LETTERS TO THE EDITOR.

Exploration of the Xingu.

THE German explorers, Karl and Wilhelm von den Steinen, embarked in Rio de Janeiro, July 21, for Germany, after nearly a year spent among the Indians of Matto Grosso. The exploration of the Xingu in 1884 by the two Von den Steinens and Claus revealed the fact that in this region exist a number of tribes who are not acquainted with the existence of a white race, and who may literally be said to represent the primitive condition of the Brazilian Indians in the stone age and before the discovery of America. Furthermore, the diversity in the language of these tribes indicates a variety of ethnological groups, and offers a rare opportunity for studying the apparently insoluble riddle of the natural classification of the Brazilian aborigines. The importance of the results of the 1884 expedition, and still more those that might be expected from future work in such a promising field, led Dr. Karl von den Steinen, after the publication of his book, to resolve upon a new exploration, in which he was warmly seconded by European ethnologists. The new expedition, unlike the first, which was organized mainly with a view to geographical work, came prepared to give chief prominence to ethnology. Dr. Karl von den Steinen, who proposed to devote his attention principally to language-work, was accompanied by his cousin Wilhelm, one of the original Xingu party, as artist; Dr. Paul Ehrenreich, who had already made important ethnological studies in Brazil, as assistant ethnologist and photographer; and Dr. Peter Vogel as geographer and geologist.

Leaving Rio de Janeiro in February of last year, the party was delayed in ascending the Paraguay by the existence of cholera along that river, until the beginning of June, the interval being employed in an examination of the shell-heaps of Santa Catharina. The president of Matto Grosso furnished an escort of four soldiers under command of an ensign. Another ensign, who had accompanied in part the 1884 expedition, and had since retired from the service, joined the expedition as a volunteer. A civilized Bakairi Indian, Antonio, also of the 1884 party, was engaged as interpreter, making up, with the necessary *camaradas*, a party of fourteen. The expedition left Cuyaba July 28, the explorers on foot, and serving as occasion required as *peones*, trail-cutters, and oarsmen. Proceeding first to the Paranatinga, an affluent of the Tapajos, for whose exploration a party of Brazilian engineers was lately fitted out, several astronomical determinations were made about the head waters of that river. The party then marched to the north-east, passed the Batovy branch of the Xingu, explored in 1884, and on the 7th of September reached the Kuliseu, where a permanent camp was made for a portion of the party, that remained in charge of the animals and baggage, while the explorers descended the river in bark canoes made on the spot, to the confluence of the Kuliseu with the Batovy. The first Indians met with belonged to the Bakairi tribe, with whom, as the language was already known, communication was readily made, and with whom the explorers spent several weeks, accompanying them on their fishing and hunting excursions, in their agricultural labors (performed entirely with stone and wooden implements), in their festivities, and, in fact, in all the phases of their life. The next and most numerous tribe was the Nahuqua, who, like the Bakairi, belong to the Carib family, which is supposed by Dr. von den Steinen to have migrated northward to the Caribbean Sea from some point in Central Brazil. The Nahuqua have a number of villages on the Kuliseu and on the Kuluene, the principal branch of the Xingu, with which the former unites. The sudden arrival of a large party so alarmed these people, that it became very difficult to study them, and in consequence Dr. von den Steinen resolved to make his entry alone, or with only a small number of Indian companions, in the villages of the other tribes, in order to establish friendly relations before the arrival of the full party. This somewhat hazardous experiment was tried first with two completely savage Bakairi companions in a village of Mehinaku Indians, the only weapon carried being a revolver. The traveller was received by a tumultuous crowd of naked savages, shouting, brandishing bows and arrows, and beating their breasts, who seized him by the wrists, and with considerable violence led him to the central feast-house, where he was plumped down on a bench, and made the recipient of a shower of questions and of hospitable presents of cakes and porridge. A German speech and sundry recitations from Goethe, delivered with hearty laughter, were accepted as a reply to the unintelligible questions, and friendly relations were soon established.

Other tribes are the Auatihu, Vaura and Kustenau, Yaualapiti, Camaiura, and Trumai. The Camaiura are true Tupi, and manifested great satisfaction on hearing the common names of plants and animals that have been incorporated in Portuguese. The Trumai, by their language and physique, differ markedly from all the other tribes. They had been met with in 1884, but the accidental discharge of a gun so alarmed them that no communication could be established. After that, they suffered greatly from the attacks of the Suya, a Botocudo tribe living lower down the river, and, retreating southward, were naturally greatly alarmed on meeting again the strangers with the thundering arms of the former encounter.

Returning to Cuyaba near the end of December, the travellers had an opportunity for studying the Pareci, and afterwards made an excursion to the river Sao Lourenço to examine the Bororo or Coroado. The Von den Steinens then descended the Paraguay, and spent some time examining the Indian remains in that province. Dr. Ehrenreich proceeded to Goyaz to descend the Araguaya to Para; and Dr. Vogel remained behind to explore geographically the highlands between the Paraguay and Parana, with the especial object of opening a road from the colony of Sao Lourenço to Santa Anna do Paranahiba, on the Parana, which was successfully accomplished.

The scientific results of the expedition far exceeded the most sanguine expectations. In a lecture before the Geographical Society of Rio de Janeiro, Dr. Karl von den Steinen presented the following general observations on the Indians of the upper Xingu.

As a rule, they are of low stature, but well proportioned and agile, of light clay color, with black hair, which is wavy in some individuals. The women wear the hair hanging loose to the shoulders: the men cut it in a circle about the base of the skull, and in some tribes shave the crown of the head. All the hairs of the face, including the eyebrows, and of the body, are carefully pulled out. The Trumai are distinguished from the others by a weaker physique and more brutal physiognomy. The only clothing worn is a triangular *tanga* of palm-leaves, "bigger than the eye, but not so big as the ear," used by the women. The body is smeared with coal-dust or oil colored with annatto. The houses, round or elliptical and high and airy, are generally built in a circle about a central feast-house, which is uninhabited, and into which the women are not permitted to enter. As a better safeguard against feminine curiosity, the entrance to this house is a mere hole less than a metre high. This structure is also used as a guest-house. The usual habitations serve for several families; the hammocks of palm-fibre, or cotton woven by hand between two stakes driven in the ground, being hung from a post in the centre to the sides. Each house has several fireplaces, and care is taken to keep the fire alive during the night to avoid the troublesome process of producing it by stick-rubbing.

Agriculture and fishing furnish the principal means of sustenance. The chase is comparatively unimportant. Dogs are unknown, and domesticated animals are limited to a few birds, principally of the parrot tribe. Corn, cotton, tobacco, sweet-potatoes and other tubers, are cultivated. Rice, cane, mandioca, and the banana are unknown. The plantations are of considerable extent, and compare favorably with those of the whites of Matto Grosso. The forest is cleared by the use of polished stone axes about the size of the fist, fixed in a wooden handle. The teeth of certain fishes serve for knives, and river shells as scrapers for working in wood. For hoes or ploughs, pointed sticks and the claws of the giant armadillo are used. The stones preferred for axes come from stream-beds in the possession of a single tribe. The commercial relations, however, are limited to an exchange of presents without idea of relative values. In the first trade made with the explorers, for an axe, a large canoe, which had to be carried for two leagues on the shoulders of six men, was gladly given in exchange. On another occasion a basket of fruit gathered in the presence of the party was offered for the same coveted instrument.

Another object of Indian barter is pottery, made only by the

women of certain tribes, all of which belong to the Nu-Aruak stock. Tattooing is also limited to the ceramic tribes. The most perfect objects of their industry are the masks used in dancing. The Tupi tribes make them of painted fabrics; the others, of wood, with large noses and small openings for the eyes, ornamented with a symmetrical design of the face.

In general, only the men take part in the dances, ornamented with feathers, and with the body enveloped in cloaks of palm-fibre. The step is marked by the shaking of a rattle, and the dance is accompanied by songs containing ancient words, some of which are evidently unintelligible to the Indians themselves. The only other musical instrument is the flute of one or three tubes, and of all sizes, from very small ones up to those in which the larger tube is as high as a man. In the dances great use is made of bows and arrows, and, in the Tupi tribes, of a peculiar form of arrow, shot, not from a bow, but from a throwing-stick held in the hand. The dances are held within or in front of the feast-house, called the 'flute-house.' It is believed that any woman who should venture to enter this house would die. In other respects, however, the position of the woman is not so inferior as is generally supposed. Although her position may be that of a servant, she knows, like her civilized sisters, how to obtain a fair share in the government. They are devoted mothers, though the children are held to have more intimate relations with the father, from whom they are supposed to derive body and soul, than with the mother. Parentage, however, is traced through the mother. On the occasion of a birth, the father remains for several days in his hammock on a diet of water and porridge. Marriage is monogamous, and is effected by the bridegroom taking his chosen bride to his lodge and hanging his hammock over hers.

The dead are buried in front of the feast-house, with the head to the east, holes or canals being made to facilitate the entrance of ants and other insects. The belief in a continuation of life after death is general. In dreams the soul is believed to leave the body and wander in the places dreamed of; and it is recommended not to awaken a sleeper suddenly, for fear the time may not be given for the return of the soul. They have many legends of their ancestors, which pass from generation to generation, and appear to contain many antiquated words. The idea of a personal God is unknown. The *pagés* pretend to control the storms, and all cases of illness or death are attributed to them. They are also the physicians, the treatment consisting principally in blowing tobacco-smoke on the patient. The blowing of smoke in the ears of guests is also a sign of friendship, and the latter are invited to moisten the ears of their hearers with spittle in order to be more clearly understood. The *pagés* appear to enjoy as much respect as the chiefs. The authority of the latter, unless it be in war, is not great. Dissatisfaction with the government is expressed by a migration in a body from the village, leaving the government to itself.

The number of Indians on the Batovy and Kuliseu is estimated at more than three thousand. Before returning, the explorers distributed among them their stores, including over fourteen hundred knives, so that the future traveller in this region will no longer find the stone age.

ORVILLE A. DERBY.

Rio de Janeiro, July 26.

Proceedings of the Society for Psychical Research.

IN a notice of the Proceedings of the English Society for Psychical Research which appeared in *Science* for July 20, a sentence occurs which may, I think, mislead your readers on a rather important point. The writer refers to the statement in the Proceedings, that certain girls, from whom experimental evidence of telepathy had been gained, were afterwards detected in the use of a code of signals; and he goes on to say, "If scientific observers can thus be deceived by young girls, . . . ought not this to impress upon every investigator the profound importance of acquainting himself with the possibilities of deception?" Your readers will probably infer from this that the experiments in which signalling was detected were carried on under conditions which the investigators in question had erroneously regarded as excluding the possibility of deception. This inference, however, would be altogether mistaken: the view which the investigators took of these experiments was that expressed in 'Phantasms of the living' (chap. ii. p. 22), as regards earlier experiments of the same kind.

"Still such simple objects would not demand an elaborate code for their description; nor were any effective means taken to block the percipient's channels of sense. . . . We could not, therefore, regard the testimony of the investigators present as adding much weight to the experiments in which any members of the family were among the group of agents, unless the percipient was completely isolated from that group."

As is explained in the passage of the Proceedings to which your reviewer refers, the experiments in which signalling was detected were merely interludes among other experiments conducted under more stringent conditions, which were complete failures.

FREDERIC W. H. MYERS.

Cambridge, Eng., Aug. 24.

Effigy Mounds in Northern Illinois.

THAT imitative or 'effigy' mounds are to be found in northern and north-western Illinois has been asserted from time to time in works treating of the remains of the mound-builders; but no one seems hitherto to have gone to any great trouble to prove the fact, much less to accurately survey, map, and publish specimens of them —at least, not so far as I have been able to find out.

Mr. Lapham, in his well-known work 'Antiquities of Wisconsin' (1855), mentions mounds of the 'turtle' form on Rock River as far south as Rockford, and others on Apple River in Illinois, a few miles south of the State line of Wisconsin.

In the fifth volume of the 'Geological Survey of Illinois,' A. H. Worthen, director (1873), especial mention is made of ancient mounds at Rockford and in its vicinity, particularly the one known as the 'Turtle Mound.' He says it resembles an alligator with its head cut off more than it does a turtle.

The above is all the information I have been able to find in print on the subject, though possibly there may have been minor articles in newspapers or other periodicals, now as completely lost as the proverbial needle in the haystack.

In a tour I made this spring in the region treated of, I looked for mounds of this class, and found them scattered at intervals along the Rock River valley, and also at points to the westward. I surveyed some of the best preserved of them, and here give succinct descriptions of four, which all differ from each other in shape, with necessary illustrative diagrams exactly drawn to scale from my field-notes.

The so-called 'Rockford Turtle' (1) in Winnebago County is situated between Main Street and Rock River, four blocks north of State Street, in the city of Rockford. It is 184½ feet long from the tip of its tail to the centre of the farther end, where a head should be, according to our ideas. It is three feet high at the junction of the hind-legs with the body, at the junction of the fore-legs and body the average height is 4 feet, but from the bottom of a slight swale that passes the head the height is 5½ feet. In connection with this effigy there is a bird (with one wing demolished), seven round mounds, and two embankments. These mounds are located on the most beautiful spot in the city, and, with one exception, have been well preserved by the owners of the land.

The bird-effigy (2) is on the east side of Rock River, some five miles below Rockford, on the N.W. ¼ of Sec. 14, T. 43, R. 1, E., in Winnebago County also. Its length from top of head to end of tail is 45½ feet; and from tip to tip of wings, following the centres, it is 68 feet. The height at the junction of the wings and body is 2 feet. While this is unquestionably intended to represent a bird, yet it is impossible to give it a closer classification. With it there are three embankments and two round mounds. The group is situated on a high bank some 45 feet above the river, and commands a fine view.

The animal (3) is on the N.W. ¼ of Sec. 22, T. 26, R. 2, E., some two miles below the village of Hanover, in Jo Daviess County, and on the east side of Apple River. Its greatest length in an air line is 216 feet, and the average height of the body 5½ feet. The body and head are on nearly level ground, while the legs run down the slope. The fore-leg rests on the end of an embankment which is 170 feet long and 1 foot high. From the general appearance at the