posal, is before us. Ten more months passed, and on 5 April 1955 B. F. Burke and K. L. Franklin of the Carnegie Institution announced the chance detection of strong radio signals emanating from Jupiter. They recorded the signals for several weeks before they correctly identified the source.

This discovery came as something of a surprise because radio astronomers had never expected a body as cold as Jupiter to emit radio waves (*1*).

In 1960 V. Radhakrishnah of India and J. A. Roberts of Australia, working at California Institute of Technology, established the existence of a radiation belt encompassing Jupiter, "giving 10^{14} times as much radio energy as the Van Allen belts around the earth."

On 5 December 1956, through the kind services of H. H. Hess, chairman of the department of geology of Princeton University, Velikovsky submitted a memorandum to the U.S. National Committee for the (planned) IGY in which he suggested the existence of a terrestrial magnetosphere reaching the moon. Receipt of the memorandum was acknowledged by E. O. Hulburt for the Committee. The magnetosphere was discovered in 1958 by Van Allen.

In the last chapter of his *Worlds in Collision* (1950), Velikovsky stated that the surface of Venus must be very hot, even though in 1950 the temperature of the cloud surface of Venus was known to be −25°C on the day and night sides alike.

In 1954 N. A. Kozyrev (*2*) observed an emission spectrum from the night side of Venus but ascribed it to discharges in the upper layers of its atmosphere. He calculated that the temperature of the surface of Venus must be + 30°C; somewhat higher values were found earlier by Adel and Herzberg. As late as 1959, V. A. Firsoff arrived at a figure of + 17.5°C for the mean surface temperature of Venus, only a little above the mean annual temperature of the earth (+ 14.2°C) (*3*).

However, by 1961 it became known that the surface temperature of Venus is "almost 600 degrees [K]" (*4*). F. D. Drake described this discovery as "a surprise . . . in a field in which the fewest surprises were expected." "We would have expected a temperature only slightly greater than that of the earth. . . . Sources of internal heating [radioactivity] will not produce an enhanced surface temperature." Cornell H. Mayer writes (*5*), "All the observations are consistent with a temperature of almost 600 degrees," and admits that "the temperature is much higher than anyone would have predicted."

Although we disagree with Velikovsky's theories, we feel impelled to make this statement to establish Velikovsky's priority of prediction of these two points and to urge, in view of these prognostications, that his other conclusions be objectively re-examined.

V. BARGMANN
Department of Physics, Princeton University, Princeton, New Jersey

LLOYD MOTZ
Department of Astronomy, Columbia University, New York

References

1. See also the New York *Times* for 28 October 1962.
2. N. A. Kozyrev, *Izv. Krymsk. Astrofiz. Observ.* **12** (1954).
3. *Science News* 1959, 52 (Summer 1959).
4. *Phys. Today* 14, No. 4, 30 (1961).
5. C. H. Mayer, *Sci. Am.* 204 (May 1961).

Lunar Influence on Precipitation Patterns

I read with much interest the report by Bradley, Woodbury, and Brier [*Science* **137**, 748 (1962)] and the report from Australia by Adderley and Bowen [*ibid.* **137**, 749 (1962)] dealing with possible lunar influence on precipitation patterns. I would like to offer the following as testimony relative to the findings reported.

About 10 years ago I was working on weekly rainfall totals and their effect on corn yields for 15 counties in central Indiana. From folklore I had learned that precipitation was more likely to occur during the week following a new moon and the week following a full moon than at other times, so I proceeded to test this idea. To my amazement I found some agreement. After applying several statistical treatments to the data I produced a short manuscript as well as an outline suggesting some further investigations along this line. I need not relate here the review comments or the outcome of the proposed investigations. In short, the whole matter was dropped.

Best wishes to all the authors in their further investigations.

JAMES E. NEWMAN
Department of Agronomy, Purdue University, Lafayette, Indiana