erosion on a number of large representative areas scattered throughout the country. The size of these demonstration areas will range from about 100,000 acres to 15,000,000 acres in the instance of the project to be undertaken on the Navajo Indian Reservation. The areas thus far selected lie in the Piedmont Plateau of South Carolina, the Black Belt of central Texas, the Palouse Wheat Belt of Washington and Idaho, southwestern Wisconsin, the Corn Belt of north-central Missouri and south-central Iowa, central Illinois and the Red Plains of central Oklahoma, with the Navajo project covering large areas in Arizona, New Mexico and Utah. Several other watersheds have been tentatively selected. On these first of the regional projects to be taken up every practical measure for controlling erosion will be used, according to the adaptability of the different kinds of land.

THE London *Times* reports that the first of a series of annual conferences was opened in Entebbe on November 23 to devise means for coordinating research work on the tsetse fly, trypanosomiasis (sleeping sickness), and general medical research in East Africa. It was under the chairmanship of Dr. Kauntze, director of the medical service in Uganda, and was attended by the directors of the medical services of Kenya and Tanganyika and the directors of the veterinary services of Uganda and Tanganyika, the director of tsetse research in Tanganyika, a medical officer from Nyasaland, and Dr. Fontana, from the Belgian Congo. The governor, in opening the proceedings, said that the summoning of these conferences had been decided on at the Governor's Conference, and their primary object was not to exchange information but to consider methods by which the knowledge of individual officials could be placed at the disposal of officials holding corresponding positions in other territories. The governor extended a special welcome to Dr. Fontana.

DISCUSSION

RAMAN SPECTRUM OF HEAVY WATER

THE Raman spectrum of heavy water has been obtained by 2,536 excitation of 8 cubic centimeters of 18 per cent. heavy water in a quartz tube 35 cms in length in contact with a quartz mercury vacuum tube. Two Raman bands were obtained with an intensity ratio of one to four, the new one having a mean wavelength of 2711 A.U. due to water molecules containing one atom of heavy hydrogen. The frequency difference was 2549, against 3420 for ordinary water. Van Vleck and Cross[1] have calculated a Raman frequency difference of 2720 for heavy water *vapor*, but a lower value is to be expected for the liquid, which Dieke has calculated as agreeing with my value within 4 per cent.

The new Raman band extended from λ 2694 to 2721 with a maximum intensity at 2711. This value is more nearly correct than the value 2713 given in a letter to *Nature* with an exposure of 16 hours. There appeared to be a slight indication of the band due to molecules containing two atoms of heavy hydrogen, but the faint continuous background made any certain measurements impossible. An exposure of 80 minutes recorded the new band with a density equal to that of the band of frequency difference 3420 made with an exposure of 20 minutes.

The heavy water used in this experiment was prepared by the electrolytic method by John W. Murray, of the chemistry department.

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THE JOHNS HOPKINS UNIVERSITY
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[1] *Jour. of Chem. Physics*, June, 1933.

BLOOD GROUPING BY MEANS OF PRESERVED MUSCLE

THE agglutinogens A and B which condition specific agglutination of human erythrocytes by the isoagglutinins α and β have been found by previous workers (by means of adsorption technique) to be present in practically every cell of the body. They also occur in solution in certain body fluids. Since they are heat stable and resist aging, they have been utilized in typing old blood stains and even in determining the blood groups of persons from the dried saliva on a cigarette butt or on the flap of an envelope.

The present writers have shown that dried human muscle can also be used for this purpose, and that even material preserved at necropsy and now several years old can be shown to contain agglutinogens in conformity to the previously determined blood groups. The technique, which has now been tested on numerous samples, can be applied to as little as 0.05 g of dried material, and it is possible for a person practised in the method to make consistently reliable determinations.

It is thought that the method might have occasional medicolegal applications, and work is now in progress to investigate if the agglutinogens can be demonstrated in mummified material, in spite of its great age. Information thus obtained might be of some value in archeology, as in identifying certain specimens. Details will be published elsewhere.

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