

PUBLIC HEALTH

Polio Epidemic Reached In Texas and California

➤ NEW CASES of infantile paralysis mounted to 437 for the week ending Aug. 7, compared to 361 for the previous week, with more than a third of the victims located in California and Texas, where the outbreak has reached epidemic proportions, Public Health Service reports show.

Hope that the epidemic is abating in Texas was raised by a slump from 104 new cases to the latest figure of 62. California tops the list with 111 new cases, many of them located in southern California or in the area across the bay from San Francisco. Oklahoma reported 52 cases and Kansas 43, both substantial increases over the previous week.

A few increases of infantile paralysis in Eastern states were reported but health officials doubt that an outbreak of epidemic proportions will be reached at this late date. The peak number of cases is usually reached in the United States around the second week of September, then tapers off.

There have been 2,753 infantile paralysis cases reported this year, as of latest tabulation Aug. 7, compared to 1,148 cases for the same period last year.

Science News Letter, August 21, 1943

NUTRITION

Butter Found No Better Than Other Fats for Rats

➤ BUTTER OFFERS no advantage over other common food fats in promoting the growth of young laboratory rats, Dr. Harry J. Deuel, Jr., Eli Movitt and Lois F. Hallman of the University of Southern California Medical School report. (*Science*, Aug. 6)

They fed groups of young rats on measured rations, identical in every respect except that several different fats were used on different animal groups. These included butter, margarine, and corn, cottonseed, olive, peanut and soybean oils. Supplementary vitamins were included in all diets.

The young rats, weighed at frequent intervals, all grew at substantially equal rates, no matter what fat was included in their diet. The butter-fed group enjoyed no apparent advantage over the others.

Prof. Deuel explains the seeming discrepancy between the results of these experiments and the reports of other workers that indicate a difference in favor of

butter by pointing out that in the other research the animals were not on a measured diet but were permitted to eat as much as they wanted of whatever they liked. And there is no question that rats like the taste of butter and will eat it in large quantities whenever they get the chance. So the faster-growing butter-fed rats, in Prof. Deuel's opinion, grew faster simply because they ate more, not because what they ate was better in itself.

To check rats' preference for butter flavor, a group of 12 animals were offered, as part of their diet, both unflavored peanut oil and peanut oil with commercial butter flavor added. Eight of the rats invariably chose the flavored oil, while the remaining four ate approximately equal quantities of both kinds. None of the animals showed a preference for the unflavored oil.

Science News Letter, August 21, 1943

DENTISTRY

Tall, Thin Teen-Age Youths Have Highest Caries Rate

➤ TALL, thin teen-age youth suffers the highest rate of tooth decay of all groups of persons in America. This fact has been revealed by a two-year research study of more than 1,000 children just reported to the American Dental Association by Dr. Maury Massler, director of the Child Research Clinic of the University of Illinois College of Dentistry.

He discovered that 92% of all rampant caries, the most extreme form of tooth decay, occurred in the tall, thin boys and girls undergoing their most rapid spurt of growth. And the rate of growth and the rate of caries was found to be in direct proportion.

"Of all teeth lost because of caries between the ages of 10 and 35," Dr. Massler declares, "87% were lost because of caries occurring during the teen-age."

Pointing out the need for better dental care to reduce the number of rejections for this cause by the armed forces, Dr. Massler reports that "The young adult selectees first brought up for service in the Army and Navy showed strikingly the ravages of teen-age caries neglect. If these boys had had high school dentistry we would not have had 20% of our rejections on the basis of dental troubles."

Dr. Massler conducted his research in collaboration with the Council of the Child Research Clinic. The youths studied represented unselected groups entering the University of Illinois dental clinic and hospital and unselected groups in the pediatric ward.

Science News Letter, August 21, 1943

IN SCIEN

CHEMISTRY

Post-War Chemical Projects Should Be Planned Now

➤ PRACTICAL and immediate exploration of new chemical projects to fight the menace of post-war unemployment of millions of workers is advocated by a publication of the American Chemical Society.

Release from war production of limited amounts of critical materials and sufficient numbers of trained workers is urged. Chemical projects need from five to ten years from the inception of an idea until a commercial-size plant is operating, it is explained.

Planning in industry is normally a continuous process, but long-term planning has been slowed down during the past year or two because war production has taken all efforts.

The American Chemical Society statement declares that all chemical companies have half-developed projects that are now at a point where semi-large-scale or pilot-plant operation is necessary for further progress, but that shortages of critical materials stopped this work months ago.

Pilot plants can be built by chemical plants under WPB plan P-43 recently issued and this is considered by the chemists to be the first step toward getting their industries ready for a vigorous post-war development.

Science News Letter, August 21, 1943

PHYSICS

Low Expansion Glass Made With Titanium Oxide

➤ GLASS that for all practical purposes does not expand and contract with changes in temperature is the subject of patent 2,326,059 obtained by Dr. Martin E. Nordberg of the Corning Glass Works, Corning, N. Y. Such a glass, very desirable for certain technical uses, has hitherto been made of pure fused silica; but Dr. Nordberg has found that the addition of between 5% and 11% titanium oxide to the silica produces a glass with an even lower coefficient of expansion.

Rights in the patent are assigned to Dr. Nordberg's employing firm.

Science News Letter, August 21, 1943

CE FIELDS

INVENTION

Drums Easier on Eardrums Covered in Patent

► IN APPLYING for patent 2,326,305, Thomas O. Morarre of Washington, D. C., gets off a masterpiece of understatement. He says that practicing on a drum "is usually objectionable to others in the vicinity." Yet to the ambitious young drummer the dull-toned practice drums commonly offered must be about as encouraging as hammering on a keg of putty would be to a young woodpecker.

Mr. Morarre has produced a practice drum consisting of a head stretched over a shallow depression in a solid block, with an adjusting screw to tune it. This, he states, gives an adequately crisp tone, but lacks the volume that makes life a burden to the neighbors. The family, presumably, will still have to put up with it.

Science News Letter, August 21, 1943

PHYSICS

Prospecting Proves Value Of "Electrical Detective"

► PROSPECTING for radium ore with an "electrical detective" has proved practicable and the instrument may be adapted for sorting and grading radioactive material after it is mined.

A portable adaptation of the Geiger-Muller counter, an instrument ordinarily used in the laboratory to detect and count ionizing particles, was designed for prospecting by Dr. G. L. Locher of the Bartol Research Foundation, Swarthmore, Pa.

It was then turned over to G. Carman Ridland, formerly resident geologist for Bear Exploration and Radium, Ltd. in Canada, who reveals the results of his work in a report to the American Institute of Mining and Metallurgical Engineers.

"The results obtained with the Geiger-Muller counter at Great Bear Lake demonstrate that the instrument can be of value in the search for radioactive ore," Mr. Ridland declares. He believes that the counter is "not only adaptable to the detailed search for radioactive ore bodies in established radioactive territories, but could, and should, be used by prospectors

and members of federal geological survey parties in their aerial reconnaissances of large, unexplored regions."

Mr. Ridland surveyed areas at Contact Lake in Canada where pitchblende veins, source of radium and uranium, had been encountered during silver mining. By detecting abnormally high numbers of gamma rays shooting from the rocks, Mr. Ridland found several areas which warranted definite exploration programs.

Each ray entering the counter is translated by the instrument into a click which the operator hears in earphones. Since the instrument is also sensitive to the cosmic rays reaching the earth from outer space, a correction must be made for the background of clicks heard due to the cosmic rays.

Science News Letter, August 21, 1943

ETHNOLOGY—MEDICINE

Evergreen Needles Used For Scurvy 400 Years Ago

► VITAMIN C, the scurvy-preventer, was recently found by Russian botanists to be present in ordinary pine needles. This discovery was hailed as significant and very properly so, because although the concentration in pine needles is not great, Russia has simply unlimited quantities of evergreen trees.

However, although the discovery is new from a biochemical angle, from the viewpoint of practical medicine it is not. Without knowing anything about vitamins, American Indians 400 years ago knew how to cure scurvy with a tea made from evergreen needles.

Dr. Maurice Donnelly of the U. S. Soil Conservation Service research laboratory in Riverside, Calif., calls attention (*Science*, Aug. 6) to a passage in Parkman's classic historical work, *Pioneers of France in the New World*, which tells of the troubles of the French explorer Jacques Cartier and his party in Canada, just four centuries ago. Twenty-five of the men were dead of scurvy, and only three or four were still able to get about in anything like full vigor.

Cartier, walking one day near the river, met an Indian, who had been as sick as the rest a short time before, but now appeared to be perfectly healthy. When questioned, the Indian told his white chief of making a drink of the leaves of a certain evergreen. The Frenchman tried it on his men, and in a week they used up all the foliage of a large tree. Recovery of the party began immediately.

Science News Letter, August 21, 1943

INVENTION

New Type Telescope Mount Like Coast-Defense Gun's

► THAT A GREAT industrial concern may be interested in "pure" science, of the "useless" variety, no less than in immediate practical applications, is evidenced by the fact that General Electric is assignee of a patent having little apparent connection with electricity: No. 2,326,552, covering a radically new design in mounts for large astronomical telescopes. It is the invention of Harold F. Morse of Southport, Conn.

Most large astronomical telescopes are set up on what is known as an equatorial mount, which enables them to follow the apparent movement of the stars as the earth rotates beneath them. Actually, these equatorial mounts would be better adapted for small telescopes than for large, because the imposition of heavy weights tends to bend them out of line; only slightly, to be sure, but enough to falsify results if difficult compensatory adjustments are not made.

Mr. Morse's system for mounting telescopes has in it some of the elements of the mounts of coast-defense guns. The heavy tube is suspended on trunnions from massive supports that stand on a massive ring, bringing the instrument to bear in any desired direction. Under the tube two training arcs at right angles to each other, control elevation.

One inherent effect of the mechanism is to rotate the telescope tube on its own axis. This is no drawback in visual observation, but would render photography impossible, but for a further adjustment, whereby a compensatory rotation is imparted to the plate carrier.

Science News Letter, August 21, 1943

CHEMISTRY

Russian and Chinese Scientists Are Honored

► HONORARY membership in the Society of Chemical Industry will be awarded to Dr. Alexei Bach, Russian biochemist, and Dr. Te-Pang Hou, Chinese industrial chemist, at a dinner meeting on Oct. 22, when Wallace P. Cohoe of New York will be inducted as president of the Society.

Maxim Litvinoff, Russian ambassador to the United States, has been invited to receive the honor in behalf of Dr. Bach. The presentation to Dr. Hou is expected to be made by Dr. Wei Tao-ming, Chinese ambassador.

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