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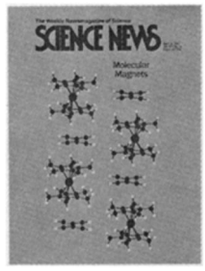
This Week

Research Notes

Articles

Cover: This array of two different types of molecules represents part of the three-dimensional structure of a crystalline solid that behaves like an iron magnet at liquid-helium temperatures. The larger decamethylferrocene molecules (with iron atoms shown in solid green) alternate in position with flat tetracyanoethylene molecules (carbon atoms are black; hydrogen atoms have black stripes; nitrogen, green stripes). This material is one of several organic substances recently shown to be ferromagnetic. (Illustrations: Joel S. Miller)



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Letters

Seeing red

In "The Old and the Ethnic in Astronomy" (SN: 3/14/87, p.170), the familiar problem of "red" Sirius comes up again. As a classicist, I have never had much confidence in the notion that the apparent reference to a red color could be explained by abnormal events in the physics of either Sirius or its companion. On the basis of my own experience, I would recommend a much more mundane explanation, which anyone is welcome to confirm in a rather enjoyable experiment.

On Dec. 27, 1978, I was standing with my family on the seashore by the medieval Greek fortress of Monemvasia. The air was very still, just about freezing temperature, under a strong high pressure system. There was no haze, no moon, and the sea was as smooth as I had ever seen it. To one looking eastward, Sirius was by far the brightest object in the sky, so bright that it left a clearly defined track across the sea. These weather conditions are such as would often have been experienced in the ancient world in the season when Sirius is most visible.

The light from Sirius was, of course, bluish white, and the track on the sea was unmistakably white, but if we looked steadily at the star, it appeared to flash bright red – not dull brick red, but brilliant red, of the sort you get from a prism in the sun. I did my best to avoid leading questions, and asked the three other members of my family whether there was anything odd about the appearance of the star when they looked at it. All three confirmed the red flash.

I cannot remember what the period of the flashes of red was, but I suspect it was not regular, since I am certain that it was caused by some sort of physiological response in the eye which was making us all "see red." Against the intense black of the night sky, we were getting something analogous to the red afterimage of a window frame when one closes one's eyes in bright sunlight. No other star has ever produced the same effect in my experience, but a city dweller has few, if any, chances to experiment.

I would suggest, therefore, that the intense darkness of a clear night sky is required for the effect, and that it may well be the bluish tinge of the light from Sirius that triggers brief episodes of "seeing red." If one were culturally inclined to look for celestial omens in any case, the effect would be pretty convincing. I would not wish to suggest that hordes of vision experts descend on Monemvasia in the winter to wait for a clear, still night with no moon, but perhaps one or two might try it, to see whether "red Sirius" can still be seen by modern observers.

Pierre A. MacKay
Professor of Classics
University of Washington
Seattle, Wash.