Strepsinema Stage in Reduction

L. W. SHARP in his "Introduction to Cytology" (1st ed. 1921 and 2nd ed. 1926) and C. D. Darlington in "Recent Advances in Cytology" (1932) wrongly attribute the origination of the term 'strepsitene' to me. As a matter of fact, I never used this term, but suggested in 1899 the now generally used 'strepsinema'. I coined this word to describe the origin of the bivalent chromosomes of the heterotypic division first recorded by me in 1895 ("The Chromosomes of *Lilium longiflorum*", *Proc. R.I.A.*, 1895). The term 'strepsinema' is now often assigned to Grégoire owing, I believe, to an accidentally ambiguous expression of that writer, namely, "C'est le stade des noyaux *diplotènes* (Winiwarter, 00)—ou mieux noyaux *strepsitènes* ou *strepsinema* (Dixon, 00, Grégoire, 07), cette dernière expression rappelant les entrelacements caractéristiques de cette période." ("Les cinèses de maturation dans les deux règnes" (second memoire). *La Cellule*, 26, 2, p. 239; 1910.) Grégoire, so far as I can discover, uses the term 'strepsinema' here for the first time.

With regard to the process of lateral approximation and twisting together of the separate chromosomes, now known to be homologous, and generally recognised as a normal stage of meiosis, I believe I was one of the first, if not the first, to observe and to describe it (*Proc. R.I.A.*, 1895 and "Notes from the Botanical School, T.C.D.", 1896). In this connexion I may again quote Grégoire: "La même année (1895) Dixon donne une interprétation toute différente. . . . Pour lui, les deux moitiés entrelacées qui constituent chaque chromosome, au moment où s'isole du peloton, ne sont pas le résultat d'une division longitudinale mais représentent deux tronçons du peloton qui, dès avant la segmentation transversale de ce dernier, se sont rapprochés et entrelacés." ("Les cinèses polliniques chez les Liliacées". *La Cellule*, 16, 2, p. 241; 1899.) Again p. 250: "Tous les auteurs, . . . à part Dixon, décrivent cette division longitudinale. Dixon, au contraire, considère ces deux portions enroulées comme deux tronçons du peloton qui se seraient rapprochés et entrelacés." The view I put forward then is now generally accepted by cytologists, Grégoire included.

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Variation Effect in Latitude, Correlatable with the Moon

IN NATURE of January 26, 1929, p. 127, a communication appeared dealing with the variation of latitude with the moon's position. Attention was directed to small variations of less than a tenth of a second

of arc, determined from Gaithersburg observations, which appeared to be correlated with the hour angle and altitude of the moon. While in this preliminary note a marked dependence was exhibited of the magnitude of the latitude residuals upon the moon's position with respect to the observer at the time the zenith telescope observations were made, no direct attempt was made to separate the dependence of the moon's hour angle from that of the moon's declination.

Studies of the small variations in latitude (corrected for the 428-day term) have been systematically continued for other stations and years, yielding results of increasing interest.

Reductions have now been carried out for four of the international latitude stations for the years 1909-11, and the resultant residual variations in latitude grouped both by hour angle and declination

FIG. 1. Variation in latitude with the moon's hour angle and declination, 1909-11.

of the moon. The accompanying graph (Fig. 1) shows the results for north declination, south declination, and for the time when the moon is near the equator between -12° and $+12^\circ$.

The resemblance of these curves to diurnal curves of equilibrium tides appears to give confirmatory evidence for an earth tide hypothesis. The inversion of phase for the change in the moon's declination is particularly significant in this respect.

The magnitude of the effect observed being 5-10 times greater than on the basis of our present knowledge of earth tides, suggests a possible mobility in the earth's crust at right angles to gravity. Some such hypothesis appears consistent with the results of tilt experiments, such as that of Michelson and Gale, and the displacements of the zenith here recorded in astronomical observations.

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