

SCIENCE

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THE EQUINOX OF 1950.¹

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IN every science, in all human progress, there are dividing boundaries, epochs, milestones, marked in no regular fashion nor by equal intervals of time, but by discoveries. Not infrequently it is the life work of some group of men, or the individual contribution of some surpassing intellect, which forms the zero year from which we date a particular epoch in scientific progress. Though the historian of science, a thousand years hence, looking back upon our era may feel sure that the advancement of present science is a continuous function, with few singularities, multiple points or imaginary roots, to those who now take part in this work it frequently seems as though the increase in our knowledge is discontinuous and saltatory. Instead of an evolution progressing by infinitesimal variations in our scientific characters, inherited or acquired, we are ourselves so close to the astounding events of present progress in the physical sciences that we feel rather that we are undergoing an evolution based upon sudden mutations.

Astronomy has similar apparent epochs of sudden mutation, marked by men or processes—the ages of Newton and Bessel, the eras of the meridian circle, of photography, of the spectroscope. Each has marked a tremendous advance, *per saltum*, progress which has seemed to the scientist of each era to be by leaps and bounds rather than by the slow accretions of natural growth, discontinuous rather than continuous. We are prone to forget, in such a view, the minor contributions which have made the road ready, and time has a way of running a relatively smooth curve through the irregularly plotted points. No lapse of time, however, will ever entirely smooth out this always ascending curve; it may always have sinuosities, overtones of the main great harmonic. Perhaps it is sufficient for us, as we contemplate our section of this great graph, to leave to time the smoothing out of the curve of our present progress, while we derive satisfaction, pride and hope from the fact that the curve is definitely ascending.

More than one dreamer, combining mathematics with fancy, has drawn attention to the supposed parallel between the curve of progress and the hyperbola referred to rectangular asymptotes as axes. Sweeping down from infinity, this curve as ordinarily drawn at first makes tremendous and rapid progress

¹ Address of retiring vice-president of Section D, Astronomy, of the American Association for the Advancement of Science, Washington, December, 1924.

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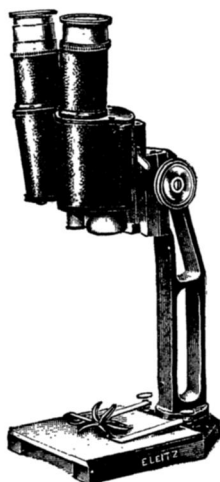
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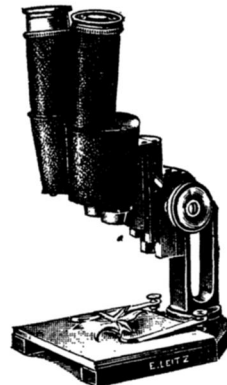
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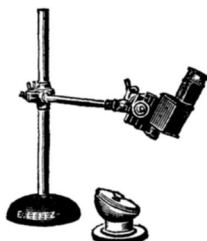


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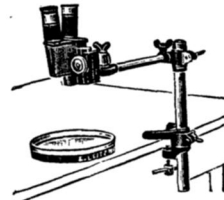
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