

THE APPARITION OF 1928.

This apparition will probably go down in history as the worst observed apparition of modern times. Clouds covered the skies much of the time both in England and in Jamaica, and when the clouds were not there the seeing, in Jamaica at least, was atrocious. The same complaint comes from Japan, and Douglass writes that he had to be away from his observatory during the better part of the apparition. Wilson also speaks of almost continuous bad weather, although that is not unexpected in our southern states at that season of the year. I had thought of closing the series of drawings with this number, but as the various observers seem rather modest about sending in their work this year, and as I rather fear that, if they don't send it to me, they may not publish it at all, leaving future astronomers to wonder what did happen on Mars in 1928-1929, it seemed to me to be on the whole a particularly poor year to quit. I have in consequence decided to issue a call to all observers who saw anything at all worth publishing, to finish their six drawings of the planet, and send them in as soon as possible.

PRIVATE OBSERVATORY, MANDEVILLE, JAMAICA, B. W. I., AUGUST 20, 1929.

AMERICAN ASTRONOMICAL SOCIETY.

ABSTRACTS OF PAPERS

ON THE NATURE OF WOLF-RAYET EMISSION.

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Measurements of the width of Wolf-Rayet bands indicate that bands due to a given atom have widths approximately proportional to their wave-lengths. This is in accordance with the idea that the breadth of Wolf-Rayet bands is due to motion of the emitting gases in the line of sight. Such motion could be produced by the action of selective radiation pressure causing the continuous ejection of high-speed atoms from a star in the manner suggested by the theoretical work of E. A. Milne and M. C. Johnson.

This theory is obviously similar to accepted ideas of nova emission and is rendered probable by the fact that Wolf-Rayet stars are similar to novae in the following respects: (a) the strength of the bands relative to the continuous spectrum, (b) the undisplaced positions of the centers of bands, (c) the order of band-widths observed and the variation of band-width with wave-length, and (d) the appearance of absorption on the violet edges of bands. There is the further consideration that old novae have, in some cases, been shown to be typical Wolf-Rayet stars.

The loss of mass which a star may sustain, due to the ejection of stellar material, has been calculated first for a dwarf star of mass and radius equal to those of the sun and, secondly, for a giant star of mass thirty times that of the sun and 10^8 km radius. Assuming a velocity of