

A D D E N D A.

Orchilla, page 29.—This valuable lichen comes chiefly from Tumbez. It is not found on the rocks, like the orchilla of the Old World, but grows on various trees. The foliage of a tree disappears when the orchilla commences. The sea air is indispensable to its production, as it is found only near the coast.

Religious Intolerance, p. 91.—The expression “Protestant dogs” has since been publicly repeated by a priest in a sermon, who told the people to confess, or they would be treated in a similar way. It called forth a remonstrance from Mr. Hamilton, the British Minister, directed to the archbishop, declaring such conduct inhuman and unchristian. The Pope’s Nuncio left Quito for good in July, 1869.

Fish in the Quito Valley, p. 107.—Dr. Gill informs me that the true name of this little fish is *Cyclopium Humboldtii*, Swainson. It belongs to the subfamily Trachelypterinae, under Siluridae.

Hummers’ Nests, p. 108.—They are not always of a lengthened form, as the text would imply, but are sometimes quite shallow. They are invariably lined with the softest vegetable materials and covered with moss. The nests are not as compact as those of our Northern hummer, and, so far as we observed, are never shingled with flat lichens.

Humboldt in 1802, p. 156.—He spent five months in the valley of Quito.

Pebas Fossils, p. 282.—In a letter to the author, Mr. Darwin says: “Your discovery of marine shells high up the Amazon possesses *extreme* interest, not only in itself, but as one more most striking instance how rash it is to assert that any deposit is not a marine formation because it does not contain fossils. As for myself, I never believed for a moment in Agassiz’s idea of the origin of the Amazonian formation.” Agassiz “candidly confesses (Lyell’s *Principles*, i., 468) that he failed to discover any of those proofs which we are accustomed to regard, even in temperate latitudes, as essential for the establishment of the former existence of glaciers where they are now no more. No glaciated pebbles, or far-transported angular blocks with polished and striated sides; no extensive surface of rock, smooth, and traversed by rectilinear furrows, were observed.” The fossiliferous bed at Pebas is as plainly *in situ* as the Medina sandstone at Genesee Falls.

pent-up waters of the valley. The table-topped hills of Almeyrim are almost the sole relics.* Finally, over the undulating surface of the denuded sandstone an ochraceous, unstratified sandy clay was deposited.

It is a question to what period this great accumulation is to be assigned. Humboldt called it "Old Red Sandstone;" Martius pronounced it "New Red;" Agassiz says "Drift"—the glacial deposit brought down from the Andes and worked over by the melting of the ice which transported it.† The Professor farther declares that "these deposits are fresh-water deposits; they show no sign of a marine origin; no sea-shells nor remains of any marine animal have as yet been found throughout their whole extent; tertiary deposits have never been observed in any part of the Amazonian basin." This was true up to 1867. Neither Bates, Wallace, nor Agassiz found any marine fossil on the banks of the great river. But there is danger in building a theory on negative evidence. These explorers ascended no farther than Tabatinga. Two hundred miles west of that fort is the little Peruvian village of Pebas, at the confluence of the Ambiyacu. We came down the Napo and Marañon, and stopped at this place. Here we discovered a fossiliferous bed intercalated between the variegated clays so peculiar to the Amazon. *It was crowded with marine tertiary shells!* This was Pebas *vs.* Cambridge. It was unmistakable proof that the formation was not drift, but tertiary; not of fresh, but salt water origin. The species,

* "On the South American coast, where tertiary and supra-tertiary beds have been extensively elevated, I repeatedly noticed that the uppermost beds were formed of coarser materials than the lower; this appears to indicate that, as the sea becomes shallower, the force of the waves or currents increased."—Darwin's *Observations*, pt. ii., 131. "Nowhere in the Pampas is there any appearance of much superficial denudation."—Pt. iii., 100.

† *A Journey in Brazil*, p. 250, 411, 424. Again, in his Lecture before the Lowell Institute, 1866: "These deposits could not have been made by the sea, nor in a large lake, as they contain no marine nor fresh-water fossils."

THE
ANDES AND THE AMAZON:

OR,

ACROSS THE CONTINENT OF SOUTH AMERICA.

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