even closer in its resemblance to man than he had previously thought. He therefore proposes to alter its name accordingly to *Plesianthropus transvaalensis*.

From these three important discoveries—the Taungs skull found in 1925 by Prof. Dart, the Sterkfontein skull of which the first fragments were found by Dr. Broom in 1936, and the Kromdraai skull of which the discovery in 1938 is now announced—it is evident that there survived in South Africa so late as Pleistocene times a number of large-brained anthropoid apes which in certain details of their structure and especially in their teeth came close to man —all of them in fact, resembling man more closely than do either chimpanzee or gorilla.

As Sir Arthur Keith has pointed out, they are too late in time to come into the direct line of succession which leads up to man; but they indicate the lines upon which the earlier forms of anthropoid apes, from which they themselves were descended, must have been modified in the growth of the human tree.

Science News Letter, September 24, 1938

ASTRONOMY

Glowing Masses of Gases Found In Milky Way

Luminosities Containing Hydrogen and Oxygen, Too Faint for Photography, Found With Spectrograph

A GLOWING mass of hydrogen and oxygen gases, hitherto undiscovered, envelops large portions of the Milky Way, Drs. Otto Struve and C. T. Elvey of the University of Chicago's Yerkes Observatory reported to the American Astronomical Society.

These luminous nebulosities, in the constellations of Cygnus and Cepheus, are too faint to be recorded on direct photographs. They were found with the new 150-foot nebular spectrograph of the McDonald Observatory of the University of Texas in the Davis Mountains. Their existence could only be proved by means of spectrograms photographically sensitive to the light of the parts of the spectrum known as the hydrogen line alpha and the forbidden oxygen line 3727.

To an astronomer who could observe our vast Milky Way galaxy from some object far outside it, the spectrum of our galaxy as a whole would appear different from what astronomers supposed it would before the discovery by Drs. Struve and Elvey. It would reveal "a fairly strong emission spectrum superimposed over the integrated spectrum of all the stars."

The newly-discovered great "clouds" do not shine by their own light, but they appear to derive the required energy of their fluorescence from the general field of stellar radiation in the Milky Way star clouds. They differ from brighter nebulosities in that they are not concentrated toward individual stars.

Drs. Struve and Elvey consider it probable that many other portions of the Milky Way are covered by similar gaseous "clouds" but an investigation of a region in Canis Major shows practically no trace of nebular emission. The emission decreases very rapidly away from the Milky Way and at galactic latitudes of 10 or 20 degrees no emission is found.

Stars Seen Circling

A new theory of a circular motion of stars "streaming" at high speeds in our galaxy was presented by Dr. S. Chandrasekhar, of the Yerkes Observatory, one of the eminent East Indian scientists working in this country.

Dr. Chandrasekhar's theory visualizes our nearby stars, among them the sun, swinging nearly circular orbits about the center of the galaxy.

If the nearby stars are taken as a group, the individual stars seem to be moving at random, with equal numbers of stars moving in opposite directions. But there is a maximum mean speed of the order of 15 kilometers per second (9 miles per second) in one direction. As a whole, however, this group has a nearly circular motion about the distant galactic center, a velocity of about 300 kilometers per second (185 miles per second).

The theory explains the dispersion of velocities with respect to the center of the local star group as due to the deviations of the actual orbits from a true circular orbit.

Science News Letter, September 24, 1938

MAKES DISCOVERY

This 150-foot nebular spectrograph of the McDonald Observatory was instrumental in the finding of unknown glowing masses of gas in the Milky Way.

PHYSICS

New Cosmic Ray Particle— "Baryton" or "Yukon?"

THE physicists have nearly as much trouble naming a new fundamental particle as a family of fond parents, grandparents and in-laws deciding what to call a new baby.

Now it is the heavy electron, the particle that lives only about a millionth of a second after being born of the cosmic rays, that is being christened enthusiastically.

Americans are calling the heavy electron "baryton," the first part of the word being Greek for "heavy." But Europeans, with Prof. Niels Bohr, of Copenhagen, as chief protagonist, are using "yukon" in honor of the Japanese physicist, Yukawa, who postulated the existence of the particle before Drs. C. D. Anderson and Seth Neddermeyer, of Pasadena, discovered it in 1937.

In discussion at the recent Cambridge meeting of the British Association, one of the Americans present observed that yukon was a rather cold name for a particle so hotly discussed and that Alaskans might protest.

The heavy electrons seem to make up the major portion of the penetrating particles resulting from the cosmic radiation. Scientists are flying high into the atmosphere and setting up apparatus