If the high *Li* abundance in some G dwarfs is due to their recent emergence from the T Tauri stage, then other vestiges of the T Tauri phenomenon may be detectable. This is supported by a tendency for the early G dwarfs with the strongest *Li* lines to have usually strong *Ca II* emission. At lower *Li* abundances, this correlation disappears.

There are applications of these results to age dating and to studies of circulation in solar-type stars, barring complications due to accretion and surface nucleosynthesis.

Spectroscopic Discriminant for O-Type Star Clusters. W. A. HILTNER AND W. W. MORGAN, *Yerkes Observatory*.—Some 20 years ago it was noticed at the Yerkes Observatory that the brightest stars in the Orion Nebula cluster possessed unusually strong and broad hydrogen lines for their spectral types; the effect is most clearly visible at *Hγ*. A similar phenomenon has now been observed, on McDonald spectrograms, for a number of early B stars in the cluster associated with M8, which has been investigated by Merle F. Walker at the Lick Observatory.

It seems possible that the abnormally strong hydrogen lines may be a discriminant for very young O-type clusters.

Type II Cepheids in the Large Magellanic Cloud. PAUL W. HODGE, *University of California, Berkeley*, AND F. W. WRIGHT, *Smithsonian Astrophysical Observatory*.—Population II Cepheids have been located in the Large Magellanic Cloud by concentrating attention on the Population II globular clusters of the Cloud. From searches in 25 clusters, we have found 12 variables. The light curves of 7 of these strongly resemble those of Population II Cepheids in our galaxy. Statistics also indicate that they are probably members of the globular clusters, and not merely superimposed from the field. The period–luminosity relation is more than a magnitude more luminous than expected on the basis of the 1952 distance scale revision. This fact can be explained either by the assumption of a distance modulus of only 17.5 for the Cloud, or by the assumption of a moderately rich metal abundance for the globular clusters.

Linear Polarization of Discrete Sources at 5-cm Wavelengths. J. P. HOLLINGER, R. A. MENNELLA, AND C. H. MAYER, *Radio Astronomy Branch, U. S. Naval Research Laboratory*.—Observations have been made during the period of November 1962 through January 1963 using a rotating linearly

polarized feed antenna at the focus of the 50-ft reflector to investigate the polarization of the radiation of several strong discrete sources at wavelengths of 5.08, 5.31 and 5.56 cm.

Centaurus A was found to be partially linearly polarized with a percentage polarization of $9.2 \pm 0.5\%$ (p.e.) at a position angle of $140 \pm 2^\circ$ (p.e.) at 5.56 cm. The results for Taurus A were $5.5 \pm 0.2\%$ and $141 \pm 1^\circ$ at 5.31 cm and $5.1 \pm 0.2\%$ and $141 \pm 1^\circ$ at 5.56 cm. The values obtained for Cygnus A were $1.3 \pm 0.2\%$ at $42 \pm 4^\circ$, $1.4 \pm 0.2\%$ at $2 \pm 3^\circ$, and $1.2 \pm 0.2\%$ at $166 \pm 3^\circ$ at wavelengths of 5.08, 5.31, and 5.56 cm, respectively.

The dependence of the observed radiation on the horn rotation angle was less than 0.4% for Cassiopeia A at 5.08, 5.31, and 5.56 cm and for the Omega Nebula, the Orion Nebula, and Sagittarius A at 5.56 cm.

Report on Project Star Gazer. J. ALLEN HYNEK AND WILLIAM C. WHITE, *Dearborn Observatory*.—The manned Star Gazer balloon flight (13 December 1962) and its experimental payload are described; a 12-inch Cassegrain telescope mounted atop the gondola carried three experiments: stellar scintillation experiment; an image motion recorder, and an infrared photometer, the telescopic system stabilized by a MIT designed stabilization system. Due to instrumental difficulties the astronomical experiments could not be carried out, save that it was possible to obtain some image motion measurements. From a balloon technique standpoint, however, the flight to 82 000 ft proceeded very largely as planned and the observers in the gondola experienced only slight motion of the gondola and the almost total absence of “biological noise,” strongly suggesting that manned flights for astronomical purposes have considerable promise.

The source of the instrumental difficulties of Star Gazer I was found to be discharged from high-voltage power supplies, despite seemingly adequate preflight chamber testing. Another manned flight, Star Gazer II, is planned for this spring.

Massive Stars in Quasi-Static Equilibrium. ICKO IBEN, JR., *California Institute of Technology*.—Star-like condensations of 10^6 – 10^8 solar masses have been suggested recently (Hoyle, F., and Fowler, W. A., *Nature* **197**, 533) as the origin of the large energies— 10^{58} to 10^{61} erg—required to account for strong radio sources.

For masses of this size the equations of general relativity must be employed and, at the central temperatures to be expected ($T_c \sim 3 \times 10^8$ – 3×10^9 °K) the presence of electron–positron pairs must be included in the equation of state. In a preliminary