SURGERY

Trade New Hearts for Old

Operation transplanting heart from one dog to another successful. Cross-circulation procedure may eliminate mechanical pumps during heart operations.

➤ SUCCESS WITH an operation to transplant a heart from one body to another was reported at the meeting of the American College of Surgeons in San Francisco.

The operation was performed in a series of dogs by Drs. Emanuel Marcus, Aldo A. Luisada and Samuel N. T. Wong of the Chicago Medical School.

In some cases both heart and lungs were transplanted, while in others the heart was transplanted without the lungs. Electrocardiograms, X-ray pictures and other tests showed that two distinctly different hearts were beating and pumping blood in the animal's body.

Progress with another method of getting away from mechanical pumps during heart operations was reported by a seven-man research team from the University of California School of Medicine. The method consists essentially of a cross-transfusion or cross-circulation procedure in which the heart and lungs of one animal or person are made to pump and oxygenate the blood for another.

Successful complete cross circulation in man has been effected in seven instances. Now the scientists have reported using the method on dogs whose hearts were opened as would be necessary in certain types of operations to repair damaged or defective hearts, for example in the case of "blue babies."

Mechanical pumps, for keeping blood flowing during such operations, they point out, have the disadvantages of increasing the tendency to blood clotting and destroying some of the cells in the blood. The California scientists reporting are: Drs. Edwin Kerr, Cooper Davis, John Woolsey, Jr., Orville Grimes, H. Brodie Stephens, Ralph Byron, Jr., and H. J. McCorkle.

Science News Letter, November 10, 1951

GENERAL SCIENCE

Expanded Draft Asked

➤ CONGRESS WILL be asked shortly after the first of the year to authorize drafting of veterans or fathers, or to draft those presently eligible for three years instead of two. This is to provide for a 4,000,000 man armed force. College, agricultural and industrial deferments may also be tightened.

Presidential advisers and Defense Department manpower experts are now working on the problem of how to squeeze a permanent 4,000,000 man armed force out of our population. Congress set a top limit of 5,000,000, but appropriated for only 3,600,000. Already the armed forces have gone above that figure.

With 1,050,000 men becoming 18½ each year and not all of those draftable, and with a "career" force of about 1,000,000 who will keep on re-enlisting, it is certain that changes will have to be made even to keep up a 3,600,000 man armed force.

One new source of men will become available next June, college graduation time. Men who have completed their studies under the college deferment plan will find themselves in the armed forces. In addition, those who have been permitted to complete their college year, even though they did not pass the college deferment test, will find themselves draft liable.

Defense Department officials do not consider men deferred for college a loss because the number deferred to become freshmen are replaced by those who graduate and thus lose deferment.

To bring the armed forces up to 4,000,000 in the next few years, the National Guard and reserves not already in service will be called up. In addition, the pool of men between 19 and 26, which includes fathers and veterans, will be utilized, if Congress approves.

However, that pool will be drained in a few years. Fortunately, the number of men becoming 18½ years old each year will go up in a few years—sharply by 1956. Nevertheless, it is expected that 18½-year-olds will have to serve a minimum of three years if we are to have an armed force the size the experts think necessary.

Enactment of Universal Military Training, proposed recently by the National Security Training Commission, is a long way off. Almost all the young men who would be trained under UMT for six months are already eligible to be drafted for two years.

Others are deferred until they finish their college educations, when they are liable for similar service.

The National Security Training Commission asked for six months UMT for every qualified 18-year-old plus an active reserve program as soon as the international situation permits. The program would be civilian-controlled, separate from training of regular recruits. It would combine military training and enough technical training to give UMT'ers background for study on a reserve basis.

For long-range defense of the nation, the commission declared, this would provide adequate forces in readiness, if other aspects of our defense were not neglected.

Science News Letter, November 10, 1951

NATURAL RESOURCES

AEC Expects New Finds of Uranium in Latin America

➤ DISCOVERY OF uranium, the atomic bomb element, in some of the other American Republics in Central and South America is likely when relatively unexplored areas are prospected for this metal.

This was indicated in a U. S. Atomic Energy Commission statement prepared for delivery before the American Institute of Mining and Metallurgical Engineers meeting at Mexico City.

Uranium production in the United States has increased greatly as the result of a three-year AEC program, it was indicated. There are probably more individual prospectors looking for uranium than for any other metal. Large mining companies are making substantial investments in mines and plants. Many small operators are mining ore. Hundreds of thousands of feet of exploratory drilling are sunk each year. There are also airborne radiometric surveys.

Exploration and development in Canada has been equally successful, and South Africa, Australia and a number of other countries soon will be on the list of important uranium producers.

Science News Letter, November 10, 1951

RADIO

Radio Beams Give Octuple Communication

➤ TELEPHONE AND telegraph messages may be sent eight at a time to towns and cities off the main line of radio beam communications with a new system developed by Western Union engineers.

The system was described by E. M. Mortenson and C. B. Young at the American Institute of Electrical Engineers meeting in Cleveland.

Simple micro-wave equipment made up of components already commercially available are used. The system is designed to send and receive over a line-of-sight path of 20 miles. It provides a high-quality 100-kilocycle information band which is subdivided into eight 3000-cycle voice bands suitable for carrier telegraph, telephone or facsimile operation.

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