

NOTES ON THE AURORA AUSTRALIS OF THE 8TH JUNE, 1864.

BY F. ABBOTT, F.R.A.S.

At 8 hours p.m., a distinguished feature of a rich and rare Aurora appeared, commencing in the horizon about 20° E.S.E., forming an angle of about 20° to the equator, at which point it took a path bordering on the equator nearly due east and west. At 8 hours 20 minutes it formed an inverted cone with the apex apparently $1\frac{1}{2}^{\circ}$ wide, pointing to the horizon, and the base about $3\frac{1}{2}^{\circ}$ wide, with an altitude of 60° . At this period it became very peculiar in its external properties; forming a large column of a clear silvery lustre, destined to span the heavens in one entire arch. Its progress in this form became steady and regular, but slow, until it reached the meridian, when it commenced to form another inverted cone, with the apex pointing due west. At about 8 hours 40 minutes it became a most superb object, the brightness of its white light was so excessive as to drown the Via Lactea, and its form a double cone, each cone with a slight curve—best described as resembling the form of the Diatom *Gyrosigma elongatum* under the microscope, the Aurora having a dark line, as in the Navicula, running along its centre, in diameter about $5'$. At 8h. 45m. the Aurora band reached from *a* Capricornus to *a* Leo, passing over a portion of Sagittarius, Scorpius, Libra, Virgo, and Jupiter to Leo—the stars in each constellation being distinctly seen.

On the apex of each cone reaching the two extreme points they both as of one accord, began simultaneously and gradually to disappear, and by a slow process the cones, receded with a fluttering and rolling motion, arriving at the base nearly together. At about 8h. 55m., the whole had vanished from sight.

On the same evening, and during the time of the above phenomenon, a very strong Aurora, or Southern light, illuminated the horizon for a space of 20° , on each side of the Pole, but it was quite distinct from, and had no apparent connection with, the very peculiar and interesting band that formed a path along the Zodiac.

The meteorological state of the atmosphere at the time was humid. Rain fell on seven out of the first eight days in June, but the sky was clear and almost cloudless during the Aurora.

Atmospheric pressure 29.681.

Temperature 45° .

Private observatory,
Hobart Town,
13th June 1864.

