DR. MODIGLIANI'S RECENT EXPLORATIONS
IN CENTRAL SUMATRA AND ENGANO.

LITTLE more than two years ago, writing in this journal on the results of Dr. Elio Modigliani's accurate and highly interesting exploration of Nias (*NATURE*, vol. xli. p. 537), I made the remark that our young traveller had shown that he was made of the stuff of the very best of scientific explorers. It is therefore with no small pleasure and pardonable satisfaction that I now have the good fortune to show further proofs that I was not mistaken in thus judging him.

Those who have once tasted the sweets of true exploration in little-known lands, and who are animated by the smallest spark of *fuoco sacro*, have felt and know well that thirst for further travels which goads the late traveller to new wanderings. It was thus with my friend Modigliani, and he had hardly finished seeing his book on Nias through the press, when he began to long to be away again. He first thought of taking off the edge of his peregrinatory desire with a visit and collecting tour to the less-known parts of our new "Eritrea," but an accident, which might have had serious consequences, kept him back on the eve of departure. On regaining his health, far from being discouraged, he matured a wider and bolder plan—that of returning to the vast and lovely lands of the Malayans, and penetrating to the heart of Sumatra through the country of the Toba Battaks.

Dr. Modigliani left Florence in August 1890. Early in October he was at Siboga, then at Padang Sidempuan, in Sumatra, where he interviewed Mr. van Hasselt, well known in connection with the big Midden Sumatra exploration; however, as the sequel proved, not much information and aid were got from Mr. van Hasselt and his Government; besides, war was going on in the Toba region, but this did not deter Modigliani from his object. He had secured the services of Abdul Kerim, the Persian collector and taxidermist, who had been with Marquis G. Doria from 1862 to 1874, first in Persia, then in Borneo and Tunis, and finally at the Museo Civico at Genoa, which, under Doria's energetic and enlightened direction, has, during the last twenty-five years, been one of the most active and fertile centres of zoological research in the world. This was fortunate, for the Javanese hunters and collectors engaged at Buitenzorg were not very efficient.

Although he included in his baggage only things that were strictly necessary, he had to engage at Siboga forty-one carriers, mostly Toba Battaks, to convey it to the lake. That route, hardly practicable twenty years ago, is now safe, and the only trouble met with was from Dutch convicts engaged in repairing the road. It was on this road, at Ayer Kotti, that the American missionaries, Messrs. Munson and Lyman, not many years ago, were killed and eaten by the Battaks of the neighbouring village, Huta Sakkak. The country rises continually from the coast until the highlands of the Toba plateau are reached; it is undulated with mountains and broad valleys, such as that of

Silindung, but on the highlands the forests have disappeared, and the watered depressions with dense vegetation and the clumps of bamboos surrounding the villages are dotted about. At Tarutung, the principal village of Silindung, Modigliani obtained important information on the independent Battaks from Mr. Welsink, the Dutch Assistant-Resident, who had long resided in the Battak country, and been some time *Controleur* at Laguboti on Lake Toba, now occupied by the Dutch. The Singa Manga Rajah, head chief and religious primate of the Battaks, who had already given so much trouble to the Dutch, was again coming to the front, and this time in connection with the irrepressible Atchinese from the north—an alliance of hereditary foes, for the Battaks have always repulsed the Mohammedan Malays against the invading whites.

By the middle of October 1890, Modigliani was at Balige on the shore of Lake Toba, and on the edge of the wild and unexplored Battak country, the land of his dreams. He describes the lake as grand and imposing, but more like a northern lake, such as Loch Lomond, because of its bleak bare mountains and early mists, than what might have been expected in the heart of a tropical island. Lake Toba is about forty-four geographical miles

FIG. 1.—*Solu* (boat) on Lake Toba.

in length; a large mountainous peninsula divides it in two—Tao Silalahe on the north, and Tao Balige on the south. At Balige Modigliani had the use of a good house, once occupied by Mr. Welsink. He paid an early visit to the *Controleur*, Mr. van Dijk, at Laguboti, who placed at his disposal the Government boat with its crew, but requested to be informed of any excursion on the lake beforehand, as some of the lacustrine villages were hostile. Modigliani started for a first exploration of Lake Toba on October 27. An old chieftain, Ompu Rajah Doli, went with him, partly as guide, partly as protector. He was on his *solu*, the long swift canoe, excavated from a single tree, with which the piratical enterprises on the lake are so deftly performed; this, not one of the largest, was 18 metres long and 1 metre in width; it was manned by eighteen paddlers and one steersman. The place of honour is at the prow, which is singularly ornamented. At Ade Ade, one of the further villages, he secured the good will of the powerful chief, Ompu Rajah Hutsa, and with him visited

the site of Lumban Rajah, the former residence of the Singa Manga Rajah, destroyed by the Dutch. The chiefs and head men of several neighbouring villages had assembled, and many were the questions they put to Modigliani. Amongst others, they asked him who was his Rajah. "The Rajah Roma," said he. This caused a great discussion, after which one of the chiefs said: "How is it that we, having sent to Rajah Rom (not Roma) presents of horses and buffaloes, have never received a return or an answer?" Modigliani was at first rather embarrassed at so direct a question, but replied that the presents had not been received, having perhaps been intercepted. This appeared to convince them, and a Rajah Uti was mentioned as apparently the guilty party. I have mentioned this episode because it turned out to be a most fortunate

FIG. 2.—The guru Samalain.

one for our traveller, who got to be known as the envoy of Rajah Rom, and even as that mystic personage himself. It appears that by that name a venerated authority is known to the Battaks, and Modigliani thinks it may be no less a personage than the Hindu god Rama. As the sequel will show, under the patronage of Rajah Rom, Modigliani was able to penetrate into the heart of the independent Battak country, where, in all probability, no other European would have been able to go; and many were the things he had to promise in Rajah Rom's name, and many the presents and great the aid he got as his envoy. The greatest depth found by Modigliani in Lake Toba was 450 metres; the temperature of the water was 24° to 23° C. at the surface, and 23° to 22° C. near the bottom. Only four species of fish, two of molluscs and two of crustaceans, appear to live in the lake.

NO. 1198, VOL. 46]

As a locality better suited for zoological collections, Modigliani went in November to live in the forest of Si Rambe, where, at an elevation of about 1370 metres, he built himself a log hut. Here the maximum day temperature ranged from 28° to 30° C., the minimum night temperature from 12° to 13° C.

It was from his hermitage in Si Rambe that Modigliani, eluding the official impedimenta, started on his adventurous and bold journey across Sumatra, right through the country of the independent and hostile Battaks. Now his supposed connection with the legendary Rajah Rom did him a right good turn; for the yet more or less independent chiefs sought him out, hoping that through his influence Rajah Rom might be induced to redress their wrongs. Amongst these was a *guru*, one of their priests, wise men, and *literati*, named Samalain, a staunch friend of the Singa Manga Rajah, who not only visited Modigliani but undertook to guide and protect him in his exploration of the (by Europeans) untrodden Battak territory. In one of his letters to Marquis Doria, Modigliani gives a vivid description of the savage energy of *guru* Samalain, of his devotion to the Singa Manga Rajah, and of his love of independence. The *guru* sent seven of his devoted followers to act as carriers, and taking one of his Javanese hunters and his interpreter, Si-gu-tala, a Battak, Modigliani left his encampment in the forest of Si Rambe at midnight on December 19, 1890. The utmost caution was necessary to cross the frontier line without being discovered by the colonial authorities. After a forced march of ten hours, the *guru* having joined him on the way, Modigliani reached the village of Lumban Bulu, well within the territory of the independent Battaks. The village chiefs, with armed retainers, and those of some neighbouring villages, all fully armed and equipped, with spears, flint-lock muskets plated with silver and ornamented with ribbons, and their peculiar swords with heavy ivory handles, accompanied and surrounded him. His reception was far from friendly. They would not believe that he was not a Dutch emissary, and spoke of sending him back; even the energetic protestations of the *guru* Samalain were received with signs of doubt. At this juncture our traveller had a happy thought, and drawing from a pocket the flag of Italy, he suddenly displayed it, exclaiming: "This is the flag my Rajah gave me; see, it is different from that of the Dutch; but when it is unfurled Debata (God) is present—you must rise and uncover your heads." The difference was at once noted, and Puttua, the chief who had shown himself most hostile, turned to Modigliani and said, "*Tabi, rajahnami*" ("Hail, my chief"). The others joined, and then two fowls and a pipe were brought to our traveller, and orders given to prepare the *sirih* of welcome and friendship. This is done with special ingredients, the absence of any of which would do away with the sincerity of the offering.

Modigliani was thus allowed to enter the independent Battak country. The next day he resumed his journey towards the east coast. He had to pay for passing a bridge. The Battaks know well the value of money, and use the Spanish dollar divided into 480 *doits* of copper, bearing the date 1804, the British arms, and the inscription "Island of Sumatra" (or the same inscription in Arabic), or else simply a fowl.

Amongst the many interesting things he saw, heard, and learnt, special mention must be made of the magnificent waterfall formed by the emissary of Lake Toba. Modigliani had some difficulty in visiting it, for it is the reputed abode of powerful spirits, or *sombaon*. It is, he says, grand beyond description; all the rivers of the region join the emissary of the lake in the fall, the native name of which is Martua Sapuran Si-arimo: the result is the River Assahan, which flows into the Eastern Sea near Tangion Balei. This is an important geographical discovery, and our friend may well be proud of it. He succeeded in taking a magnificent photographic view of

the principal cascade. Two Battak villages, Tanga and Suanan, are on each side of the fall. Modigliani managed to visit both, though hostile to each other, as he learnt, on account of cannibal feats recently committed reciprocally; thus cannibalism is not yet extinct amongst the Battaks. In this trip Modigliani went as far as Bandar Pulo, near the east coast; but not wishing to get into difficulties with the *Controleur* at Tangiong Balei, he turned back towards Toba, taking this time a new route up the valley of the Qualu or Kuwalu River.

The return journey was adventurous, and more than once Modigliani and his small party were in imminent danger. A war expedition of the Dutch had recently been this way, and the depredations and looting of the so-called friendly chiefs and their followers had left behind visible traces, and a burning sense of hate and vengeance against the *sordado* of the Cumponi (Dutch), although nothing can be said against the conduct of the Dutch colonial troops. It required all the energetic persuasions of *guru* Samalain and all the calm courage of Modigliani to avoid hostilities. At the village of Si Buttua, well fortified and in a commanding position, as most are, admittance was gained with difficulty; and matters went worse at the village of Lumban Ballic, where, however, finally Modigliani, as Rajah Rom, was treated with high honours and a dance. His last station was at Hite Tano, the native village of his man Si-gu-tala. Here, after some delay and hesitation, he was treated with friendliness; and to celebrate the return of Si-gu-tala a buffalo was killed, a very grand feast in the Battak country. A good tramp of fourteen hours took Modigliani from Hite Tano back to his log hut in the forest of Si Rambe. He had been away a little more than a month.

Of course, this adventurous trip of Modigliani amongst the independent Battaks got known; the Dutch authorities informed him that he would be expelled if he attempted again to cross into the Battak country, and he found that all his movements were watched and reported by the native police (*opas*). He therefore decided to return to Siboga, where he was on March 14, 1891. He remained there collecting and taking notes until the first days of April, when he proceeded to Bencoolen.

The Geographical Society of Batavia had invited him to explore the island of Engano, and a Government steamer was to convey him there. Modigliani had accepted with delight; but, after waiting some time in vain at Bencoolen for the promised steamer, he decided to start on his own account, and did so, engaging the *prahu* of a Chinaman.

Engano, the furthestmost of the interesting islands which guard the western coast of Sumatra, has up to the present date been all but a *terra incognita*. Crawford, in his admirable "Dictionary of the Indian Archipelago," gives scant and partly erroneous information on Engano; whilst Vivien de St. Martin, generally so accurate, in his great

"Geographical Dictionary," now being issued, says very little, and tells us that the natives are Negritos! And yet Rosenberg visited and explored the island not many years ago. Modigliani, during his stay of over two months, made a thorough exploration of Engano, and of the ways and customs of its natives; and it is indeed fortunate that he went there and gathered such rich ethnological and anthropological materials, for the natives of Engano are rapidly dying out, like those of other savage islands. Ten years ago they were about 8000; now, by the last reckoning of the Dutch Agent, they are reduced to 840!

The natives of this island certainly belong to the great

FIG. 3.—Battak chief and his wife.

Malayan family. On looking over the photographic portraits taken by Dr. Modigliani, I was forcibly reminded of the Nicobarese; and Modigliani agreed with me on examining the fine series of photographs of natives of the Nicobar Islands in my collection, which I owe to the kindness of my friend, Mr. E. H. Man, Deputy Commissioner of the Andaman and Nicobar Islands, and well known for his exhaustive anthropological researches in those two interesting groups.

Modigliani remained in Engano from April 25 to July 13, 1891. His health, which had hitherto resisted many

and various sore trials, was at last injured by the pestilential miasmatic emanations of the mangrove swamps of Engano, and he came away just in time to save his life. At the end of July he embarked at Batavia, and by the end of August we had the pleasure of welcoming him back to Florence.

He has already given brief accounts of his exploration of the Toba country in letters and in two lectures recently delivered at Rome and Florence. He is now busy working out his ethnological materials; those pertaining to zoology have already been partly examined by specialists. The principal novelties in zoology are, as was to be expected, from Engano. Amongst those already published I recall the following:—Birds: *Graucalus enganensis*, *Pericrocotus modiglianii*, *Zosterops incerta*, *Geocichla leucoloma*, *Calornis enganensis*, *Gracula enganensis*, *Carpophaga anothorax*, and *Macropygia cinnamomea*, are new species from Engano, recently described by Count Salvadori; besides, Modigliani has established the hitherto unknown habitat of a lovely Parroquet (*Palæornis modesta*). Reptiles: *Draco modiglianii*, *Lycosoma relictum*, and *Coluber enganensis* are new species recently described by Dr. Vinciguerra, also from Engano.

On the anthropological and ethnological materials collected by Dr. Modigliani on this voyage, which are many and of great interest, I intend writing a special report, which will be published elsewhere. I will therefore, in concluding this communication, merely draw attention to their scientific value, mentioning the more important series.

Amongst the Toba Battaks, Modigliani was not successful in obtaining human skulls, but, with the help of *guru* Samalain, he was able to take with rare ability and perfection a magnificent series of plaster masks of the face from life, both of men and women. He has made, besides, a splendid collection of photographs illustrating the people and their habits. A most extensive and perfect series of actual specimens and carefully constructed models made on the spot illustrate completely the houses, *sopos*, and boats, with their ornaments; the agricultural implements, house furniture, dress and personal ornaments; food and stimulants, with the utensils pertaining thereto; work-tools, and weapons offensive and defensive; religion and superstitions, witchcraft and literature. The carvings on the houses, and the patterns of the textile fabrics of the Toba Battaks, are indeed remarkable as specimens of the finest style of ornamentation. Amongst the numerous series illustrating the crude religion and manifold superstitions of this singular people, I may mention the carved wooden figures, with movable arms and a square hole in the chest, in which is the sacred relic (*pangulu-balang*) or talisman containing part of the remains of a sacrificed child; these figures, of which Modigliani has collected quite a number, are as rudely made as the *karwars* of North-west New Guinea. Of the remarkable magic staffs, called generically *tungal pagñaluan*, but which appear to have individual names, Modigliani has secured seven; they consist of superposed figures, more or less conventionalized, but beautifully carved in a hard dark wood in most cases, in which the human figure and those of the elephant, buffalo, lizard, and serpent are variously entwined. Modigliani thinks that each of these staffs symbolizes the history of the village or clan to which it belongs, in which case they might be compared to the genealogical Maori staffs, like the one recording the history of the Ngatirangi tribe, now in the British Museum. As samples of the little-known literature of the Battaks, Modigliani was fortunate enough to secure twenty of their books, now rare. They are ancient-looking tomes of various sizes, bound in wooden boards; the leaves are of beaten bark, the writing minute, mystic figures (*hatiha*) being occasionally intercalated. These books, written by learned *gurus*, are of a sacred, medicinal,

and encyclopædic nature, and much very valuable information on the Battaks will certainly be gained by their translation.

At Engano, Modigliani was able to obtain three skulls, and took six excellent plaster casts from the living. His series of photographs is also fine; but unfortunately some of the best were spoiled by the heat. I have already noted the remarkable resemblance which the natives of Engano show with those of the Nicobar Islands. There are amongst them faces which also recall Polynesian and especially Micronesian types. Thus the photographs taken by my friend, over a hundred,

FIG. 4.—Battak gentleman.

are of great ethnological value. The collections illustrating the ethnography of the Engano islanders are, I should say, complete: besides beautiful models of the singular houses and canoes, and actual specimens of the ornamented portions, viz. doors, cross-seats, &c., the mourning and ceremonial dresses and ornaments, house utensils, weapons, &c., are represented by a great number of carefully selected specimens.

In conclusion, I can only say that Dr. Modigliani has done much excellent work, and that we may look forward with pleasure to the publication of the results of his investigations, both in zoology and in anthropology.

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A MODERN REVIVAL OF PROUTS HYPOTHESIS.¹

IT frequently happens in the history of science that the line of thought engendered by one branch of study proves applicable in a totally distinct field. In accordance with this principle a great stimulus is occasionally given in some particular line of research by the encroach-

¹ "On the Origin of Elementary Substances and on some New Relations of their Atomic Weights." By Henry Wilde, F.R.S. (London: Kegan Paul, French, Trübner, and Co., 1892.)