The hotter star is the smaller, brighter, and more massive. Preliminary values of the color indices, $B-V$, are $+1.1$ mag. and $+1.4$ mag., which correspond to spectral types K1 III and K4 III, respectively. Hiltner's (1946) estimated spectral types are K2 III and K5 III.

Combining spectrographic and photometric data yields the following properties of the individual stars, which appear to have somewhat smaller radii than do typical giants.

Type	Mass	Radius	M_{pv}
K1 III	2.6 $\odot$	10 $\odot$	+1.2
K4 III	0.4	12	+2.0

Further spectrographic observations will be obtained in order to determine K_1 , and hence the mass of the cooler star, reliably. Definitive two- or three-color light curves in the U, B, V system are also needed.

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Poveda, Arcadio. Studies of interstellar extinction at high galactic latitudes.

Investigations of the spatial distribution of galaxies by Neyman, Scott and Shane are based on the simplifying assumption that the regions in the sky covered by their work are free from irregular galactic absorption. This point may be investigated by comparing Shane's and Wirtanen's counts of images of galaxies with the counts of faint stars. If the region studied contains irregular interstellar clouds then these clouds will affect the apparent magnitudes of some stars and of all the galaxies and thus create a positive component in the covariance between the two counts.

Empirical material for the study is composed of Shane's and Wirtanen's counts in $10' \times 10'$ squares and of the author's counts of faint stars, of apparent magnitude roughly between 14.5 and 18.7, made in $4' \times 4'$ squares concentric with the $10' \times 10'$ cells used for counts of galaxies.

Unfortunately, in addition to the possible presence of interstellar clouds, there are several other possible sources of positive correlation between counts of galaxies and of faint stars. These include (1) errors in counting, for sometimes when counting stars we misidentify a nebula and call it a star, and vice versa; (2) plate effect, or irregularities of emulsion sensitivity and developing process; (3) telescopic effect, for at the

center of a plate the counts are higher than at the edges. In order to check the importance of (1) an experiment was performed with 16 standard nebulae supplied by Dr. Sandage with $17.6 \leq m_{pg} \leq 19.2$. The result gave us the probability, when counting stars, of classifying a nebula as a star approximately equal to 0.02, for counts on the 20-inch survey plates. This type of error is not considered important. In order to eliminate (2) and (3) eleven fields were selected for study for which there are available duplicate plates taken at the Lick Observatory either by Dr. C. D. Shane or by Mr. Wirtanen; for all of these plates there are available duplicate counts of stars, and for some of them duplicate counts of nebulae.

Let $X_{f,i,j,k}$ denote the number of stars obtained at the j th count ($j = 1, 2$) in the k th square ($k = 1, 2, \dots; K = 1296$) of the i th plate ($i = 1, 2$) taken over the f th field ($f = 1, 2, \dots; F = 11$), and a dot the average over the index it replaces. With this notation, the estimate of the covariance component between the counts of galaxies and the counts of stars due to irregular galactic absorption is given by either of the expressions (a) or (b):

$$(a) \quad \frac{1}{K} \left[\sum_{k=1}^K X_{f1 \cdot k} Y_{f2 \cdot k} - \frac{F}{F-1} \sum_{k=1}^K X_{\dots k} Y_{\dots k} + \frac{1}{F(F-1)} \sum_{f=1}^F \sum_{k=1}^K X_{f \dots k} Y_{f \dots k} \right],$$

$$(b) \quad \frac{1}{K} \left[\sum_{k=1}^K X_{f2 \cdot k} Y_{f1 \cdot k} - \frac{F}{F-1} \sum_{k=1}^K X_{\dots k} Y_{\dots k} + \frac{1}{F(F-1)} \sum_{f=1}^F \sum_{k=1}^K X_{f \dots k} Y_{f \dots k} \right],$$

where $Y_{f,i,j,k}$ is a similarly defined quantity for the number of nebulae.

Preliminary results indicate these covariances are very small or zero.

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Rense, Wm. A. Solar Lyman α radiation.

On May 8 several photographs of the sun's disk in Lyman α radiation, $1215.7 \text{ \AA}$, were obtained from an intermediate aerobee rocket at an altitude of about 150 km. Lithium fluoride optics were used. The photographs, though of low re-