

without the labors of Grimm, of Grein, and of Koch? Wülker's lists seem here and there somewhat meagre. Under 'Metrik' (p. 108) we miss Schmeller's 'Ueber den versbau der allitirierenden poesie' (München, 1839), although this is mainly concerned with Old Saxon; and Lanier's 'Science of English verse' (New York, 1880), which sets forth at length a theory of Anglo-Saxon versification. That the theory is untenable does not matter; for Wülker includes in his various lists quite worthless books (cf. p. 175). Further, we fail to find mention of Ellis's 'Early English pronunciation,' in which pp. 510-537 treat the pronunciation of Anglo-Saxon.

The third section, which takes up four-fifths of the book, considers Anglo-Saxon literature, and whatever has been written about it. The arrangement is arbitrary, 'Cædmon' and Cynewulf taking precedence of the heathen poetry. As regards the famous hymn in Northumbrian dialect written at the end of the Cambridge manuscript of Bede (*Hist. eccl. gent. Angl.*), Wülker recedes from his sceptical position of eight years ago, and joins Zupitza and Ten Brink in believing this text to be Cædmon's own, or at least to have passed as such so early as the eighth century. Wülker admits the personality of Cædmon, but accepts as his work nothing save the hymn; whereas Ten Brink was inclined to credit Cædmon with a part of the 'Genesis.' Cynewulf is treated at length. While the 'Phoenix' is assigned to him, and the end of 'Guthlac,' Wülker brings forward fresh arguments against the Northumbrian origin of the poet, and discourages the tendency to ascribe poems to Cynewulf on no better basis than general resemblance to his undoubted works. Proceeding to the smaller and lyrical pieces, Wülker concludes with Leo that 'The ruin' refers, not to a castle, but to the city of Bath.

For the heroic and heathen poetry, we find, besides much other matter, sixty pages of well-sifted information about 'Beowulf.' Wülker thinks the original heroic poetry was in the shape of ballads; and he decides for the theory that 'Beowulf' was composed about the middle of the seventh century, by a poet-monk, on the basis of these old songs. The summary is very thorough; but Garnett's translation is wrongly stated to be in prose; on p. 268, Ten Brink ought to be named as agreeing with Müllenhoff in regard to the mythology in 'Beowulf;' and Wülker might have added, as usual, his own decision. So rich a display of poetic talent brings the author to the question whether there are any dramatic elements in Anglo-Saxon literature. We have always regarded Ward's denial of any such elements (*Hist. Eng. dram. lit.*, vol. i. p. 6) as an ungrounded statement. Wülker more justly shows that not only

in the 'Seafarer,' but also in 'Christ,' there is a strong dramatic element; while, on the other hand, he proves that these elements were never developed, and never came to a regular representation.

At last we reach Anglo-Saxon prose. With regard to Aelfred, Wülker puts the 'Cura pastoralis' first among the royal translations, the 'Boethius' and the 'Soliloquies' last; while he leaves undecided the authorship of the 'Metra.' With Aelfric, and the review of various prose fragments in theological and quasi-scientific fields, the book comes to an end. An index is added which might be much more exhaustive. Several names are omitted; e.g., Professor Johnson, whose work is mentioned with praise (pp. 438-440). Some misprints occur here and there, and a few harmless mistakes, such as *Siebenzeiligen* (p. 308) for *Siebenfüssigen*.

Wülker's book leaves one full of respect for the author's patience, accuracy, and diligence. We may and do disagree with some of his conclusions; but that matters little, since the opposite conclusion, and the arguments for it, are carefully given. Another impression is a renewed sense of the small part played by Englishmen and Americans in the study of their own tongue. One cannot resist the conviction that we in America should do well to abandon in part the mediaeval discussions which so often fill our teachers' 'institutes' and conventions, and to encourage the modern and scientific spirit which devotes its energies to the patient investigation of facts. The field is open: an immense amount of work is to be done before the history of our literature can be written. Let teachers of English in academies and schools throw themselves into the actual study of the language rather than into discussions about system and method, — discussions sometimes useful, but often mere rhetoric, theorizing, and waste of time for all concerned.

GEOGRAPHICAL NOTES.

HEINRICH ENTZ and August Mer have recently independently studied the voyage of Hanno, the Carthaginian. Both agree that its termination was at the Island of Fernando Po, in the Bight of Biafra, called by Hanno the Isle of Gorillas. The colony of Thymaterion is identified by them, as by most authors, with the town of Mazaghan, and the promontory of Soloé with Cape Cantin. The river Lixus is regarded by Mer as the Senegal for weighty reasons, though Entz and others have favored the Wadi Draa, much farther north.

Hanno's Island of Cerné was probably Goree, and his Western Horn (or bay) was the Bight of

Benin. Much weight attaches to the opinion of M. Mer, who is a retired naval officer of forty years' experience, including three years of cruising between the equator and Gibraltar on the west coast of Africa.

The journey of Messrs. Capello and Ivens in central Africa during the past two years was beset with exceptional hardships. The explorers proceeded from the limits of the Portuguese territory in the direction of Cubango, as far as the lower part of the Mucussu, where they found themselves in a barren region intersected by water-courses and marshes, which obliged them to turn northward through an unknown region infested with tsetse, and affording little food. Sixteen of their party died from tsetse-bites, without counting cattle and hunting-dogs. After travelling 4200 geographical miles, they reached Feté almost exhausted, having lost sixty-two men during the fifteen months. The explorers reached Lisbon on the 17th of September, where they were received by the king, and welcomed by an enthusiastic demonstration of their countrymen.

Paulitschke has studied the relations of the western branches of the Somali, and the north-eastern tribes of the Gallas, near the Gulf of Aden. His results, with a good map showing their distribution and the route of the author and his companion, Hardegger, are to be found in the September number of the Proceedings of the Geographical society of Vienna.

The Bulletin of the Italian geographical society for September contains extracts from the unpublished journals of Pellegrino Matteucci, the African traveller. These have been edited by Dalla Vedova, and are illustrated by a map showing the itinerary and also the routes of Nachtigal and Rohlf's. Matteucci's journey, one of the most remarkable on record, extending from the Red Sea at Suakin to Lake Chad, and thence to the Niger and the sea, has hardly attracted the attention it deserves; chiefly, perhaps, on account of the early death of this promising and brilliant explorer.

The third part of the *Isvestia* of the Russian geographical society, for 1885, recently received, contains an important map by General Tillo, showing the lines of equal horizontal and total intensity of terrestrial magnetism in European Russia for the epoch 1880. It is accompanied by two smaller charts for the middle of the nineteenth century, showing the secular variation of the same elements. The same number contains an abstract of the report of the work done by the topographical corps of the general staff during 1884, the important details of which have been already noticed in *Science*.

ASTRONOMICAL NOTES.

Occultations of α Tauri.—The occultations of this bright star and of a few of the other naked-eye stars of the Hyades will be visible again over a considerable portion of this country on the night of Dec. 19; but as the phenomena occur well on toward morning, they are not likely to be extensively observed. A most favorable opportunity, however, will occur on the night of 1886, Feb. 12, when a larger number of the stars will be occulted, and most of them early in the evening. Our observatories are so widely scattered that prediction for one place is of very little use for another (so rapidly does the parallax of the moon vary with hour-angle and zenith-distance), and each intending observer must predict them for himself with the data given in the *American ephemeris*. These recurring occultations of so many of the bright stars of the Hyades, which will continue for several years, afford pretty fair opportunities for a good determination of the semi-diameter of the moon, especially if the fainter stars (to the 8 mag.) can be filled in on a chart, and their occultations be predicted and observed at the dark limb of the moon. They also offer, to those who have the means of determining accurately their local time, but have never made a telegraphic determination of their longitude, the next best method of determining this, if they are willing to go through the somewhat tedious reduction of the observed occultations.

The shower of Biela meteors.—The earth received a visit, on the night of Nov. 27, from a part of the ghost of the lost comet of Biela, in the shape of a widely observed meteor-shower, a repetition of that of 1872, Nov. 27, and no doubt both of them parts of the meteor-stream which was once Biela's comet. It will be remembered that this comet separated into two during perihelion passage in 1845–46, came round in 1852 as two comets 1.5 million miles apart, with most extraordinary alternate fluctuations in brightness, and has been wholly invisible as a comet since then. But at its descending node, which the earth passes about Nov. 27, the comet's orbit closely approaches that of the earth, and an extraordinary meteor-shower from a radiant in Andromeda on 1872, Nov. 27, in which some single observers counted them at the rate of 4,000 or 5,000 per hour, has always been attributed to a meteor-stream into which Biela's comet is resolving itself. The present shower, so far as reports are at hand, does not seem to have equalled that of 1872, but it was a very decided one. At Georgetown, D.C., two of Professor Hall's sons and Mrs. Hall (the latter watching only a short time) counted 213 meteors between 6^h 30^m and 7^h 50^m. Angelo Hall, who