

## MEDICINE

## New Blood Test Will Help Predict Course of Anemia

A NEW blood test which will help doctors diagnose the ailment in a patient with jaundice and also predict the course of the disorder has been devised by Dr. J. L. Irvin and Dr. C. G. Johnston, of Wayne University College of Medicine, and Dr. E. A. Sharp, of Parke, Davis and Company and the Harper Hospital, Detroit. The test might tell, for example, whether the jaundice is due to liver disease or to one, and which one, of several kinds of anemia.

The test, reported to the Central Society for Clinical Research, is said to give for the first time a method of making dependable quantitative determinations of the bile acids in the blood. The amount of these, the test shows, is about one-tenth to one-twentieth greater in anemias characterized by destruction of red blood cells than the amount needed to destroy normal red blood cells in the test tube.

Whether this concentration of bile acids in the blood is the cause of the red cell destruction is the next point to be determined.

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## MEDICINE

## New Hope for Conquest Of Drug Addiction

NEW hope for the conquest of drug addiction appears in a report from Dr. Donald Slaughter, Dr. J. Charles Parsons and Dr. H. Deane Munal, of Dallas, Tex. (*Journal, American Medical Association*, Dec. 14.)

The clue to a possible way of conquering drug addiction came from a study of a new method of using morphine to relieve pain in patients suffering severe injuries, heart disease or undergoing surgical operations.

Pain could be relieved with one-half the usual dose of morphine in most cases, the Dallas doctors found, when another drug, prostigmine methylsulfate, was given with the morphine.

Use of morphine for relief of pain during serious illness is said to be frequently followed by addiction to the drug. Of a series of 1,276 morphine addicts, 325 attributed their addiction to medical use of the drug.

One man, an ambulance driver, who became addicted to morphine originally through such medical use of it, came to the Robert B. Greene Memorial Hospital

in San Antonio for a serious operation. Following the operation, the Dallas doctors report, he was given morphine in the dosage which he had been taking before the operation. Two days later, he was able to get along on about one-half this dose when given with prostigmine methylsulfate. The dose of morphine was further reduced in this way to one-third the original size of dose without the patient's knowing that there had been any change in the dose. By the sixth week the patient was getting about one-fourth the amount of morphine in a single dose and skipping every other dose without ill effects.

"During the time prostigmine methylsulfate was used with the morphine, no withdrawal symptoms were noted," the Dallas physicians report.

They suggest that this case "lends encouragement to the use of this drug in similar cases," and that they are investigating further the angle of tolerance and addiction.

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## GENERAL SCIENCE

## Langevin's Imprisonment Protested by Scientists

THE imprisonment of Prof. Paul Langevin, leading French physicist, is being protested by a score of scientists and educators, among them three Nobelists and six college presidents. They have joined in a telegram to French Ambassador Gaston Henry-Haye, made public by Prof. Franz Boas of Columbia University.

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## ASTRONOMY

## Russians Preparing Catalog Of 18,000 Faint Red Stars

RUSSIAN observatories have started work on the compilation of an astronomical catalog of about 18,000 faint red stars, according to Tass.

The position of these stars will be measured largely by photographic means in the seven Soviet observatories. Their positions, it is said, will be determined in comparison with those of the faint galaxies, which are distant Milky Way systems. Presumably specially sensitized photographic plates, sensitive to the red rays, will be employed.

These red stars are very numerous, and some are relatively near, but because they are so faint, most of them are unlisted in the catalogs now in use. These are mainly for the brighter stars.

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# IN SCIENCE

## ASTRONOMY

## New Sun Spot Group Crossed Center of Sun

A NEW group of spots on the sun passed across the exact center of the sun's face on Sunday, Dec. 8, U. S. Lyons, astronomer of the United States Naval Observatory, has reported. Radio disturbances and displays of the northern lights are sometimes associated with them.

These spots, which included 10 separate condensations, were on the solar equator. This is a rare position for spots at any time, he told Science Service, especially so long after the maximum of the 11-year spot cycle in early 1937.

At the time this group crossed the center of the disk, there were five others visible. A total of 36 spots could be seen, which covered an area of 17.5 square degrees.

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## ZOOLOGY

## "Fossil Snake" Turns Out Neither Fossil Nor Snake

A YARD-LONG, black creature recently sent to the Smithsonian Institution as a fossil snake turns out to be neither fossil nor snake, but something more interesting still. It is an Amphiuma, an almost limbless amphibian related to the salamanders, but so rare that years may go by without so much as a single one being added to museum collections.

Amphiuma is commonly mistaken for a snake, despite its lack of scales, because its legs have become so degenerate that they are practically invisible. Its eyes also are extremely small, and probably do the animal very little good. It commonly lives in muddy water, coming to the surface to breathe at intervals, and feeding on fish eggs and aquatic larvae. The females come ashore to lay their eggs, around which they remain coiled until they are hatched.

The present specimen was found under about 15 feet of mud in the Everglades. It probably was trapped by a slide of muck during the dredging work, and thus killed.

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# SCIENCE FIELDS

## NUTRITION

### German Soldiers Fed Better Than Some Farm Children

**G**ERMAN soldiers are fed much better than the children of Southern tenant farmers who are the potential defenders of democracy, Dr. Margaret Jarman Hagood, of the Institute for Research in Social Science of the University of North Carolina, told a conference on Tomorrow's Children there.

It is a striking commentary on the population policy of the United States, she declared, that this should happen at a time when Germany has limited food and the United States is clogged with surplus food products.

These tenant farm children are a valuable human resource, Dr. Hagood has concluded from her studies of them. They are emotionally stable, cooperative, and brought up with established habits of contributing to group endeavor.

Yet they suffer throughout their childhood from lack of proper nutrition, medical care, education, and general cultural stimulation.

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## BACTERIOLOGY

### Incense To Improve Air In Stuffy Raid Shelters

**L**ONDONERS huddled together in air raid shelters may soon have smoke screens for protection against each other's germs, it appears from reports in the latest issue of the English medical journal, *The Lancet*, to reach the United States.

Cigarette smoke was the starter in this phase of chemical warfare against germs, but the smoke screens that may eventually be used are likely to be either incense, such as is used in churches, or a smoke emanating from smoldering cardboard which has been previously soaked in a solution of saltpeter and dried.

Paradoxically, the two most efficient germ-killing smokes out of six that were tested were incense, associated by many with thoughts of heaven, and the cardboard soaked in saltpeter, traditionally associated with the scorching fires of the nether regions. First Christian church use of incense, curiously enough, was

when the church was hiding in the Catacombs, underground refuge which must have presented similar ventilation problems to the air raid shelters.

The tests were made of germ-killing smokes by Dr. C. C. Twort and A. H. Baker at the Portslade Research Laboratories, Sussex. They were originally researching on germicidal mists which might be used to aid ventilation and cut down risk of infection in air raid shelters. The question of tobacco smoke interfering with the germ-killing power of the mists was brought up and tested.

"It was found," they report, "that the smoke exhaled from an ordinary cigarette completely annulled the activity of the germicide which was sufficient, in the absence of smoke, to kill 50% of the test organism (germ) in five minutes and 100% in 15 minutes."

The tobacco smoke without the germ-killing mist, however, had no apparent effect on the germs.

The smoke from cardboard damped with a solution of potassium nitrate, or saltpeter, was next tested and subsequent tests were made on smokes from gear-grease heated on electric plates, cotton wool, oak and yang shavings damped with saltpeter and incense. All these had a killing effect on the germ tested. Germs from normal saliva were much more sensitive to the smokes than the test germs. This indicates that disease germs from the nose, throat and lungs, which would be an especial danger in crowded air raid shelters, would also be affected by the germ-killing smokes.

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## ASTRONOMY

### Winter Begins With Sun Farthest South

See Front Cover

**A**S the sun makes its apparent annual journey around the heavens, it is sometimes in the northern sky, sometimes in the southern.

Thus, for convenience, astronomers have long taken the time when the sun is farthest south as the beginning of the arbitrary division of the year called winter. This year the sun is farthest south, at the winter solstice, at 6:55 p.m., E.S.T., on Saturday, Dec. 21.

The cover photograph, taken by Gladys Muller in the Fels Planetarium, Philadelphia, shows the sun's position at this time. The dotted line, marked with dates, is the sun's path, the ecliptic; the solid line above is the celestial equator, directly above the equator of earth.

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## PHYSIOLOGY

### Anti-Gray-Hair Vitamin Hopes Reported Fading

**H**OPE of banishing the gray hairs of men and women in this weary world by food or a vitamin pill is considerably dashed by latest reports from scientific laboratories. (See *SNL*, Aug. 24)

Pantothenic acid, the B vitamin credited in earlier experiments with having a curative effect on the graying of hair, at least in rats, failed to prevent or cure gray hair even in rats in experiments reported by Dr. R. R. Williams of the Bell Telephone Laboratories. (*Science*, Dec. 13.)

Dr. Williams is known for his isolation and synthesis of thiamin, or vitamin B<sub>1</sub>, and is the brother of the discoverer of pantothenic acid, Prof. R. J. Williams, of the University of Texas. Describing his experiments, Dr. R. R. Williams concludes:

"In our experiments, neither pantothenic acid concentrates nor pure pantothenic acid exhibited a preventive or curative effect on the gray hair of rats, although the rate of growth and the length of life were greatly enhanced. Evidently, some other circumstances which we can not as yet define influence the occurrence of achromotrichia (loss of hair color)."

The diet fed the rats in his experiments, Dr. Williams points out, differs from that of other scientists who reported pantothenic acid cures of gray hair. Most conspicuous difference, he said, was the substitution of 8% butter for 2% corn oil. This might result in the rats getting a significantly different amount of another vitamin or food factor, but whether it would have any effect on the graying of hair is not stated.

*Science News Letter, December 21, 1940*

## CHEMISTRY

### "Prolon" Latest Addition To Names of New Fibers

**G**ET acquainted with "prolon." It is a new name for what has been called "casein wool." Perhaps soon you will buy clothes, blankets, etc., made of it.

This name is the latest addition to the family which now includes nylon, vinylon, rayon, celanese, and the other so-called "synthetic" fibers.

It is suggested by F. C. Atwood, of Atlantic Research Associates. (*Industrial and Engineering Chemistry*.)

Prolon is made from casein obtained from milk, soybean or other sources.

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