of their training. Civilian graduates of the school will presumably find employment in such government departments as the Lend-Lease Administration or in private industry maintaining foreign offices.

The course at Columbia University was set up on the assumption that the civilian administrator will be asked to perform certain service functions of government in relief, health, and factory administration, work with refugees, and social work pertinent to conditions brought about by the war.

The trainees in this civilian course are selected on the basis of experience, language ability, and general background, as well as their academic education. Business men, administrators, lawyers, college professors, engineers, agricultural experts, social workers, economists, and others have enrolled for the course.



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