

and etched surface of one of these crystals whilst the specimen was rocked through a small angle. The diffraction pattern obtained is practically the same as that given by a true single crystal, but the spots are slightly more spread. This indicates that the small grains formed by the sub-boundaries have a

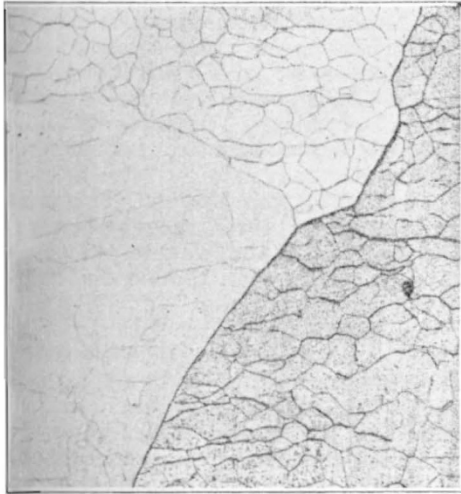


FIG. 1.

nearly, but not quite, uniform orientation in each crystal.

We suggest that the sub-boundaries are formed under the influence of stresses set up during the rapid cooling of the metal. A somewhat similar break-up has been observed by us (*Journal of the Institute of Metals*, 107, 36; 1926) when tungsten rods are mechanically deformed by swaging.

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Dug-out Canoe in Algoa Bay.

MR. FITZSIMONS, in his letter published in NATURE of May 21 (vol. 119, p. 746), gives an account of a derelict canoe that was washed ashore in Algoa Bay, South Africa, in February of this year. A study of the photograph which accompanies his letter indicates that he is mistaken in attributing the canoe to the 'Mawken' or, as they are usually known in this country, the Salons of the Mergui Archipelago. The Salon canoe has a 'step' in both bow- and stern-end, and there is no trace of anything of this kind in the canoe at Algoa Bay. On the other hand, the high-curved prow, broken off short at the base, and the flat but narrow stern-end clearly indicate that the canoe originally came from the Nicobar Islands. The side blocks shown in Mr. FitzSimons's photograph are for the attachment of the thwarts, made of split bamboo, and for the support for the outrigger. In some cases the canoes are fitted with one or more short masts, which are stepped on the thwarts, but in others they have a single mast fitted with a large square sail. The canoes are steered by a paddle.

The Nicobarese travel long distances from island to island across open sea in these canoes, and I have myself seen a convoy of some eight making for one of the islands in the central group. Canoes from Car Nicobar to reach this group have to cross a stretch

of some forty miles of open sea with only the small island of Batti Malv situated about half-way, and it is by no means uncommon for them to be lost at sea. If caught in the north-east monsoon such canoes would be driven towards the south-west, and being caught in the Equatorial Current would be swept to the west and might easily reach the South African coast.

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June 21.

[Mr. C. Boden Kloss, director of the Raffles Museum and Library, Singapore, also writes to suggest that the canoe came from the Nicobar Islands and should be compared with the plates opposite pp. 80 and 154 of his book "In the Andamans and Nicobars" (London: John Murray, 1903).—EDITOR, NATURE.]

The Magnetic Disturbance of July 21, 1927.

IN the Astronomical Column of NATURE of July 30 the suggestion is thrown out that the magnetic disturbance recorded on July 21-22 may, in the absence of any striking spot display, be attributed to an unusually active region on the sun not represented by a spot, etc.

I submit that the following observation which I made in the late afternoon of July 15 may indeed provide this evidence. At position-angle 130°, that is, for that date near 35° latitude south-east, an immense eruptive prominence rose, splitting at about 15,000 miles altitude into a huge forked formation, each prong reaching ultimately a visible altitude of fully 220,000 miles. Of these two prongs, the more northern one dissolved fairly quickly into invisibility, whereas its southern companion endured a considerable time, showing violent fluctuations of waning and reviving brightness in portions, at varying altitudes. The apparent orifice of the stupendous eruption was fully one day's angle within the sun's disc; and if this is taken into consideration, the longitude occupied by this eruption would just be well past the central meridian on the dates when the magnetic disturbance occurred. From my notes it is also clear that the area from which the prominence rose was before then, and after, much agitated so far as the spectroscope revealed, and showed in its western front a very rough photospheric area, beset with little spots.

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Aug. 7.

Fall of Temperature during the Solar Eclipse.

IT was recorded in NATURE for July 23, p. 120, that at Bangor the fall of temperature during the total solar eclipse of June 29 was not more than 0°·5 C. At Stonyhurst it is reported that no fall of temperature was observed. At Southport there was a slight fall like that at Bangor. Observations at a position on the sands opposite the northern end of the promenade gave the following result:

| | | | | | | | |
|----------------|-------|-------|------|------|----------|------|-------|
| Summer Time | 5.55 | 6.0 | 6.5 | 6.11 | 6.24 | 6.30 | 6.38 |
| Temperature C. | 10°·2 | 10°·0 | 9°·8 | 9°·7 | Totality | 9°·8 | 10°·0 |

Thin clouds all the time intercepted the full effect of the sun's rays.

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July 29.