

power simultaneously to operate a military training program, to supply military personnel for active service, and to meet the needs of the civilian economy". The report was submitted to the White House on January 6th by ODM Director Arthur S. Fleming together with proposals which were to have been formulated, at the President's request, into a definite program for presentation to the National Security Council not later than April 1st.

Observing that in the event of an emergency our trained manpower resources "will probably be the ultimate limiting factor" in our capacity for mobilization, the Appley Committee report recommended the establishment in the armed forces reserve of an "immediately callable reserve" and a "selectively callable reserve". The first category would consist of "substantial numbers of men who have critical civilian as well as military skills" chosen in such a manner that their availability for military purposes would not impair essential supporting activities. The "selectively callable reserve" would consist of reservists having critical civilian skills, and these men would be called to military service only in order to satisfy actual military needs for such skills.

The report also called for continuing screening of those in the immediately callable reserve for occupational and other reasons and for the provision of expert advice to the agency responsible for mobilizing the selectively callable reserve.

Mr. Flemming, in submitting the Appley Committee report to the President, made the following four recommendations:

1. That the National Security Council, on the basis of recommendations by the Department of Defense, determine the size and composition of military reserve forces needed in the light of current and future national security requirements.

2. That the Department of Defense prepare for the consideration of the National Security Council a program for the establishment of an "immediately callable reserve" and of a "selectively callable reserve" each of appropriate size and composition.

3. That the Department of Defense prepare for the consideration of the National Security Council a training program for the "immediate callable reserve".

4. That, pending a determination of the size, composition, and training of our reserve forces, we hold in abeyance any decision on the recommendations to put into effect the Universal Military Training provisions of the Universal Military Training and Service Act.

Recommendations of the Appley Committee report have received the support of the Engineering Manpower Commission, the Scientific Manpower Commission, and the Manpower Committee of the American Chemical Society. The three agencies, representing technical societies with a combined membership totaling more than 300 000 scientists and engineers, issued a joint statement in February commending the report for having offered a much needed "fresh approach" to the manpower mobilization problem.

Getting Older

THE AGE OF THE EARTH as suggested by a comparison of the ratios in meteorites of two isotopes of lead has been pushed back to 4.5 billion years, which is the earliest date yet obtained by analyzing the elements in the solar system. Studies made with a mass spectrometer at the University of Chicago by H. Brown, M. Inghram, C. Patterson, and G. Tilton on the lead content of meteorites have provided better agreement with astronomical estimates of the earth's age (about four billion years) than has other geophysical evidence. Comparisons of uranium to lead ratios in rocks, for example, have indicated an age no greater than 3.3 billion years. The present results, reported at a recent conference on geophysics and described in the University's publication *Reports*, depend on the fact that calculable amounts of lead 206 result from the radioactive decay of uranium 238 while larger amounts of lead 207 result from the more rapid decay of uranium 235.

Friction?

THE TIPPE TOP is a curious gadget that has plagued more than one physicist when pressed for an explanation. A small sphere having a short stem on one end, with the center of gravity of the top being below that of the center of curvature of the sphere, the top is first spun with the stem upright and its center of gravity at its lowest point; but then, apparently in contradiction to all the laws of mechanics, the top wobbles and ultimately turns over by itself so that it spins on its stem! In the latter position, it will be noted, its center of gravity is at its highest point. This is no trivial problem, having been treated already in the *Philosophical Magazine* by J. L. Synge and in *Physica* by C. M. Braams and N. M. Hugenholtz.

In a paper in the January 1954 *American Journal of Physics* a domestic top expert, William A. Pliskin, discusses the problem of the Tippe Top in a slightly different way, and concludes that "the force due to sliding friction is in such a direction as to result in a torque which causes the angular velocity components to vary in a way which necessitates the rising of the center of gravity". This conclusion agrees with that of Braams and Hugenholtz, but is diametrically opposed to Synge's interpretation where friction is held to have little effect on the motion of the top.

Russian Physics

A SUPPLEMENTARY NUMBER of the Italian journal *Il Nuovo Cimento* summarizing Russian research in several fields of physics has been announced. The quantity of copies available is limited, and those interested should write at once to Professor G. Polvani, Societa Italiana di Fisica, Via Saldini, 50, Milan, Italy. The price is thought to be about 2500 lira (\$4).