

## MEDICINE

## Discover Substitute For Blood Transfusion

**A** SUBSTITUTE for blood for transfusion to revive patients suffering from shock has been discovered by Drs. H. A. Davis and J. F. Blalock, Jr., of the University of Tennessee. Instead of blood, they have found, physicians can use the fluid removed from patients suffering from abdominal dropsy or from pleurisy.

This fluid, called ascitic fluid, must be typed just as blood must be before use in transfusions. It is useful in cases of shock in which there is a concentration of red blood cells but a deficiency of the fluid portion of the blood. Storing the fluid in a refrigerator does not affect its usefulness. Technical details of their investigations of this substance as a substitute for blood when the latter is not available have been reported to the *Journal of Clinical Investigation*.

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## PUBLIC HEALTH

## Scientists Turn To Care of Elderly People

**W**OULD you be willing to join an American League for the Promotion of the Health and Welfare of Elderly People?

So far, no such organization exists, but the beginnings of a movement toward the objective of such a league have been taken. Faced with the fact that an increasing proportion of the population is middle-aged to elderly, medical and social scientists are turning their attention to the health and welfare problems peculiar to older persons. A group of 26 of these scientists, under the sponsorship of the Josiah Macy, Jr. Foundation, has just written a book on the subject. (*Problems of Ageing: Biological and Medical Aspects*; edited by E. V. Cowdry).

At the close of the book is the suggestion for the organization of a league for promoting the health and welfare of elderly people. The suggestion is made by Dr. Lewellys F. Barker of Baltimore. Dr. Barker calls attention to the improvements in child health and welfare that have been made in this country through activities of organizations like the Child Welfare League of America. Part of the reason that we now have a problem of the elderly is that these very improvements in child care have helped so many children to escape the health hazards of former generations and to

live to face the hazards of a much older period of life.

Ways to minimize these hazards of old age are now being sought. When found, their widespread application can be furthered by voluntary lay organizations such as have already helped apply scientific knowledge toward the promotion of child health. This is why Dr. Barker proposes the League for the Promotion of the Health and Welfare of Elderly People.

"If such a league could be organized," he says, "one might expect to see most valuable results for the older section of our population within a very short time."

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## AERONAUTICS

## Smooth-As-Glass Airplanes Made By Flush Rivets

**S**MOOTH-AS-GLASS wings and fuselages are now giving warplanes and airliners still more speed. Widespread use of flush rivets instead of the projecting "button" type now most common was predicted at the national aeronautic meeting of the Society of Automotive Engineers.

But the boost in speed will also raise production costs, Don R. Berlin, chief engineer of the Curtiss Aeroplane Division of the Curtiss-Wright Corporation, declared.

Flush riveting is now emerging from the laboratory and going onto production lines, Mr. Berlin stated. But even by the most carefully worked out methods, it will still cost 30 per cent. more than conventional riveting to countersink those rivet heads into the skin of the plane itself.

The cost begins to pile up when it is remembered that an average airplane contains about 30,000 rivets in its skin and that driving each one of a conventional type of rivet home costs a nickel, figures he presented showed.

Yet the demand for increased speed will insure the widespread adoption of this newest method of cleaning up an airplane's surface and cutting its drag, both he and Manley Hood, National Advisory Committee for Aeronautics scientist, indicated.

A 275-mile-an-hour airplane, otherwise "clean" aerodynamically, but held together with button rivets, would be put in the 300-mile-an-hour class by flush rivets, one engineer estimated. Flush riveting is relatively difficult in aircraft construction because of the thinness of the metal sheets with which planes are covered.

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# IN SCIENCE

## ORNITHOLOGY

## Hybrid Hens At Cornell Lay Light Blue Eggs

**R**OBINS will have to look to their honors this spring. Light blue eggs are being laid by hens of a new hybrid type, produced in the poultry department of Cornell University. The hens are a cross between the ordinary white leghorn and a South American fowl known as the Araucana hen, which lays deep blue eggs. When crossed with fowl that normally lay brown-shelled eggs, a hybrid is produced that lays eggs with olive-colored shells.

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## MEDICINE

## New Infant Disease Cause is Discovered

**T**HE cause of a new and fatal convulsive ailment of babies has been identified by Drs. Abner Wolf, David Cowen and Beryl Paige of the College of Physicians and Surgeons, Columbia University.

Like the so-called "sleeping sickness," the new disease attacks the brain, but it also attacks other tissues such as the spinal cord and is called encephalomyelitis. It is due, the Columbia investigators find, to a large one-celled parasitic animal form known as a toxoplasma. This kind of germ has been found in animals but has not previously been recognized as a cause of human illness.

Other forms of human disease due to this kind of germ, however, very probably exist, the scientists point out. (*Science*, March 10)

Proof of the fact that the toxoplasma was the cause of the fatal illness of one infant was obtained when material from the brain and spinal cord of the infant was injected into laboratory animals and caused the same illness in some of them.

Toxoplasma hominis is suggested as a name for the germ that caused the human ailment. Besides the case studied by the Columbia scientists, four others, believed due to the same germ, have been reported, one each from New York City, Chicago, Prague and Rio de Janeiro.

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# E FIELDS

## MEDICINE

### Advises Individually Prescribed Vacations

**B**OOTH the healthy and the sick vacationist would greatly benefit by individually planned, medically supervised vacationing, preferably in a health resort, in the opinion of Dr. Charles I. Singer of Long Beach, Calif.

In a report (*Journal, American Medical Association*, March 11) Dr. Singer says that:

Some 35,000,000 persons take part in undirected seasonal vacational migrations in America.

They are confronted with a climatic change, stimulating or sedative. If the change is properly selected, it can be used in preventing or influencing disease.

The health-promoting natural resources of Europe are far more effectively developed than are those in this country.

Dr. Singer outlines the steps to be taken in developing a modern American climate therapy. Such a plan will, he believes, benefit the American public, medical science and the medical profession at large.

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## TECHNOLOGY

### Thin Rubber Coverings Help Preserve Foods

**N**EWEST transparent food wrappers are made of tightly stretched rubber. The day is not far distant when you may be buying a broiler chicken encased in a "skin" tight casing of clear rubber, and sealed in a vacuum inside this rubber covering.

Made of special rubber free from sulfur the new coverings, in their original form, look like deflated toy balloons with an extra wide mouth. How this balloon is put around a broiler is a splendid example of man's ingenuity.

The wide mouth of the rubber sack is placed over the neck of a special wide open container and the balloon is expanded in a reverse sense i.e. it is enlarged by creating a vacuum between it and the container. Chilled to a low temperature the sides of the container

"freeze" the rubber in this expanded shape.

Next the broiler is dropped into the frozen rubber sack, the air is exhausted from around the chicken and finally the neck of the rubber bag is twisted into an air tight seal.

Now comes the trick, says the Bulletin of Arthur D. Little, Inc., in describing the new packing method. The rubber bag with its chicken is dipped into warm water. The heat "thaws" the rubber which contracts to its original dimensions or at least tries to for it stretches taut over the chicken in a clear, dustproof and germproof coating.

The advantages of the new wrapper are many. The elimination of air prevents the development of rancidity in the fat of pork. Chickens can be stored without "freezer burn" which is the worry of low-temperature preservation of poultry. The prevention of moisture loss maintains original weight. And the use of carbon dioxide inside the rubber covering aids preservation for those products which keep better in such an atmosphere. Rubber bags large enough to contain a 350-pound side of beef are said to be a practical possibility.

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## PUBLIC HEALTH

### Beards Oked For Workers As Silicosis Preventive

**F**OUND: a use for a full beard, Barbarossa style.

Scientists of the Air Hygiene Foundation in Pittsburgh cite British silicosis authorities, who have been examining the incidence of the disease in relation to the hirsute adornment of the face.

Among stonecutters erecting huge masonry structures in a dusty atmosphere it was found that clean-shaven men suffered most from silicosis. Men with mustaches fared much better and men with full bushy beards and mustaches were practically immune.

These results are in line with tests made by the Air Hygiene Foundation's Preventive Engineering Committee headed by Prof. Philip Drinker of Harvard University, which show the nose is an inefficient sieve to screen out dust particles from the lungs.

Prof. Drinker's committee has just completed the bulletin "Routine Sampling for Control of Atmospheric Impurities" which gives ways of checking 45 dangerous substances found in industrial atmospheres: chemicals like ammonia, arsenic dust, benzene, lead dust, phenol and sulphur chloride.

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## PHYSIOLOGY

### Device Measures Pilot's Ability To See at Night

**D**EVELOPMENT of a device to measure the sensitivity and adaptability of an airplane pilot's sight under conditions of low illumination is announced by a man-and-wife research team, Drs. C. E. Ferree and G. Rand of the Research Laboratory of Physiological Optics. (*Science*)

Known as the Ferree-Rand Light Sense Tester, it measures a person's ability to look from fields of vision such as the instrument board in the cockpit to points outside the window. Through its usefulness in checking the eyesight of pilots, it should add to safety in the air.

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## ARCHAEOLOGY

### Hunt For Columbus Relics May Be Made in Haiti

**A** SEARCH for relics of Columbus' first ill-fated American colony may be undertaken in the West Indies by Harvard University's department of history.

Since the place where Columbus' ship, the Santa Maria, went aground at La Navidad, Haiti, has never been located, plans to search the north shore where it must have lain are being considered by Prof. S. E. Morison. Material from the ship or bones of the sailors who were left there to start a colony, while Columbus sailed on, might be discovered. When Columbus returned to visit the colony, he was dismayed to find the 44 colonists slain and the fort they built from the ship's timbers burned by Indians.

White men who started this tragic settlement are known to have scattered among the Indians, unable to maintain themselves as a united band. Archaeologists hope that search of the region may reveal some European-made belongings among Indian settlements. This would provide the first clue for dating the types of culture of Indians in the West Indies. Deposits of pottery and other Indian relics so far discovered have provided no clue to their age or sequence, and finding some types with European associations would show these were most recent.

An eight-foot anchor found by United States Marines in Haiti about 1933 is exhibited in Port au Prince, and may well be the anchor of the Santa Maria. It is undoubtedly old in type, though anchor styles changed too slowly to date such an object closely to the Columbus era.

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