

5,400 degrees Fahrenheit. It is the larger of the pair, about 3,000,000 miles in diameter, or three and a half times that of the sun.

Strange though it may seem, the structure of the Algol system is quite orthodox compared to another pair in Taurus, known as RW Tauri. From studies of its variations in light, and the peculiar alterations in its spectrum that occur simultaneously, astronomers have concluded that one member of the pair is a brilliant white star. The other is a fainter body, yellow in color and about twice the diameter.

The most peculiar feature, however, is that around the smaller white star there is a ring of glowing hydrogen gas, something like the ring around Saturn. Just before and just after the total eclipse of the white star by the large yellow one, there is a period when one or the other side of the ring may be observed by itself.

This produces a change in the spectrum of its light, enabling astronomers to deduce that it revolves around the white star at 217 miles per second.

Celestial Time Table for February

Feb.	EST	
1	7:00 a.m.	Moon farthest, distance 252,300 miles.
5	12:52 p.m.	Moon passes Saturn.
6	11:09 p.m.	Moon in last quarter.
10	2:18 a.m.	Algol at minimum.
	8:01 p.m.	Pluto nearest, distance 3,214,160,000 miles.
12	11:12 p.m.	Algol at minimum.
13	8:10 p.m.	New moon, partial eclipse of sun.
14	5:00 a.m.	Moon nearest, distance 221,890 miles.
16	5:41 p.m.	Moon passes Mars.
	8:00 p.m.	Algol at minimum.
17	3:51 a.m.	Moon passes Venus.
18	4:48 p.m.	Algol at minimum.
19	8:45 a.m.	Moon passes Jupiter.
20	12:44 p.m.	Moon in first quarter.
28	9:00 a.m.	Moon farthest, distance 252,450 miles.
	1:59 p.m.	Full moon.

Subtract one hour for CST, two hours for MST, and three for PST.

Science News Letter, January 31, 1953

SURGERY

New Pain-Killing Method

► THE SEVERE pain of six patients hopelessly sick with cancer of the head and neck has been relieved by a method developed at the University of Pennsylvania Hospital.

The method consists in injecting novocaine into the frontal lobe of the brain. It was developed by Drs. Francis C. Grant and Frank E. Nulsen under a grant from the American Cancer Society.

In all cases so far, pain was completely controlled, and the patients were left in command of their mental and physical faculties until their deaths as long as nine weeks after injection. Only patients with short life expectancies were so treated.

The operation is minor. It consists in making two small openings on either side of the skull at the forehead hairline. Local anesthetics are used for this. The novocaine, which the dentist uses to "freeze" tooth nerves, then is injected into the

frontal lobe of the brain. Patients not physically disabled by their cancers or requiring hospital care return home after seven to ten days of hospitalization.

Later injections can be given at the patient's bedside with no more discomfort than that involved in a routine intravenous injection of glucose.

Drs. Nulsen and Grant obtained their idea from observations made by Dr. W. P. van Wagenen of the University of Rochester, New York.

Dr. van Wagenen injected small amounts of novocaine into the frontal lobe of psychiatric patients as a forecast of their response to surgical lobotomy. He found that, generally, those who responded favorably to novocaine for a few hours would benefit from lobotomy. About 60% of the patients reacted well and underwent operation.

Science News Letter, January 31, 1953

METEOROLOGY

Need Wind Forecasts More Than Pollen Counts

► HAY FEVER sufferers will profit more from a forecast of wind speed and direction than from local "pollen counts," says Prof. Nelson Dingle, meteorologist with the Ohio State University.

Pollen counts work on the assumption that pollen is evenly dispersed over a large area, Prof. Dingle said. But actually, it is absolutely impossible to find uniform dispersion of particles the size of pollen grains in large open areas, he said.

Because of sudden gusts of wind, pollen counts may change quite drastically from one point to another only a short distance apart, making the counts clinically useless, Prof. Dingle said. His report was made in *Science* (Jan. 16).

Science News Letter, January 31, 1953

EMBRYOLOGY

Study Embryos With "Hot" Carbon Dioxide

► RADIOACTIVE CARBON dioxide is being used as a new tool to study the origin and development of certain organ rudiments in the embryo. The study is being performed by Dr. Reed A. Flickinger, University of California at Los Angeles embryologist.

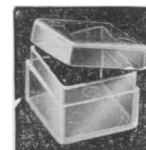
The investigation involves diffusion of radioactive carbon dioxide through the membranes of frog eggs. In this manner carbon compounds in the embryo are tagged so that their activity can be traced.

The study is particularly aimed at the tissue layers from which the organ systems evolve. Present research is concerned with analyzing the stimulus necessary for formation of the nervous system. It is suspected that the contact of tissue layers and a relationship between the life processes of the layers may be the key to this stimulus.

By tracing the activity of components of the tissues, made radioactive by contact with the radioactive gas, it is hoped some clue may be gained to the method by which such complex systems are fashioned from undifferentiated layers of tissue.

Science News Letter, January 31, 1953

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