Certainly many chapters of our physical knowledge can be neatly summarized in terms of causal laws. Some other chapters can at present best be summarized in quite different ways. Many physicists feel, however, the same dissatisfaction about these methods as the directors of a successful insurance company, run on statistical lines, might feel about their knowledge of the pathology of mortal diseases. In any event it is of very great interest to know if there exists even so much as a single instance where, by common consent, causal explanations can be definitely ruled out. Until then it would appear highly necessary to refrain from imposing our preconceived ideas, whatever these may be.

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[1] *Nature*, **154**, 122 (1944).
[2] *Proc. Phys. Soc.*, **55**, 459 (1943).
[3] "Math. Grundlagen der Quanten-Mechanik" (1932).
[4] *Proc. Phys. Soc.*, **56**, 195 (1944).

THE views of Prof. West on the interpretation of the Uncertainty Principle are very similar to my own. However, in writing on a controversial subject, I considered it necessary to mention all interpretations given by eminent authorities. In cases where I personally was not convinced of the accuracy of such views, I used the phrase "goes so far as to claim", and when my objection was very strong indeed, used an exclamation mark. Prof. West's list of references will be useful to readers who wish to form their own opinion on a subject of great interest to both science and philosophy.

In conclusion, I wish to put forward a general argument against all supposed demonstrations of an impossibility, such as Von Neumann's. However careful the logic, at best all that has been demonstrated is that the impossibility holds for the problem as formulated. Other lines of approach, not yet considered, may correspond more accurately to the phenomena, and may lead to a positive result.

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A Siderite of the Fourteenth Century

IBN-BAṬṬŪṬAH, the famous globe-trotter of the Middle Ages, in his travels from Tangier to China and West Africa (A.D. 1325–54), on reaching Birgi (the ancient Pyrgion in the valley of the Cayster—not far from the old Ephesus in Asia Minor), some time after 1332, was asked by the local sultan if he had ever seen a 'stone' "that had fallen from the sky". When he replied in the negative, the sultan showed him the 'stone' that had fallen some time ago outside the town, and ordered four stone-breakers to strike it vigorously with iron hammers. They did so, but with no effect. It weighed about a hundredweight and was "very hard with a glitter in it"[1]. All this goes to suggest that it must have been a siderite. This fall is not mentioned in the list given in H. H. Nininger's "Our Stone-Pelted Planet"[2].

It is interesting to note that Dr. J. Astapowitsch, of the Sternberg Astronomical Institute of Moscow, in his letter to me dated July 27, 1937 (in response to my request to make inquiries about the sword presented to Tsar Alexander I of Russia by James Sowerby, made from the Cape of Good Hope siderite[3]), wrote to say he could find no trace of this sword; "but among the meteorite collection of the Lomonossow Meteorological Institute there is a yataghan (Turkish sword without cross-piece) about 60 cm. long from an unknown siderite. It belonged formerly (in the 19th century) to a merchant in Siberia".

In all probability this yataghan was made for a later sultan or Mongol chieftain from a siderite that had actually been seen to fall—*perhaps* from this Birgi one when its true nature was revealed. It would be of interest to ascertain the history of this yataghan prior to the nineteenth century. The fact that "Caliphs and Mongol Chiefs had caused swords to be forged from recently fallen meteoric 'stones'" was well known to scientific men like Alexander von Humboldt[4].

Iron meteorites that have been seen to fall are rather rare.

MOHD. A. R. KHAN.

Begumpet,
Deccan.
June 15.

[1] Gibb, H. A. R., "Ibn Baṭṭūṭa's Travels" (London: George Routledge), 134.
[2] Boston and New York: Huffton Mifflin and Co., 1933.
[3] *Phil. Mag.*, **55**, No. 251 (1820); *Nature*, **135**, 39 (1935).
[4] Bonn, Henry G., "Cosmos", vol. 1 (London, 1849), 124.

Prof. W. E. H. Berwick

MAY I supplement Prof. Davenport's notice of his predecessor[1] to put on record an important service to mathematics which I was in a position to witness?

About fourteen years ago, Prof. Berwick suggested that the British Association Committee on Mathematical Tables should apply part of a bequest from Lieut.-Colonel Cunningham to the preparation and publication of a table of cycles of reduced ideals in quadratic fields. The computation of such a table is not a matter of pure routine, and could not be attempted by an operator who did not understand what he was doing; a mathematician was wanted. Fortunately, the late Dr. E. L. Ince, just returned to England from Cairo, was free to carry out the work, and he was a skilled computer as well as an exceptionally fine mathematician. The theory of ideals was a new subject to Ince, and Berwick undertook to initiate him. If, characteristically and irritatingly, Berwick underestimated the ease with which a mathematician of Ince's quality could master the elements of the theory, his own labours were the greater. He spared himself no pains, he improvised details of notation and arrangement, and he kept in close touch with the work from start to finish. The table, which appeared in 1934, properly bears Ince's name alone, but it owes a very great deal to Berwick's generous and enthusiastic help.

Stories of Berwick will be told as long as any of his contemporaries are alive to tell them; and we shall not forget that the arrogance of which we are making kindly fun was the arrogance that refused to acknowledge defeat in the presence of overwhelming physical disaster. Many times Berwick fell prone from his great height; not once did he stoop.

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Sept. 4.

[1] *Nature*, **154**, 265 (1944).