

trates in regions now periodically threatened with famine are expected to go far to avert these calamities, which in the past have not only been a scourge to the afflicted populations but a cause of social and economic disturbances throughout the world.

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#### FUNDAMENTAL DATA OF SCIENCE GATHERED IN NEW VOLUMES

The fundamental facts and figures upon which physical science is built have been brought together and issued for the use of the world in International Critical Tables, the first volume of which has just been issued by the National Research Council and the National Academy of Sciences.

Millions of experiments extending over years of time in the various laboratories of the world were necessary to produce the hundreds of pages of explanations and statistics that will be included in the five volumes of the completed work which are being compiled by the editors with the aid of specialists and experts here and abroad.

The first volume just off the press contains among other valuable information the accumulated data on no less than 9534 different chemical compounds, the new and old facts on radioactivity, and transmutation, astronomical and geodetic data and a comprehensive discussion of the most recent developments in the field of atomic structure, favorite speculative playground of physicists of the present moment.

Along with the international metric system and a listing of the seventy-four countries in which it is now compulsory are the local systems of weights and measures in use in twenty-five still conservative countries. The measures used by the Pharaohs of Egypt and the ancient Chaldeans may likewise be found side by side with their modern equivalent in feet and meters, gallons and liters.

Thousands of dollars and many hours of time will be saved the research workers of the present and the future by the use of this collection of necessary and essential data on a wide variety of allied subjects in one set of volumes.

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#### GOLD CHANGED TO MERCURY BY GERMAN PHYSICIST

A reversal of the dream of the ancient alchemists, the transmutation of gold into a less valuable metal, mercury, is claimed by Dr. A. Gaschler, an associate of Prof. A. Miethe, who in 1924 announced that he had succeeded in turning mercury into gold.

Dr. Gaschler's process consisted in sealing a gold electrode into a vacuum tube and bombarding it with a stream of positive hydrogen atoms, shot through the tube at high velocity. The resulting color display Dr. Gaschler watched through a spectroscope. At first the only light given off was of the color characteristic of glowing hydrogen, but at the end of thirty hours of bombardment the spectrum lines that

indicated the presence of mercury appeared and became stronger as time elapsed.

The experimenter states that an oil pump was used to produce the vacuum, and that every other precaution was taken to prevent the contamination of either the gold electrode or the hydrogen gas with mercury. He is confident that he has actually produced mercury from gold.

Dr. Gaschler calls attention to the similarity of his work to that of a British physicist, J. J. Manley, who succeeded in inducing helium to form a chemical union with mercury by bombarding mercury with a stream of helium atoms. Helium had long been known as one of the most inert of the elements, never forming compounds with any of the others.

He is of the opinion that if his results are confirmed upon further repetitions and refinements, they will lend support to Dr. Miethe and Dr. Hantaro Nagaoka, whose claims that they changed mercury into gold have been subjected lately to skeptical criticism.

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#### DISEASED TEETH THOUGHT CAUSE OF NEURITIS

Bodily ills can sometimes be laid at the door of our already long suffering teeth, Dr. Lewellys F. Barker of Johns Hopkins Hospital has reported to the Maryland State Dental Association.

Closer cooperation between the dental and medical professions is necessary, he declared, to ascertain just how far mouth infections are responsible for disturbances to the general bodily health. Neuritis, several varieties of rheumatism, nephritis, inflammation of the eye and secondary anemias were cited as conditions that frequently appeared as sequels of primary infection in another part of the body.

Dr. Barker considers that there has been a great deal of over-emphasis upon the importance of such focal infections and he scores heavily the present day tendency toward the wholesale removal of teeth without well grounded justification. It is particularly difficult to reach a conclusion in such cases, he said, because the infections of the mouth region are a secondary cause of the accompanying disturbances unlike the diseases where a specific organism is the culprit. There has in consequence been much doubt and speculation and considerable experimentation. This is the reason, according to Dr. Barker, why this field has been so accessible to over-enthusiastic, insufficiently experienced practitioners.

To keep the middle path of sanity between faddish diagnosis and culpable failure of recognition of important disease processes is difficult but necessary, he declared, to every member of either profession. If the public is to reap the fruits of the knowledge that actually exists in regard to the relation of mouth infections to other bodily disturbances, the leaders in both branches must exert to the utmost their protective influence against the practices of certain members of their respective professions.

In the present state of knowledge of the whole subject, he continued, it is very difficult to decide conclusively when a tooth should be removed and when it