Mean Time it was certainly passed. I then changed the diaphragm for one of seven inches aperture, and the definition became in consequence greatly improved. At $1^h\ 49^m\ 31^s$ the whole circumference of Venus was distinctly visible. I observed the internal contact as follows:—

(1)	$1^h\ 54^m\ 49^s{\cdot}6$	A shade is seen to form between the cusps, the limb of the planet apparently being in contact with the prolongation of the cusps.
(2)	1 55 24·5	Shade broke suddenly, and a thin line of light separates Venus from the sky outside.

At $1^h\ 55^m\ 51^s$ I noted "Interval between limbs very conspicuous now." This only means that the interval could be seen at a glance without special attention being directed to it. It had, however, been steadily visible from $1^h\ 55^m\ 24^s{\cdot}5$.

The moments (1) and (2) evidently refer to the phenomena generally called "apparent" and "real contact." The third figure on Plate XIV. of the volume of British Observations of the Transit of 1874 (Observations by Commander Wharton at Rodriguez) represents nearly what I saw just before the breaking of the "shade."

The transit was observed by the Rev. Charles Faris, M.A., with the 3·8-inch achromatic finder of $7\frac{1}{2}$ feet focal length, attached to the tube of the Reflector. As we were hidden from one another by the pier of the instrument and neither of us spoke a word or stirred from our places during the Ingress, our observations are perfectly independent. Mr. Faris did not observe any "shade" or "black drop;" he simply observed—

External contact,	1^h	35^m	35^s
Internal do.,	1	55	10·6

Time determinations were obtained on the evenings of December 5 and 6. The longitude of the Armagh Observatory was determined by the late Dr. Robinson as follows (Trans. Roy. Irish Acad. Vol. XIX.)—

By two Solar Eclipses and 19 occultations, ...	$26^m\ 35^s{\cdot}58$
By 15 chronometers (in 1838), ...	35·44
By Lunar Transits, ...	35·64
By rocket signals between Armagh and Dunsink, assuming the long. of Dunsink as found by the 15 chronometers in 1838 = $25^m\ 21^s{\cdot}08$, .	35·34

It may here be mentioned that the longitude of Dunsink, as given in the Nautical Almanac, is nearly a whole second too great.

THE TRANSIT OF VENUS OBSERVED AT MARKREE OBSERVATORY.

By W. DOBERCK.

While cloudy skies generally prevail here even when the weather is fine in other parts of the British islands, we enjoyed a splendid day on the 6th of December, 1882, while the weather was unfavourable in England and even in the

Eastern counties of Ireland. I observed the Transit of Venus in the 25-feet Refractor, the aperture of which I had reduced to five inches, with the Munich filar micrometer, the eye-piece having been accurately focussed on Double Stars on the previous evening. I had fixed a dark orange glass with bee's wax to the eye-piece (power about 130) and kept in my hand a light blue glass, usually employed for looking at the Moon or at bright clouds. This blue glass I used whenever the Sun was quite free from clouds. The definition shortly before Ingress was bad and owing to the boiling of the Sun's limb I did not remark this phenomenon till $1^h\ 28^m{\cdot}0 \pm$ when the outer contact had already taken place. Shortly afterwards I began to measure the distance between the cusps and obtained the following results—

Markree M.T.	Distance.
$1^h\ 34^m\ 38^s$	6″·461
1 36 38	6·659
1 37 53	7·090
1 39 8	6·842
1 40 38	6·731
1 42 8	6·182
1 43 53	5·579

From these measures it appears that the planet was bisected at $1^h\ 38^m\ 0^s$ or thereabouts. I estimated the bisection to take place at $1^h\ 35^m\ 38^s$, but as Venus had the shape of a half ellipse, this is of course very uncertain. At $1^h\ 46^m\ 40^s$ I could see the outline of Venus beyond the Sun's edge, a fine white line appearing to surround it. At 1 47m 58s the cusps met for one instant but did not join permanently till $1^h\ 48^m\ 28^s$. I did not see any "black drop." After this moment Venus appeared to me as a perfectly dark hole in the Sun, the diameter of which could not easily be measured with accuracy, as the light of the Sun gradually increased round it, partly owing to diffraction and bad definition, partly owing to the atmosphere of the planet. The latter, no doubt, was also the cause of the faint light seen round the limb of the planet before Ingress.

I measured the horizontal diameter of the perfectly black body of the planet from $2^h\ 11^m$ to $2^h\ 20^m$ and from five measures of the double diameter I found the following values for the semi-diameter—

3″·430
3·336
3·357
3·266
3·379
Mean 3·354 = 29″·11

Markree Observatory,
1882 Dec. 12.