per portion of the balloon and allowed the remains to fall freely 3000 feet to the earth.

Drs. Briggs and Tuckerman are sure that the cause of the ripping can be eliminated if future stratosphere balloons are built for another try under the auspices of the National Geographic Society and the U. S. Army. The lower portion of the balloon, for instance, might be folded outside instead of inside, as in older balloon practice, and the difficulties in inflating and launching overcome by a different method of handling.

Science News Letter, January 26, 1935

MEDICINE

Serious Heart Diseases Caused by External Nerves

VENTRICULAR fibrillation, a fatal heart condition, and auricular fibrillation, also a grave cardiac disorder, have been found to be caused by the external nerves of the heart, it is indicated by the researches of Drs. Louis H. Nahum and H. E. Hoff of the faculty of the Yale School of Medicine. Dr Nahum reported on his work to the New Haven Medical Association, of which he is the retiring president.

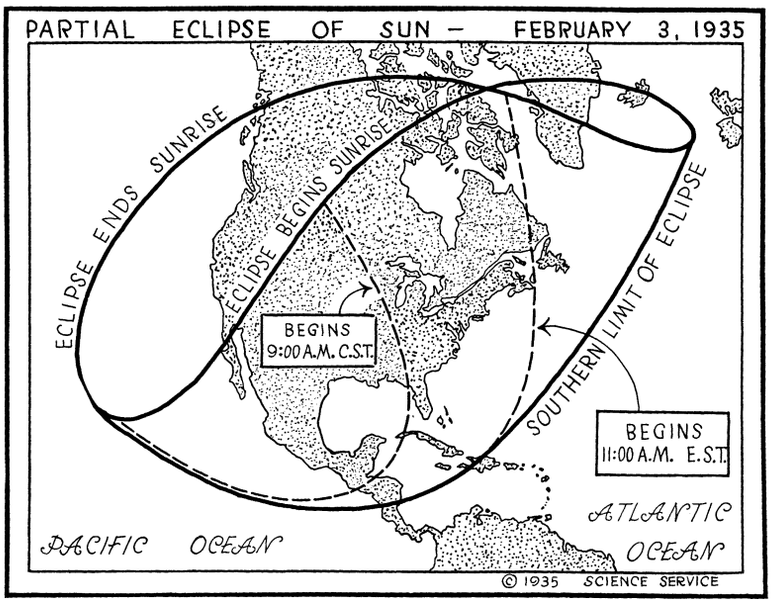
In normal hearts, Dr. Nahum explained, the external nerves, the vagus and accelerator, regulate the beat, but in abnormal hearts, it is these nerves acting with other agents that bring about fatal rhythms.

In cases of benzol or chloroform poisoning, and electric shock, it is the accelerator nerve, together with adrenalin liberated by the glands, that cause changes from the normal heart beat to the ventricular fibrillation, Dr. Nahum said. This fatal heart beat can be prevented by removing the accelerator nerve from the heart and excising the adrenal glands, Dr. Nahum found.

The vagus nerve, on the other hand, was found to promote auricular fibrillation. In the presence of an excess of thyroxin, from the thyroid gland, as in certain goiter patients, or in the case of electric shock, the vagus nerve, according to Dr. Nahum, becomes over-active and instead of following its usual role of slowing the heart, brings on the irregular auricular fibrillation.

Science News Letter, January 26, 1935

The Island of Jersey has systematically standardized its famous herds, prohibiting importation of any cattle since 1763, or about 40 generations of cattle.



FRONTIERS OF THE SHADOW

When the sun goes into partial eclipse on the first Sunday in February, it will be partly hidden by the moon within the limits and times as indicated on the map. You can figure the approximate time for your own location by interpolation.

ASTRONOMY

Study of Nova Hastened Before it Fades Again

FROM observatories throughout the world, astronomers are hurrying the study of Nova Herculis, the exploding star that shone so brightly just at Christmas time.

Their hurry is a race with stellar happenings on the distant star that blew up; a race which will be lost if the star fades to its former insignificance in the heavens. At Christmas time Nova Herculis was so bright that only sixteen stars in all the sky were more luminous. Now it has faded out somewhat and rapid work is necessary to obtain information about it before it dies out completely.

From the international clearing house for stellar data at the University of Copenhagen, Science Service has received reports obtained at observatories at Warsaw, Poland; Moscow, U.S.S.R.; and Stockholm, Sweden, which were interpreted by Dr. Donald H. Menzel, astrophysicist of Harvard College Observatory.

The Soviet measurements indicate Nova Herculis is still blowing itself apart. Material blown off from the star in its eruption is spreading out with a velocity of 625 miles a second.

From Stockholm observations on the brightness of Nova Herculis show the star went through a period of fluctuating luminosity. Recently the brightness magnitude was 2.5. Three days later its light was weaker, at 3.3 magnitude. And the following day its magnitude was back to 2.8.

The weakened intensity was attributed on this occasion to strong absorption of the star's light by cyanogen molecules composed of two atoms each of carbon and nitrogen. As the star regained brightness the absorption of these cyanogen molecules diminished.

The expansion velocities of 625 miles a second reported from the Moscow observatory need to be considered in comparison with observers elsewhere, Dr. Menzel pointed out.

"Emission lines of the star bordering the absorption lines showed velocities of approach of the order of only 150 miles a second," Dr. Menzel indicated. Velocities of approach are generally interpreted as the velocity with which the material blown off from the star is approaching the observer in the line of sight.

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