of the meridian, or by observing it near the meridian at a northern and a southern observatory.

The velocity of light was determined accurately by Michelson and others; the sun's distance could be deduced from this in three ways: (1) the aberration constant gave the ratio of the Earth's velocity to that of light, (2) observations of the changing radial velocities of stars during the year again gave the Earth's velocity, (3) it was also possible to use the accurate observations of eclipses of Jupiter's satellites, made at Harvard. There were two minor planets found last year that approach the Earth more closely than Eros; and it may be possible to use them in the future. There is little doubt that the value 8·80″ is near the truth, but the second decimal may be changed in the future.

Mr. F. Addey then spoke on a newspaper article on the B.B.C. time signals.* He stated that this was rather a good specimen of newspaper "science," and suggested that drawing attention to them periodically in the *Journal* would perhaps serve to lessen these mis-statements in the public Press. He hoped that members would forward anything of the kind to the Editor.

Mr. Doig stated that he would be glad to receive such examples of Press errors, and that he would try, with the help of members, to make a small feature of them, if possible, in the *Journal*.

The President then thanked Mr. Addey for his interesting and amusing communication, and the meeting closed at 7 p.m.

Report of Section.

Interim Report of Mars Section.

The following notes on some of the chief features of the present opposition are based on the observations of various members of the Section communicated unofficially in conversation or by letter. It is therefore only a preliminary report and is in no sense complete. It includes observations up to March 31.

Opposition occurred on March 3 with a disc just under 14 secs. in diameter. The areocentric declinations were: of the earth $+20^{\circ}\cdot3$, and of the sun $+22^{\circ}\cdot9$. Martian midsummer for the northern hemisphere occurs about April 10.

On the whole the weather has been poor and seeing bad—both of which have added considerably to the difficulties due to the small apparent size of the planet.

North Pole Cap.—The rapid shrinking of the Cap has been accompanied by some interesting phenomena. Up till January

* See note, page 272.

the Cap was brilliant with well-defined edge. During January and February there appeared in it areas of less brilliance, the Cap as a whole became paler, and it ceased to possess any sharply defined boundary. In March the Cap again became brilliant with sharply defined borders, though by this time it had shrunk to a small fraction of its former size. Coarse waviness of outline was noticed from time to time (Mr. Barker and others); on March 12 Mr. Phillips first saw the separation of *Olympia* from the main mass (heliocentric longitude 165°·7); on March 22 *Lacus Hyperboreas* appeared as a dark spot on the snow line and increased rapidly in size during the succeeding week; and Mr. Holborn at end of March noted a second rift commencing in longitude 300° ±.

The Maria.—The northern *Maria—Casius, Propontis* and *Mare Acidalium*—have been among the darkest markings on the disc. The southern *Maria* with the exception of *Furca* and parts of *Syrtis Major* have been rather pale.

Mare Acidalium is bridged in its southern parts by *Achillis Pons,* and later, after the retreat of the snow-line, in its northern part by *Baltia,* which was strikingly bright. Lately Mr. Kellaway has suspected a gradual filling in by shading of *Achillis Pons,* and still more recently the Director has suspected the same in the case of *Baltia.*

Herculis Pons cutting between *Propontis I* and *II* has been strikingly bright. The southern *Propontis* is much the darker of the two.

Casius and *Boreo Syrtis* are dark and so is the region to the north of them, though this is complicated by paler spots. Mr. Phillips first emphasized, at the beginning of the opposition, a continuation in the fading of *Nepenthes-Thoth* from last opposition. In good seeing it is found discontinuous. *Lacus Moeris* is very dark and fat. The *Syrtis Major* ends in a square end with a sharpened preceding tip (*Nili S.*), *Nilosyrtis* being absent. *Libya* is bright.

The general pallor of the southern *Maria* is most marked in the region South following *Syrtis Major* (excluding *Deltoton S.*) and including the *Sinus Sabaeus.* This last is narrow and *Pandorae Fretum* is invisible. By contrast *Furca* is extremely conspicuous. Dr. Steavenson has remarked particularly on the stumpiness of *Margaritifer Sinus*: it no longer is drawn to a point, but, stopping short further south than usual, gives origin to a narrow beak only visible in good seeing. *Eos* is represented by a bright indentation of the coast-line, across which however Mr. Hargreaves has traced *Aurorae Fretum.*

Juventae Fons has not been seen. *Tithonius Lacus* is conspicuous, but *Solis Lacus,* even after allowing for foreshortening, is strikingly small, pale and difficult. Between *Titanum S.* and *Laestrygonum S., Symplegades Insulæ* form a conspicuous bright elliptical area contained between two delicate ligaments. *Hesperia* is remarkably obvious even when close to the limb.

The Continental Regions.—Here are some remarkably diffuse and complex shaded and bright areas. The most interesting region is perhaps that including *Lacus Lunæ,* which is itself very large and diffuse. This diffuseness includes *Nilokeras,* which Mr. Hargreaves sees doubled, and a conspicuous large shading which appears to be a welding together and extension of *Lacus Mareotis* and *Lacus Ascræus.* These shadings have a slightly brownish-red tint. In this region are a number of bright areas including the small and intensely white *Nix Olympica,* which despite its brilliance and sharp outline is entirely invisible when near the centre of the disc.

Elysium is no longer at all bright, and its following borders are replaced by a faint canal, which running north from *Cerberi S.* curves round to *Hecates Lacus. Trivium Charontis* is diffuse and *Cerberus* itself is not a striking feature.

Earlier in the opposition *Ismenius Lacus* was a vague shading. Lately it has darkened and become better defined, and *Deuteronilus,* previously invisible, has crystallized out as quite a hard dark streak.

Mr. Peek and others have been struck by the absence of those canals which are often so striking a feature, such as the *Ganges Euphrates, Hiddekel, Gehon,* etc. It seems however that some of these dark shadings have revived during the latter part of March: thus the *Oxus,* the *Euphrates, Hiddekel* and *Gehon* are now all visible again. Several members have remarked that the *Oxus* is much more linear in character than the other streaks. Mr. Hargreaves has observed also *Oxia Palus.*

In addition to the bright regions referred to around *Ascræus Lacus* many others have been seen: some of them are only to be observed on the limbs; others are most striking near the central meridian. It is very desirable that the brightness should be noted carefully, especially the times and durations of their appearance and their position on the disc. Mr. Kellaway has noticed a fading during the latter part of March of some of the bright regions, notably one in *Tempe.*—R. L. WATERFIELD, *Director.*

Report of Branch.

WEST OF SCOTLAND BRANCH.

The sixth meeting of the thirty-ninth session was held in the Royal Technical College, Glasgow, on 1933 February 16, Mr. D. B. Duncanson, B.Sc., President, in the chair. Mr. William M. Inverarity, M.A., B.Sc., F.R.A.S., gave a lecture on "Recent Solar Research." He began by referring to the fact that the attention of those interested in astronomical science was now mainly directed to stellar investigation. Perhaps this was too much the case. The bodies of our solar system were