

"The differences between them [the fossils exhibited and the Oriskany species of *Rensselaeria*] were slight, though well marked. Professor Hall described some of these differences, and Mr. Claypole acknowledged that a certain V-shaped groove was wanting in his specimens. Professor Hall thought that possibly the fossils should be referred to *Amphigenia*, which had many similarities to *Rensselaeria*."

The V-shaped groove in question is one of the generic marks of *Amphigenia*; and its absence, therefore, was urged by me as excluding the fossils from that genus, and inferentially as a strong argument in favor of placing them in *Rensselaeria*.

As the above-mentioned error places me (and I think Professor Hall also) in false positions, and involves a grave mistake in paleontology, I am induced to ask your insertion of this correction, which I have submitted to Professor Hall for his approval.

I ought to add that the suggestion of *Amphigenia* by Professor Hall was only the result of a momentary impression on the first sight of the fossil, and one which he immediately withdrew, on observing the absence of the V-shaped groove above alluded to.

E. W. CLAYPOLE.

#### Aurora.

The auroral display here to-night was unusually brilliant. I observed it first at 7.04 P.M. At this time a low but rather brilliant arch of light spanned the north-eastern horizon, the crest of the arch having an altitude of about 20°. During the next three minutes, the lights rapidly took on the 'streamer' form, gradually shooting upward to a little beyond the zenith, and at this time stretching from east, 10° south, around to west, 15° north, on the horizon. During about two minutes, the waving-curtain aspect was very pronounced in the north-east, after which only striated patches flamed out here and there, moving alternately west and east. These patches all converged toward the zenith, but left with one the impression of being pendulous and very near. The atmosphere appeared very clear, the moon full and bright, the twilight still strong; and there was light enough yet to enable one to read a newspaper, but with difficulty. The streamers, however, lay in sharp contrast against the blue sky, even where the twilight was strongest.

At 7.15 the lights began to die rapidly away, and at 7.50 none were to be seen; but at 8, and again at 8.13, there were distinct but small curtains to be seen in the north-west. At 8.20 there began a magnificent display. Three large curtains formed one above the other, the lowest about 20° above the horizon in the north-west. They drifted gently toward the zenith, swaying and folding just enough, it seemed, to suit the almost imperceptible breeze which was stirring. The lights could be easily seen within 7° of the moon; and yet it cast its shadow on the carpet in a room 13 by 14, where two kerosene-lamps were burning, one of them a no. 1, and the other a no. 2, burner. At 9.10 scarcely a trace of the aurora could be seen. A little later, a very faint diffuse light covered the northern sky to an altitude of about 25°. This soon became striped, and afterwards appeared to move bodily toward the zenith. At 10.20 the lower sky had become a deep blue; and just above it, at an altitude of 30°, a broad arch of bright but uniform light formed across the sky; and above this, extending past the zenith, were similar but much fainter bands. Five minutes later, the bright band unfolded a curtain which dropped in exquisite folds toward the horizon. This lasted less than two minutes, the whole belt of light becoming striated, but leaving a clear space next

to the horizon; then followed about five minutes during which the illuminated portion of the sky seemed to be throbbing, and sending out waves of subdued light, which spread southward over the blue vault, dying away before the zenith was reached. This movement soon became more violent; and between 10.40 and 10.45 the lights had more the appearance of flames bursting rapidly from the sky, and spreading to the zenith, where they often turned abruptly toward each other, and met. This appearance continued growing gradually less marked until 12.15 A.M., when there was scarcely a trace of auroral display. At 12.40 a faint arch of diffuse light could be seen in the north, like that already described.

F. H. KING.

River Falls, Wis., Sept. 16, 1883.

#### THOMPSON'S PHILIPP REIS.

*Philipp Reis: inventor of the telephone. A biographical sketch, with documentary testimony, translations of the original papers of the inventor, and contemporary publications.* By SYLVANUS P. THOMPSON, B.A., D.Sc., professor of experimental physics in University college, Bristol. London, E. & F. N. Spon, 1883. 9+182 p., 3 pl. 16°.

THE rapid development of the literature of the telephone, and the wide-spread interest in matters relating to it, have rendered the most important details of its history familiar to the general reading public, as well as to the scientific world. The account of the life and labors of Philipp Reis, by Prof. S. P. Thompson, while repeating many of these well-known details, contains some interesting notices of the life and personal characteristics of the inventor, and of the various steps by which he brought his instruments to their final stage. Following the brief biographical sketch, are descriptions of the various forms of apparatus devised by Reis, with numerous illustrations; a statement of what the author terms the inventor's claim; copies of Reis's own publications respecting his invention, and of certain contemporary accounts of it and its operation; with the testimony of persons who witnessed his experiments. An appendix discusses the variable resistance of imperfect contacts, a comparison of Reis's receiver with later instruments, the doctrine of undulatory currents, with some additional notes and references relating to Reis's invention.

Had the efforts of the author been directed to the presentation of these things as matters of history merely, the book might be regarded as a valuable and interesting summary of facts relating to an important invention, and would demand but a brief notice here; but a cursory examination of it is sufficient to show that the author has failed to maintain that judicial attitude of mind which is indispensable to the just