

November

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Science and Invention

IN PICTURES

SCIENTIST
MAKES GOLD

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NON-TECHNICAL
RADIO
ARTICLES

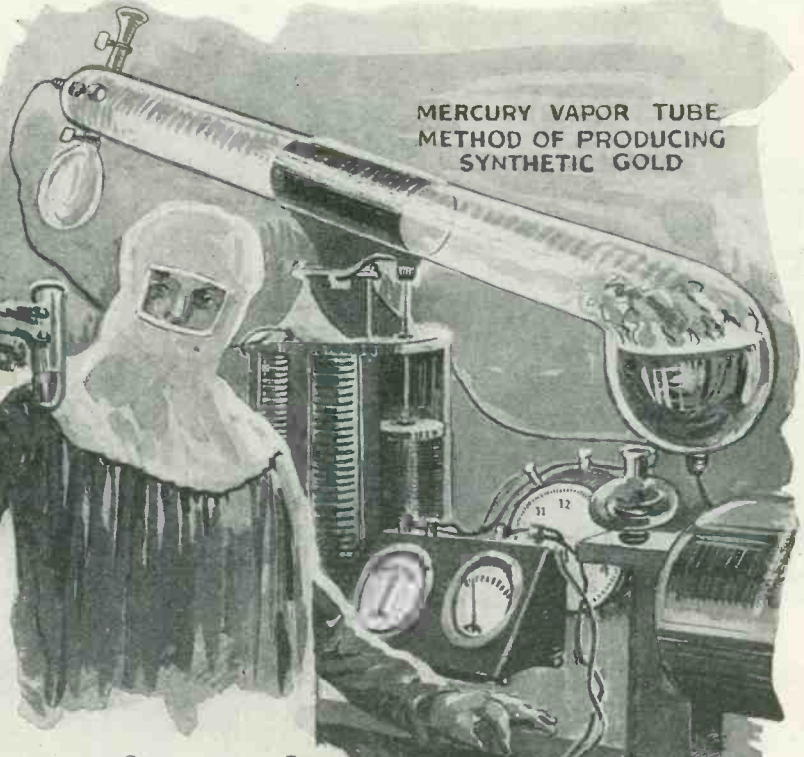
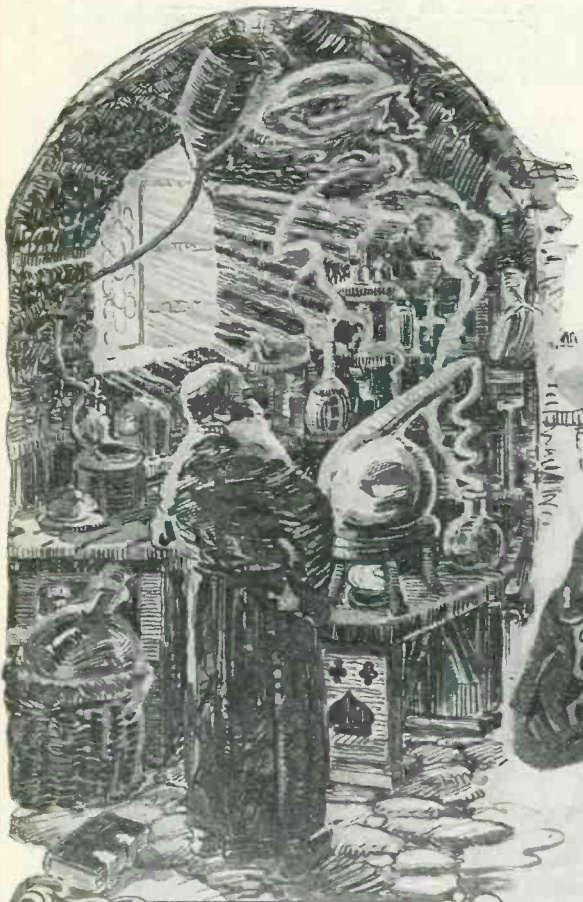


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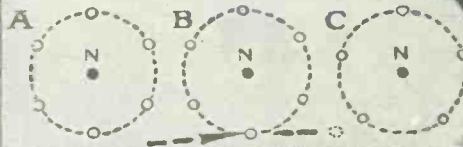
Gold from Mercury

By DR. ALFRED GRADENWITZ

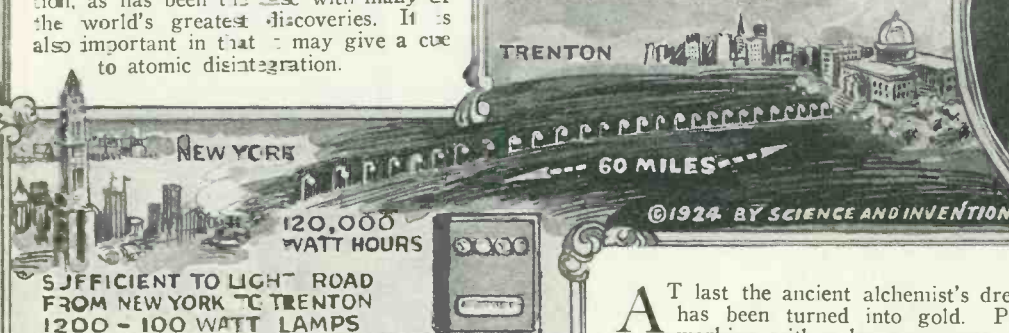
Special article from our German Correspondent



On the cover of this issue of *SCIENCE AND INVENTION* is given a picture of the modern alchemist changing mercury to gold. To the right and above is shown the huge mercury vapor lamp with pressure adjusting apparatus at the upper end, and the various electrical appliances used in the adjustment of this modern "Philosopher's Stone." The results of this experiment which has been so far-reaching in the field of experimental science, were due more to accident than to any well defined course of investigation, as has been the case with many of the world's greatest discoveries. It is also important in that it may give a cue to atomic disintegration.



Immediately above is shown graphically how the bombardment of the mercury atoms tears away one electron, thus forming gold. N is nucleus, A mercury, C gold, with electrons rearranged.



COST OF 1 LB. SYNTHETIC GOLD



PRESENT COST OF NATURAL GOLD \$230.00 PER LB. TROY

AMOUNT OF MERCURY NEEDED TO MAKE 2/100 OZ. TROY OF SYNTHETIC GOLD

At last the ancient alchemist's dream has come true, a baser metal has been turned into gold. Prof. Miethe, of Germany, while working with a large mercury vapor lamp, operating at a heavy overload, recently discovered particles in a deposit on the walls of the tube which could not be identified through usual theory or surmise. Later they proved to be gold. At first it was thought that the gold was merely a transferred deposit which originated as an impurity in the glass or in one of the electrodes within the lamp for the mercury. Later another lamp was constructed from chemically pure components and the original procedure followed with the new lamp. The deposit was again noted and identified. Upon consideration of the chemical laws involved, the theory was found to check accurately with practice. It was noted that the mercury atom contained one more electron than the gold atom. It was immediately postulated that through some peculiarity of the operation of the mercury vapor lamp the atoms of mercury were bombarded in such a way that one electron was torn from some of them, thus reducing the substance to gold. However, this discovery of the transmutation of mercury into gold will have no effect on the world's gold mines, since the cost of producing the metal artificially remains very much greater than that of the natural product as it is taken from the earth. The illustrations at the bottom of the page show graphically the extreme cost of gold at the present price of electricity.