

The placing of the planets is not symmetrical, nor are they placed symbolically, for example, in the signs described as the 'exaltations' of the planets by Ptolemy. Probably, therefore, they are either placed in the figure at random or are intended to show the positions of the planets at a specific epoch.

Calculation shows that on no day within the last three thousand years were all the planets in or near the positions stated. But if we suppose that the man who first drew the figure was an observer, not a calculator, that his deductions as to position were made from observations extending over a few weeks, and that he could not see Mercury, but merely guessed its position, the celestial 'theme' may have been originally drawn in March A.D. 131. By the time of full moon on March 31 the positions were approximately: Sun, Aries 7; Moon, Libra 7; Mercury, Pisces 10½; Venus, Pisces 9½; Mars, Cancer 2; Jupiter, Virgo 20½; Saturn, Scorpio 21. Venus had been near Aquarius 17 about March 12.

The period of Roman rule in Egypt was a period of astronomical activity. Not only have we the works of the famous astronomer Ptolemy from that period, but quite a number of horoscopes. In these the planetary positions are sometimes given fairly accurately, but in others, for example, the horoscope of Tryphon (A.D. 16), and the horoscope of Anubion (A.D. 137), the position of Mercury is quite wrongly given.

The same period is known also to have been a period when there was an interest in map-making, and it is quite conceivable that the map-maker of the fifteenth century copied the figure of the heavens from some older map without knowing what it represented.

I should be glad if anyone who knows about any maps of the Middle Ages, with planetary positions marked on them, would give me information in regard to them.

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#### Halibut Liver Oil as a Source of Vitamin A

REFERENCES in the literature that the liver oil of the halibut (*Hippoglossus vulgaris*) is a very rich source of vitamin A (of the order of 50-100 times as rich as cod-liver oil) have been confirmed by me. However, it was soon found that not all samples of halibut liver oil gave such high values, and all potencies from 30 blue units (0.2 c.c. of 20 per cent solution) up to 1600 blue units have been observed. It is to be noted that this irregularity is the rule, and not the exception, in my experience. If halibut liver oil is to become of commercial value as a ready-made vitamin A concentrate (and this possibility is at present being investigated by several manufacturing firms), it is clearly necessary to know something of these fluctuations, whether they are seasonal, etc. This is all the more necessary as, for some reason at present unknown, halibut liver oil cannot be obtained by steaming the livers (as with cod liver oil, for example), and the more expensive process of solvent extraction must be resorted to.

A prolonged series of experiments on this problem of the excessive fluctuations in vitamin A potency of halibut liver oil is being carried out, and attempts will be made to find not only the seasonal effects (if any), but also the influence of the diet of the fish concerned. The work is not sufficiently advanced as yet to draw any definite conclusions.

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#### Implements of Late Magdalenian Age underlying the Raised-Beach at Larne, Co. Antrim

In July 1930 I made the discovery that the Lower Estuarine Clay of north-east Ireland contains a pene-contemporaneous and well-developed flint industry of Late Magdalenian age. Subsequent investigations in the company of my friend Mr. C. Blake Whelan resulted in the recovery of several hundreds of these artefacts from the two small exposures of Lower Estuarine Clay on the western shore of Island Magee.<sup>1</sup> The type specimens, exhibiting a distinctive blue patination, have been fully described and illustrated in my last paper.<sup>2</sup>

Lately I have established the fact that the Lower Estuarine Clay which underlies the gravels of the 25-foot raised-beach on the Curran at Larne contains a similar industry to that previously located on Island Magee.

Elsewhere I have, upon archaeological grounds, suggested that a considerable period elapsed between the deposition of the Lower Estuarine Clay and the gravels of the 25-foot raised-beach.<sup>3</sup>

Sections on the Curran appear to offer geological support to the above conclusion. Not only is there evidence that the Lower Estuarine Clay had suffered substantial surface erosion prior to the deposition of the gravels of the 25-foot raised-beach of Early Neolithic times,<sup>4</sup> but also that the period of erosion was followed by the formation of marine sands characterised by a molluscan fauna of wider range in types than that of the overlying raised-beach gravels.<sup>5</sup>

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<sup>1</sup> NATURE, 126, 133, July 26, 1930.

<sup>2</sup> Proc. Preh. Soc. E. Anglia, vol. 6, pt. 4, pp. 270-81; 1931.

<sup>3</sup> Loc. cit., pp. 285 and 287.

<sup>4</sup> Praeger, Proc. Roy. Irish Acad., vol. 4, ser. 3, Pl. I (Fig. 3); 1896; vol. 25, sec. C, Fig. 3; 1904.

<sup>5</sup> Praeger, Proc. Roy. Irish Acad., vol. 4, ser. 3, pp. 39-40; 1896.

#### Proper Name of the Amœba

THE common little amœba of stagnant waters appears to have no well-established scientific name. I have, to-day, received an elaborate paper, by S. O. Mast and P. L. Johnson, published in *Archiv für Protistenkunde*, 1931, intended to settle the matter. These authors give many apparently good reasons for thinking that the "Kleine Proteus" of Rösel (1755) was in fact a myxomycete. Hence the names applied by Linnæus and Pallas to this organism are not applicable to the amœba.

The final conclusion reached is that the valid name must be *Amœba proteus* Leidy, 1878. But Leidy expressly states that he is using the specific name coined by Pallas, 1766 (*Volvox proteus*). There are no grounds whatever for attributing the specific name to him, and no matter what he described, the type of *A. proteus* is the organism referred to by Pallas.

The generic name *Amœba* is an emendation from *Amiba*, as Leidy states. The earliest specific name under *Amiba*, and the type of the genus, is *A. divergens* Bory, 1822. With this stands or falls the generic name. Apparently the oldest specific name for an amœba in the modern sense is *Proteus diffluens*, which Sherborn ascribes to G. Adams, 1787 (not Müller, 1786, as commonly cited). Mast and Johnson do not think this is identical with the *Amœba proteus* of modern authors, but Schaeffer, who paid much attention to the subject, so considered it. What, then, is the proper name of the common amœba?

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