

troubled look toward Lake Chad in the heart of the Sahara, lying on a direct north and south route between Italy's North African provinces and the Atlantic Ocean.

"Italy, under Mussolini, would like to construct a trans-Saharan railway from Tripoli to Lake Chad and thence to the Ocean; and would prefer one entirely Italian," writes Prof. Gautier. "The realization of this project would require

France to cede to Italy not only the Chad basin, but also the mandate over the Cameroons; but French public opinion is certainly not prepared to make any such important concession. Chad would seem to be the only portion of the Sahara which threatens to trouble European diplomacy, which has no need for even this small addition to existing complications."

*Science News Letter, September 28, 1935*

MEDICINE

## Oxygen Injections May Become Life-Saving Means

### Experiment by Indian Student in England Keeps Dog Alive 16 Minutes In Pressure Chamber

**O**XYGEN injected into the veins may become an important means of saving lives in cases of drowning, diffuse broncho-pneumonia and perhaps other conditions in which breathing is hampered or stopped. Such a method of treatment is not practical at present, but the first step toward making it so seems to have been taken by Dr. I. Singh, working at Cambridge University and the Medical College at Rangoon.

A dog was kept alive by this injection method for sixteen minutes without breathing oxygen through the lungs, Dr. Singh reported to the Physiological Society.

The oxygen was supplied to the animal by injection into its veins under an increased atmospheric pressure amounting to three atmospheres. A fault in the injecting apparatus which allowed a sudden gush of oxygen into the veins was apparently all that kept the experiment from continuing much longer.

A way to get oxygen into the blood when disease or accident prevents the

lungs from doing adequately this job which is their normal function would be highly desirable, the editor of *The Lancet* (Aug. 17) points out in calling it to the attention of physicians. Previous workers have tried injecting oxygen into the veins but have found it impossible to give human patients more than very small amounts because of the danger of clogging the veins with air-bubbles. The amounts that could heretofore be given this way have not been scientifically justifiable in treating conditions of oxygen lack.

Dr. Singh's experiments seem to point the way toward a means of giving sufficiently large doses of oxygen by vein. Application of this advance to treatment of human patients will be the next step but a very difficult one.

Working with cats and other animals, Dr. Singh found first that the amount of oxygen the animal could absorb depended on such factors as the distance from the heart and lungs at which the gas was injected and the caliber of the veins along which the bubbles travel.

The size of the veins, however, limited the amount of oxygen that could be absorbed at ordinary pressure. Further experiments showed that increasing the pressure increased enormously the amount of oxygen that could be absorbed. At the pressure of three atmospheres, all the oxygen the dog needed could be supplied through his veins.

During the experiment the dog's breathing was almost normal. A soda-lime tube attached to the windpipe absorbed the expired carbon dioxide. The experiment had to be performed in the pressure chamber.

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PHYSIOLOGY

## New "Finger-Printing" For Blood Pressure Tendency

**B**LOOD-pressure "finger printing" may in the future be used to test every school child from five to eighteen. This is the name Drs. E. A. Hines, Jr., and G. E. Brown of the Mayo Clinic's division of medicine suggest for the test given in their experiments to show whether a child has a tendency towards high blood pressure. The test also shows that high blood pressure is hereditary.

They used what is known medically as the standard cold pressor test in their experiments with 400 children, varying in age from five to eighteen. They found that 18 per cent. were what they called hyper-reactors.

In the cold pressor test the subject rests supinely for thirty minutes. During that time several blood pressure readings are made to establish a basal level. One hand is then immersed over the wrist in a bucket of ice water, and readings are made from the opposite arm at intervals of thirty seconds. After the hand is withdrawn from the ice water, readings are made every two minutes until the blood pressure returns to its previous basal level. The response usually comes within thirty seconds. If a person does not have a tendency to high blood pressure, the blood pressure goes back to its value before the test within two minutes after the hand has been withdrawn from the water.

When family histories were taken of the children showing a tendency to high blood pressure, it was found that 76 per cent. gave a history of hypertension, whereas only 14 per cent. of those with a normal reaction gave a history of hypertension in the family.

Tests were also made on 190 persons belonging to fifteen families. In six of these families there was no history of hypertensive cardiovascular disease, and the tests showed a normal reaction to the cold pressor tests.

The Mayo Clinic investigators believe from their experiments, which have been carried on over a period of three years in which they have studied a large group of subjects, that vasomotor reactions are inherited characteristics and the tendency of an individual as to blood pressure can be accurately told in children of school age.

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Australians made a drive against noisy kingfishers some years ago, not realizing that the birds were keeping snakes in check.

## ● RADIO

Tuesday, October 1, 4:30 p. m., E.S.T.  
FOSSIL FOODS, by Dr. Ralph W. Chaney,  
Professor of Paleontology, University of  
California.

Tuesday, October 8, 4:30 p. m., E.S.T.  
WORLD'S OLDEST LANGUAGE—  
ETHIOPIAN, by Dr. John P. Harrington,  
Bureau of American Ethnology,  
Smithsonian Institution.

In the Science Service series of radio addresses given by eminent scientists over the Columbia Broadcasting System.