

North-west from the Bandas we come to Amboina. The most recent coral rock which I observed on that island was about 500 feet above the present sea-level. At that elevation many valves of the gigantic *Tridacna gigas* were found considerably decomposed, but always in pairs, as if they had once been partially surrounded with soft coral rock, which, wasting away, had allowed the valves to fall apart. Governor Arriens, who had carefully studied these recent coral reefs, gave me the important fact that he had followed them upward to a height of 800 feet, but not higher, and that at that elevation they seemed to suddenly disappear. At Wahai, on the north coast of Ceram, I found many recent corals, about 50 feet above high-water level, and also at Kayéli Bay, on the north side of Burn, at an elevation of 100 feet. The natives here assured me that the same kind of "white stone," coral rocks, was found among the hills; and I have no doubt that it will be found in the mountainous parts of all the other Moluccas, as high up as Governor Arriens has already observed it at Amboina. A member of the Commission sent by the Dutch Government to examine the coasts of New Guinea, informed me that at the back of Dorey, on the north coast, at the mouth of Geelondk Bay, there are hills of very late formations, and that he found there a recent shell at a considerable elevation, 100 or 200 feet. From this point westward, as far at least as the northern end of Celebes, all the islands are probably rising.

Thus we find over all this wide area a repetition of the subsidence followed by an upheaval already noticed on Banda. Indeed, there is every indication that all the eastern part, if not the whole, of the archipelago is now rising, and thus we have before us the grand spectacle of a great continent forming itself at the present time.

2. *Letter to Major-General Sir Andrew Scott Waugh, on Routes between Upper Assam and Western China.* By F. A. GOODENOUGH, Esq.

(Communicated by Sir A. S. WAUGH.)

"MY DEAR SIR,

"Understanding from our mutual friend Mr. John Fergusson, of Calcutta, that you are taking an interest in the discovery of lines of communication between India and China, viâ Northern Burmah, I venture to trouble you with some little information which I have gathered during a visit to Upper Assam in 1866, and from various other sources; and I enclose a rough sketch-map,* which will show you how short the distance is from British territory, on the one side, to the most westerly point attained from the China sea-board, viz., by Captain Blakiston, R.A., on the other.

"When in Assam I went up the Dehing River to the Terap for the purpose of visiting the coal-field there. I found that the inhabitants of a Singphoo village at the mouth of the Terap were in constant intercourse with the Hookeong valley of Upper Burmah, the locale of the amber mines and petroleum springs of that country, which they reached through passes in the Patkoi range. When there, some men from Hookeong (Beesa of the maps?) were on the spot, being about to take across some cattle.

"Inquiring about the distance, we were told that a man without a load could reach *Hookeong* in seven days, but that cattle would not complete the march under thirteen. The cattle of Assam, and especially of that part of Assam, are, from the coarseness of the herbage they feed upon, and inferiority

* Deposited in the Map-Room of the Society.—[Ed.]

of breed, &c., a most miserable race; and we may therefore fairly conclude that the pass or passes, across the Patkoi range are in no wise difficult. If they were so such wretched beasts as those which I saw—and the very cows about to be driven over were pointed out to me—would be incapable of undertaking the journey.

“Lower down the Dehing than the mouth of the Terap is a Fakeecal village, which I visited. The Fakeecals are Buddhists, and I found and inspected a temple there, and an establishment of Buddhist priests, who came from Burmah.

“From Hookeong (Beesa?) there are two routes by which we could proceed to China.

“*First.* In a southerly direction to Bhamo, the point of departure of the expedition under Captain Sladen.

“*Secondly.* Easterly, across the valley of the Irrawaddy, to the range of hills separating China from Burmah, through which I have always believed passes exist, and through which I have since, quite lately, heard that the Singphoos report that practicable passes *do* exist.

“It is of course unnecessary to point out that the route following the direct easterly course is much the shorter, if it really, as I must believe it does, exist. Following it, we should bring the Yang-tze-kiang within 300 miles of the Dehing; and we may venture to say that from Assam to the foot of the Chinese passes the country is practicable for a telegraph, or even for a road, whilst it also probably is so for a railway.

“The Irrawaddy, it is true, intervenes; but, as at the point where Lieutenant Wilcox early in the present century (1827) crossed it (only some 50 miles north of a direct line eastward from Beerah), it was only 80 yards wide, and fordable, it is not, probably, a very large stream where my proposed route would touch it.

“I was accompanied to the Terap in 1866 by Mr. Henry Lionel Jenkins, who has been engaged in tea-planting for the past fourteen years on the Dehing and thereabouts.

“Mr. Jenkins is a gentleman of birth and education, and he is possessed of more than ordinary intelligence and energy. He is well acquainted with the Singphoo chiefs, who are *quasi* lords of the passes over the Patkoi range, and is on friendly terms with them; and he was on one occasion invited by the head man of all to accompany him into Burmah, the *Gaum*—‘Prince’—stating that he would guarantee his safety with his head. My friend was unable at the time to avail himself of the offer, to his great regret; but he could, I doubt not, get it renewed by that *Gaum*’s successor at any time, if he received encouragement to make an expedition in the direction in question.

“I have now heard from Mr. Jenkins by the last mail, to the following important effect, *viz.*:—

“I have given him (Captain Macdonald, Surveyor-General of Assam) the marches from Terap to Hookeong, and from Hookeong to Bhamo; but, as there is more than one path direct east from Hookeong to Yunnan, Bhamo is entirely out of the way.

“Several Singphoos have told me that the Chinese do occasionally come up from Bhamo to Hookeong, but that by far the greater number come by more direct routes. Of these routes, however, I could obtain no certain information. I have got all the marches to Bhamo (twenty-two) from Terap.

“Hookeong to Bhamo; perfectly level road.

“Here is the Terap route, which is more precipitous than the Namchik route; but I have chosen the former, as it leads through large villages where supplies could be obtained. Namchik would be the route eventually for a road, but, until a road is opened, a party would travel easier by the steeper and longer, but more populous route.

“*1st day.* From Terap Mookh to Hoongtam Naga village; long march.

"2. To Youngbhee Naga village; over steepish hills. A long march; cross Umbang stream, about size of Terap.

"3. Cross Terap and march to Yoglee Naga village; short march.

"4. Mount and reach top of Patkoi range; long march.

"5. Descend Patkoi; steepish. Cross Namphook small stream, reach Morang Naga village.

"6. Cross Tilhee, size of Terap, reach Ishanghai village; short march.

"7. To Wadapanee; small stream, a long march to reach water.

"8. To Kalták village; a long march.

"9. Cross Dágá and camp on Desang, both large streams. No village; moderate march.

"10. To Soombogan, Singphoo village; long march.

"11. To Hookoong; short march.

"1. From Hookoong cross the Demai, larger than Dehing, and two other large streams, reach Jambó Hill; a fair march.

"2. To Leborg village, on the Noonkoong, larger river than Dehing, not a long march.

"3 and 4. By boat down Noonkong to Namsang Mookh.

"5. Land, and march to Santok hill; not a long march.

"6. To Nunjhan; small river.

"7. March down Nunjhan.

"8. Continue down Nunjhan to Benankhoo; Singphoo village.

"9. To Melankha village, on the Oorooop, large navigable river; short march.

"10. To small stream; long march.

"11. To Bhamoo; long march.'

"This is all that Mr. Jenkins says, but the particulars given are most valuable for the purposes of an exploring party.

"Up to this time I had always imagined that the route by Namchik, which place you will find I have marked in the map at the point where the Noa Dehing and the Booree-Dehing diverge from the parent Dehing, was longer and more precipitous than that by the Terap, but, from what Mr. Jenkins says, the reverse appears to be really the case.

"Lieut. Wilcox went due east from Namchik, and got into a labyrinth of hills before he reached the Irrawaddy, encountering much difficulty in getting on, but I imagine that the route of which Mr. Jenkins speaks must go off southward, so as to evade these difficulties and get into the plain.

"I could say something more on this subject, and a good deal regarding the practicability of a railway up the Assam Valley from Rajmahal, but I fear that you would throw a more lengthy communication aside, and that the present one requires an apology on the score of its length is certain.

"F. A. GOODENOUGH."

3. Expedition of Mr. T. T. Cooper from the Yang-tze-Kiang to Thibet and India.

THE following letter appeared in the 'North China Daily News' of June 15th last, from the adventurous traveller Mr. T. T. Cooper, who started from Shanghai originally with the intention of reaching Assam, over the mountain passes which traverse the high range on the western frontier of China.

He communicated his plans to the Royal Geographical Society in August, 1867, and a letter of instructions was drawn up and forwarded to him by an Expedition Committee of Council, called for the purpose in October last.