

cial need for this in depression years when there are many homeless consumptives. Measures to take care of the situation are receiving the attention of health officers and hospital authorities in many communities under the stimulation and financial assistance of the Public Works Administration.

There has been much progress in the field of preventive medicine in 1934. The high reward of the Nobel prize for the work of Drs. Minot, Murphy and Whipple, who developed the liver diet therapy for pernicious anemia, will help to save many lives and to stimulate similar researches into disease of defective glandular function and of metabolic disturbances. The remarkable discoveries of the Nobel prize winners have made physicians more alert in the detection of the disease, which makes for earlier treatment. Much promising work is already being done in the laboratories.

The largest opportunity, however, continues to be in the field of cancer control. Many contributions from skilled experimenters, published this year, indicate that the day is nearer when we may have a method available to discover the beginnings of cancerous growths and be enabled to stop them before much damage is done. It will pay us big dividends to keep such work going—and on a larger scale than ever before.

### Cheerful Outlook

Altogether, health officers and health workers generally may be more cheerful than they were a year ago. With economic conditions improving, it should prove less difficult for public and private agencies engaged in public health to maintain reasonable budgets and thus to win back the losses of staff and facilities which resulted from the budgetary contractions of the last four years. Already, in 1934, there has been evidence of a slight improvement in the facilities available to health workers. Out of 32 states from which we have had reports, 12 had increases in health budgets in 1934 over 1933; and 42 out of 77 cities showed increased appropriations. With the program of the Federal government developing in the field of public health as one of its major items, it may be possible to make some very forward steps in bringing full-time health services to many rural counties where very limited facilities have until now been available.

I continue to be very optimistic on the outlook for the health of the people in the United States.

*Science News Letter, December 29, 1934*

### ASTRONOMY

# New Brilliant Star Will Be Bright For Some Time

**N**OVA Herculis, newest stellar object in the sky is still exploding and getting brighter day by day. The new bright star visible in the northwestern sky directly after sunset and in the northeast immediately before sunrise is now brighter than the Pole Star—Polaris. (*SNL Dec. 22*). Its astronomical brightness, or magnitude, on December 22 was 1.4, with every indication of further increase to brighter than first magnitude. It may soon be exceeded in brilliance by only eight stars visible from the northeastern United States, namely Sirius, Vega, which is close to the nova, Capella, Arcturus, Rigel, Procyon, Altair and Betelgeuse.

Dr. Harlow Shapley, director of Harvard College Observatory, informed Science Service that observations communicated to him from Yerkes Observatory indicate that the star is still expanding. Its outer atmospheric shell is rushing outward at the rate of 102 miles every second.

While its present rate of expansion is over 350,000 miles an hour, it is much less than the expanding velocity of the star when first observed. At that time observations made at Cambridge University in England indicated Nova Herculis was rushing outward with speeds of about a million miles an hour.

The brilliant new star may prove to be "the most important of its kind that we have yet had," Dr. V. M. Slipher, director of Lowell Observatory, informed Science Service after making many photographs of its spectrum or rainbow spread of light.

He predicts that the nova will continue to be bright for some time before it undergoes the rapid fading typical of such temporarily brilliant stars.

The Lowell Observatory observations covered the spectrum from red to violet and show besides strong hydrogen series numerous other emissions, always having companion absorptions on violet edge of emissions.

"All emissions and absorptions are rather narrow," Dr. Slipher said. "Doubly ionized helium radiations are strong along with many other radiations.

"Particularly interesting is the fact

that this spectrum closely resembles that of Nova Aurigae in 1892 and remarkably matches spectrum of variable nebula NGC 2261. The Auriga Nova's light was exceptional and we called attention some years ago to its likeness to this nebula's light. That the light of these objects is now matched by Nova Herculis prompts me to suggest that we can expect the latter object to otherwise resemble the earlier nova and in particular that it will continue its maximum light phase some time before rapid fading typical of novae begins.

"These and other facts suggest Nova Herculis may prove the most important of its kind we have yet had. The quality of its light suggests more lasting qualities in this star than novae commonly possess.

"Fortunately, it has come when observers have good instrumental means and when the present highly effective light analysis affords high promise of definitely solving the long standing enigma of novae and at the same time doubtless we shall learn much regarding the equally important and puzzling variable nebulae.

"Fortunately this nova is so favorably placed that it can be observed all year. Indeed just now it can be observed twice daily, evening and morning. Such accessibility to continuous study is a highly important advantage with such objects because they are so temporary and, too, always doing something.

"Thus high hopes are held that this object will be the means of greatly advancing our knowledge of two of astronomy's most outstanding problems."

Later observations at Harvard and Yerkes show that the nova's spectrum was undergoing remarkable changes. From a close resemblance to the spectrum of the star Alpha Cygni, it changed two days later to resemblance to a later type star, Gamma Cygni.

Both Harvard and Yerkes spectra show that hydrogen emission and absorption lines are weaker, with titanium absorption increasing. These are changes that are as unexpected as they are peculiar.

*Science News Letter, December 29, 1934*