remarkable that the holes for the handles are very small, as if the handles had been pliable like the hazel-stick handles they use in some districts for stone hammers to crack flints for road mending.

It has occurred to me that the smooth faces of the surfaces in Dr. Brees' specimen may have been cut after having been chopped off, and that they do not *necessarily* imply the use of a saw. They were not *rubbed* down. The marks of cutting are plain, and they are a little hollowed out in the direction of the edge of the instrument with which the cuts were made, as you would almost inevitably hollow the end of a stick if you attempted to cut it flat with a common knife.

I must not omit to mention the kindness with which the curator of the Antiquities department of the Museum supplied the information I required respecting the specimens there.

CORRESPONDENCE.

ON THE DISCOVERY OF MACRAUCHENIA IN BOLIVIA.

SIR,—As you inserted a report of the lecture by Professor Huxley, on which the following remarks are founded, perhaps you will not object to give place to them also; they appeared in the last number of the "Annals of Natural History."

In the February number of the "Quarterly Journal of the Geological Society," a report of a paper appeared, read by Prof. Huxley on November 21, 1860, respecting "a new species of *Macrauchenia* (*M. boliviensis*), obtained by Mr. Forbes from the mines of Corocoro, in Bolivia." In this paper the following note is inserted:—

"As the Guanaco ranges into the highlands, it may not be a too sanguine expectation to hope for the future discovery of remains of the great *Macrauchenia* also in Bolivia" (p. 83).

As this statement, unaccompanied by any reference to the corroborative testimony of other palæontologists, is calculated to leave the reader under the impression that remains of *Macrauchenia patachonica* are yet undiscovered in Bolivia, I must respectfully indicate to those readers of your valuable periodical who are unacquainted with the fact, that Mr. Weddell, writing in Castelnau's "Expédition dans les Parties centrales de l'Amérique du Sud," 4to, Paris, 1855, states, on page 36th of the 7th Partie (Zoologie), and on page 203 of the 6th volume of the "Histoire du Voyage," 8vo, Paris, 1851, that bones of *Macrauchenia* were found at Tarija, in South Bolivia, imbedded in the soil with *Mastodon Humboldtii*, *Scelidotherium*, *Megatherium*, three species of true *Auchenia*, *Equus macrognathus* vel *neogæus*, *Ursus*, &c. He does not specially distinguish them from *M. patachonica*, and figures them under that name on plate 8 of the 7th part. If the remains described by Prof. Huxley should prove to be of a distinct species, the fact would be not merely that "a small and a large species of Auchenoid mammal ranged the mountains and the plains of South America respectively," but that two nearly similar species of *Macrauchenia* co-existed in the highlands of Bolivia during the Post-pleistocene epoch. As Tarija, on the eastern

slopes of the Bolivian Andes, is almost beyond the limits of the geographical range of Guanaco, which is by no means such a denizen of the plains as Prof. Huxley would infer, the existence of a fossil Auchenoid mammal (a so-called *hueso de gigante*") at that place is a fact of much more importance than the existence of a similar animal at Corocoro, in the elevated valleys of the Aymará country, at the foot of the enormous Illimani.

As Mr. Forbes, in the memoir preceding Prof. Huxley's, mentions at great length the Salinas, the volcanic origin of common salt, and the physical geography of Peru and Bolivia, I may be permitted to indicate that much valuable information on these subjects is to be found in Mr. W. Bollaert's "Antiquities and Ethnology of South America," 8vo, London, 1860, and in his paper in the "Journal of the Royal Geographical Society," vol. xxi., 1851, with a map. Apparently the researches of both MM. Castelnau and Bollaert have been unknown to Messrs. Forbes and Huxley.

The specific name *boliviensis*, applied by Prof. Huxley to the smaller form, will no doubt be abrogated by succeeding naturalists, as founded on a misconception of the geographical distribution of the genus.

Prof. Huxley, impugning the philosophical laws of "correlation of structure" as defined by Cuvier and Owen, suggests that, upon the Cuvierian method of induction, a palæontologist, reasoning alone from the cervical vertebra of *Macrauchenia*, would have confidently predicted its Cameloid affinities. But when Prof. Huxley founds an argument, put hypothetically into the mouth of an ideal adversary, upon a structure so liable to variation as the perforation by a blood-vessel of a cervical vertebra, it can hardly be accepted as a correct exemplification of the principal which Cuvier has so successfully applied. The non-perforation of a cervical vertebra by an artery is certainly not such a character, subserving an important purpose, and denoting ordinal distinction, as the presence of a marsupial bone in an opossum, with which Prof. Huxley compares it. The analogy which it is attempted to deduce, as adverse to the principles of correlation, therefore totally fails, whilst this high law of comparative anatomy, "*aussi certaine qu'aucune autre en physique ou en morale*," remains unimpaired by the re-discovery of Macrauchenian remains in the Andes.

Your obedient servant,

Judd-street, Brunswick-square, June 24. CHARLES CARTER BLAKE.

GEOLOGICAL EVIDENCES OF THE DELUGE OF NOAH.

DEAR SIR,—Although it is a rule with me to abstain from mixing up biblical and geological questions, believing it to be unwise, and by no means calculated to be of service to either, I am for once induced by the first query of your correspondent S. M., in the last number of the "GEOLOGIST," to depart somewhat from this rule.

The query to which I refer is, "What evidence have we, geological or otherwise, apart from the history of the Bible of the existence of the Deluge?" Now, waving the question of the universality of the Deluge, I would ask, What geological evidence of this event does the Biblical narrative warrant our expecting? True, we are told that "All the fountains of the great deep were broken up, and the windows (flood-gates in the margin) were opened;" but these, I apprehend, are poetical—what if I say hyperbolical—expressions simply intended to convey an idea of the rapid and great rising of the waters.

When Noah sent forth the dove the second time, we learn that "The dove came into him in the evening; and, lo, in her mouth was an olive-leaf plucked off; so Noah knew that the waters were abated from off the earth." Now the olive-leaf