



MAY RELEASE ATOMIC POWER

This is the artist's drawing of how the projected new 4,900-ton cyclotron will look when it is built for the University of California. The Rockefeller Foundation recently made this possible by a gift of \$1,150,000.

quantities. Our oil and coal resources must otherwise be exhausted within a few centuries. These must be conserved for more essential services than mere power supply."

The amount of research being conducted upon the problem of atomic power is extraordinarily small compared with the large winnings to mankind if success should be achieved. Most of the research is being undertaken in university and scientific institutional laboratories without any commercial objectives. On account of the extreme importance of adequate power to national economy and military defense, as well as to industry, adequate support of investigations of atomic power would seem to be a highly justifiable gamble.

The Rockefeller Foundation has just demonstrated faith in the possibilities of this research by giving \$1,150,000 toward a new 4,900-ton cyclotron (See *SNL*, April 20).

In connection with the possible obtaining of practical power from uranium, the use of a few tons of the gold stored at Fort Knox, serving no useful industrial or scientific purpose, would be helpful. Such use of the gold would not involve its loss. The most practical methods that have been suggested of concentrating uranium is through ther-

mal diffusion or through centrifuging. The uranium would be in the form of a complex gaseous fluoride which is highly corrosive to ordinary material but which is resisted by gold.

If sufficient gold to construct the necessary apparatus could be loaned by the government to research laboratories, this particular investigation would be very much speeded. The gold after the experiment could be returned to storage and even while in practical use would not lose its value as an asset in the United States Treasury. Perhaps some of the same gold that was prized by the Egyptian pharaohs could be used in this experiment since gold is one of the most imperishable materials on earth.

There has been some fear that the sudden production of a new energy source of large magnitude would be economically disturbing. The experience has been that any development of this sort from a practical standpoint can be introduced only over a period of years even when it is once perfected. The benefits to the community at large from cheaper power would be so large that if and when atomic power or other power of low cost is achieved it would be well worth while to make the necessary economic adjustments.

Science News Letter, May 4, 1940

BIOCHEMISTRY

New Blood Test Depends On Permeability Rates

A NEW test determining whether a given sample of blood came from a man or another animal and if so, which animal species, was announced by Dr. M. H. Jacobs of the University of Pennsylvania to the National Academy of Sciences.

This test can be used only with fresh normal blood. It would be useless with blood stains, Dr. Jacobs explained. The test is based on the striking and apparently constant way in which certain substances penetrate the walls of red blood cells of different species of vertebrates when the acidity or alkalinity of the solution is systematically varied. Glycerol is a useful substance for detecting species difference in this way, but tests with this chemical take rather a long time. The tests can be made much faster, Dr. Jacobs discovered, with ethylene glycol, generally known to the layman as the basis of a popular anti-freeze preparation.

"In the examination of approximately 100 samples of blood distributed among these species (common laboratory animals and man) no case has so far been encountered in which the origin of the blood could not be correctly determined by this test alone," Dr. Jacobs reported.

"Even such closely related species as the albino rat and the albino mouse are readily distinguishable, as are the dog and the cat, the rabbit and the guinea pig, the ox and the sheep, etc."

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