

scald the 'Corban,' and the form of the altar, and the 'Tannûr' on which they roast it after this fashion.

"And on this altar, under which are placed logs of wood, they burn the fat, as we have said before.

"In the centre are the two pans of boiling water for skinning and fleecing the 'Corban.' From under the altar (as in the diagram) they remove the ashes on which they have burnt the entrails.

"Half an hour before the 'Corban' is removed from the Tannûr a crier cries, and the sect appears to you so happy, as if they had won a great sum of money or a victory, to which there is nothing in comparison.

"This is the full and complete end."

NOTES ON PROFESSOR LIBBEY'S ACCOUNT OF THE JORDAN VALLEY AND PETRA.

By Professor HULL.

IN the last number of the *Quarterly Statement* (October, 1902) there appears an abstract of a paper by Professor William Libbey, read at the Belfast meeting of the British Association, on "The Jordan Valley and Petra," which is chiefly remarkable for its assumptions based on little or no evidence, and its ignorance of the geological structure of the region it professes to describe, notwithstanding all that has been written by previous explorers, of whose work, it may be presumed, the author appears to be entirely ignorant. It might have been supposed that an American professor (as may be inferred from several words and phrases), before undertaking an exploration of a region of such peculiar geological interest, would have mastered, at least, the main features of the succession of formations with which many published volumes, from those of Fraas, Lartet, and Lynch, to those of Tristram and the Expedition of 1883-4, sent out by the Palestine Exploration Committee, would have provided him; but this, it is clear, he has omitted to do.

We will notice some of the statements of Professor Libbey as they occur in succession, pointing out their inaccuracies:—

1. He states (p. 411) that the subsidence of the Jordan-Arabah fault is on its "eastern side"; the fact being that the subsidence, or *down throw*, is on the western side, as the relative position of the formations at each side of the valley show.

2. He supposes that the Jordan-Arabah Valley has been "widened and deepened by ice action." This is a purely imaginary hypothesis, unsupported by any evidence either on the part of the author or of anyone else, as far as we are aware. It is true that the moraines of ancient glaciers are found in the valleys of the Lebanon and Hermon, reaching down to a level of about 4,000 feet above the sea, as was shown

as far back as 1862 by Sir J. D. Hooker, and afterwards corroborated by Canon Tristram and M. Lartet; but there is no foundation for the supposition that the glaciers of the Lebanon descended into the Jordan Valley "at least as far south as the Sea of Galilee, if not throughout the whole length of the valley." This is a flight of the imagination which none of the distinguished observers above named has ventured to put forth.

3. But perhaps the most surprising of all the statements in Professor Libbey's communication, as far, at least, as they are contained in the abstract, is that which places the Nubian sandstone in geological sequence above the Cretaceous limestones, and as having been deposited after the formation of the Jordan-Arabah Valley. There can be no mistake as to the author's statement, however surprising and contrary to fact, as he speaks of the "immense deposits of sandstone," including that of the city of Petra, as having been laid down in the Jordan-Arabah Valley, and subsequently to the production of the great rift or fault of that valley (p. 412). The real succession of geological events are, as is well known: first, the deposition of the sandstone; then of the Cretaceous and Eocene limestones; afterwards the production of the great rift, or fault of the Jordan-Arabah Valley. Consequently the sandstone underlies the limestones, and partook of all the terrestrial vicissitudes to which the latter formation was subjected.

4. The author has apparently mistaken the remarkable old lake terraces which line the shores of the Dead Sea as being formed of sandstone—part of his "immense deposits of sandstone" referred to above. Amongst these he includes the Lisán Peninsula, which is known to be formed of calcareous marls with gypsum; and he proceeds to favour his readers with speculations regarding the former prolongation of the Gulf of Akabah into the Dead Sea, and the changes by which it was forced back to its present position. But an observer who has failed to grasp the more obvious geological phenomena of the region he has traversed can scarcely be looked to as a guide in subjects more recondite—such as the great changes of level which the Arabah Valley has undergone.

5. Lastly, Professor Libbey is not more happy in his historical reference to Petra, which he classes with "the other strong places of Moab." He has a great deal to learn regarding the country of which he treats.

AN inscription has been found by Miss Gladys Dickson on an ossuary (and by her forwarded to the Fund), which promises to prove of singular interest. It commemorates some of the family "of *Nicanor the Alexandrian who made the gates.*" Professor Ganneau suggests that the bronze doors in the Temple "Gate of Nicanor" are probably here referred to. The Greek inscription is followed by a repetition of the name in Hebrew. A photograph, accompanied by full notes, will be given in the next issue of the *Quarterly Statement*.