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W. Barbrooke Grubb

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bottom, viz., 2570 fathoms. These closely agree with temperatures taken by Mr. W. S. Bruce in 1892 and 1893 to the E. and NE. of Graham's Land. Mr. Bruce's observations showed a lower temperature between 50 and 120 fathoms than the surface, but a considerable rise of temperature when 300 fathoms was reached. It is interesting to compare these temperature observations, since up to this time these two expeditions were the only ones which had used the reversing thermometers in the Antarctic Regions.¹ Between the Cameroons and Saint Thomas on the equator the surface-temperature was 77° F., and fell rapidly to 59° F. in 55 fathoms. A more gradual fall of temperature then took place until 40° F. was registered in 550 fathoms; the temperature remained practically uniform after this depth, 37·5 being recorded at the bottom, viz., 2741. The temperature Chun obtained in the Antarctic at this depth was 32·0° F. Between Nias Island and the west coast of Sumatra similar results were obtained, except that the surface-temperature was higher, and that a more rapid fall of temperature took place between 50 and 100 fathoms. The temperatures throughout were about 5° to 9° higher than those taken off the Cameroons.

Bouvet Island was placed in 54° 26'4" S., 3° 24'2" E. This places the island farther west than it is in the British Admiralty charts, and appears to disprove the existence of the several other islands charted in its neighbourhood, since the *Valdivia* sailed over or near their assigned positions. Its greatest breadth is 5·1 nautical miles east and west, whilst north and south it is 4·3 miles across. "It is entirely covered with glacier ice, is steep and inaccessible. Apparently it consists of a volcanic cone with a broad crater edge." Basalts and tuffs were found in the dredge in its vicinity. Kaiser Wilhelm Peak was estimated to be 3080 feet, the same height as previously recorded in the British Admiralty charts. For detailed accounts of biological, meteorological, and other work of this description, we must refer the reader to Professor Chun's, Dr. Schott's, and Captain Sachse's accounts in *Die Deutsche Tiefsee Expedition auf dem Schiff "Valdivia" 1898 to 1899, Internationaler Geographen-Kongress Berlin 1899.*

THE CHACO BOREAL: THE LAND AND ITS PEOPLE.

By W. BARBROOKE GRUBB,

Superintendent of the Paraguayan Chaco Mission of the South American Missionary Society; "Comisario General del Chaco y Pacificacion de los Indios."

(Read at the Society's Hall, January 18, 1900.)

THE Chaco Boreal and its people is a subject about which practically nothing is known. I have spent eleven years in that region, and have consequently a fairly good general knowledge of it. I trust, therefore,

¹ *Geog. Journal*, vol. vii. No. 5, May 1896, "Cruise of the *Balena* to Antarctic Seas, 1892-93." By William S. Bruce.

that you will bear patiently with me while I try to impart what I know about the subject in question.

Map.—Allow me before proceeding further to refer you to this map for a few moments.

Boundaries.—The Chaco Boreal is bounded on the S. and SW. by the river Pilcomayo, on the W. and N. by Bolivia and Brazil along the parallel 22° S. latitude, and on the E. by the river Paraguay.

Area.—The area is computed to be 72,000 square miles. The whole of this vast tract is almost a dead level, any slight elevation towards the higher lands of southern and eastern Bolivia being almost imperceptible. I believe that the elevation above sea-level varies from 400 to 600 feet only.

General Features of the Country.—The northern Chaco is, as I have just said, a dead level plain. The soil is clay, but in the woods the clay is overlaid by a deposit of vegetable mould varying in thickness from an inch to a foot, or even 15 inches in places. This is general throughout the whole country.

From the Paraguay westwards for about 120 miles palm forests—of the Carandai or fan-leaved palm—form a striking peculiarity of the scenery. There are millions of these palms, and in places they stretch uninterruptedly for miles. Tall and fairly straight, these trees often attain a height of 60 feet, and sometimes 70 or even more, although I think 45 feet about the average.

Owing to the level character of the country and the clayey soil, which retains the rain-water for a considerable time, swamps abound, sometimes of great extent, covering many square miles. These swamps are simply inundated country, with a dense growth of “*estera*” and other water-plants and reeds; they are not bogs, and are quite safe to cross, the bottom being comparatively hard. To cross such places on foot or horseback, although not dangerous as in the case of treacherous morasses, is sufficiently slow and tiring. It is simply a case of painfully splashing, slipping, and every now and then sticking in the mud. When half-dry, the mud being more tenacious, these swampy plains are still more difficult to traverse. To cross such places with a cart or waggon requires the strength of Samson and the patience of Job; a cart with a load of half a ton and ten bullocks can hardly move. The drivers on foot of course look like mud eels, fall and slip about like drunken men in the green, slimy, oftentimes evil-smelling mud, and men and animals are nearly consumed by the myriads of flies and mosquitos which infest such places. These swamps are in reality swamp streams—that is, they are natural hollows running with varying breadth and intersecting the whole country, often connected directly or indirectly with the rivers, and so act as great drains. The country being so flat, and consequently so little watershed, the flooded rivers discharge into the swamp channels, and they in turn get rid of the water by very slow drainage and by much more rapid evaporation.

The Chaco is subject to great extremes of drought and flood. The climate in times of flood is hot and murky. On the whole, however, the floods are preferable to the extreme droughts, and the poverty of the

Chaco lies in want of sufficient permanent fresh water—not in its periodic floods. Life, it is true, is more agreeable in the dry years, as there is less mud, less oppressive heat, less sickness, fewer insects. Still, it is hard to choose, for if mosquitos abound, owing to the water, fleas do not; but if dry there are fewer mosquitos and more fleas and jiggers: both are equally bad.

These swamps are full of swamp-fish and eels, especially the famous mud-fish, (the "Lolock" *Lepidosiren paradoxa*) and in some of the deeper streams alligators are found. When the floods subside the stench from these swamps is almost unbearable, and flies swarm in millions, making the plague of Egypt a mere trifle in comparison.

Rivers.—The chief river is the Pilcomayo. Besides this river, which has attracted much attention for 300 years past, and the true course of which has not yet been discovered, there are the Monte Lindo and Rio Verde—which I have explored for some hundreds of miles by their courses,—the Compus, and several other smaller streams; most of these are brackish, and in low-water in the central part of their course quite salt. These rivers are practically valueless for navigation by reason of the banks, snags, tortuous course, and uncertain water supply. The banks are often wooded and fairly high, but behind the banks the land often dips again. Many little streams fall into them. The adjacent country is subject to floods. The presence of salt I attribute to the water running through a salt stratum which is very general in the Chaco Boreal.

Beyond the limit of 40 or 45 leagues IV. the whole country changes. Palms cease, the country becomes park-like, forests when met with are of greater extent and larger timber. The swamps are smaller and water generally scarcer, the grass is poorer; but farther towards the head-waters, and nearer therefore to the *Pilcomayo*, the country again improves, and a better supply of water is obtainable.

In the western portion the inhabitants are more than ever dependent on tanks in which to conserve the rain-water and collect the drainage. In extremities they collect water from a large root called *annil*.

In 1890 I ascended as far as possible the Rio Verde by steam launch. I only reached a point of about 15 miles due west, but by water it was over 60. The Rio Verde was low at the time, and full of snags and banks; fresh water was difficult to find; and after hard work and the usual discomforts I had to put back for fear lest my boat would become stranded for want of water.

In the same year a companion ascended the Monte Irrido with an engineer, Don Pedro Freund, reaching a point about 63 miles due west, or roughly 230 by river. In 1892 I ascended the Monte Irrido for about 350 miles by water, and had to return for want of water, the river falling rapidly.

I regret that, from want of instruments, I can only give rough calculations.

It has been by land, however, that we have learned most about these two rivers. I believe, and the Indians confirm the belief, that these two streams are branches of the Pilcomayo. They flow generally from NW.

to SE., and are each about 700 miles long. They are extremely tortuous, full of snags and banks, often blocked by rafts of drift-wood which entail immense labour to cut through. These rivers change their courses often, and to a great extent owing to the nature of the country. They flood easily, and at times of drought are almost dry. I have known within a few days the Rio Verde rise from 6 inches to 10 feet, and in a few weeks to sink in like manner. They both run through saline country, and the water is brackish at high-water, and salt as the sea at low-water. They are useless for navigation or rafting timber. In flood time there is water, but drift-timber blocks the way. In low-water navigation is impossible. Near the river Paraguay, to a distance of 60 miles due west, the Monte Irrido could be utilised a little for small craft, and the water is, although not very nice, yet drinkable; but the tortuous channel and the liability to flood are serious drawbacks. The Rio Verde is useless beyond a point 12 miles due west. We have given great attention to these two rivers, if haply we might have been able to use them as a highway, but we have found that the slow bullock-cart is the best mode of transport, after all.

The land for 10 leagues back from the Paraguay is very rich in grass, and generally fairly well watered, with palms and timber; even a little agriculture might be carried on. Inland from this, permanent water becomes scarce.

For 30 leagues from the river Paraguay the land is low and the grasses good. Beyond that limit the grasses get somewhat poorer.

There are four distinct elevations in this region. In the swamp level—the actual swamp—the “*estera*,” bulrush, and *pegatva* are found. On the outer circle the *costadera* or swamp-grass—a strong cutting grass, useful only, as far as I know, for thatching purposes, for which it is excellent.

Second elevation—the *tasaru* plains—good grassy plains, treeless; and except for an occasional *Puktim* tree, and a few poor fan-palms, these plains are covered by the ant-hills called *tacuru*, are subject to floods, often lying for long periods under water 6 inches to 1 foot 6—terrible plains to cross by cart or horse, or even on foot, in wet weather, on account of the mud.

In the dry season—no water is to be got on these plains—snail shells are found in heaps, and coals of a small kind are often crushed by the passing foot. The grass is rank, but good when recently burnt. Deer and ostriches frequent these plains when the grass is low. When the grass is long and toughest these plains are almost impassable.

The palm (*Fan Palm*, *Carandai*) zone is the third in elevation. Palm forests are very extensive—white, black, and red are found, so called from the colour of the wood. The black are the only ones of value for export or building—all our building is done with them, and even doors and furniture are made by cutting them into laths: also we make palm tiles for roofing. The cabbage forms a great part of the Indian food, and is not bad. The grass is good: flooded state is generally only a few inches.

The highest belt of all is the wood or forest belt. This land is never flooded. The trees are not of any great size, the largest being

Quebracho and *Algarobo*. A great deal of thorny scrub lies near the ground, forming a tangle so dense that a road has to be cut with the machaton or bush-knife.

The principal trees are *Quebracho*, red and white; *Algarobo* of three kinds, giving a good nutritious bean used by the Indians for bread, and also beer: also it is excellent food for cattle and horses, and is much sought after by pigs, etc. *Palosanto* and *Satin-wood* are also found. *Cacti* and "*Karaguata* ii" abound, and cochineal is met with. Great quantities of honey are found in these woods.

The soil is vegetable mould, but not very rich; nevertheless it produces sweet potatoes, pumpkins, maize, beans, manioc, "cultiyi," etc. Sugar-cane, tobacco, and cotton grow fairly well.

These forest lands fit for cultivation are of no great extent, and agriculture is hindered by ants, locusts, and other insects, and by droughts.

Bananas and oranges suffer from the salt in the soil. Cotton might grow well.

As an industry, beyond home wants, the Chaco in this part is useless from an agricultural point of view.

Transport is so difficult and would be so expensive that no profit could accrue.

Cutting and exporting timber is unprofitable, because no water-ways or good means of transit exist, and wood of marketable kinds is not found in sufficient quantity in any one locality.

The only fresh-water supplies in the country are in the swamps which collect the rains, and the swamp streams which derive their supply from drainage of the surrounding country, and to a certain extent from rain which falls from the Bolivian portion of the Chaco, and the overflowing of the fresh-water streams at the headwaters of the Pilcomayo. But these supplies are precarious, and depend on the rainfall. Lakes properly so called do not exist.

The swamps are sometimes of great extent, covering many square miles of surface. The swamp streams are in width from a few yards to half a league, and vary in depth when the water is full from a foot to 10 feet, but both swamp and swamp streams dry up into little pools of foul water during a protracted drought.

The natives make wells or rather tanks, holes about 10 feet deep: beyond 13 or 14 feet silt sand is generally met with. The water is (when present in any quantity) salt. Further boring is prevented by the silt sand, which seethes up, and the well becoming undermined falls in. Natural hollows cut out and banked conserve water for a certain period: swamp streams dammed do the same on a larger scale. But evaporation is great, and in time they dry up; and during floods the dams give way and are continually ruined by insects and other burrowing animals.

Want of permanent water is the curse of this part of the Chaco, and generally of the whole region.

Climate.—The temperature is—average, 75°; extreme heat, 110° Fahr.; extreme cold, freezing point: but that is very seldom.

The seasons are not very reliable. Generally speaking, the rains begin in December and last till end of April, but I have known dry

seasons in these months, and wet seasons in August, generally a dry time.

Indians of the Chaco Paraguayo.—The Indians of the Paraguayan Chaco are of two distinct families—the Lenguas and the Subin. These are again divided into several tribes—the Mascoi, Lengua, Angaité, Sanapanas, Toothli, and others. These tribes are again subdivided into smaller tribes—Kyonnawatsum, river people, and so on; and these smaller tribes are yet again subdivided into many clans. The clan averages fifty to seventy persons, taking the whole country; in some parts it is less, in others greater.

The Lenguas are monogamists. The Subin are polygamists. Polyandry is known, but not to any extent.

These tribes have no central government; they recognise no supreme head. The smaller tribes, composed of five or six clans, hang together more or less, are entertained by one another at feasts, and are more or less united by common ties. Each clan has a chief, not hereditary by law, nor elected by law, but some man who has the power of attaching and keeping the clansmen together; but at best very little power accompanies the office of chieftain. The clan government is like our own, ruled by popular opinion. No chief would think of taking any steps unsupported by popular vote. The witch-doctor represents the "Church," and his power is, though not beloved, very great and real.

He can, so the Indians believe, inflict calamities, or save from them. He can cause cats, beetles, creatures of all kinds, in spirit form to enter his enemy, or he can extract them from his friend.

Every clan has at least one fully qualified witch-doctor, and some students studying the profession.

In some respects every man does just what seems good in his own eyes, but as they cannot exist quite independently of each other, they have many traditional laws framed for the general good, or what is supposed to be for the general good; and these traditional laws are strongly upheld and enforced by public opinion.

A few examples will illustrate this. Visitors, especially relatives, must receive food. Visitors are many; many relatives are of the "sundowner" class, or to use a term perhaps better understood, they are "spongers."

Custom teaches hospitality, but in order to have the wherewithal to give, such as produce of the garden and the chase, work is necessary. Now the Indian argues, Why work to keep a lot of lazy loafers? Better take it easy and work little, and then the claims of hospitality will be less, because we have little to give. We will be quite as well liked by our neighbours and have a much easier life.

Many of the Indians would be fairly hard workers, but they know that a large number are loafers, and the more they worked and got, the more poor relations would crowd round them, and, while praising them for their industry and hospitality, sit quietly by and eat the produce as it comes in.

This is the cancer that eats at the root of the industrial life of the people.

The Indian has not the moral courage to say to his friends, "If a man will not work neither shall he eat."

The Indian's food is fish, game, and simple crops, badly and dirtily cooked. These simple things can be got without much labour, and with this the people seem content; but it is not so. The Indian can grow a great deal more and a greater variety of food stuffs; he has the knowledge, but not the will.

He can cook fairly well—as we have proved—but he does not take the least pains with his own cooking.

He can build a house—a good neat cottage—but he is content with a mere booth of sticks and grass.

He can trade; he could keep cattle. He does neither.

Why all this indifference to comfort? Why this disinclination to advance? I can give three main reasons.

The first I have already mentioned. Many are spongers.

If a man builds a nice hut, others wait, look on, then crowd in and share it with him.

If he plants plenty and lays up a store of good food, spongers will not work till that store is consumed. He has plenty; why should they trouble?

If he cooks nicely, tastily, and well, all enjoy it, and come to eat it. He gets no benefit from his exertions but the doubtful one of extra hard work and many cupboard friends. Now there is good material in these people. This sponging way and these lazy habits are the product of long years and generations of custom.

Many are quite willing to advance could they eat in peace with their families the fruits of their labour. They have not, however, the moral courage to refuse help to the spongers. For obvious reasons. They have no leader—no one man head and shoulders above his fellows to come out and rule.

They need protection from enemies, and gladly suffer the loafers for the sake of their help in case of attack. And again, in such a land, a dreary lone land, sparsely populated, and with their innate fear of ghosts, devils, etc., they need company; and loafers give that. So long as no one works too much or does more than supply momentary wants, equality and justice reign. The worker cannot crush the idlers, cannot raise them, and so they are content to sink to a common level.

If socialists would go and live in the Chaco for a year, they would never talk socialism again. Fifty per cent. of mankind will loaf if they can, and prey upon the workers and the brains of the nations; and such loafers must be kept to the wheel and ruled by the brains and arms of the industrious, else the world will sink back into savagery.

What the Chaco needs is men to rule and make government, and give security of property.

The industrious Indians will flock round and support one who can show them how to advance, live in more comfort, and get free of their sponging relations.

The industriously inclined are few, but the number would soon increase. New wants must be created, and when such become neces-

saries of life, the people will work to get them, and the habit of industry will grow. If an Indian wants an axe, he will work for that axe—to make him industrious, therefore, teach him to have many wants. Were it not necessary there would be many of our own people quite as lazy as the Indian. Generations of industrious habit, however, tell powerfully in our case, and doubtless would tell in time with the Indian.

A few more remarks about this interesting people may be interesting to you. They are, and have always been, practically independent and beyond the authority of the Spanish-American Republics which claim their territories. They are regarded by the government as outlaws; their destruction is regarded as necessary and desirable in the interests of these states. No properly planned or persevering effort has been made to reduce them to a civilised condition. Yet in these native races we have the raw material out of which a people might be made who, better than any others in South America, could develop these tropical and by no means over-healthy regions, bringing wealth, power, and strength to the ruling states, under whose nominal authority they are. An attempt is now being made to Christianise and develop these native races by the South American Missionary Society and the friends of the aborigines.

The natives are well-built and strong and healthy—disease is unknown among them. They average 5 feet 7 inches in height, and their chest measurement is 36 inches.

Their women are well treated, and confine their energies to house-work and nursing. Though not a warlike people, they can be quite troublesome enough when roused, as past history can tell.

They are a mixed aboriginal people, although of pure Indian blood—undoubtedly they have Inca intermixture—and a great variety of types are found, some very dark, some quite fair for Indians, some sharp-featured and intelligent, others heavy-featured and dull; but in general they resemble other South American Indians.

Their account of the Creation is that all things were made by a great beetle, and man and woman like Siamese twins.

Fire was known to a bird first, which cooked its food. Man in those days ate raw food, but one day the man tried the cooked food and found it so good that, watching his opportunity, he stole the fire, and ever since the birds eat raw food, and man cooked food; but the bird in revenge makes thunder and lightning, and so causes destruction by fire.

Their method of obtaining fire is by fire sticks, which they rub till friction produces fire, and then with wild cotton they obtain the light they require.

They are firm believers in dreams, and generally act upon them. Suppose a man dreams I kill him, he considers himself justified in killing me—because he argues thus. The Indian theory is that the soul leaves the body during sleep, and wanders about trying to satisfy its desires. My soul has visited him while he was sleeping and tried to kill him—but being spiritual it could not effect its purpose, not being in the flesh. When rejoined to the body—my body, given a favourable opportunity,

will try and carry out the desire of my soul. It is therefore intended murder, and in self-defence he slays me if he can.

Souls while thus out wandering during sleep sometimes get captured by evil spirits or disembodied ones, and the man awakes, and states that, as he has dreamed that his soul has been stolen, he must have the help of the witch-doctor to bring it back to him. This is done by singing, chiefly. All diseases are caused by witch-doctors or evil spirits.

Infanticide is very common: about 60 per cent. of the children born die by violence, and a great part of the remainder by exposure and want of care during childhood's first years. Superstition causes a good many of these deaths: girl babies if they precede a boy are put to death; deformed ones also are killed; if the mother or father die at the time of birth the child is killed. The want of a steady and sufficient food supply supports these superstitious customs against natural love. The people are nomadic, because they live by fishing and the chase, and on account of the water supplies, as they have no system of union to aid in making tanks or damming streams. Also they are kept moving from place to place for fear of ghosts. These nomadic habits could all be prevented by management, education, religious training, and time, but in the meantime they make the possession of a large family of little children a great burden, and so the Indians more readily submit to the religious side of infanticide.

The people are fond of the children they keep, and these children are dutiful and kind to their parents. Could infanticide be stopped, the population would rapidly increase. We have tried to settle and elevate these people and to stop infanticide, and we have met with very signal success. A neat orderly village has been built, good gardens made, cattle, sheep, and goats bought and cared for. Infanticide, intemperance—although this is not a crying weakness—and other forms of cruelty and debasement are fast dying out in this particular neighbourhood, and what has been done in this one place could be done doubtless throughout this region.

The religion of the Indians, if such it can be called, is accountable in great measure for the low state of the people.

It is a well-acknowledged fact that the religion of a people has a very great effect upon their life, private and national. The more down-trodden they are by priesthood and superstition, the more wretched and miserable assuredly will be their condition.

The witch-doctor must be paid for all he does, and he grinds the people down.

When a death takes place, native law demands that the village be burned and the property of the deceased destroyed in some way, fear of ghosts being the reason. Under such conditions it could not be expected that the people would build good houses and villages or accumulate property for their children.

Witchcraft here is much the same in principle as in other heathen lands. To rid the people of this superstitious pest, they need a pure, simple religion, none better than the simple, loving, liberal-minded, practical, and life-giving Gospel of our Lord Jesus Christ.

Freed from superstitious fear, taught to have opinions of their own, to think out matters for themselves instead of trusting all to their priests, who are as benighted, if not more wicked and debased than themselves, taught to be men, and to realise that they were created for a purpose, to make good use of what God has given them, and to glorify Him in all things, they will in due time rise from their present degradation and take the place the Creator intended them to fill. They will multiply in and develop these rich tropical regions, now wilderness, which they inhabit.

The Future of the Country.—It is highly improbable that any minerals will be found in this region, and, as has been already remarked, the country is quite unfit for agriculture on any large scale. Means of transit are so difficult that the expense of export would far exceed the value of the crops raised. *The only possible industry that can be profitably carried on in this country is cattle-raising.*

The country generally, as far as grass-producing power is concerned, would maintain immense herds, but the scarcity of permanent water will always render cattle-raising on a large scale impossible. Building of large tanks would entail a great outlay and great expense to keep them in order.

Were the rainfall, however, to be depended upon, and if the evaporation were not so great, such tanks might be constructed profitably; but the long drought, the precarious rainfall, and extensive evaporation, render dependence upon such reservoirs impracticable. It would be exceedingly dangerous to attempt to maintain a large herd of cattle trusting to reservoir water alone. Permanent water, as I have already said, is exceedingly scarce, and only to be found in certain localities. No cattle-raising could therefore be attempted except where such permanent water was accessible. Large tracts of the Chaco are devoid of such water supply, and therefore perfectly useless; and even where permanent water is to be found it is in such small quantities that only small herds could be maintained. I should consider that a first-class site, of which very few exist, might maintain a herd of 2000, and it would be a very poor locality indeed that could not maintain 100; but the average stock that could be kept at any one place would number from 3 to 500.

It is therefore plain, when we remember that £2 is a good figure for a choice cow, that herds of such small extent would hardly pay an energetic European to spend his life in comparative solitude and with the discomforts inseparable from life in such a region, nor could he profitably manage three or four such farms, because the expense of maintaining a manager and the difficulties of direct supervision would detract too much from the profits.

The maintenance of a European family, dependent as they would be upon a Paraguayan town to supply the necessities and comforts of life, would entail a considerable expense in transport. *The Chaco is most decidedly unsuitable for European colonisation, except near the main river banks.* Only the lower class of South Americans would be content with the comparatively poor livelihood likely to be obtained in the Chaco,

and they are not the kind of people likely to venture on settlement in this region.

One thing that has hindered any attempt to occupy and settle the Chaco land has been the fear with which the outside world has always regarded the Indian. This fear has not been and is not unreasonable. The Indians have been anything but pleasant neighbours to the surrounding country for the last three hundred years. This has been greatly the fault of the whites, who have never realised that these natives were capable of becoming valuable citizens, nor have they ever acquired the secret of managing them. They have invariably resorted to force of arms, which has only been partial in its effects, and has served to maintain and stimulate a bitter race hatred. Nor have the whites by any means been very successful in their wars with the Indians. I can safely say that much more white than Indian blood has been spilt, and where the whites have succeeded in crushing the Indians it has only been by superiority in arms and numbers. Tens of thousands of valuable lives have been lost which, under a proper system, might have been spared for the development and enriching of the world. I hold, after fourteen years of continual contact with South American Indians, ten of these having been spent in the Chaco, that the Indians of this region are not only capable of, but by far the most suitable people, to develop the Chaco. The Indian thoroughly knows his country; he is able to derive a great part of his sustenance from the natural products of the land. His wants are much fewer than that of the European, and he therefore could make a handsome living, had he a small herd of cattle, where the European would starve. The native system of working in co-operation is admirably suited to the nature of the country. The Indians would band together and keep their herds in common, each man helping his neighbour.

Could the country be developed by foreign capital, worked by the Indians, a fairly good interest could, I am sure, in due time be paid upon capital thus invested. While the Indians exist (and, as has been often proved, it would be no easy matter to exterminate them, apart from the fact that extermination is contrary to all the best feelings of humanity) they will, if left in their present state, prove an almost insuperable barrier to any successful foreign settlement; whereas, were the Indians of this part encouraged and enabled to profitably occupy the land, they would become good citizens, contributors to the general welfare and wealth of the world, and a settled Indian country would so act upon the surrounding barbarous nations that they in time would follow the good example set by the settled Indian.

It is impossible to tell how far-reaching the effects of such a native civilisation might extend. We know that a great portion of central South America is still in the hands of barbarous peoples. One of the great problems of the future of central South America is the question of a population capable of standing the climate and developing the country. We have, I am certain, in the probable two or three millions of pure Indians, properly managed and sufficiently financed, the secret of this problem.

This may never be accomplished, but it is our intention and earnest desire to at least try the experiment in the Paraguayan Chaco. A nobler or greater work I can hardly conceive, and I feel proud and thankful at being enabled to bear a small part in the spiritual and temporal advancement of these native races.

Let it be clearly understood that I do not look upon the Indian as by any means a perfect man. A great mistake is often made by kind-hearted people in praising up the innocent savage. He is by no means innocent. But a greater mistake is made by those who think that the Indian is an encumberer of the ground and incapable of development. He is a man, and quite capable of taking his place in the world if properly treated and trained; but it will take time. Let us remember that it took centuries to make the Germans, Russians, and ourselves what we are now. This is a fast-travelling age, and we are apt to expect too much in too short a time. In the Chaco we have very raw material indeed, and it takes a long time for a few men encompassed by so many difficulties of language, race hatred, climate, transport, and finance, to accomplish much. We go to war with the South African Republics; we spend millions and send out thousands of men. We set upon the task of making a country out of a wilderness, and a nation out of some ten thousands of wild, undisciplined savages. To begin with an unknown country, and an unknown people and language, and to accomplish this, all we have is a few men easily counted on the two hands, and a few thousand pounds. Surely with such odds against us we can justly claim plenty of time.

The South American Governments have not always been very kind to the aborigines, but the aborigines have as often been to blame. The governments have failed to do anything with them, and look upon them as a danger to the state, and this with reason: but the reason of the failure to elevate and utilise these native races has been because the right methods have not been taken.

I hold that, pursuing a proper plan, these Indians can be made a civilised, industrious, law-abiding, not to say probably a Christian population.

CONFERENCE OF DELEGATES OF BRITISH GEOGRAPHICAL SOCIETIES.

ON May 22, 1900, the Second Meeting of the Conference of Delegates of Geographical Societies of the United Kingdom was held at the House of the Royal Geographical Society.

The following delegates were present:—*Representing the Royal Geographical Society*—Sir Clements Markham, Mr. J. F. Hughes, and Dr. J. S. Keltie. *Representing the Royal Scottish Geographical Society*—Mr. J. G. Bartholomew. *Representing the Tyneside Geographical Institute*—The Duke of Northumberland and Mr. Herbert Shaw. *Representing the Manchester Geographical Society*—Rev. S. A. Steinthal, Mr. E. Sowerbutts, and Mr. E. W. Mellor. *Representing the Liverpool Geographical Society*—Mr. James