teacher of Lobachewsky to be partly inferential, and not to be taken literally." It is to be taken, we suppose, in some 'Pickwickian' sense.

This letter of Beez incited Dr. McClintock to an examination of Beltrami's article and a paper on it under the title 'On the early history of the non-Euclidean geometry,' where among other mistakes he makes one peculiarly entertaining. He says, p. 145, Bulletin, Vol. II., of Saccheri: "He confessed to a distracting heretical tendency on his part in favor of the 'hypothesis anguli acuti,' a tendency against which, however, he kept up a perpetual struggle (diuturnum proelium). After yielding so far as to work out an accurate theory anticipating Lobatschewsky's doctrine of the parallel-angle, he appears to have conquered the internal enemy abruptly, since, to the surprise of his commentator, Beltrami, he proceeded to announce dogmatically that the specious 'hypothesis anguli acuti' is positively false." Who would suspect that all that is a pure fairy tale evolved by Dr. McClintock from his mistranslation of a passage immediately announced by the two Latin words he fortunately retained in parenthesis!

As some slight acknowledgment of the fine spirit in which the previous criticisms had been received, a transcript was made of a considerable portion of a copy of Saccheri then being translated into English, the only copy then on this continent, and sent to Dr. McClintock. After another examination and comparison of the article by Beltrami, Dr. McClintock wrote a frank acknowledgement of his mistake, but this time published no correction.

Mr. A. Ziwet, noticeable as a converted anti-non-Euclidean, repeats the older error in a review of the translation of Vasiliev's Address on Lobachevski:—"confirms the supposition that the first impulse to these studies came to him, at least indirectly, from Gauss. To the same source of inspiration must be traced the almost simultaneous, but independent, researches of the Hungarian Wolfgang Bolyai and his son Johann." [SCIENCE, March 29, 1895, p. 358.] It is rather a pity if it '*must*,' since it never can be. A life of Bolyai from original Magyar sources, which is now in press, puts a totally new aspect upon the whole matter, which need not here be anticipated. These Magyar documents make it possible to offer to Professor Staeckel a slight correction, which is given as homage to the extraordinary accuracy of his book. On p. 241 the title of the Tentamen includes the words 'Cum appendice triplici.' Then follows the statement, "In dem dritten Anhange, der nur 28 seiten umfasst, hat Johann Bolyai seine neue Geometrie entwickelt."

It was not a third appendix, nor is it referred to at all in the words 'cum appendice triplici.' These words, as explained in a prospectus issued by Bolyai Farkas asking for subscribers, referred to a real triple appendix, which appears, as it should, at the end of the book, Tomus Secundus, pp. 265–322.

The now world renowned Appendix by Bolyai János was an afterthought of the father, who prompted the son not 'to occupy himself with the theory of parallels,' as Staeckel says, but to translate from the Magyar into Latin his treatise discovered in 1823, given in writing to J. W. von Eckwehr in 1825. The father, without waiting for Vol. II., inserted this Latin translation, with separate paging, as an appendix to his Vol. I., where, counting a page for the title and a page 'Explicatio Signorum,' it has 26 numbered pages, followed by two unnumbered pages of Errata. The treatise itself, therefore, contains only 24 pages—the most extraordinary two dozen pages in the whole history of thought!

GEORGE BRUCE HALSTED.

AUSTIN, TEXAS.

Chinook Texts. FRANZ BOAS. Washington, 1894. Pp. 278.

The linguist who in publishing elementary treatises on the languages of primitive peoples was the first to subjoin national texts and to comment on these texts philologically, certainly found the correct method. But it is a pity that so few of his colleagues and co-workers have followed his example, for ten pages of well-edited texts of aboriginal, oral literature accomplish more for the deeper study of these forms of human speech than one hundred pages of vocabulary or of crude, undigested grammatic information. But recently the publishing of such texts has become quite the fashion. The late James O. Dorsey intended to publish a series of works on the Omaha and Ponka language, and

the first installment of this series being a ponderous quarto volume of Indian *texts* (myths, animal stories, legends and correspondence) with notes and translation, proves that Dorsey was inspired by the same thoughts.

The Chinook family of dialects is too little known even at the present time, but Boas has made an excellent beginning by filling one of J. W. Powells' *Bulletins of the Bureau of Ethnology*, octavo size, with 'Chinook Texts' gathered by himself. These were all obtained from a gifted man of the tribe, Charles Cultee, who is a true storehouse of aboriginal folk-lore and speaks also the Kathlamet dialect of this same stock. From him Boas obtained eighteen national myths and animal stories, followed by a series of 'beliefs, customs and tales,' with some historical reports. These texts were written down during the seasons 1890 and 1891 at Bay Center, Pacific county, Washington, not very far from the Old Chinook home at the mouth of Columbia River. By a sentiment of grateful remembrance the explorer had the portrait of Cultee placed at the head of the volume which contains 278 pages, and was issued late in 1894 from the Government Printing Office in Washington.

Dr. Boas' scientific alphabet had to be very special and flexible to express the sounds of Chinook, a tongue which people will hardly venture to call sonorous or euphonious, for it abounds in consonantal combinations, and more so at the end of the words than elsewhere. The word-accent is never placed upon the ultima, but always on the penult or ante-penult, and this is the law of the language which made consonantal clusters possible in the *final* syllables. The Shawnee, of the Algonkinian stock, has an opposite law; it has the tendency to emphasize words at the end or ultima, and hence we find vowel elisions and consonantal accumulations in the beginning of the words.

As for the contents of the Chinook stories in which fish, ravens and gulls, cranes, robins and panthers are anthromorphized extensively and much of the fictive matter is presented in colloquial form, we may state that some are outrageously queer and weird; others reveal a poetic vein beneath many things that seem odd and nonsensical, puerile and childish to us. What refers to the religion of these natives appears very strange, and many will be prompted to exclaim: "Why! for religion, this is decidedly ungodly!" Indeed, we cannot expect that our religious sentiments, which are half Aryan and half Semitic, could ever agree with those of the red man's tenets, beliefs and inspirations. But our religion is all abstraction and theirs is all nature, life and animism. The religious aspects of the primitive man tolerates nothing that is not based on forms and facts of concrete life. The present reviewer is firmly convinced that any white man's opinion concerning the tendencies pervading Chinook folklore and similar products of aboriginal peoples is premature and hence erroneous, unless all the bearings and characteristics of this literature have been assiduously studied. Many of us think it is easy to judge the genuine mental products of the American native from our points of view; on the contrary, it is extremely difficult, and the more we study these products, the more the difficulties increase. A. S. G.

The Life and Traditions of the Red Man. Joseph Nicolar. Bangor, Me., 1893. Pp. 147.

Joseph Nicolar is an Indian of the Penobscot tribe settled on islands in the Penobscot River, Maine, and counting about 400 people. These Indians are quite industrious and inventive; they construct birch bark canoes and manufacture basketry of very neat patterns, which they sell either at the neighboring town of Old Town, or at the watering places of the seaside of the New England coast. The Penobscot Indians adhere to the Roman Catholic faith, which was planted among them in the beginning of the eighteenth century. Mr. Nicolar has made it a life-task to study, publish and propagate the folklore of his own people and in 1893 published to this effect '*The Life and Traditions of the Red Man.*' It is an interesting collection of 147 pages, which for graphic qualities and fluency of style rivals any similar production of the white man. It describes the ancient customs and beliefs, not of the Indian in general, as the title would make us believe, but only of the Abnákis or New England Indians of Algonkin race and language, who are subdivided into Penobscots, Passamaquoddies, Micmacs and St. Francis Indians.