

CORRESPONDENCE

Neptune Scandal

SIR,—Shame on you. One of the great stories in all of the history of science—that of the discovery of Neptune—has been mangled in your pages. In a report of the recent transfer of the 28-inch refracting telescope from Herstmonceux to Greenwich (*Nature*, **233**, 515; 1971) we read that initially the “demand for the telescope arose through the so-called Neptune scandal: mathematicians in France and Cambridge independently predicted the existence of Neptune and the planet was observed by French astronomers, but there was no instrument in England capable of detecting it”.

The mathematicians were Urbain Jean Joseph LeVerrier (1811–1877), then Astronomer at the École Polytechnique in Paris, and John Couch Adams (1819–1892), then a fellow at St John's College. Accounts of their independent, brilliant calculations to locate an exterior planet to explain the observed behaviour of Uranus are found, for example, in Gould¹, Jones² and Grosser³.

Of course, the discovery was made by German astronomers (Johann Gottfried Galle and Heinrich Louis d'Arrest) after the planet was observed by James Challis at Cambridge. Jones² gives the following concise accounts of events in Berlin and in England.

“For on 23 September (1846) Galle, Astronomer at the Berlin Observatory, had received a letter from Le Verrier suggesting that he should search for the unknown planet, which would probably be easily distinguished by a disk. D'Arrest, a keen young volunteer at the Observatory, asked to share in the search, and suggested to Galle that it might be worth looking among the star charts of the Berlin Academy. . . . Galle took his place at the telescope, describing the configurations of the stars he saw, while d'Arrest followed them on the map, until Galle said: ‘And then there is a star of the 8th magnitude in such and such a position’, whereupon d'Arrest exclaimed: ‘That star is not on the map’. An observation the following night showed that the object had changed its position and proved that it was the planet.”

“Airy (Astronomer Royal) considered that the most suitable telescope with which to make the search for the new planet was the Northumberland telescope of the Cam-

bridge Observatory, which was larger than any telescope at Greenwich and more likely to detect a planet whose light might be feeble. . . .

“Challis decided to prosecute the search himself and began observing on 29 July, 1846, three weeks before opposition. The method adopted was to make three sweeps over the area to be searched, mapping the positions of all the stars observed, and completing each sweep before beginning the next. If the planet was observed it would be revealed, when the different sweeps were compared, by its motion relative to the stars.

“What followed was not very creditable to Challis. He started by observing in the region indicated by Adams: the first four nights on which observations were made were 29 July, 30 July, 4 August and 12 August. But no comparison was made, as the search proceeded, between the observations on different nights. He did indeed make a partial comparison between nights of 30 July and 12 August merely to assure himself that the method of observation was adequate. He stopped short at No. 39 of the stars observed on 12 August; as he found that all these had been observed on 30 July, he felt satisfied about the method of observation. If he had continued the comparison for another ten stars he would have found that a star of the 8th magnitude observed on 12 August was missing in the series of 30 July. This was the planet: it had wandered into the zone between the two dates.”

Challis had also observed the planet on August 4².

Yours faithfully,

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¹ Gould, Benjamin Apthorp, *Report to the Smithsonian Institution on the History of the Discovery of Neptune* (Smithsonian Institution, Washington, 1850).

² Jones, Harold Spencer, in *The World of Mathematics* (edit. by Newman, James R.), 822 (Simon and Schuster, New York, 1956).

³ Grosser, Morton, *The Discovery of Neptune* (Harvard University Press, Cambridge, Massachusetts, 1962).

“Blueprint for Survival”

SIR,—As professional biologists we wish to record our strong disapproval of your attitude to environmental issues as ex-

pressed in recent editorials, and in particular your derisory criticism of *The Ecologist's* “Blueprint for Survival” (*Nature*, **235**, 63; 1972). It is now widely acknowledged that the increasing material demands of a burgeoning world population are adversely affecting our environment and have grave implications for the future. It therefore seems laudable that a group of individuals should seek to identify the nature of the problem and to make recommendations for its solution. Such discussions are inevitably tentative but they surely claim to be more than a platform for wider debate.

We therefore support the request of Manning and Woodell (*Nature*, **235**, 179; 1972) calling for the evidence which leads you to dismiss the arguments in “Blueprint for Survival” and we would welcome a more constructive discussion of these problems in your columns.

Yours faithfully,

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Coincident Congresses

SIR,—In 1972 the Eighth International Congress of Clinical Chemistry is being held in Copenhagen, June 19–23, and the Fourth International Congress of Endocrinology is being held in Washington, June 18–23.

Is it not one of the functions of ICSU and CIOMS to prevent such an unfortunate concurrence?

Yours faithfully,

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