

small size, because by this process the specific gravity is lowered to that of Gaudin's product. The same also holds good of quartz, beryl, etc.

The French syndicate referred the matter to M. Friedel of the Ecole des mines, Paris, supplying him with samples of the stones for examination. He reported the presence of the round and pear-shaped bubbles, and determined the hardness and specific gravity to be about the same as of the true ruby. On analysis, he found them to consist of alumina, with a trace of chromium for the coloring-matter. The cleavage was not in all cases distinct; and the rough pieces given to him as examples of the gem in its native state had all been worked, so that nothing could be learned of their crystalline structure. When properly cut according to axes, they showed the annular rings. The extinction by parallel light was not always perfect, which he believed to be due to the presence of the bubbles. He states that he himself has obtained small red globules with these inclusions by fusing alumina by oxyhydrogen light; and, although having no positive evidence, he believes these stones to be artificially obtained by fusion.

On the receipt of M. Friedel's report, the syndicate decided that all cabochon or cut stones of this kind shall be sold as *artificial*, and not precious gems. Unless consignments are so marked, the sales will be considered fraudulent, and the misdemeanor punishable under the penal code. All sales effected thus far, amounting to some 600,000 or 800,000 francs, shall be cancelled, and the money and stones returned to their respective owners.

The action taken by the syndicate has fully settled the position which this production will take among gem-dealers, and there is little reason to fear that the true ruby will ever lose the place it has occupied for so many centuries. These stones show the triumphs of modern science in chemistry, it is true; and although some may be willing to have the easily attainable, there are others who will almost want, what the true ruby is becoming to-day, the unattainable. One will be nature's gem, and the other the gem made by man.

I presented this paper at the meeting of the New York academy of sciences, Oct. 4.

GEO. F. KUNZ.

A DULL BOOK.

WITH the exception of the members of the Royal geographical society, perhaps no body of men has done more to advance our knowledge of the geography of the earth's surface than the American missionaries taken as a class. Explorer after ex-

Persia, the land of the Imams. By JAMES BASSETT. New York, Scribner, 1886.

plorer has acknowledged his indebtedness to them for the most important successes of his exploration. Yet how little they have written, and how worthless, comparatively speaking, is that little! The present volume is no exception to this rule. The author had abundant opportunity to see and learn, and he undoubtedly saw and learned a great deal. Every page of the volume attests his knowledge of the country of which he is writing; but somehow he has not told of the things one wishes to know, while he has encumbered his book with facts that have little or no interest, and, what is more to be regretted, he has said what he has said in the most wretched English.

There are a few interesting passages in the volume, especially one where he describes the harem, or shrine, of the Imam Reza at the city of Khorasan, more often called Mashad. Singularly enough, he did not see the shrine itself, and got his description second-hand, from an artist whom he employed to paint a representation of it for him. The book further contains the most recent description of the government and social state of Persia that we have: it therefore has a value not dependent on the amount of interest one feels in its perusal. There are, in addition, good accounts of his journeyings in the region between the Black and Caspian seas; but, unfortunately, these regions have been so recently described by more entertaining, though not more competent writers, that this portion of the work lacks the charm of novelty, to say the least.

One other objection to the volume is to be found in the new and fantastic spelling of proper names adopted by the author. He says in his preface that in the orthography of Persian and Arabic names he "endeavored to adhere to the Persian and Arabic forms. In some instances this, however, did not seem to be expedient." One wishes that he had more often retained the more usual spelling. The best feature of the book, and one which goes a good way towards giving it a value at the present time, is the good map of Persia and its border regions, prepared by the author. In its preparation, special attention was given to the details of the eastern border. In conclusion, we are heartily sorry that the book was not published eighteen months ago, when it would have received more attention.

NOTES AND NEWS.

ONE of the tasks, says *Nature*, Sept. 23, undertaken by the British museum since printing has taken the place of writing in the Catalogue, is the publication of certain important sections of the Catalogue in separate parts. Thus the entries