MEDICINE

Collodion Used in Test For Influenza Virus

COLLODION, familiar to most people as a sort of liquid courtplaster, may some day help your doctor determine which kind of influenza you have or help in swifter diagnosis of other ailments caused by viruses. Collodion particles can be used for identification and typing of influenza virus in throat washings, Dr. Kenneth Goodner, of the Rockefeller Foundation's International Health Division Laboratories, announces. (*Science,* Sept. 5.)

The study of viruses and diseases caused by them, such as infantile paralysis and yellow fever, are handicapped at present, Dr. Goodner points out, by lack of test tube reactions which can detect very small amounts of the virus. This difficulty is overcome by the collodion fixation method he has developed which magnifies the reaction used for identification of viruses, making it 1,000 times more delicate than any heretofore described reaction of this type.

Science News Letter, September 20, 1941

MATHEMATICS

Mathematicians Concerned Over Shortage of Men

GREAT concern was expressed among members of the American Mathematical Society, meeting at the University of Chicago, about the shortage of manpower in the field of mathematics, the "handmaiden" of all the sciences.

The lack of men qualified to teach mathematics seems likely to hinder defense training programs in the near future.

"Reports coming in from heads of various university mathematics departments indicate," Prof. Marston Morse, president of the society, said "that at the present time there is a serious shortage of properly qualified instructors in mathematics at the university level."

If, in the face of this shortage, mathematicians should be shifted by the emergency from what they are doing to jobs that do not use their talents, it would have a bad effect on morale, members of the society seem to feel.

"There is a very close relation between the morale of the young scientists in the country and the proper use of their special abilities in connection with defense," Prof. Morse said.

Reports from industry and from various technical services in the government indicate a marked shortage of mathematicians who can also qualify in engineering fields.

The head of a western university mathematics department is likely to lose one of his regular instructors in the selective service and he reports he would not know how to replace him with a suitable man now that the college year has started.

"If I had to replace a member of my staff, I would not know where to turn for a first class man," said the head of another mathematics department.

The head of another department in a state university with an engineering school said he needs four new men and is finding difficulty in locating them.

Science News Letter, September 20, 1941

RESOURCES

India Sends More Jewels, Hopes to Keep Our Trade

INDIA is sending increasing quantities of rubies, sapphires and other jewels straight to the United States, as fortunes of war play havoc with gem markets of the world.

Trade in precious stones and pearls has shifted tremendously in India, says the U. S. Bureau of Mines. The London gem market partly closed in 1940; the Paris market folded. Turning to the United States, Indian jewel exporters have been building up a direct trade which has not thus far entirely offset the loss of Paris and London, but which India hopes to keep when war ends.

Nearly half a million dollars' worth of precious stones and pearls reached the United States from this source last year, in mounting quantity. Rubies are the chief item, far outranking in value the shipments of sapphires, emeralds, diamonds, or pearls. In 1939, the United States bought less than $2,000 of India's rubies; in 1940 it took $182,000.

Bombay's famous pearl markets are reported to be mere shadows of their one-time activity. Demand in pearls now comes chiefly from Indian princes and persons of wealth who want gems of unusual size and luster.

Attempts at growing pearl oysters in captivity have met with success at a farm started by the Madras Department of Fisheries. But India expects no sizable pearl industry of this sort, at least, for years to come.

Science News Letter, September 20, 1941

IN SCIEN

ASTRONOMY

New du Toit-Neujmin Possesses Short Tail

A TAIL equal in length to one-tenth the diameter of the moon has been observed on the du Toit-Neujmin comet by Dr. George Van Biesbroeck at the University of Chicago's Yerkes Observatory, and reported to the Harvard Observatory, clearing house for astronomical observations in this part of the world.

Dr. Van Biesbroeck reports also a central condensation and states that the comet is now of the 11th magnitude. If previous reports of the 8th magnitude are true, the comet has become fainter and is receding. The orbit is believed to be elliplical. Only objects of at least the 6th magnitude (magnitude refers to brightness with "first" meaning brightest) can be seen with the naked eye. Hence it is likely that this celestial visitor will remain unseen by any but astronomers at their telescopes.

The comet was discovered independently by the two astronomers whose names it bears, one in South Africa and the other in the U. S. S. R. (*See SNL,* Sept. 6.)

Science News Letter, September 20, 1941

ENTOMOLOGY

Bees Defend Food Source As Well As Their Hive

BEES, long known as stout defenders of their home hives, have now been shown willing to fight also for the places where they collect their food. Experiments demonstrating this point are reported by Dr. H. Kalmus, formerly of the Prague Technical College and now of University College, London. (*Nature,* Aug. 23.)

Dr. Kalmus poured sugar syrup on sand in shallow glass dishes, and placed them where marked bees of a certain species could get at them. They were soon earnestly at work, digging among the sand grains to get the sweets. When stranger bees of another species appeared, the first-comers attacked viciously and drove the would-be raiders away.

Science News Letter, September 20, 1941

CE FIELDS

BOTANY

Lacerated Stems Strike Roots More Quickly

IF YOU want good rooting from your plant cuttings, abuse them. That would seem to be the conclusion to be derived from experiments with wounded cuttings performed by Prof. Carl D. LaRue of the University of Michigan. (*Proceedings of the National Academy of Sciences,* August.)

Prof. LaRue used leaves and shoots from coleus and other plants. On one set he slashed the cut ends of the stems almost to a pulp, with a razor blade. A second similar set he left with stems clean-cut but otherwise unwounded, as controls.

After keeping both sets in a moist chamber for 48 hours, he removed the lacerated ends from the unwounded ones, then set them all out to strike root. The stems that had been wounded uniformly produced more roots than did the clean-cut control stems.

Prof. LaRue made a second test, this time making an extract from plant wound tissue and treating the ends of plant cuttings. He found that this wound extract had a stimulating effect in the production of new roots.

Science News Letter, September 20, 1941

BOTANY

Million-Year-Old Tobacco In California Garden

A TOBACCO plant that grows to tree size has been brought back from prehistoric eras and is now growing in botanical gardens of the University of California.

Discovered on the romantic Juan Fernandez Islands off the South American Chilean coast, the strange tobacco survives, with other exotic plants, after its kind has been extinct elsewhere in the world for millions of years. Cut off from the South American continent by some ancient geologic catastrophe, many life forms were sheltered on the islands from climatic changes and alien enemies that gradually destroyed their species on the mainland, and today are a living museum of ancient life for scientists to explore. There are rare palms, tree ferns, giant, tree-like sunflowers and other botanical marvels that grew when the world was young. It is like stepping back millions of years to explore Juan Fernandez.

A collector working under Dr. T. Harper Goodspeed, professor of botany and director of the University of California's botanical garden, found the rare tobacco growing on one small island, Mas Afuera. To reach the plants he had to use rope ladders and scale rocky cliffs on the volcanic island. Seeds from these plants, called *Nicotiana cordifolia,* sent to Dr. Goodspeed last year and planted in the Berkeley gardens are now six feet high, and have large, velvety-white, rather heart-shaped leaves. They will bloom soon, with clusters of inch-long, reddish violet, tubular flowers.

These Pacific islands became famous when the writer, Daniel Defoe, chose one of them as the setting for his best known book, "Robinson Crusoe." Since then, they have been popularly known as the "Robinson Crusoe Islands."

Dr. Goodspeed expects to experiment with the ancient tree-tobacco, perhaps improving it for commercial use, or developing a superior hybrid by cross-breeding with a nicotiana native to the Chilean mainland.

Science News Letter, September 20, 1941

INVENTION

Luminous Dials For Portable Galvanometers

LUMINOUS dials, common in watches and clocks, are now used on portable galvanometers, for testing electrical circuits. When one has to be used in a dark place, underground in a mine, for example, the readings can be taken quickly, without requiring the use of one hand to hold a light at a convenient angle. (*Atlas Powder Co.*)

Science News Letter, September 20, 1941

MEDICINE

Desk-Size Device Will Record Brain Waves

ELECTRIC waves originating in the brain were detected a few years ago with a battery of equipment that resembled the transmitter of a broadcasting station. But now a portable "encephalograph," as the equipment is called, has been developed for the use of the physician in diagnosis. It is small enough to be placed on the doctor's desk. (*Electro-Medical Lab., Inc.*)

Science News Letter, September 20, 1941

ENGINEERING

Portable Device Measures Richness of Gas Mixture

CONSERVATION of gasoline is aided with this portable device. It quickly analyzes the exhaust of a motor to determine accurately the composition of the mixture of fuel and air supplied to the carburetor. It tells whether the mixture is too rich, a condition which does not result in great loss of power, though it wastes precious fuel. (*Cambridge Instrument Co.*)

Science News Letter, September 20, 1941

INVENTION

Diamond-Studded Tool Grinds Spectacle Lenses

A GRINDING tool impregnated with crushed diamonds and two new automatic machines will speed up the production of spectacle lenses and do the work more accurately. The machines are the invention of Lloyd Goddu, research engineer of the American Optical Company, Southbridge, Mass.

One machine picks up the lens blank with four metal fingers and mounts it on a block on which pitch has previously been poured in the exact amount required from an electrically heated pitch pot.

The blocked lens is then transferred to the other machine. Here the single diamond-studded tool grinds it to the exact curves called for by the prescription, an operation that previously required 240 different grinding tools, one for each curve, various loose abrasives, some hand work, and much lens measuring.

The grinding machine is completely automatic. Numbered dials are set according to the prescription, the machine is started and when the work is finished the machine stops.

Science News Letter, Septemler 20, 1941

INVENTION

Noises in Water Pipes Muffled By Silencer

DISAGREEABLE noises in water pipes can be muffled by a new fluid silencer recently patented. It is inserted in the pipe line in the same way that an automobile muffler is, but since it deals with a liquid instead of a gas, the principles of its operation are quite different. (*Roland B. Bourne, West Hartford, Conn. Patent No. 2,233,804.*)

Science News Letter, September 20, 1941