Astronomy: a diagram of the Earth's orbit around the Sun in a solar year showing the changing seasons. Coloured engraving by J. Emslie, 1851, after himself.

Contributors

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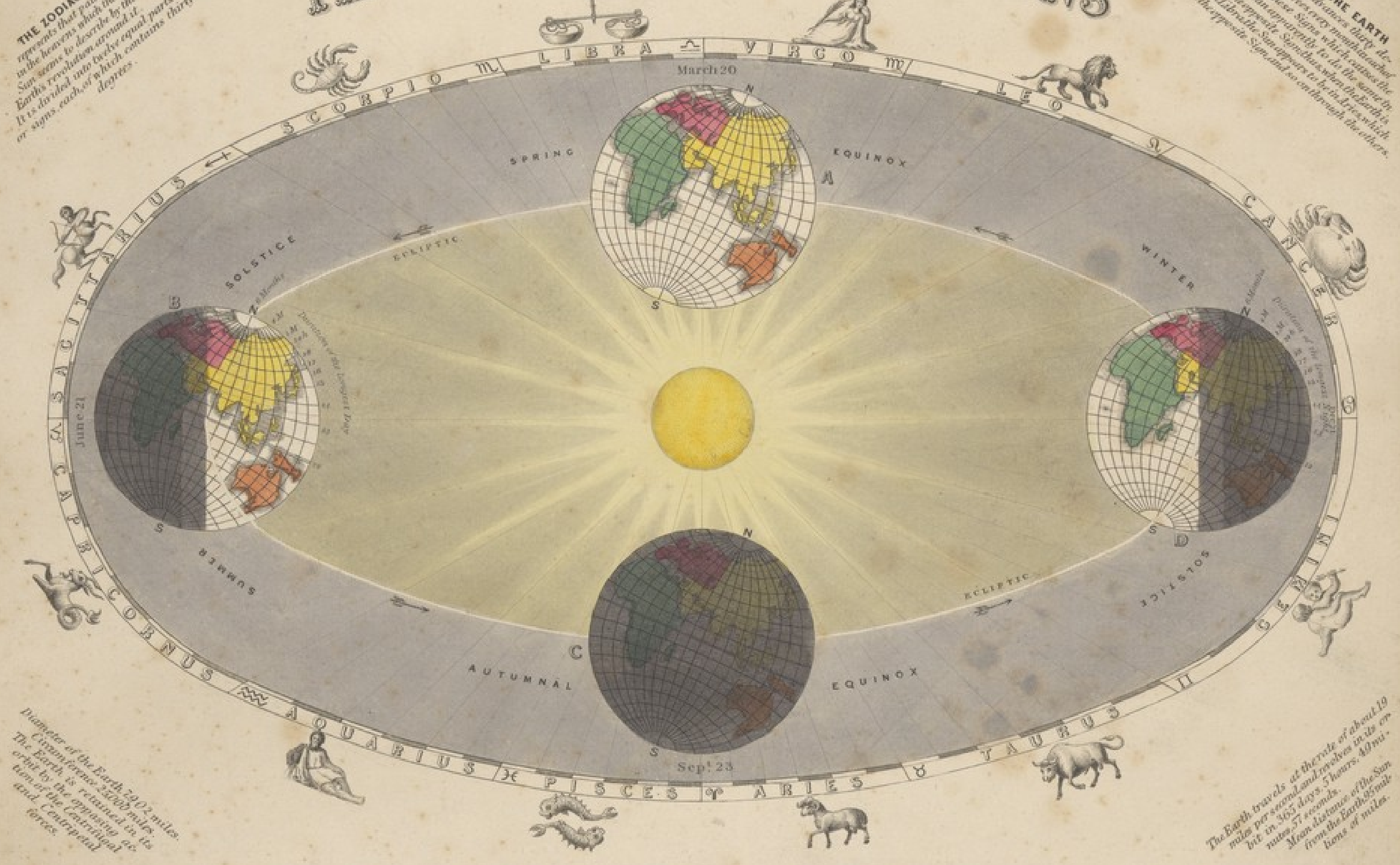
Wellcome Collection
183 Euston Road
London NW1 2BE UK
T +44 (0)20 7611 8722
E library@wellcomecollection.org
https://wellcomecollection.org

THE THEORY OF THE SEASONS
AND SIGNS OF THE ZODIAC.



THE PHENOMENA OF THE SEASONS is occasioned by the annual motion of the Earth in its Orbit, as represented above, the Axis, or Poles of the Earth, being constantly directed towards the same point in the heavens. On the 23rd March, the Earth is in the position A, when one half of the globe is illuminated from pole to pole; therefore, the days are of equal duration with the night all over the world. As the Earth proceeds in its Orbit, and comes into the position B, the inhabitants of the Northern Hemisphere enjoy summer on account of the Solar Rays falling more perpendicularly upon them; they have also their days longer than their nights, in proportion as they are more distant from the Equator, and those within the Polar Circle have constant daylight: at the same time the inhabitants of the Southern Hemisphere have winter, their days being shorter than their nights in proportion as they are further from the Equator. Those within the Polar Circle have constant night. The Earth then continues in its course, and on the 23rd September arrives at the position C; the days and nights are then again equal all over the world. After this the Earth advances to the position D, and the inhabitants of the Northern Hemisphere have winter. In the middle regions of the Earth the heat is nearly of the same intensity all the year through, and the length of their days and nights is nearly equal. At one period of the year the Earth is much nearer the Sun than at another; this occurs in our winter. Accordingly, the Sun appears about one-thirtieth part larger in January than in June; the difference of heat is not owing to the Sun being nearer to us, or more remote, but to the degree of obliquity with which its rays strike any part of the Earth.

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