

would live outside the hospital, thus leaving dormitory and classroom space for more students. They would not receive their certificates until after three years of training, but their release in the last year would supply civilian hospitals with replacements for the general duty nurses who have been drawn into war service. The physical facilities for nurse training would be increased by one-third and hospitals would be provided with an augmented staff for war duty.

The tough job of supplying medical services in critical areas now lacking them, Dr. Parran said, can best be handled after the manner of handling other tough problems, by breaking it up into a lot of little ones and handling them one by one. Following this thought, plans for meeting needs in different communities will be worked out individually. Such plans are now being made by the Procurement and Assignment Service and the Public Health Service.

Health departments must be protected from too great draft of their manpower. Taking one public health physician from his job, he warned, may mean that three private practitioners will be needed to cure the unprevented sickness. Health departments, however, must cut out all frills, unnecessary inspections, complicated record keeping and long-range programs of doubtful value.

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New Cancer Theory

➤ A NEW theory on the cause of stomach cancer was presented by Dr. Frank L. Apperly, of the Medical College of Virginia at the meeting of the Southern Medical Association in Richmond.

Stomach cancer and perhaps other cancers, according to this theory, is a deficiency disease. Lack of sunlight and therefore possibly the sunshine vitamin D are suggested as the deficiency which results in stomach cancer.

Much exposure to sunshine has long been known as a cause of skin cancer, but skin cancer is easily cured in its early stages and the mortality is not high. Dr. Apperly has previously shown that in spite of the role of sunlight in causing skin cancer, cancer mortality in the United States and Canada grows less as the amount of sunlight across the continent increases and as more people are exposed to sunshine in farming or other outdoor occupations.

Today Dr. Apperly referred to studies showing that patients with stomach cancer have in general some deficiency of vitamin A. This vitamin and vitamin D

are known to work in cooperation. Patients deficient in vitamin A need increased amounts of vitamin D. Lack of sunlight and consequently of vitamin D, on the other hand, may lead to signs of vitamin A shortage. Rats and dogs on an adequate diet but kept in the dark, Dr. Apperly recalled, develop a horny kind of tissue lining the digestive tract.

Vitamin D alone has little effect on rat tumors, other researchers have shown, but when combined with vitamin A it

ASTRONOMY

Why Stars Black Out

Pulsations explain dimouts, too, but stars that pulsate change frequencies like vibrating air in pipe organs. Are brighter than the sun.

➤ STARS of the strange class known as RV Tauri-type pulsate in fundamentals and overtones according to their own whims and fancy. And Dr. Cecilia Payne-Gaposchkin of Harvard Observatory uses real live organ pipes powered by her own lungs to correlate the vibrations of air columns with those of gigantic stars far off in space.

Only 29 RV Tauri-type stars are known, but there were only 13 known in 1927, so they are being found rather frequently. They are stars whose light fluctuations are extremely variable, but in the main, they do strong fadeouts alternated with weak ones. That is, their light becomes very much fainter than normal at intervals, but about in the middle of these intervals, they do a less noticeable dimout. However, these "primary" and "secondary" minimums of light sometimes change places in the RV Tauri stars, and sometimes some of them seem more like Cepheids, another class of variable star which is much more abundant. Cepheid variables are surely pulsaters, and they undergo their alternate contractions and expansions at regular intervals—the principle of harmonic vibrations, well-known to musicians, has been successfully applied to them by Dr. Martin Schwarzschild, of Columbia University Observatory.

But the RV Tauri stars are whimsical, Dr. Gaposchkin told the American Association of Variable Star Observers recently. Sometimes they vibrate in their fundamental tone, she said, and sometimes in the first overtone or harmonic. They may change back and forth at will, thereby producing hitherto unex-

plains the number of tumors that develop in a tumor-susceptible strain of white mice and abolishes spontaneous tumors in a tumor-resistant strain.

"These considerations strongly suggest," he concluded, "that lack of sunlight is a factor in cancer of the stomach and perhaps of other sites through lack of vitamin D or other related derivative of ergosterol, perhaps by interfering with the absorption by the intestine of calcium, phosphates, or other substances necessary for the metabolism of cells."

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plainable changes in their light fluctuations. She likened the Cepheids to the heavy and low notes of the long pipes; the so-called Cluster variables to the short high-pitched notes; while the RV Tauri stars were in between, giving pleasant tones of one octave separation.

All such vibrating variable stars are known to be considerably larger and brighter than our sun, which is a "dwarf" star of comparatively quiet habits—to our good fortune.

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ORNITHOLOGY

Guadalcanal Scene Shown In New Bird Exhibit

See Front Cover

➤ VISITORS to the American Museum of Natural History in New York can get a glimpse of what life on Guadalcanal was like in more peaceful times, in a new habitat group showing typical birds of that remote island.

The exhibit is one of four showing birds and their homes in South Pacific islands, collected by a scientific expedition four years ago, under the leadership of the late Lieut. A. B. Fahnestock and his brother, Capt. J. S. Fahnestock.

Among the strangest of the birds shown are the brush fowl, which buries its eggs in a mass of fermenting dead leaves which act as a natural incubator; and the dwarf climbing parrot, a little bird no bigger than a sparrow, that climbs trees like a woodpecker and makes its home in the nest of termites.

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