

mal in others, and the name is an unhappy misnomer.

Finally, the rule stated in the latest English text-book of geology, that faults give rise to little or no topographic feature, so that their existence would commonly not be suspected, is conspicuously violated in the northern part of the Great Basin, over an area about as large as England. In this region, as well as in others of similar structure farther south, the faults break through all formations, including the recent; and the heaved masses stand up, bordered by abrupt cliffs that have not retreated perceptibly from the line of fracture. The depressions among the tilted blocks are occupied by numerous lakes, which are thus, in respect to origin, as novel as the distinct forms of the faults themselves; for, among the thousands of lakes in other parts of the world, it is difficult to name half a dozen examples whose origin is so directly due to this kind of displacement.

VISITORS TO SWITZERLAND in the last twenty years have seen one characteristic part of that charming country at a disadvantage. The glaciers that the guides or their fathers remember seeing well advanced into the valleys have been found greatly reduced in size, shrinking back a thousand feet or more from their fresh-looking moraines, and uncovering broad surfaces of bare rock and gray rubbish, not attractive to the general visitor, however interesting they may be for the glacialist. The little huts built a few years ago at the foot of the ice, for the reception of tourists, have been left quite out of place, as the ice melted away uphill behind them. Now the good news arrives that a good number of glaciers have come to a halt in their retreat, and that for two or three years an advance has been observed. This is well for our children, who may now see the glaciers in good size again in ten or twenty years, if the advance is as persistent as the retreat that preceded it.

LETTERS TO THE EDITOR.

The sculptures of Cozumalhuapa.

THE suggestion in *Science* (vol. v. p. 524) that the shell-carvings figured by Mr. Holmes in the last report of the bureau of ethnology may indicate a common origin with those of Cozumalhuapa, will naturally lead to the inquiry, What branch of the American race executed the latter?

Unfortunately this is not easily answered. Perhaps we may proceed most safely by the method of exclusion. When Cozumal was discovered, three entirely dissimilar stocks occupied the immediate vicinity. The locality itself was held by the Cakchiquels. According to their annals, as preserved by the native chronicler, Francisco Ernantez Arana Xahila, they had occupied that territory but shortly before the Spanish conquest, driving out either the Xincas or the Pipiles, both of whom continued to live at no great distance. The Pipiles were a Nahuatl-speaking colony, of the same blood and language as the Aztecs, and were skilled in the same arts. The Xincas, on the contrary, were a savage people, whose culture-words were borrowed from either the Pipil or the Cakchiquel tongues. They may therefore be excluded.

The Cakchiquels were one of four tribes closely allied in language, culture, government, and geographical position; the others being the Quiches, the Tzutuhils, and the Akahals. They were familiar with picture-writing, stone-cutting, the metallurgy of gold, silver, and copper; erected massive buildings of stone and mortar; and were adepts in carving designs and weaving cloth. They certainly had the technical ability to execute such work as that on the slabs of Cozumal; but what is lacking, is evidence that it is in the style of their art. It differs very widely from that of Palenque and Copan.

The deficiency here pointed out is one most desirable to have filled. The vicinity of Iximche and Gumarcaah, the ancient capitals of the Cakchiquel and Quiche nations, might still yield a harvest to the persevering archeologist, in spite of the reports of Mr. Stephens. The Archbishop Garcia Pelaez, writing in 1850, stated that the government of Guatemala had 'recently' caused a careful survey, with maps and drawings, to be made of these remains (*Memorias para la Historia de Guatemala*, tom. i. p. 15); but I cannot learn that these were ever published, nor have my correspondents in Guatemala been able to ascertain the whereabouts of the originals. I may also add, that I have endeavored in vain to find out what became of the manuscripts left by Dr. Habel, the discoverer of the remains at Cozumal. Many of his notes had not been published, and it is quite possible that they would throw further light on this interesting question.

D. G. BRINTON.

Media, Penn., July 2.

The geology of natural gas.

Prof. I. C. White's article on the geology of natural gas (*Science*, June 26) must necessarily attract no little attention from those who have never been in the oil and gas regions of south-western New York, western Pennsylvania, and eastern Ohio, where these wonderful and natural products are obtained; and also from those who are familiar with its commercial value and usefulness, but who have never made a study of the geological phenomena connected with its occurrence. In fact, the geology of this interesting region is so imperfectly understood by some of our leading professional geologists, who have never had