and the orbit to

$$\frac{1}{r} = \frac{m_1 m_2}{(m_1 + m_2)^2}\left\{\frac{M'}{h^2} + A\cos(\theta - \tilde{\omega})\right\}.$$

The eccentricity e is inversely proportional to M', while

$$\frac{1}{a} = \frac{(m_1 + m_2)^2}{m_1 m_2}\cdot\frac{M'}{h^2}\left\{1 - \frac{A^2h^4}{M'^2}\right\}.$$

The rates of change of a, e here depend on the values of m_1, m_2 and consequently on the rates of change.

We have

$$\frac{dM}{M} = \frac{dm_1\,(3m_2 - 2m_1)}{m_1(m_1 + m_2)} + \frac{dm_2\,(3m_1 - 2m_2)}{m_2(m_1 + m_2)}.$$

We can always assume that $m_2 > m_1$. If $2m_2 < 3m_1$ for all time, M (or M') diminishes with m_1, m_2 and the same is true of $(m_1 + m_2)^2\,M/m_1m_2$.

If $m_2 < 2m_1$, and the eccentricity not too large the distance diminishes with m_1, m_2, an interesting case in view of the determinations of the relative masses in stellar binary systems.

9. Of the three hypotheses, there is little to distinguish between the first and second. Both of them give increases of distance and eccentricity and velocity of the center of mass, with diminishing masses, the chief distinction being that in the first the angular momentum increases while in the second it remains constant. This simultaneous change of distance and eccentricity has a well-known application to binary stellar systems.

The choice of the second of these hypotheses against the others has a further reason in the fact that with it, the velocity of a star as well as that of the center of mass of a system increases. This provides for the increase of velocity with age on Russell's scheme of evolution. To provide for the later decrease, it may be noted that the velocity of a single star relative to the center of mass of the whole stellar system will decrease. We thus have two opposing changes in the velocity of a star proceeding at different rates and it may be that these happen to cancel one another on the average when type B or A is reached.

ERRATA

Correction to the paper "Projective Normal Coördinates for the Geometry of Paths," by O. Veblen and J. M. Thomas, these PROCEEDINGS, **11**, pp. 204–7. The first formula on page 207 should read

$$Q^i_{jkl} = E^i_{jkl} - \tfrac{1}{3}\,S\left[E^i_{jkl} + \frac{2\delta^i_j}{n-1}\left(E^\alpha_{kl\alpha} - E^\alpha_{\alpha kl}\right)\right] + \frac{1}{n-1}\left[\delta^i_j\left(E^\alpha_{kl\alpha} - E^\alpha_{\alpha kl}\right) + \delta^i_k\left(E^\alpha_{jl\alpha} - E^\alpha_{\alpha jl}\right)\right].$$

There should also be a minus sign preceding a_j in formula (2.10).—J. M. THOMAS