

LETTERS TO THE EDITOR.

Errata in catalogues of stars.

The Washburn observatory possesses a nearly complete collection of such star-catalogues as have been printed since the year 1800. A list of them is given below. It will be noticed that this list does not include the very expensive British association catalogue. Oeltzen's Argelander's Northern zones is also missing from the list, as I have been unable to buy it in Europe during the past two years. Another very scarce catalogue (Weisse's Bessel's Zones from +15° to -15°) I have just obtained after two years' delay.

In each one of these catalogues, I have had every erratum known to me inserted in its proper place, so that the set of catalogues really represents what is known, freed from an enormous mass of misprints and real errors.

I am not able to say how many material errors have been corrected, but certainly not less than twelve thousand. I think those who use star-catalogues most will be most surprised at the amazing number of material errors which still remain in the catalogues which they employ daily.

I have called attention to these errors in order to say that I will engage to have any of the catalogues of the following list corrected completely, in all respects like my own, for any observatory, or for any astronomer who may desire it.

The catalogue should be sent by American express, prepaid, addressed to me, and accompanied by a note asking that the work be done. The book, when corrected, will be returned by express at the owner's expense.

The corrections will be made by one of my assistants, under my direction, and an account kept of the number of hours spent on the work. The work will be charged for at the rate of fifty cents per hour. I may say that the sum so received will be paid to the copyist.

It has appeared to me, that, after the large amount of labor which has been expended on my own catalogues, I was under obligations to give the benefit of such work to others, and this I willingly do.

The first list following gives the names of the catalogues owned by the Washburn observatory; the second gives the sources from which the errata have been derived. I shall be much indebted for references to errata not there mentioned.

EDWARD S. HOLDEN.

Washburn Observatory, Madison, Wis.,
Aug. 1, 1883.

I. List of star-catalogues.

Airy: Catalogue of 1,439 stars. 1840.0.

—	"	"	1,576	"	1850.0	(6-year).
—	"	"	2,022	"	1860.0	(7 ").
—	"	"	2,760	"	1864.0	(7 ").
—	"	"	2,263	"	1872.0	(9 ").

Argelander: Bonn observations, vols. 1-7. [Vols. 1 and 2 not corrected.]

— Uranometria nova. [The maps not corrected.]

Baily's Lalande.

Behrmann: Uranometry. [The maps not corrected.]

Brisbane: Paramatta catalogue.

Carrington: 3,735 circumpolar stars.

Gould: Uranometria argentina.

— D'Agelet's Catalogue.

Heis: Atlas coelestis. [The maps not corrected.]

Johnson: First Radcliffe catalogue.

Lamont: Catalogues, 6 vols.

Main: Second Radcliffe catalogue.

Robinson: Armagh catalogue.

Rümker: 12,000 stars.

Schjellerup: 10,000 stars.

Stone: Cape catalogue. 1873.

— " " 1878.

— " " 1880.

Weisse's Bessel's Zones I. and II.

White: Melbourne general catalogue. 1870.

II. List of sources where errata are found.

* * * The name of the author of the catalogue comes first, then a brief reference to the particular catalogue, and, last, a reference to the place where the errata are given. No reference is made here to corrections which are usually bound in the same covers with the original catalogue, or which are given in subsequent volumes of the same work. I have also included here a few reviews which contain no errata, properly speaking.

Airy: New 7-year catalogue. — v. J. s. 1871, 100.

Argelander: Bonn obs., vi. — v. J. s. 1867, 272.

— Durchmusterung. [A single correction to D. M.] — Astr. nachr., lxxi. col. 240.

— — [Places of two stars not in D. M.] — Astr. nachr., lxxii. col. 55.

— — Astr. nachr., no. 1765.

— — Astr. nachr., no. 2396, col. 305; no. 2429, col. 69.

— — [Ueber einen in der D. M. fehlenden stern.] — Astr. nachr., no. 2459.

— — Astr. nachr., no. 2478. Same, no. 2527.

— Uranometria nova. — Astr. nachr., xxvi. col. 318.

— — Annals Harv. coll. obs., ix.

— — Northern zones. — Bonn obs., v.

— — [Fortsetzung von band v.] — Bonn obs., vi.

— — [Theoretical; with a few corrections to the zones.] — v. J. s. vol. 8, 221.

— — Southern zones. — Bonn obs., vi.; Cooper's Ecliptic stars, iv.

Baily's Lacaille: Catalogue. — Bonn obs., vii. 245; Cape catalogue, 1880.

Baily's Lalande: Catalogue. — Bonn obs., vii. 213 seq.; Schjellerup, 10,000 stars, p. 225.

Behrmann: Atlas des südlichen gestirnten Himmels. — v. J. s. 1875, 89.

Bessel: Zones. — Bonn obs., iv. p. i.; v. p. xxxii.

British association catalogue. — Cape catalogue, 1840; same, 1880.

Brisbane: 7,355 stars. — Cape catalogue, 1840; same, 1880.

Cape catalogue: 1840. — Stone, Cape catalogue, 1880, 559. [A single correction.]

Catalogues: Errata in standard catalogues of stars. — Monthly not. R. A. S., viii. 161. [This volume I have not access to at present.]

Copeland & Börgen: Mittlere oerter sterne zwischen 0° und -1°. — v. J. s. 1870, 197.

D'Arrest: Siderum neb. obs. hav. — v. J. s. 1868, 94.

Dreyer: Supplement to Herschel's General catalogue. — v. J. s. 1878, 274.

Ellery: First Melbourne catalogue. — v. J. s. 1876, 178; Monthly not. R. A. S., xlii. 308.

Fedorenko: Catalogue. — Bonn obs., vi.

Gilliss: Catalogue U. S. naval astron. expedition. — v. J. s. 1872, 46.

Gould: Reduction of D'Agelet. — v. J. s. 1867, 2.

— Standard places of fund. stars. — v. J. s. 1867, 22.

— Uranometria argentina. — Cordoba observations, ii. 295.

Groombridge: Catalogue. — In First Radcliffe catalogue.

— Bonn obs., vi.

Heis: Atlas coelestis. — Annals Harv. coll. obs., ix. — v. J. s. viii. 67, 278; ix. 236; xiii. 111.

Herschel: Gen. cat. nebulae and clusters. — v. J. s. 1866, 176.

— Catalogue of 10,300 double stars. — v. J. s. 1876, 61.

Johnson: First Radcliffe catalogue. — Bonn obs., vi.

Lacaille: Coelum australe stelliferum. — Bonn obs., vii.

Lalande: Catalogue. — Monthly not. R. A. S., xiv. 195. [This volume I have not access to at present.]

— Histoire céleste. — Bonn obs., vii.

— Observations of 1789-90. — Bonn obs., vi.

— Catalogue. — Cooper's Ecliptic stars, iv.

Lamont: Catalogues (6 vols.) — v. J. s. ix. 94.

Main, R.: 2d Radcliffe catalogue. — v. J. s. 1870, 292.

Newcomb, S.: On the R. Asc. of the eq. fund. stars. — v. J. s. 1876, 158.

— Catalogue of 1,098 stars. — v. J. s. 1882, 259.

Piazzi: Positiones mediae, 1814. — Bonn obs., vi.

Rümker: 12,000 stars. — Bonn obs., vi.

— Cooper's Ecliptic stars, iv.

— Neuer folge. — Bonn obs., vi.

— Preliminary catalogue of southern stars. —

Stone, Cape catalogue, 1880.

Santini: First two catalogues. — Bonn obs., vi.

— Posizioni medie di 1,425 stelle. — v. J. s. 1872, 13.

Schjellerup: Al-Sufi's Uranometry. — Monthly not. R. A. S., xliii. 266.

— 10,000 stars. — Bonn obs., vi.

Schönfeld, E.: Catalog von veränderlichen sternem. — v. J. s. 1866, 113.

— Zweiter catalog von veränderlichen sternem. — v. J. s. 1875, 73.

Stone, E. J.: Results of astronomical observations at Cape of Good Hope, 1856-58. — v. J. s. 1875, 192.

— Cape catalogue, 1880. — v. J. s. 1880, 297.

Strasser: Mittlere oerter von fixsternen. — v. J. s. 1878, 88.

Struve (W.): Positiones mediae. — Bonn obs., vi.

— Schjellerup's 10,000 stars, p. 225.

Taylor: Madras catalogue. — Bonn obs., vi.; Cape catalogue, 1840; same, 1880.

— Astron. obs. at Madras, 1843-47. — v. J. s. 1873, 180.

Vogel, H. C.: Positionsbestimmungen von nebel-flecken, etc. — v. J. s. 1876, 276.

Weisse's Bessel's Zones, +15° to -15°. — Cooper's Ecliptic stars, iv.

— Gould's Astronomical journal, iii. 115.

[This contains all the errata of the Astr. nachr. up to 1853, June.]

— Annals Harv. coll. observatory, i., pt. ii., p. lviii.

— Schjellerup's 10,000 stars, p. 225.

— Weisse's Bessel's Zones, +15° to +45°, p. xlv.

— "Catalogue." — Monthly not. R. A. S., xiv. 195. [This volume I have not access to at present.]

Wilson & Seabroke: Catalogue of measures of double stars. — v. J. s. 1877, 108.

Yarnall: Catalogue U. S. naval obs. — v. J. s. 1880, 20.

The search for Crevaux.

Appropos of your recent weekly summary of the progress of geography under the titles of the Death

of Crevaux, etc., I may say that a member of the French geographical society, M. Thouars, accompanied the U. S. solar eclipse expedition from Panama to Callao, March 12-21, of this year. M. Thouars had familiarized himself with explorations in South America by extensive travels in Columbia and elsewhere, and intended to penetrate the Pilcomayo region, in search of the relics of the Crevaux expedition, alone, or with only one companion, the two disguised as Catholic priests. The attempt seems foolhardy; and, for my part, I am glad to know that M. Thouars intends to carry a revolver under his priest's robe, and that he is a brave man and an excellent shot.

If he has not abandoned his daring project, we should hear of him during the early part of 1884.

EDWARD S. HOLDEN.

Madison, Aug. 6, 1883.

Occurrence of the swallow-tailed hawk in New Jersey.

Early in the evening of July 28 I was standing on the brow of the bluff overlooking the Delaware River, near Bordentown, N.J., when my attention was called to a large bird sailing in comparatively small circles high overhead. Fortunately there was a dark blue-black cloud behind it, so that I had an excellent opportunity to observe the bird. It was the swallow-tailed hawk (*Nauclerus forficatus*). It remained in nearly the same position for over an hour, when it altered its flight, and, with steady wing-strokes, flew rapidly in a north-west direction.

The appearance of this hawk here is one of the rarest events in the experience of New Jersey ornithologists.

CHAS. C. ABBOTT, M.D.

A reckless flier.

ONE might think a tragic end would await such birds as the Swifts, so bold and persistent their flight; and doubtless such is in store for many, though they seem to steer clear of most obstacles.

A case in point came recently to hand, — that of an unfortunate bird impaled to the spear-point of a lightning-rod above a chimney. There it remained until shot off with a gun, — a warning and a ghastly one, indeed, to all this *swift* race. F. H. HERRICK.

Swallows in Boston.

I saw on the 4th of this month the first swallow in Boston, at the extreme end of City Point, South Boston. I have been on the lookout for them since April. Two friends, good observers, report that they have not seen one this season.

CARL REDDOTS.

Boston, Aug. 7, 1883.

'HAS any one seen a swallow this summer in Boston?' inquires a correspondent in SCIENCE, Aug. 3. Yes: I saw six last week, perched on the state-house. Prior to this I had also raised the query. Whether it was the pugnacious sparrows, or legislature, that had banished these aerial visitors from the capitol, their old haunt, was and is a query.

LEANDER WETHERELL.

Boston, Aug. 11.

WARD'S DYNAMIC SOCIOLOGY.

IV.

It is Mr. Ward's theory, that the more complex sciences should be based upon the less complex. This he avowedly derives from