

PORTABLE X-RAY AIDS PLUMBERS AND JEWELERS

The plumber, electrician, jeweler, and builder can now use X-rays to aid them in their work. Dr. W. D. Coolidge, inventor of the Coolidge X-ray tube, has devised in the research laboratories of the General Electric Company at Schenectady, New York, a new portable X-ray machine that weighs only 30 pounds and that can be plugged into an ordinary electric light socket. The whole apparatus is contained within a box less than a foot square and a push of a button produces the penetrating radiation.

Dr. Coolidge made first practical use of his new invention when he used it to locate pipes in his bathroom floor. Crystals produce characteristic diffraction patterns when a small beam of X-rays is shot through the stone and observed in a fluoroscope, allowing the new apparatus to be used in testing the genuineness of diamonds and other precious stones.

DO TRANSPLANTED EYES SEE? SCIENTISTS IN ARGUMENT

Do transplanted eyes see? Can the eye of an animal, taken out of its socket and transplanted into the head of another animal, or into the opposite side of the same head it was taken from resume its normal function?

Scientists of two continents are in dispute over the experiments of Dr. Theodore Koppanyi at the University of Chicago. Obviously, if Dr. Koppanyi's experiments are successful, they may eventually be of immense importance in surgery. But Prof. Joseph Imre, Jr., Dr. Koppanyi's countryman, claims that successful transplantation has not been accomplished; while Prof. A. J. Carlson, in charge of the Chicago laboratory where Dr. Koppanyi is working, states that the experiments have had at least partial success.

Numerous newspaper reports relative to the possibility of transplanting the eye aroused the controversy among scientists which comes to light in the Journal of the American Medical Association.

Professor Joseph Imre, Jr., head of the department of diseases of the eye in the State University of Pecs in Budapest, points out that he considers it his moral duty to relate the results of investigation in this connection. His investigations have shown him that Dr. Koppanyi, a biologist, performed experiments on rats and rabbits in attempts to find out whether or not an animal with a transplanted eye could see. According to Prof. Imre, Dr. Koppanyi cut the muscles and cut tissues around the eyeball and left the eye in place, and there was no proof that the optic nerve was cut through. He says, furthermore, that in every case in which the operation was witnessed by physicians and the eyeball was removed from its place, there never was any other result but complete destruction of the eye.

Professor Imre believes that even if the optic nerve could grow again, a condition which has never been established, and even if there were a possibility of transplanting a complete eye from one man to another, the question could not have any practical importance, because no physician should be allowed to, and no physician with any conscience, would remove an eye with good vision for making a rather uncertain experiment.

Following the publication of Prof. Imre's article, Prof. A.J. Carlson, of

the department of physiology in the University of Chicago, replied on behalf of the scientific status of Dr. Koppanyi's work. Prof. Carlson points out that Dr. Koppanyi has been on the research staff of his laboratory in the University of Chicago since January, and that such newspaper stories as have appeared have not been authorized either by Dr. Koppanyi or by the laboratory. Experiments have been made on spotted rats, and the transplanted eyes have undergone varying degrees of change from complete destruction to mere cloudiness of the tissues. Most of the cause for failure is believed to be secondary infection.

In the most successful experiments, the transplanted eye appears normal in size; the cloudiness clears up, and so far as the scientists have been able to determine there may be some return of vision. Prof. Carlson has controlled Dr. Koppanyi's work and believes that it demonstrates definitely that transplantation can be carried out with at least partial success on the spotted rat. He points out that it remains to be seen whether such results can be duplicated in the dog and the monkey, and if this is achieved, there still remains a very high percentage of complete or partial failure which must be converted into success before anyone would be justified in attempting any such operation on man.

Supplementing the letter of Prof. Carlson, Dr. Koppanyi declares that the charges of Prof. Imre that he gave unwarranted publicity to his work, stating that the return of vision is possible, and admitting that the optic nerve was not cut in his eye transplantation experiments, are not true.

NEW BOTANICAL EXPEDITION RECALIS OLD ROYAL ROMANCE

A woman botanist, Mrs. Agnes Chase of the U. S. National Herbarium, recently sailed for Brazil on a collecting expedition into the interior that recalls a romantic incident in the history of the South American republic as well as one of the classical eras in botanical work on that continent.

In 1807 Dom John VI, King of Portugal, fled before the invasion of his country by Napoleon and sought refuge in his colony of Brazil. While he was in exile, a royal marriage was arranged between his son, later known as Dom Pedro, the first Emperor of Brazil, and Princess Leopoldina of Austria.

When the royal bride came to the New World to join her husband, the personnel of a scientific expedition was included in her entourage. A Bavarian botanist, Carl von Martius, was head of the expedition. The party secured large collections of the Brazilian flora, which have become the type specimens for many South American species. The principal botanical collection of von Martius is now at Brussels. The route traveled by this expedition of over a century ago has never been retraveled.

Mrs. Chase made a careful study of the von Martius collection at Brussels in 1922, and now plans to work in part of the territory covered by his expedition between now and May of next year. She will traverse the great grassy plateau that lies on the "elbow" of eastern Brazil, from Pernambuco on the north to Sao Paulo in the south. Part of the country to be traveled is mountainous, with elevations up to 5,000 feet.

Mrs. Chase expects to concentrate her attention on grasses, in which this upland is especially rich. In addition to securing botanical specimens for the National Herbarium, she will collect seeds of species of possible economic importance for the Bureau of Foreign Seed and Plant Introduction of the U. S. Department of Agriculture.
