Laying the Boundary Line from the Orange to Vaal Rivers

By Lieutenant-General Sir Charles Warren, G.C.M.G.

FIRST PAPER

IN the autumn of 1876 I was engineer for Works to the War Department small arms and gunpowder factories, and felt that I was fast drifting into civil life while all my aspirations were in the direction of a life of military activity. At this time I was offered an appointment as engineer to harbour works in Australia, at £950 per annum, and was considering the pros and cons when I received a communication from the Colonial Office asking whether it would be agreeable to me to undertake the duties of Special Commissioner in laying down the Boundary line between Griqualand West and the Orange Free State for her Majesty's Government in conjunction with an expert from the Orange Free State.

Here was the very chance I wanted; I felt that the work would exactly suit me, and closed with the offer. The Colonial Office was most considerate in every respect; all my requests were attended to [C—1814. July 1877], and on Oct. 13, 1876, I received instructions as to my course of procedure, which involved a triangulation, survey and beaconing off of a long slip of ground through which the boundary line was to pass, from the Orange River near Hopetown on the south to the Vaal River near Fourteen Streams on the north, so arranged as to include the Diamond Fields in British territory. The subject of minor concessions of land was left entirely in my hands, Lord Carnarvon informing me that, while adhering to the general spirit of the agreement with the Orange Free State, I might consider myself at liberty, without sacrificing material points, to make such concessions in minor matters as I might consider fair and expedient, and as might seem necessary in order to prevent disagreement or controversy in the future; and I was further informed that Lord Carnarvon attached quite as much importance to a settlement which in matters of detail would be final and satisfactory to both sides, as to the actual precision of the survey work. My communications with the Colonial Office ended with a kind letter from Lord Carnarvon's private secretary (now Sir Montagu Ommanney, Under Secretary of State) saying, "I cannot sufficiently congratulate the Colony on obtaining your services."

I received letters of introduction from my commanding officer (afterwards Col. Sir Peter Scratchley, K.C.M.G.), who said: "I intend to send a memo. about your services as a slight recognition of my debt to you for the steady, indefatigable way in which you have worked. As I say to Sir Henry Barkly, I could not wish to come across an abler officer or a better fellow." I also received many letters of introduction to people at the Cape, from my old friend Colonel Anthony Durnford (killed at Isandlwana); he had just returned from the Cape after the Langalillebalale episode, where he was seriously injured in the shoulder; he ended his letter, "Good-bye, old fellow—if we never meet again—God bless you!" (We never did meet again. He was one of the best of soldiers and truest of friends, and died the death of a hero.)

The following account of my life on the Boundary line is taken principally from my diary, and from my letters to my wife and children, and I may observe that the views I have expressed of the people, whites and natives, were my first impressions, which were modified somewhat as I remained longer in the country and understood them more fully.

My staff consisted of two non-commissioned officers R.E. from the Ordnance Survey (Sergeant Kennedy and Corporal Randall).

We left England in the Union ss. *Danube* October 26, 1876. Our fellow passengers were

not numerous but were very amusing. The principal parties (whom I came across subsequently) were two shikaris going lion hunting towards the Zambesi (Colonel Saltmarsh and Mr. Brooks); Messrs. Porges and Rubi on business to the Diamond Fields; Mr. and Mrs. Atwood of the biscuit-baking firm, Capetown; two Frasers, brothers, going to Basutoland; a Natal farmer, wife and son; Mr. Alexander, engineer; many others, mostly ladies.

The most amusing certainly was M. Porges, who seemed to be an Austrian from Vienna, who has become a Parisian diamond merchant (belonging to the firm of Porges, Wernher, Rube, &c.). He evidently knew the value of money though he had never known the want of it. He was the life of our party and I saw a good deal of him. He was not naturally by any means a butt, but he often made himself the butt for our amusement, and acted most cleverly. On crossing the Line the Captain forbad old Neptune to come on board, so in lieu we got up a charade, the word being given by Porges, half English, half French, Don Quichotte (Quixote) or donkey shot. Our engineer was turned into the "Don" (Don Juan) and taught to make love to two or three ladies at one time; the rehearsals were some of the most inexpressibly funny scenes imaginable; after much coaching, at which many of us assisted, he became an adept. In the last scene M. Porges was Don Quixote and shot me, a donkey dressed up as a lion. I brought down the house by an impromptu as I lay dead: pointing at Porges in his grotesque costume—"Better a dead lion than a live donkey." M. Porges was the more amusing because there was so much put-on ponderous dignity mixed up with it, and while putting us for ever on the grin he kept his own countenance severe. At the time of crossing the Line we had boisterous sports; amongst others bear-basting, and I gladly allowed myself to be swung in a sling and beaten black and blue with knotted handkerchiefs, for the sake of seeing the magnificent Porges going through the same ordeal shortly afterwards, glaring at us and looking very like being out of temper, yet ever keeping it under control.

We neared Capetown on November 20, anchoring at 4 P.M. As we approached land during the day we were much impressed with the extraordinary effect of the mirage on the sea-coast. The whole of the barren sandy shore was transformed at midday into a beautifully cultivated coast with numerous lines of waterfalls running over into the sea. The deception was most perfect, but at times the waterfalls resolved themselves into stretches of low sand, and the rising ground behind disappeared. Table Mountain was most striking in appearance, but was already looking parched and dry though the summer was barely commencing. But at sea the temperature was cold, and I was still wearing my overcoat when we entered the harbour, and a sudden change to sultry heat was experienced. This always does strike people from our isles very much, owing to the intensely cold water from the Antarctic Ocean washing the shores of South Africa.

The harbours and surrounding buildings present a very unfinished, unkempt appearance: the docks seem very small for large vessels, and the strong current sweeping across the entrance makes it difficult for ships to enter, as the stern may be swept against the jetty after the bow has entered; we ourselves very narrowly escaped coming in contact with the wooden jetty. Capetown nestles picturesquely under the mountain side, but the absence of trees is a great drawback, and the chaotic state of the foreshore detracts altogether from our proper appreciation of the grand view behind it. Hansom cabs abound in the streets, and the drivers, mostly Malays (Moslem), wear the Malay straw hat raised some inches above the head, supported on a circular band of metal which fits the head. The streets of Capetown are far too wide for the limited amount of labour that the municipality can afford to bestow on them, and the pavements or footpaths on either side are appropriated by the owners of the cream-coloured houses, and are used as Dutch stoeps: that is to say, they have seats put across them, a custom very pleasant and even necessary for the occupants, but causing the white pedestrians who have to walk in the roadway to utter many things. Probably the reply

would be that white people should ride and not walk like natives.

At the Custom House I had an amusing scene with the chief officer. I was taking a silver presentation plate through to Colonel Lenyon, which they insisted on opening, though the invoice stated exactly its nature. I felt sure that they would spoil it with their rough hands, so I said I would rather kick it into the sea than have any more bother with it, and gave it a good kick. They gave in at once, and said it could be of no value if I could kick it, and so I got it through without injury.

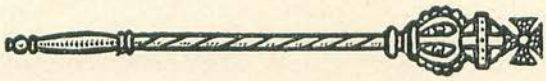
St. George's Hotel was stifling hot, but there were neither mosquito-nets nor mosquitos in my room. I was much struck with the profusion of delicious fruit and vegetables of great variety which the hotel afforded.

October 21.—After calling on Captain Mills (afterwards Sir Charles Mills, Agent-General for the Cape Colony) I paid my respects to Sir Henry Barkly, High Commissioner, who received me most cordially, and told me that the arrangements for the details of the boundary line were left entirely to my discretion, but that if I ever wanted any assistance or advice he would be most happy to afford it. I then called on General Sir Arthur Conynghame, and on the following day visited the Astronomer-Royal, Mr. Stone, and the late Astronomer-Royal, Sir Thomas Maclear, relative to connecting the boundary line survey with that of the Cape Colony Triangulation, and got valuable information from them on various points; but on visiting the Surveyor-General, Mr. de Smit, I ascertained that the Cape Colony Triangulation did not go farther inland than 200 miles, and that therefore no junction could be made.

Before leaving Capetown I dined with Sir Henry and Lady Barkly at Government House, and there met Sir William Hewett, the Admiral of the Cape Colony Station (under whom I subsequently served during the Egyptian War of 1882–3). He was full of his recent visit to Natal, and spoke in most glowing terms of one he had met there —"a born soldier." It was on his road from Durban to Pietermaritzburg that he met him, an Englishman, driving a Cape-cart with six horses and giving directions to the Kafir labourers on the road. "The man was in plain clothes and doing civil duties, and I did not ascertain his name, but I recognised him as a born soldier: his method of dealing with his workmen was perfect; they were drilled into order and hung on his words as though he were a superior being." This description interested me very much, and I said, "That must be Colonel Anthony Durnford, R.E." Sir William replied: "I don't care who he is: he is a born soldier, whoever he is." I was very much gratified to find that Durnford should be so readily recognised for his soldierlike qualities even when doing the civil duties of Surveyor-General of the Natal Colony.

Just before I left Capetown the verger of the Cathedral came over to tell me that one of the Sisters wished me to go over their Children's Home. I did not know the Sisters, but I had met one of them in the train and offered to take anything for them to Kimberley: they are not, however, of the same order as those at Kimberley.

I went over the Home. There are two kinds of dress used by the Sisters, black and grey: I think that the latter are novices. They have eighty-three children in the school and are much in want of funds; there is also a refuge. There are no bedsteads for want of funds, and the children sleep on the floor on mattresses. They are all colours, and seem to get on very well together: many are orphans. This organisation of Sisters must be very helpful to the bishop. I cannot think why we don't have something of the kind in Palestine; it is very like the German system.



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SECOND PAPER

WE arrived at Port Elizabeth (Algoa Bay) on Sunday morning 26 Nov. 1876, after a forty hours' run in *The Danube*. We stopped at Mossel Bay to put down Sir John Coode, C.E., who is on a tour of inspection to the several harbours. He seems to have little hopes of doing any good there, but was desirous of going on to the Knysna, where there is a land-locked harbour, and at least fifteen feet of water on the bar. According to all accounts the country about George and the Knysna is the most beautiful in the world; splendid forests, flowers, climate. You can ride through miles of red geranium, you can shoot elephants (if you have a permit), you water your horse every three miles at the running streams. This is to be the harbour of the future (according to current account), and it can be so easily defended. With all these advantages I hope Sir John Coode can push the matter, but his instructions appear to be only regarding Mossel Bay.

Algoa Bay is said to be the most thriving port in South Africa, 14,000 whites and 3000 Kafirs, but from the sea it seems quite a small place with clean-looking buildings; the absence of trees is the most remarkable want. There is simply a great open bay, with a surf of great violence, and *beachcombers* in strings on the shore holding hand and hand, stretching right into the surf and bringing goods and passengers on shore among them: a very turbulent proceeding at times, but a necessary evil. They say that vessels cannot ride safely at anchor in a south easterly gale; and have to cut and run.

From the sea the plains above the town look like Clevedon in Somersetshire, but the coast-line is barren and rocky and contrasts strangely with the brand-new houses; everything looks so clearly cut in this bright climate.

We were able to land in boats, and put up at the Phœnix Hotel, where we got our coach tickets for Kimberley.

Hearing the church bells going, I had just time to change my clothes and make for a new plastered building of cruciform shape; a very ugly church outside, but the service conducted well, somewhat ornate. A good choir of six men and fourteen boys, and a decent organ. The minister had an excellent voice and led the whole service, including the singing. The psalms and all responses were chanted. The boys sang well and rather loudly, but I should not have considered it different to any service at home; I should say that it was a good deal above our average. A good sermon on the Second Coming; no Communion. I cannot say what an effect it had, this first joining a service in church with our people grown up in a colony; what a bond it is between us!

In the afternoon I came in for a tough job. It was very hot, but I felt restless staying indoors, and walked through the town into a fine church; and, seeing a young man puffing away at the organ bellows and looking at the last gasp, I offered to lend a hand while he rested a bit; after a time the music did not cease, and the organ blower did not come back, and I began to perspire very freely. I did not like to incommode the people by ceasing to blow, and gradually it dawned upon me that it could not be a church of England that I was in. Presently the people began to flock out, and they all seemed to scrutinise me as much as to say, "You are not one of us." However, I pegged away until the organist stopped, and then I took a look in and found it was a Roman Catholic Church,

and bolted. [I never met that young man, the organ-blower, again, and I think he did not wish to meet me.]

In the afternoon I went with Porges and the Frasers to see the gardens of Port Elizabeth. What keeps striking me so much is the absence of trees, otherwise the general appearances of the country is like Cornwall. The houses all seem new and look well with balconies and verandahs. I never realised before that the ox is a majestic animal: I can understand now why he appears on the standards of the Children of Israel. The ox out here is a splendid beast, walking with a freedom of step that I have always ascribed only to the lion. As they draw the waggons through the street they look as though they were doing it of their own free will, for the love of the labour; they look absolutely independent and free. Above the town, at the height of about 200 feet from the sea, is a level plateau with coarse grass. Here are an observatory, and a pyramidal monument to Elizabeth Donkin, who died in India in 1815, and a cemetery, and then the town gardens. Oh, what a disappointment! A pond of water and some trees and flowers in a most unkempt condition, quite melancholy to see. The trees are principally fir and blue gums, and the flowers are petunias and geraniums. There is wanting a little artistic skill, and a good deal of labour, to make these gardens presentable.

The Malays, who are Moslems, are dressed in nice, bright, clean colours, and they inhabit their own quarter of the town, I like the look of them. The Kafirs are scarecrows; they wear our old clothes, and very bad ones too, instead of their national costume (if they have one). What guys they all look! What a lot there is to be done in this country, and the dust is insufferable. Major Lanyon has telegraphed to ask me to stay with him at Kimberley.

Tuesday, Nov. 28.—We rose early and started by train for Sand flats, over an undulating bush country; such a desolate scene. The veldt is quite dry, and the scrub or bushes have lichens hanging down from them like beards, as though they had been immersed in a sea full of sea-weed and the water suddenly drained off. A most melancholy sight. Then by coach to Grahamstown, where we arrived in the evening.

The style of hotel accommodation up country would be amusing if it were not so singularly uncomfortable; it is cheap enough. Bed-rooms which have six to ten or more beds in them, and the washing to be done in the open air in the back yard; it reminds me of the Ventas of Spain, but not so amusing. I cannot express my sensation as to the voyage up to Kimberley as anything else but dreary in the extreme as far as outside circumstances, though being a merry party we were very happy all together.

The very sullen look of the Kafirs disturbed me; so different to natives I have met in other parts of the world. Everywhere else I have found the native looking upon the Englishman as his friend, but here the Kafir looks gloomily at us as his natural enemy; there is no greeting, no "Good morning." How hateful all this is! (At this time the discontent had begun which culminated in the great rising of 1877.) We passed through Cradock, Colesberg, the Orange Free State, staying for the night at wayside hotels, and reaching Kimberley on December 4 early in the morning. What a dreary country we have gone over, uninteresting in the extreme for 400 miles! I did not think it possible that there could be 400 miles of such vacuity.

Imagine an uncultivated country, with large plains and only small flat-topped mountains; without corn-fields, without trees, without terraces or vineyards; without a single ruin or vestige of the past; with absolutely no history of any kind reaching back a hundred years. A general scene of desolation, farmhouses (or inns) 15 to 30 miles apart, with nothing to eat in them save bread and butter milk, and meat—tough meat too. I wonder if I am becoming a pessimist.

The rains take place in summer, so that wheat cannot thrive, and, if rain by any chance does fall in the winter, the long grass rots on the ground and the cattle starve; moreover, the winter in the uplands is said to be severe in the extreme. Yet with all this I found the summer, with all its heat, extremely

pleasant. This is the same latitude as Gibraltar, but the sun is not nearly so oppressive, and one feels so wonderfully well—all alive!

I have felt more cold than heat as yet, though it is midsummer, and I have often had to don my great coat.

Yet here and there were objects of interest, the great white-ant heaps, and the holes made in them by the ant-bear with a long snout; then two kinds of merckats which inhabit cities on the route, and also snake communities. The thorny mimosa is almost in blossom, and the wild jessamine just out. Yellow wild cats to be seen. They seem to milk the sheep in this country, and they have only one lamb each and bear for six years. The stages average 16½ miles each, and our rate was 6½ miles an hour, going for about 16 hours a day, temperature 85° to 90° F. during the day, and cool, even cold, at night; the plateau of the Orange Free State is some four thousand feet above the sea.

As I approach Kimberley and the western boundary of the Orange Free State, where I am to spend so many months, I must confess I see nothing interesting or prepossessing in the appearance of the country—miles and miles of nearly dead level steppes, gently rising every few miles and culminating in flat-topped hills of iron-stone or trap, and falling again and rising up to another range of flat tops. The slopes so imperceptible that they can only be detected at long distances. Here and there deep sluits or gullies in the shaly soil, running into the Riet and Modder rivers, which are merely bigger and larger gullies running through these nearly level plains: with only a dribble of water in them except in the heavy rains—then they are a fine sight, they say, roaring torrents sometimes overflowing the plain.

At the junction of the Riet and Modder rivers we came to a large store, half tin, half corrugated iron (Berry's), and after crossing the river we approached the Diamond Fields, whose galvanised iron roofs and walls shone brilliantly in the sunshine, a dazzling white.

I am glad to be over the journey, for it had its inconveniences, though I enjoyed myself immensely. The food bad, the accommodation bad, our Boer hosts both insolent and grasping: they gave us the bare necessaries of life, charged us as though we were in first-class hotels, and they treated us as intruders. Owing to the dryness of the air, the bread, said to have been baked in the morning, had to be parted with a hatchet in the evening, and the beef was too tough for mastication—had to be bolted. Yet at some of the English wayside inns we got excellent mutton chops and ham and eggs.

We were highly amused with one of our fellow passengers from Grahamstown, a vivacious Afrikander Englishman, who laid down the law, put us all to rights, and kept us amused. On getting to one of the Boer inns he disappeared as a passenger, and reappeared as the waiter of the inn under Boer supervision, and a very good one too, most civil and obliging, but no longer passing as the man of fortune and means on his way to shoot big game in the interior. I could see by his eye that he thought he had scored. [Some months after I passed this house and found this same waiter sitting on a stone, dull, abstracted and dejected. I tried to rally him with no effect. Again I passed the inn and found he was gone, a victim to consumption.]

Dec. 4, 1876.—We arrived at Kimberley on the coach so early that there was no one from Government House to meet me, and, being a stranger to Col. Lanyon, I put up at Mrs. Jardine's hotel to get a wash and breakfast. [Here I made the acquaintance of the kindest of landladies and one of the best of women, Mrs. Jardine.] Her hotel was a novel building to me. An enormous eating room with very small single bedrooms opening out all round, and in front the bar and sitting room. Soon I was discovered by Colonel Lanyon (afterwards Sir Owen Lanyon). I was well wigged for not coming to him at once, and he treated me most hospitably, as his reputation is so to do.

Here I met my future colleague, Mr. Jos. E. de Villiers, Government Surveyor, who had come over to meet me and carry me up to Bloemfontein to pay my respects to President Brand, of the Orange Free State.

Dec. 5.—Jos. de Villiers took me in his Cape cart to his house at Boshof, over thirty-five miles; here I made the acquaintance of his wife; and on the following morning we got up very early and drove straight through into Bloemfontein, the whole distance by Boshof from Kimberley being 120 miles.

Thursday, Dec. 7.—I have paid a visit to President Brand and was delighted with him. I suppose he would not be offended if I say that he seems to be thoroughly English. We shall get on first rate together, I can see, he takes such reasonable views of everything. He was glad to find that I had authority to alter the line to a slight extent, as he said I should find great difficulties with some of the farmers, who were very wroth at being brought into British territory and threatened to shoot those who laid down the line. The President seems to have some difficult people to deal with in the Volksraad, but he manages them so skilfully that they respect him greatly, though they do accuse him now and then of being too English. I think that they are rather proud of him.

Dec. 8.—All about here say that the Orange Free State and the Transvaal are to be the rich portions of South Africa. People here are making their fortunes in six to ten years. The proprietors of this hotel have in succession made two fortunes in ten years, and now a third is getting rich. Prices are at a frightful pitch; five shillings for a bottle of Bass, one shilling for a slice of bread and butter and cup of tea. At Jacobsdaal I had two cups of tea and they charged me sixpence each, but there are extortioners there, if anywhere. After all, however, it is not much more than we have to pay at a railway station at home, but the style and comfort are very different.

They all boast about the Transvaal, there is no end to their talk about it, it is a real El Dorado or Tom Tidler's ground, where gold and silver and precious stones seem to be had for the asking. A good farm of 6000 acres can be bought for £150 (what is the title?), the climate is delicious, with thunderstorms every few days in summer. I must confess that even here it is "good enough," though we are near midsummer the weather is most agreeable, water in bath quite cold and a fresh breeze all day.

This town has more than doubled during the last ten years, and is very thriving. When the railway comes here it is to be the educational centre of South Africa. Already it must have made its mark in the minds of some, as a young Afrikander told me on board ship that, next to Paris, it was the most enlightened place on the face of the earth. I have reason, however, to conjecture that the young lady he is in love with was educated here, so no wonder he cracks up Bloemfontein.

I can see in front of me convents, churches, a cathedral, schools in all directions, and buildings springing up: it is a pretty sight, and I give a little sketch of it as I sit here.

I am on top of a small hill of iron-stone about a mile to the south-west of the town (or may we call it a city?); it is 11 A.M., and as I look to the city to north-east the sun shines in my face, as we are in the southern hemisphere, and is at mid-day due north. Below me is the rifle-range (hurrah for their military instincts!), the Boers are excellent shots, and are said to hit springbuck at 800 yards. Bloemfontein is in a hollow, basking in the summer sun, for we are near Christmas. Forty to sixty miles away on the horizon are indications of mountains, amongst others Marocco's Mountain (Thaba N'chu) the centre of a native republic within a white republic, belonging to a great Kafir chief with a town of 10,000 men.

Around Bloemfontein and overlooking it are four low hills, two to north about 400 feet above the plain, and two to south about 200 feet above the plain, between them the road from east to west passes. The southern hill to east sustains the citadel, on which the Orange Republic flag is flying. This fort is composed of a loose stone wall, with two old smooth-bores (24-pounders) mounted on iron gun carriages. Between the two southern hills is a monument to "the brave" who fell in the Kafir war, and on the southern slope of these hills are two cemeteries, one English, the other Dutch, the latter is nicely kept and has trees in it.

The city lies in the hollow between the

northern and southern hills; on the west is a sheet of water kept in by a dam, and near it is the fountain called after Bloem, the first farmer (probably a half-cast Griqua, I quote from my father's notes) who settled here. The water in the dam is obtained from the occasional rainfall, which is conjectured to be about fifteen inches or more per annum. Beyond is a pretty farm-house surrounded by trees, cypress, blue gum (Eucalyptus Globulus?), where the Church of England Sisters have a school, I believe. Next to the dam appears the new House of Assembly for the Volksraad, then a succession of houses with galvanised iron roofs. Green trees are interspersed, cypress, weeping willows (near the water), blue gums, pride of India. Schools, churches, convents, stores, private dwellings, succeed each other until the city is hidden behind the hill. In the centre is a large square, where the market is held (please remember that I am a stranger taking stock, and no doubt my account is full of errors, I begin to be alarmed at being questioned by next mail how many convents there are, and to which orders they belong).

A strong breeze is blowing, objects forty miles off are easily seen; but there is also the mirage, sheets of water in the distance, which are only streams of heated air; the mountains sometimes rise up in the air, sometimes seem topsy-turvy, and they often look like hay-stacks—huge hay-stacks—because they are flat-topped, get larger as they go down, and then suddenly, on account of the mirage, get smaller still lower down. The earth is red, grass brown, but the shrubs (Karoo) are green, so are the trees in the town, especially the beautiful pride of India, whose roots are so poisonous to other plants. There are no trees to be seen about the veldt.

What a pity that paper, the sweepings of all the stores of Bloemfontein, should be flying about the veldt! Acres of paper. Some of it seems to have been here for years, careering over the plain, backwards and forwards with the wind, sometimes in one direction, sometimes in another, but always near, quite spoiling the environs. It would appear as though every wrapper on every parcel reaching this metropolis since its building had been wandering about for years around.

I inquired after Harry ——, and hear that he is partner with Hubbard, transport-riding between this and Kimberley, and I must have passed him on the way driving his ox-waggon without recognising him. I hear good accounts of him, and that he is likely to do well. I have not yet met Sister Henrietta, but have heard from her that next to going home she would like to meet an old friend from home. She is nursing somewhere about, and I hope to see her soon: she is not yet in possession of a hospital, that is to come.

I have been to a very pleasant children's party at President Brand's, and danced with the children, and made the acquaintance of Miss Trench, daughter of the archbishop of Dublin; she is not a permanent sister, only a grey lady, and goes home very soon to take care of her father. I am delighted with Mrs. Brand, who made herself most pleasant; she is an Afrikander of good old Dutch family. She regretted very much that the President's income (£5000 a year, I think) could go such a little way in so expensive a country, and that their hospitality had to be curtailed more than they wished.

Sunday, Dec. 10.—I think I shall like the cathedral people very much, they all seem so nice. Bishop Webb preached a most impressive sermon, and the services are well conducted. I lunched with Mrs. Webb at 1 P.M., and met Mr. Gall [now Bishop of Mashonaland]; he took me over the theological college west of the cemetery. The cemetery is in a dilapidated condition, all except the wall. I made the acquaintance of Archdeacon and Mrs. Croghan, and of Canon and Mrs. M'Kenzie. All are living without competent servants, so far as I could judge, the ladies doing the cooking, which was very good; I am sure that Kafirs could not cook so well. When I called on the Croghans I had to thump at the door, as there was no bell or knocker, and Madame came out in her kitchen garments, and was very merry over it. I think these people are very happy so far removed from conventionalities; at any rate, they impressed me with their great hospitality and intense energy in struggling against all difficulties.

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THIRD PAPER

MONDAY, December 11.—I returned to Kimberley by coach. Just before starting Major Lanyon (who had arrived last night) came up and introduced me to a fellow passenger, Bishop Jolivet, Vicar Apostolic for Natal, who was right good company, full of anecdotes, and most amusing. He likened the springbuck to cheesemites, owing to the manner in which they suddenly bring their legs close together and then bound up in the air. He was open-mouthed on the subject of the iniquities of the Church of England in the Bloemfontein diocese. One of his complaints is that our clergy dress in cassocks so that you cannot tell them from Roman priests, and that sisters have been introduced who look like nuns, so that no one could tell the difference, and that they have drawn off the Dutch girls from the Roman schools and have ruined the Roman efforts in Bloemfontein. The whole indictment appears to show that the Church of England has been very active and has been just in time to gain the day at Bloemfontein.

Our coachman was a Malay. I did not recognise this at first, but on one occasion when he got excited he abused the horses in choice Arabic swear words, which were very familiar to me. I started a conversation with him, but his Arabic vocabulary was weak, and principally limited to language he had acquired during a pilgrimage to Mecca, where evidently the animals that carried him required a good deal of coaxing and conjuring.

A concourse of the Roman church flocked out from Kimberley, as we approached, in all sorts of conveyances, and brought a carriage to meet the bishop. He insisted on my getting in with him and we drove into town in triumph.

In the evening I was asked to go to a theatrical performance given by the Roman catholic boys of the town in aid of some charity. They drilled, executed various manœuvres and sword exercise; all most capital exercises for boys, many of them not more than seven years old; then they acted in a play entitled *King Alfred and the Cakes*, really grotesque, and then a screaming farce which did not seem very suitable for children; they acted a dying man and used strange oaths. It is very difficult to select plays for children to act.

Next day, *Tuesday, December* 12, I called on the surveyor-general, Mr. Francis Orpen, and agreed to visit the vicinity of the boundary line with him as far south as Ramah, as my colleague Jos. de Villiers is engaged as a member of the Volksraad for several days. With these two it is a case of Box and Cox, they cannot meet together. They have come to such cross-purposes that if they met there would be an explosion.

Jos. de Villiers is a very able man and a good surveyor; he is thoroughly Afrikander Dutch in all his views, and has insisted on the boundary line being brought in much further to the west than Orpen considers just. Francis Orpen is also a very able man, a good surveyor, and good mathematician, and seems never so happy, they say, as when he is in the midst of some abstruse problem, blowing clouds of tobacco smoke around him. I am to be well inoculated with the pure English view as an antidote to all the poison of the Dutch view which I shall inbibe when meeting and working with de Villiers. But so far as I can see it all lies in a nutshell, and presents few real difficulties, except those imported into it by prejudice.

The work before us is to determine the precise position of Ramah, David's Graf, Tarantaal Kop, and Platberg, and to lay down beacons from point to point. To do this we have to make a complete triangulation of

a strip of country 120 miles from north to south between the Orange and Vaal Rivers, to fix the latitude and longitude of some one point in the triangulation, and to connect it with the surveyor's farm triangulation in Griqualand West and the Orange Free State.

Thursday, December 14.—We started early in a Cape-cart and four horses, driven by Mr. Orpen, towards the Modder River and, strange to relate, we promptly lost our way on the veldt. Mr. Orpen had got so interested in his subject that he had taken a wrong turning, and there we were, with the level veldt all round us, and the surveyor-general of the colony quite in a fix; it was most amusing. We had to cross the Modder somewhere; so he chose the first drift, a very difficult one, where we were nearly capsized, and we out-spanned at a Boer's house on the southern side of the river. He asked us to stay for coffee and talked Dutch. Several Boers were assembled there, and as it was my first entry into real Boer society (otherwise than at an inn) I watched the whole proceeding with intense interest. First I was taken aback by the appearance of some of them; it rather took my breath away. They mostly had on corduroy suits, of the very oldest and dirtiest description, and veldt hats; but one old patriarch had a battered black silk top hat and a rusty black suit, which became him down to the ground; he certainly was uniform in his appearance; and yet this man was described as very wealthy. The men spit about in all directions, and the house had a disagreeable odour about it of sour milk, but we sat on the stoep. The whole place was horribly uninviting, and yet some of the things were very clean. The milk pails were polished up, and the brass fittings of various objects were clean and bright. I am inclined to think that many of their dirty ways are due to peculiarities of climate, and the difficulties in getting water and soap. I wonder if I shall ever like them! We went on to a wayside inn near Honing Nest, kept by Mimzc, an old English soldier (45th Regiment), such a contrast to the last place. Mimac has done wonders; dug a well, made a shower bath, planted a garden, and married a Dutch wife, who is not only an excellent cook, but who also keeps the whole place exceedingly clean. She is an enormous woman, too heavy to move about, and sits all day long regulating affairs from the kitchen. They say that when Mimac takes her out for an airing, he has to haul her up into the cart by means of a derrick. This house is forty-two miles from Kimberley, on the road to Hopetown, and is a favourite place for travellers to stop at, as the food is known to be always well cooked, and the accommodation so comfortable; it is only built of galvanised iron, and thus very hot in the daytime, but then it is also very cool at night.

Friday, December 15.—After breakfast we started over the veldt again, a very monotonous journey. The only object of interest to be seen was a steep, rocky hill in the distance, apparently of trap formation, with a white streak flowing down one rocky side. This I was told was a home of the vulture, and that the white streak is from the droppings of these birds, the accumulation of many years; it is called Asvogel Kop, and is near Honing Nest Kloof. I had wondered when coming up in the coach, where these big birds get away to at night. Their habits are an interesting problem; how do they gather together so quickly when some animal dies on the veldt? In a few minutes you will see twenty, thirty, forty or more birds, all congregating together. They tell me that these vultures, on going out of a morning, mount high up and divide the heavens between them; and that when one of them sees, from his vantage-point, an animal fall down exhausted on the earth, he makes his way there, and the others, seeing the movement, close in and follow in the same direction; and that this is carried on for hundreds of miles. This does not quite explain the matter, unless some birds are left aloft, on guard, to watch for the fall of other animals.

To-day we only drove fifteen miles, and arrived at a large farm-house called Belmont, the property of Mr. Wayland. It is the show-house in these parts. Mr. Wayland has made the desert blossom as the rose. He has constructed a large dam, which,

though at a very low ebb at present for want of rain, irrigates his large garden and field. The house is of brick and masonry, and there are a few creepers on the stoep, but no garden close to the house. They are particular in this country to select a dry *erf* for the house to stand on, somewhat high up; while the wet *erf*, for the garden, must be at some distance below the dam. They think that irrigation near a house gives malarial fever, and this certainly was our experience in the Mediterranean; and in the Lebanon you will recollect that fever was always attributed to damp ground near the house.

The result of this system here, however, is to give rather a dusty, dreary appearance to the homesteads, while the gardens may be beautiful and bright with flowers. The garden here is large and well-watered. Mr. Wayland received us as his guests in the most hospitable manner; he took us over his garden and with manifest pride showed us hollyhocks, petunias, periwinkle, tamarisk; all kinds of stone fruit (apricot, peach, plum), orange-trees, pomegranate; all these he has planted himself. All this out of the sweat of the brow; all the result of elbow grease. Mr. Wayland's father lives with him, and he has three grown-up sons and two daughters, all in the house, and also some guests besides ourselves. We spent a very pleasant evening.

Saturday, December 16.—We went this morning to Ramah on the Orange River about twenty miles from Belmont at the southern end of the boundary line, but we first stopped at the house of Mr. John Cron Wright, who gave us a good early dinner and rode on with us. All about here think a great deal about Cron Wright and say he is the type of man they want to farm in South Africa, a born leader of men. He seemed to me just a sturdy Englishman who would hold his own against any odds. I believe that he was raised on a Mission Station, his father having been a missionary in South Africa, and he seems to be a most creditable product of the country. Ramah is an old Mission Station for Griquas who have now left the neighbourhood. I hear that there are only 500 Griquas left, and that they live in huts and tents, very much impoverished. I am not quite sure that I yet know the difference between a Griqua and a Koranna, but I fancy that the latter are the aborigines and that the Griquas are bastards, half Dutch, half Koranna. I find that in spite of the bitter feeling between the Boers and English, the latter are disinclined to talk about the early intermarriages between the Dutch and natives, for at the present time the Dutch look with great horror at such unions and no half-caste children are ever seen about the Dutch habitations. Still it seems notorious that there are coloured de Villiers and white de Villiers, and so on through the various family names, and that the white branches of the family look down upon the branch that shows mixed blood. As far as I can gather from my father's notes made in 1825, the leading Griquas are mostly Dutch half-castes.

Fancy! there are nomadic Boers here, people who live their whole lives in tents, and trek about from place to place, as the spirit moves them, looking for pasture for their flocks and herds. I thought at first that they only went into tents for a season, but I find that some of them have never lived in houses; nor their fathers before them. What a terrible life it seems for civilised people. We paid a visit to the Boer who now occupies the farm at Ramah, he has a wife and grown-up sons and daughters all living in two tents and a waggon. Everything about the (living room) tent was nice and clean, there were chairs, and the floor matted with skins of springbuck, I cannot make out what the girls do all day long, they seem to me to be sitting in chairs doing nothing. The wife seems also generally sitting down shouting out directions to the servants and making coffee. I have seen a good many Dutch interiors now.

Returning to Belmont we came upon several droves of springbuck; they always tried to head us on whatever side they were; and as they came up to the road they each bounded clean across it as though it were uncanny. One of the Waylands lent me a Westley Richards rifle and instructed me

how to creep alongside the Cape-cart so as to get a good shot, but I was not fortunate as they were beyond 500 yards. The Waylands said that if the buck see the cart stop they get alarmed, but as long as it moves on they think themselves safe, and do not imagine that there is any one with a gun awaiting behind it. The principle of getting near to the springbuck when pursuing them, out hunting, whether in a cart or on horseback, is based on the habit they have of always trying to head you. When you come on them (say to your right front) they will, as soon as they see you, endeavour to cross over to the left, but moving away from you; then you begin to trend slightly to the left, and they will describe a very large circle while you are describing a small one; and eventually you will, if you are an adept and the ground is favourable, tire them out and get shots at them under 500 yards, when you may make sure of killing. Why do so many animals seem to have the same desire to cross over in front of you when there is no occasion to do so?—to wit, when you meet a fowl on the roadside.

Sunday, December 17.—We had prayers at 11 A.M. and in the afternoon started for Mimac's where we arrived at sunset, and put up there for the night, arriving at Kimberley next day.

I had an amusing adventure at Belmont. The tame male ostriches are at certain times horribly vicious, and when they see a stranger they run at him, strike out with the toe and tear him up; safety lies in lying down, then they cannot strike with the toe and can only trample on the body with their feet until help comes.

I was going out on Sunday morning with a dog when I saw a cock ostrich come running at me; luckily there was a little hill of iron-stone near, for which I made, and, reaching it in time, climbed on to it just as the ostrich reached me. He could not come up and I could not come down, and there I sat with the dog, unable to move, with the ostrich stalking round and round. Eventually one of the Waylands happened to come out and saw me a prisoner, but even he could not venture to help me, and he had to call the driver of the bird, a little Hottentot child, who looked about four years old. This little mannikin, with a little whip, came up and drove the bird back into his pen, from which he had escaped. These birds are most obedient to their little master, I suppose because they have obeyed him since they were hatched. Of course, if you threw a stone at the bird you could easily cripple him by breaking his leg, but then bang goes £40.

The ostriches are kept on the farms for the sake of their feathers; the cocks are nearly black, the hens are grey. They are ugly animals, and when you see dozens of necks and no bodies over the top of a wall, they remind you of a lot of hissing snakes. One of the men told me that a short time ago a cock ostrich had followed him and he had to get up into a tree where he remained till darkness came on.

In some parts they cut the feathers of the birds, but about here they say they pluck them out when they get loose. One of these birds is worth £40 to £50, and each year his feathers can be sold for £40 so that they ought to be very profitable investments; but accidents will happen to them; some stray away and some will break their legs in rising up and must be shot. If an ostrich gets excited he will jump over a wall eight feet high, but usually he cannot get over two feet of wall. He is kept in his yard by straining a couple of wires round the boundary and then fastening reeds on to the wire; the ostrich sees the obstacle and as a rule will not attempt to pass it.

Mr. Wayland has a great number of these birds on his farms and they all look in good condition; they are not animals to make pets of.

I also saw at Belmont a dog that had been bitten by a snake and was dying. His head was very much swollen up, and he seemed to appreciate our pity and sympathy, and knew that we were caring for him. They say that dogs seldom get bitten by snakes, and that it is quite exceptional for a human being to be bitten, though the whole country abounds with venomous snakes, particularly the cobra.

There are about this country, paauw (large bustards), koorhaans (a smaller bustard),

snake birds, cranes, and wild duck; plenty of turtle-doves in the gardens.

Early in the morning before we left Belmont the mule-waggon from Capetown outspanned, and I was delighted to meet again my two assistants, Serjeant Kennedy and Corporal Randall, safe and sound; and was enabled to arrange for their accommodation on arrival at Kimberley.

From December 17, 1876, to January 17, 1877, I camped outside Kimberley on the veldt, measured a base line there, got our waggon, oxen, and horses together, and organised our party ready to take the field; during this time Jos. de Villiers came over to help now and then, but was principally employed in piling, *i.e.*, in erecting huge stone piles on prominent spots where we agreed to fix our trigonometrical points. During all this time, being both experienced surveyors, we never had a word of difference about our work, and carried it on in entire agreement.

Monday, December 25, 1876.—What weather for Christmas, 101° F. in my tent when I entered it this afternoon, but at the same time a dry wind blowing, which kept me pretty cool so long as I perspired. Yesterday my coolie servant found a snake in his bed, but I fancy a harmless one. I cannot believe in Christmas in the middle of summer; and what can the unfortunate people do in mid-winter with no Christmas interests to enliven the time. They say it is cold here then and no means of keeping warm at night.

The houses at Kimberley are nearly all of canvas, corrugated iron or mud. The iron houses shine in the sun like silver and, at a distance, the town has a glittering, dazzling, appearance. When a thief wants to rob a canvas house he just takes a knife and makes a long slit—presto! he is in the room. It is very simple, but punishment is very simple also. The diggers don't stand on ceremony with the thief and do not wait for a trial; the thief, when caught, just gets as much as he can bear—consequently there is not much thieving in the houses of this country. In respect to security of goods in transit from one town to another, I think it is the most orderly country in the world. You may see boxes full of valuable property; wine, spirits, eatables, all lying on the ground while the Kafir drivers of the waggons are away or asleep or drunk, and yet nothing is lost.

I was amazed to see the absolute security on the way up to Kimberley. Again, more than a million pounds sterling value of diamonds go home every year in the letter-bags by the post carts, without any guard, and yet there is no robbery. There have been thefts of diamonds *en route* from Kimberley, but all of an exceptional character. Even cattle-stealing seems only to go on while there is war with the natives. There is, however, a good deal of diamond stealing in the mines and illicit buying and selling; and hard things are said about several known persons.

Tuesday, December 26.—I am encamped about a mile from Kimberley, close to our base line, which has been used before by Mr. Orpen for his triangulations, so that we can connect up easily our several works. I am hoping to see Mr. de Villiers this evening, and then we shall begin to work together. I wish we could be a little further from grog-shops as our servants continually get drunk. The task of getting suitable servants is very difficult. They do not seem to know what it is to work in an ordinary way, and our survey work is hard and monotonous, and involves keeping very irregular hours. We have to be up usually long before daybreak, and we often cannot be back to dinner till long after dark. Unless we can get the servants interested in the work I fear that we shall be constantly changing them, however good the wages are we give. The Kafirs available are no good as house servants or cooks, so I have got an Indian coolie (from Cashmir), brought up at Calcutta as cook, he says; all he could do, however, was to blow up a fire. I have taught him to bake bread (in our way), make an omelette, poach eggs, and other little accomplishments, and now I suppose he will want to go; his name is Nerada.

Food is wonderfully expensive, except meat, which is sixpence a pound. Cabbages are usually 1*s.* 6*d.* to 2*s.* 6*d.* each, and I have heard of a cauliflower going for 25*s.*, but that, no doubt, was a fancy price. A bundle of green oats, two of which a mule

can eat at a meal, 1*s.* 6*d.* each. On the average I should say that things are six times as dear as they are in England; and yet some things are cheap, such as weigh little and are not bulky. It is the enormous cost of transport (30*s.* to 40*s.* a cwt.) that raises prices, and the deleterious effect of heat on so many classes of goods during the slow journey up in waggons.

I don't think that we hear nearly so much about the unquiet state of the country as you do in England. We get very little reliable news here; but as to the news you get in England we do not know where it is made up—*on dit* in Capetown!

Major Lanyon went to the northern border last week and brought back seventeen Bechuana prisoners; there were the most wonderful stories afloat while he was away. First, that he had been shot; then that he was surrounded by 100 natives, then by 1000, then it rose to 10,000, and suddenly it changed to news that he had surrounded them all. It is a funny little State to have to govern; the people are fond of grumbling, but they are quite loyal. There is talk about risings of the natives around, but it only requires a little firm handling of them and all will go well. They are treated by us too much as though they were civilised, and are quite spoilt; on the other hand, I hear that on some farms—Boers and English—they are flogged unmercifully. It is difficult to arrive at the truth by hearsay only.

The Kafirs make a lot of money at the mines, and, as many of them come to work from places several hundreds of miles up country north of the Transvaal, they will soon know all about civilised life—but the worst side of it. The white people generally, in South Africa, have a strong feeling about the inferiority of black people. The blacks are not allowed to come into the white man's church; I suppose because of their odour.

A Model Women's College

By Charles Ray

THE visitor to Egham on passing through the town and turning to the left, will come upon a high, red-brick wall extending along one side of the road as far as the eye can reach. After following this wall for about half a mile he will see, suddenly rising before him in the distance, a massive and ornate clock-tower; and a further walk will reveal, through an open gateway, a huge building, one of the finest monuments of architecture in the Thames valley. This building is the Royal Holloway College, an institution which, owing its existence to the munificence of the late Mr. Thomas Holloway, is doing a remarkable work in the higher education of women. Some idea of the size and magnificence of the college may be gathered from the facts that its cost was £800,000, and that the ground in which the college stands covers ninety-six acres of the prettiest and healthiest part of the county of Surrey. It is by far the largest educational establishment for women in Great Britain, and probably in the whole world, and as no less a period than nine years was occupied in the erection, it will be easily understood that Egham possesses a pile of buildings of which not only Surrey but the whole country may be proud.

The college is built in the style of the French Renaissance, and is perhaps the best specimen of that school that we have in Great Britain. Before designing the building, the architect, Mr. W. H. Crossland, spent a long time in France, examining the most famous chateaux of the fifteenth and sixteenth centuries, especially that of Chambord, and the result of his studies and carefully thought out plans, though not brilliant perhaps in the sense that Wren's work is brilliant, certainly makes a valuable addition to the architectural treasures of the country. The college is arranged to form a double quad-

and housekeeper. Some quarrel in the village perhaps; a birth, a marriage, or even a death.

He turned a little impatiently in his chair.

"Well, what is it, Sarah?"

"Mr. Gregson an' Jim Tanner have come back alive after all!"

He started up as if he had been shot.

"What?" he almost shouted.

Sarah repeated her news with increased importance of manner, adding:

"Tommy Fielding what brings the fish have seed 'em both; he saith they do be wunnerful glad to be home agen. 'Tis a resurrection complete, for none on us had a thought o' they comin' back to their wives. 'Tis not for nothin' the young leddy at the Towers have refused to wear her widder's weeds!"

Donald ordered her sharply out of the room.

The blow had fallen, and it was a heavy one. At first he seemed almost stunned.

He looked away over the sea that was still covered with dancing sunbeams, but a black pall seemed to have fallen over everything. His bright hopes for the future were crushed; his dreams had vanished; life that had assumed such a roseate hue a few moments before now was a weary, monotonous round.

"Oh, my God!" he cried, "help me, strengthen me, show me I have still something to live for!"

His head drooped till it lay on his folded arms. The setting sun sent one of its soft golden rays across to comfort him. It kissed his hair, but never reached his heart, and it faded away convinced of its failure. Twilight crept in; the sea and horizon grew misty and indistinct; the gulls flew off to their nests; and the fishers' voices on the shore were stilled. Lights twinkled out of the cottage windows; the sky became studded with stars; and the night air grew keen and frosty.

Still that bowed figure by the window. The soul of a sorrowful man beaten about in a tempest; but it found its anchorage at length, and as the last stroke of midnight died away, Donald rose and straightened his tall figure.

"I have nothing to regret. It was no sin to love her under the circumstances. I have put it from me now. My Master's messages will occupy my time and thoughts! God helping me, I will not let this trouble spoil my life!"

Laying the Boundary Line from the Orange to Vaal Rivers

By Lieutenant-General Sir Charles Warren, G.C.M.G.

FOURTH PAPER

Sunday, Dec. 31, 1876.—We are now busy measuring our base line 3½ miles long, and de Villiers has arrived to assist. This line has already been measured previously by Mr. Orpen, and it is interesting to find that the straight line he cut in the veldt twelve months ago has already become zigzag and wavy, probably from sheep using it as a path. I will describe the situation of our camp, placed near the upper end of our base line. We are on the brow of a swelling hill, overlooking Kimberley and Old de Beers, right in the veldt, and around is excellent pasture for our oxen; it is principally Karoo bush with a few blades of grass here and there. It is blazing hot—yesterday while we were computing in the waggon, which I use as an office, the thermometer ranged from 106° to 108° F., and the tilt of the waggon is double lined. By placing over it a reed matting and another canvas cover we have reduced the temperature to 92° F. at 1 P.M. I am now writing in my tent, which is double lined, with temperature 94° F., the wet bulb

being at 64° F. I should say that the actual heat in the shade is 92°. The air is wonderfully dry, and all nature and art is cracking with the drought, even my despatch box, which withstood a summer at Malta, is so warped that I can lock it with difficulty. There is at the same time a nice breeze, which, though hot, makes one feel cool as long as perspiration goes on, so that the more exercise one takes the cooler one feels. On the right of the waggon is my tent, on the right of that is the N.C.O.'s tent, and again on the right is the Scotch cart where the natives congregate, and in rear is the cooking-place. The N.C.O.s have a bell tent; I have a small rectangular tent of South African make, and a piece of canvas is stretched over it from the waggon tilt. It is about eight feet square, three feet six inches high at the sides, and seven feet in the centre. The ground within our tents is levelled and rubbed over every morning with fresh cow-dung; this is done by a Kafir; he brings in the dung fresh from the oxen, mixes it with water, and with his hand rubs it over the floor; it dries quickly, and in a short time there is a nice hard floor smelling sweetly of cattle; a smell obnoxious to fleas and other vermin. The Kafir's remark when putting on the cow-dung was amusing, "English people don't know how to do this; English people like to lie in the dust"; he evidently thinks that in England we live in tents and have not yet learnt to put fresh cow-dung on our dusty floors.

As I am writing, a fresh breeze has sprung up which threatens to carry tent and all away, and before I have completed this line it has subsided; there are a few clouds in the sky, in fact we are expecting rain, as this is the rainy season. It is quite a novelty to me to be expecting rain in the heat of summer. I am sitting in flannel shirt and trousers, at a deal table, and on it is my writing-desk, a plate of fly paper, a Letts' Diary, ink bottle, thermometer, box of dried figs, and a prayer-book; behind me at the inner end of the tent is my folding bedstead; a portable iron washstand and bath are near the door, with clothes bag and bag for brushes, &c., and along the sides are ranged three portmanteaus. The flies and winged monsters were here in swarms until I introduced fly-paper. The water is so hard that I cannot keep my hands comfortable; the skin gets so dry and ragged, and broken, but my face has not suffered in any degree as yet, though I see many flaming noses about, from sunburn.

Monday, Jan. 1, 1877.—I have had to put more canvas on the waggon to reduce the heat. I do not feel it myself, but I find that in computing our calculations we get muddled when the temperature is over 100° F., and we have had several instances, when the temperature is near to 106°, that numbers have been given out or written down twice over from the log-book; so I have been obliged to make a rule that if the thermometer registers over 100° F., we have to give over computing for the time, and we have to knock off indoor-work altogether during the middle of the day while this great heat lasts, on this account.

For myself I thoroughly enjoy this heat; it is the cold that I do not like. Just as I was writing this a sudden gust of wind (in a calm) blew the waggon tilt nearly inside out, and your letter went careering over the plain, so I must shut up the tent on one side, and now the temperature rises to 99°.

My Indian Coolie cook has just heard of the death of his children in Natal, and goes off to-day, introducing another Indian in his place. His name is Balagaroo, and he says he was a high caste Hindoo, but that he can never return to India because travelling over the water has taken away his caste. I hope I shall be better off with him as he talks both English and Kafir; in fact he has quite a gift for speaking, and uses the most recondite English words in the most unexpected places.

My former cook had to talk to Kafirs in English, so broken, that I could not tell what he said, and I doubt if the Kafirs ever understood him; no wonder that most grotesque mistakes were made. I have now a very composite party. Indians from Cashmere and the Deccan, Griquas and Zulus, all talking in different tongues, and misunderstanding one another. They managed, however, to get all most gloriously drunk

together last night in order to usher in the new year, and keep the camp lively.

The result is that our oxen have got lost, and the drivers have gone off with sore heads to look after them in different directions; losing cattle is quite epidemic just now. Yesterday three parties, who were searching the country around for them, came to our tents to make inquiries.

My drivers have now returned, without the cattle, and both very drunk and noisy, so I threatened them with the "sjambok" (whip); this was a word they could understand, and when they heard it they became quiet at once; the law, however, will not allow me to touch them.

At night we tie up our oxen to the waggon and there they lie quiet, and do not make a noise, as did the mules in Syria; but I long to have some of our Syrian muleteers here; and even one of the most inefficient dragomans of that country, for there is no one who can act as a foreman to be got hold of. I suppose that any man worth his salt is engaged in the diamond mines at high wages.

What a nuisance! I find that my new cook, Balagaroo, has never cooked anything but rice, so I have made the dinner myself to-day, and the N.C.O.s have pronounced it excellent. Minced beef with milk, salt, pepper, onions, and Yorkshire Relish added, and boiled twenty minutes. I find that little book on cottage cooking most useful.

So that you can better understand what we are about just now I will give you a little tale of the early occupation of this country.

At the beginning of this century this country north of the Orange River was known to be inhabited by bushmen, but it was not supposed that they had been here very long. Bushmen, however, were supposed to have been the first inhabitants of these parts; they led a wandering life with no fixed homes, no form of government, no tribal system even. They were at enmity family against family.

The first immigrants into this country after the bushmen were a tribe of Hottentots called Korannas who came gradually up through the country, driven in front of the white men, from Capetown way, and eventually settled at Griquatown (then Klaarwater), this was roughly speaking about 1770. Subsequently they gave up Klaarwater to the Griquas, and settled on the banks of the Vaal River about Klipdrift (Barkly) and Mamusa (the Blomhof district); here they met Bechuanas (Barolongs) journeying from the north-east. These two races had a good tussle, and the Korannas stuck to the river while the Barolongs kept north of the Vaal. There seems to have been some amalgamation, however, as the Batlepins (Bechuanas) are supposed to be a mixed race of the two.

Whether the Griquas are a tribe of Hottentots, or only bastards, half Dutch and half Korannas, is uncertain, but it seems certain that their leaders had white blood. At the beginning of this century the Griquas were living all over the western portion of what is now the Orange Free State and Griqualand West, the Korannas were at Mamusa, and the Bechuanas at Taungs, and all over what is now Bechuanaland.

In the year 1800, Dr. Anderson commenced missionary work among the Griquas, introduced agriculture, and established towns on the Colonial system at Griquatown and Philippolis; and after a few years these people advanced so quickly in civilisation that they are said to have appeared to be little inferior to the up-country Boers. Some of them, however, would not give in to civilised ways, and fought against the town Griquas constantly; these malcontents lived in the hills near the rivers, and were called Bergenaars. A few years after this, about 1824, Boers began to trek across the Orange river, and took up land there, gradually dispossessing the Griquas from the Philippolis side, but they could make no impression on those Griquas who were living in what is now Griqualand West.

In 1835 there was a further influx of Boers across the Orange River (while another party of them crossed over into the English settlement of Natal). So much disorder now arose on the Orange River, owing to the Griquas spiritedly holding

their own against the Boers, that in 1848 the Orange River Sovereignty was proclaimed under the Queen of England. This comprised what is now the Orange Free State; but Griqualand West continued to be native territory. Some of the Boers resisted and were defeated at Boomplaats, and many of them fled across the Vaal River, and there established the Transvaal, or South African Republic; which under the Sand River Convention of 1852, was recognised as an independent state.

Those who remained in the Sovereignty were, for the most part, loyal Boers, and they bitterly resented our abandonment of the Orange River Sovereignty in 1853. In 1854 the British Government notified that it had no alliance with native chiefs, north of the Orange river, except with the Griqua chief, Adam Kok, of Griqualand East. Thus the Boers of the Transvaal, and of the Orange Free State (the O. R. Sovereignty) became at enmity with us from two very different reasons.

In 1870 diamonds were found on the Vaal River, in ground belonging to the Griquas, but then in dispute between three parties, *e.g.*, the Transvaal, the Orange Free State, and the Chief Waterboer of the Griquas. The Orange Free State assumed jurisdiction over the diggers, of whom about 30,000 were Europeans, and was quite unable to control them. Immediate steps were required in order to keep order at these diggings; and consequently on November 7, 1871, the whole of Waterboer's territory was annexed to the British Crown, under the name of Griqualand West; to this the Orange Free State objected.

On October 27, 1871, the High Commissioner issued a proclamation defining the boundary between the Orange Free State and Griqualand West as running from the fountain at Ramah to David's Graf, thence to Platberg on the Vaal River.

A difficulty arose on the subject, because the surveyors of the Orange Free State and Griqualand West took different views as to the positions of all these named points, and consequently a considerable strip of ground was in dispute, and some of it very valuable, being diamondiferous.

After considerable negotiations extending over five years an agreement was arrived at, and a line settled on which included all the diamond fields about Kimberley in Griqualand West, and as a set-off it was arranged that a sum of £90,000 was to be paid to the Orange Free State as soon as the new line was beaconed off.

The points at issue were narrowed down considerably: as David's Graf was accepted as close above the junction of the Modder and Riet rivers, and about the fountain of Ramah there could be no doubt. The farms of Gideon Joubert and Adolf Erasmus cut by the line were to remain entirely in the Orange Free State.

On August 5, 1876, the Cape Colony Ministers were informed that the Cape Colony could co-operate in three ways: (1) The incorporation of Griqualand West as an integral portion of the Cape Colony; (2) The association of the Province in a federation with the Cape Colony; (3) The payment to the Province of the custom duties levied in ports of the Cape Colony upon goods consumed in the Province; at the same time it was stated that there had been representations from Griqualand West against incorporation with the Cape Colony.

On August 12, 1876, Lord Carnarvon proposed to President Brand that the Orange Free State, whilst retaining its own flag, should come into the British Empire, and should as a consequence receive a reasonable share of the federal expenditure defrayed from the customs duties levied in the ports of the confederation.

That is how the matter stands at present: and here am I ready to lay down the boundary-line, willy nilly, for many of the Boers on the line decline to have their farms cut up into two countries: it certainly is rather awkward for them, but it also has its advantages; to be able, in your own garden, to skip across from one country to another.

Jan. 1877.—I may here insert an extract from the journal of my father when on a shooting expedition in these parts in 1825.

"1825. *July* 9.—Left Vande Walts and crossed the Swart river (Orange river) or Groote river, passed by Huermans, where

the school of Philippolis has been removed to. We were assisted, as far as where Pretorius lived, by a Hottentot lad.

"Pretorius cultivated a good farm for the Missionary Society, thirty morgen of corn-land. He let his son, who could talk Korana and Bechuana, go with us. Proceeded to Rama, where we stopped a day to shoot sea-cows in the Swart river, which we had been travelling down, though at so great a distance from it as not to see it till we arrived at Rama.

"We next went to the banks of the Mud river (Cradock), where we came among what are called the Burgonars, and passed a salt-pan. The Burgonars are Griquas, and say that they came from Swartland originally, from thence to Little Namaqualand, and thence to Griquatown, and then scattered themselves over the country. At present the old captains of the Griquas or Bastards have let them join them, in consequence of quarrels between them and Waterboer, and of the Government agent wishing to make them prevent the Burgonars going on commandoes against the Bojismen and other tribes to steal their cattle. They have waggons, horses, sheep, and imitate the Boers. Their captains have very little power. They have, some of them, as Adam Kok, good houses built in the same manner as the Boers, but wander about, and live in huts made of mats, which pack up upon a bullock and serve as a tent. Cornelius Kok, the first captain, received his staff from—[obliterated].

"The Griquas were (at the time of Lord Caledon, who exercised authority over them) put under two captains, Kok and Bearn (Barends?), who have considerable tracts of country under them. Dam Kok said, in telling his account 'We are the Northern (?) men.' Their followers go to any vacant part and there cultivate a little piece of land and feed the cattle till the grass is gone, and then remove. We went from the Mud River by the Val (Yellow) River, another branch of the Orange River, through Campbell, some farms and corn at Campbell by Cornelius and Adam Kok, Griquatown (Klaarwater). We arrived on August 26.

"Before we came to the Mud River we found an ostrich's nest and took twenty-three eggs."

Tuesday, Jan. 2, 1877.—Such a beautiful sunrise, temperature 68° F. We are still busy measuring the base-line; we commence as soon as it is light, and leave off when it gets dark, but we have to knock off work for two or three hours during the heat of the day. I have arranged that our natives shall have a cup of coffee each if they are up in time for it, at 4.30 A.M., and I have to be up myself to see after them. We get *our* coffee at 5.15 A.M., and the sides of the tents are rolled up at 5.30 A.M. I have put the butter into a tub of water sunk in the ground, as it gets spoilt by melting each day and solidifying again each night.

De Villiers has gone away for a week, and has left his light waggon in my charge. I thought that our natives were the scum of Kimberley, owing to my being a new hand here, but I find that de Villiers' servants are no better. They are idle, insolent, and drunken, and are not kept in any systematic order. I have been practising driving a team of four and now of six horses in de Villiers' cart through the veldt, over ant-heaps and through ant-bear holes.

Sometimes we nearly overturn, but straight away we go, jolted in a most wonderful manner. I am really getting on as a driver. I have also been observing in very early morning, and late in evening at some of our near stations; it can only be done just now for about ten minutes just at sunrise and at sunset on account of the mirage. The taking down and putting up the piles each time we observe is quite a heavy piece of work and requires several men. The pile is about eight or ten feet high, of large iron-stone boulders, which have all to be taken down before the instrument can be placed, and then put up again after the observation.

Jan. 9.—I am longing to get away from the vicinity of Kimberley, our servants are so drunken, and my cook spends 30*s.* to 40*s.* a day on market-produce for our party, and the result when cooked is small.

The country is (as far as we know) *quite* quiet; the news that you see in the papers is made up to suit the several business

people, diamonds, wool, &c.; you need not be in any alarm, I don't think that there is any chance of a disturbance in South Africa this year. [The risings commenced at the end of 1877.] There ought not to be any disturbances about here for the natives seem the mildest I have ever come across: I cannot understand how they can be so quiet and orderly. There are hundreds of farm-houses perfectly isolated, and yet the occupants can live with their doors always wide open, just as we used to do in the Lebanon. I do not care about the natives here, they are half-castes, and they are savages. It is so ridiculous to make them wear trousers instead of some loose robe or kilt; directly they get out of sight of the whites they off with their trousers and throw them over their arms.

I have bought two saddle horses for £40.

Sunday, Jan. 14.—Just a chapter of mishaps again, so I have time to write: horses, oxen, all lost, drivers disappeared, and Balagaroo down with fever. I dosed him well, and he fell asleep and woke cured, went into Kimberley to get clothes, and has come back with a broken head which I have had to plaster up. I have had to raise my wages to the drivers, and am now paying £6 a month each, finding them food, and expect to pay £10 before I can get decent servants; these are, of course, quite exceptional wages, but it is a necessity as we are so near Kimberley. The worst of it is the higher wages we pay the more money they have to spend in drink. This has been the hottest day we have yet had in the waggon, 106° to 108° F. with double awning and matting overhead.

Wednesday, Jan. 17.—At last our work here is completed, I am thankful to say, and we leave to-morrow for the Modder River. Sergt. K. got a bone in his throat and went to see a doctor who gave him an emetic, but he is so strong and healthy that he digested instead of disgorging it; I think that he had digested the bone also for he now seems quite well. Corporal R. is still very unwell.

Thursday, Jan. 18.—Our waggon went on to Scholtz Nek, about twelve miles south of Kimberley, and I remained behind to receive a native out of gaol to act as cook's assistant. He is an educated Kafir. I do not know what his crime was, but the custom at present here is to go to the gaol for servants, as they cannot be got elsewhere. I suppose that some of the crimes may be serious. The Kafir's name is Jim; he walked along side of me, and as we passed through Du Toit's Pan, he said he was hungry, and I let him go to a shop for food, but I expect he also got drink, for he became very muoh excited as I rode along, and at last said he would bolt. I could only prevent his doing so by telling him about the good food to be got in camp; with much trouble I got him to our camp and put him with the rest of the servants.

I have now got an Indian cook called Sam, who really does know something about cooking, and Balagaroo does the house-keeping for myself and the N.C.O.s.

De Villiers joined me here this evening, and we had a right good supper off a paauw he had shot, it was a large bird, bigger than a goose.

Monday, Jan. 22.—Camp near David's Graf. We were busy two days at Scholtz Nek selecting points and observing, and to-day we crossed the Riet and Modder at the junction (Berry's), and are encamped on the south side of the Reit river over against David's Graf, close on to our boundary line. We shall be out all day taking observations and piling, but as the drought gets more and more intense it is more and more difficult to observe: just about ten minutes each morning and each evening, so that we are in a complete difficulty. We want a morning and evening observation at each place, and many of these are miles from our camp; thus we shall often have to sleep the night out in the veldt at the foot of the hill where we observe.

Friday, Jan. 26.—I have had great anxiety about Corporal R., who has been in a state of collapse from taking no nourishment. For two days he would take no food cooked by the natives, and I have had to prepare everything for him myself, and feed him myself with a spoon. Dr. Dunlop has come over from Jacobsdaal to see him, and has

prescribed, and I hope he will soon mend; I cannot do sick nurse and get out to my work as well. Joos, the driver, has also been very ill, but castor oil and mustard leaves have put him all right.

The rains do not come, and the drought is now so severe that our waggon wheels broke down coming here, and we were much delayed on the road. In very dry weather, waggon and cart wheels have to be soaked periodically, otherwise the spokes get loose and the iron tyres come off. It is quite an ordinary matter to have to shorten the iron tyre. This is done expeditiously by heating the tyre in burning cow-dung as though it were a blacksmith's fire.

There are Boers' tents all along the river just now, as the water has given out at nearly all the dams and the cattle and sheep must have water to drink: but the Karoo near the river is getting eaten up and the cattle are wasting away. To-day several Boers paid me a visit, and they all agreed as to the position of the David's Graf of de Kok (the surveyor) and Adam Kok the Griqua, and this happens to suit exactly the general position indicated in the agreement between Lord Carnarvon and President Brand, and as it just comes in between the two claims put forward by the surveyors of either side, I think there will be general agreement on this point. So one matter will be settled satisfactorily.

I have never felt better than I do here, the great heat is most enjoyable, and it is pleasant being so close to the river. Every morning I go down at sunrise and find fowl to shoot of some kind. Snipe, teal, and now and then a duck; and there are bustards out in the veldt; but without a good retriever many birds get lost. We get enough, however, to supply the camp.

Saturday, Jan. 27.—I think that the monotony of living in a Boer house must be terrible. Nowhere is the proverb so applicable of "eating to live" and not "living to eat." The Boer about here lives in the most miserable manner so far as food is concerned; his daily bread is fat mutton washed down with milk. Some of them make bread, but they seldom have any vegetables. The mutton is generally boiled or roast in an iron pot with fat; it is salted and often high. The Boer sits down with his guests, the plates turned bottom upwards; his wife and daughters serve; he puts his hand to his forehead and says grace before and after meals. There is generally on the table a soup tureen of fresh milk, a plate of mutton and often some bread; sometimes pumpkins, which with milk are very good. There is usually a chief seat in the room covered with a choice skin on which the most honoured guest is placed. At the early meal the lady of the house or tent comes into the room and sits at the coffee table and serves. There is a coffee pot of metal, slop bowl, dish for washing up, cups and saucers of crockery. The coffee is very fair. They never seem to have wine or spirits in the house, and the Boer at home is a teetotaler, but he never seems to refuse a glass when offered it at any time of the day away from home.

Late at night.—I must add a note. All nature sings. We have had our first rain this evening after months of drought; a real downpour with loud thunder; it has cooled the ground I can feel. There is said to be no water between here and Ramah, this year, so that we all are very anxious about the rain coming, for otherwise we cannot lay down the boundary line throughout.

friends, of her repeated attempts to reform him, and her hopeless failures.

"I heard something of your father's friends from Marjorie when I dined with her the other day; but I understand now the hints that she let drop. She said I must come to you for the information she would not give me. And she told me she had been indiscreet about your affairs once, and could with difficulty gain your forgiveness! What did she mean?"

"Oh, that was a different matter," said Una. "It was good of Marjorie not to tell you, for of course she knew—every one did. And—and I should like to tell you something else. I think perhaps I ought to do so, for you have misjudged me."

"Am I to hear this wonderful secret at last?"

"No, no," and the colour mounted to Una's cheeks. "It is not that. It is only about the money I have spent. I tried to pay my father's debts. He was always in such difficulty, and when he came to me I could not bear to refuse him. Surely I was not wrong?"

Cuthbert took her face between his hands and kissed it. This explanation lifted a heavy load of anxiety from his heart; and a light came into his eyes that had been absent from them for many a day.

"Oh, my little wife," he said with deep feeling, "why did you not tell me this before? Why did you make a mystery over such a very natural proceeding? Forgive me for doubting you. Thank God, I believe I am gaining your confidence little by little."

Una rested her head on her husband's shoulder. Never had she felt such a strong impulse to tell him about the *Triumph* as now. Surely her opportunity had come! She was about to open her lips, when there was a knock at the door. Baldwin entered with a message that Cuthbert's lawyer wished to see him, and the opportunity was gone.

Later on Una persuaded herself that she had better keep her secret a little longer.

Laying the Boundary Line from the Orange to Vaal Rivers

By Lieutenant-General Sir Charles Warren, G.C.M.G.

FIFTH PAPER

Saturday, January 27.—As we have no shops near here I buy a sheep when we want meat, and have it killed; we take off the skin and hang the sheep on the waggon. I generally have the liver and kidneys for breakfast, the N.C.O.s do not care for them. A sheep lasts us two days, but if there is thunder about we have to salt some; the skin is laid down in a hollow of the ground, wool downwards, and in this hollow we put water, salt and pieces of meat, and it is left there till it is salted; we thus do without a pickle tub.

I have been obliged to part with Balagaroo, he did not keep things clean, and was too expensive, and his accounts did not total up properly so that there was a difference between us of two pounds sterling. I proposed a compromise; I offered to pay him the two pounds provided I never should see his face again, and to this he agreed, and off he has gone.

[Some months after this, when in Kimberley, I constantly saw flying coat-tails round the corners of buildings as I went about, and one morning appeared Balagaroo with two sovereigns in his hand, telling me that his life was a burden to him, and that he would rather pay up the money than be always running away. At this time I had quite forgotten about the promise he had made. He seemed much relieved when he found that I would not take the money. I was very much pleased to find that Balagaroo had so much good faith about him.]

Monday, January 29.—I must give you

some idea of the method adopted in tracing the line, before I leave David's Graf. It is about forty-three miles from here to the fountain of Ramah, and we have to trace a straight line between them over a very rough country abounding in little hills of ironstone.

We have got on with our triangulation, and joined it with that of Mr. Orpen, so that I know the mean angle between a prominent hill I see some miles off and Ramah, but the difficulty is to set it off on the ground so accurately that the line will cut the fountain at Ramah. I am trying the following method. I feel sure of the mean angular distance from the hill, so I am setting off a point on the boundary line about two miles south from here over and over again with different theodolites, and each time there is a little difference—an inch or two. Then I am going to take the mean of all these variations, and produce the line from David's Graf through this mean point, and I am sanguine of cutting very close to Ramah. Jos. de Villiers is very much interested in the matter as the idea is new to him, but he agrees in thinking it will come right if our calculations are sound. And if it does come right it will save us a world of trouble, for otherwise we should have to trace a straight line as near as possible to the truth and then on finding out the error on arrival at Ramah we should take offsets all along this line and trace a new line, rubbing out the original one. There are so many possibilities; our observations and calculations may not be good, as they are still unchecked, and the line itself may not be traced quite straight.

Friday, February 2.—Saltpan. I will give you some notion of the pleasures of travelling in this country on survey work. Over night on January 30 we got ready for leaving David's Graf early in the morning, intending to go out in different directions piling and observing, and to meet in the evening to the south at this saltpan. We did most of our packing before turning in, but I kept our tents up, though our bedding was stowed in the waggon. A great storm of rain came on, the tent ropes required slackening, and I got wet through in doing it. I turned in again, and woke up thinking I was late and that the sun had risen, but on going out found myself under a brilliant moon at 2.30 A.M. At 4.30 A.M. the day began to dawn and I woke all up. We found our tents so wet that we could not pack them up, so we had to wait till 6 A.M., when we breakfasted; then we got on our horses and left the camp; I went on towards a hill about as far as Midhurst is from Brighton, and Booy, de Villiers' servant, accompanied me in a spring cart. The waggon had orders to go the saltpan past Mimac's. I only took with me a piece of damper and water bottle, expecting to get to Mimac's for dinner. We drove and rode over plains and low hills in the direction of my hill till at last Booy said he could not drive any longer over the rough ground, and must find a road; I told him to follow me, but on looking round found that he had gone a long way round after springbuck, and I heard a shot. I arrived at my hill at about 2 P.M., and waited for Booy and cart for about two hours, and then I heard a cooee and saw he had put up a flag some distance off, on another hill. He would not come over to me so I had to ride over to him, and found that it was the hill he thought had been pointed out to him by his master. I brought him back with me to help me to signal at the top of the hill, but when I arrived I found that he had gone to bathe in a dam about a mile off. Fortunately a Kafir boy was near who helped me and got me some water. For two hours I signalled to David's Graf (thirty miles off), but got no answer, and at last, at sundown, Booy came back from his bathe, and just then I got a reply to my signals. I told Booy that his master would whip him for his misdeeds, and he grinned. On getting down from the hill our horses were gone—strayed; it was getting dark and a storm coming on, lightning and rain. I had finished my bit of damper and was hungry; the air was hot and the rocks so hot I could not sit on them.

Booy came back with the horses in about an hour; it was now very dark; we inspanned and set off towards Saltpan, guessing the direction, but there was no road, and we could only judge our direction over the veldt by the aid now and then of a flash of lightning. Right across country we went, over ant-heaps and into antbear holes, the

cart first, and I following; every now and then I saw it go down into a hole and took warning; twice we found ourselves turning back again. Soon we saw a light in front for which we made; the rain was now falling in torrents. In about half an hour we came to a farmhouse, where the light was, but the people could only talk Dutch, so off we went again, and after three hours (at 11 P.M.) we came to a house. By this time we had not a notion where we were except that we had been travelling pretty nearly in the right direction. I knocked at the door till I woke up the master and asked him for lodging. "Oh," said he, "have you not seen your waggons, they are close by?" I was delighted to hear a reply in English, and said, "Give me some food; I am famished; I have had no meal for seventeen hours."

On opening the door I was surprised to find that I had got to Mimac's Hotel; by great good luck we had struck across the waggon road close to his house, and by more good luck our waggon had been so delayed that it had not gone so far south as Saltpan, but had outspanned about twenty minutes south of Mimac's. I got some bread and butter, and off we went again, and at midnight arrived at our waggon, where things had not been unpacked on account of the heavy rain. Sergeant K. had only just arrived from another hill, and de Villiers did not turn up at all that night. As it was still raining we all got into the waggon, under the tilt, where there was room for us to sit in a row, and there we sat wet through till morning, the natives crowding under the waggon. At dawn I had to get off, all ready booted and spurred, and made for another hill, all in my wet things, to signal and take observations.

Saturday, February 3.—These saltpans are curious places, the beds of old lakes, each three or four miles long, and only a few feet below the surrounding ground. There is not salt here all the year round; it comes up after the rains and effloresces on the surface; but if there is too much rain it does not come up properly. The farmers here have huge metal pans or caldrons in which they put the dirty salt, and they boil it down, skimming off the dirt. I have not seen it done, but I know that this salt often tastes of soap, and am told that they use the same boilers for making soap, from some plant (barilla, I suppose) which grows near here, and which is mixed in the caldron with animal fat. Salt is very necessary for animals here, and a saltpan on a farm is a valuable appendage.

We are leaving for Con's dam to-day.

Tuesday, February 6.—Zwinkspan. The country about here is very desolate in appearance, possibly owing to the unusual drought.

With all our sad surroundings we enjoy this life amazingly, and are in wondrous health. Jos. de Villiers and I only differ on one point in our work, and that is the rate of progress. He says I must be working piece work to wish to get on so fast. I can see no credit to me in wishing to get through this work quickly as there is so little here that can amuse one; the game is all away during the drought, and there are no historical records of the past, and no people whose manners and customs are worth observing closely. This is a new country and only recently inhabited by man, and it bears signs of enormous changes even in recent years. It cannot be fifty years since it was the home of the elephant, the sea-cow, and the lion; evidently within quite recent years there were lakes of water and valleys where the sea-cow could wallow; the Dutch names point to this.

An old naturalist told me that the domestic sheep have altered the face of this country, and that for their sake the tall grass and reeds were burnt down, and thus the soil exposed to the sun and the rainfall diminished.

Thursday, Feb. 8, 1902.—Ramah. On leaving Zwinkspan yesterday we outspanned for the night in the veldt; and while the dinner was being cooked I heard a loud altercation among the servants, something more than usual, and as I came up I saw one of them with his arm raised holding something that flashed in the firelight; I ran in under his arm and it came down with force on my shoulder, and just saved Sam getting a knife in his neck. I grasped his arm, the knife flew out of his hand, and we

all bound the culprit hand and foot. It proved to be our Kafir Jim, whom I had got out of the gaol at Kimberley. Now, what was to be done with him? First, with the aid of Sergeant K., we bound him to the waggon wheel, then we made a straight waistcoat for him by sewing up the cuffs of the sleeves of his coat at the ends, and putting it on to him back to the front, then by sewing up the front part, which was now behind, his hands were enclosed and he could not free himself. We then pegged him out, by fastening cords to his ankles and wrists and securing the ends out in various directions; all this time he was very sullen and kept muttering that he would kill Sam.

I did not know what course to adopt as I was many miles away from any magistrate, and I thought the best plan was to make our way on to Ramah where I had agreed to meet de Villiers, and to send a messenger to Captain Marshall, the magistrate at Langford, to tell him of the occurrence. On arrival at Ramah, I was at a loss what to do with Jim and de Villiers could give me no useful advice, nor could the Boers living on the farm; all they could say was that if we were in the Orange Free State we could (under Orange Free State law) flog him. But this did not help me. What I was in fear of was his murdering Sam, as I now heard that he had been in Kimberley gaol for manslaughter.

I therefore made a little plan to get rid of Jim which took me some time to explain to my friend the Boer, at Ramah. I proposed to sell Jim to the Boer, and then to hand him over in such a manner as to allow of his running away, so that his object would be to get away for fear of being taken into the Orange Free State. So when it was all arranged the Boer came over with me and we had a bogus sale, the bargain lasting some time while we discussed the merits of Jim. The servants realised evidently that it was all a hoax but Jim took it seriously. Eventually I agreed to accept half a crown for him, and then asked Jim what he had to say. He said that he thought he was worth at least half a sovereign. We had just laid off the boundary line here, and the Boer stood on the Free State side and Jim also happened to be on that side, but I released him on our side. Then the Boer told him to come on and they both walked together up the line, Jim gradually edging further and further away from the Boer, and at last, when they were about thirty yards apart, Jim took to his heels and ran his best. We all set up a howl and pretended to run after him, but he was soon clear away, and the servants looked greatly relieved, as they were afraid of him; they have now got drunk to celebrate the event. I can't think where they get the liquor from!

Friday, Feb. 9.—We moved up to Frederick's Fontein to-day, and commenced getting ready for the measurement of the base line. We are now in the Orange Free State on the borders of a pan, about twelve miles north of Ramah; it might be called a frying-pan so far as the heat is concerned. There are many of these pans (or dried up lakes) about this part of the country, and consequently it is called the Panneveldt.

Saturday, Feb. 10.—I have done a foolish thing. Last night it was cold and rainy, and I took pity on the two drivers who had no blankets and gave them one each; to-day they are gone, blankets and all. De Villiers only laughs, as he says I might have known they would go. I had been told not to make presents as there is some superstition about it, and it usually terminates with the recipients bolting: but I did not think that the gift of a blanket woud have such a disastrous effect. It is a great nuisance, as we cannot inspan or drive the oxen ourselves.

Monday, February 12.—We have selected the exact line of our base, and sunk stones at the northern and southern ends of the pan, nearly three miles apart, to mark the extremities of the lines to be measured, and we have picketed out the line and have measured part of it. Our measurements are made with steel rods with rounded ends butting on to each o her. This I believe to be a much more accurate method of measurement in this climate than the most elaborate and scientific instrumental measurement.

One of our great difficulties in measuring the base line, and in observing with the theodolite, was the mirage in parallax caused

by the tremulous vibratory motion in the atmosphere; these phenomena appear to extend throughout South Africa, but the illusion differs in different parts. When travelling up through the country, lakes of water were constantly seen on either side of the road, which reflected trees from their surface and had every appearance of reality. So much is this the case that even when a country is well known the deception to the eye continues in full force, and owners of farms have been known to imagine that a downpour of rain had filled up their pans while they were actually simmering with drought. On the other hand, cases have occurred where farmers have believed they were looking on a mirage, while a real pan of water, from a recent cloud-burst, lay before them.

An amusing incident took place regarding the young German assistant at this store; he had evidently something he wanted to get out of Mr. Orpen, and asked me many questions about him, and concerning his differences with Mr. de Villiers, which I thought indiscreet, and I fenced them. Just then de Villiers drove up to take me on to another house, and the German asked him if he could take him also, and on getting into the cart he began to speak to de Villiers as though he were Mr. Orpen; he had evidently mistaken the two. It was most entertaining. He tried to ingratiate himself with the supposed Mr. Orpen by running down Mr. de Villiers, who at first was inclined to resent it, but I gave him a kick and he let the German run on. After a little time he began to think that Mr. Orpen did not respond very readily, so I suggested he was flattering him so much that I should not wonder if Mr. Orpen was to pose as Mr. de Villiers, and then de Villiers began to pretend that he was himself. We dropped him at a farmhouse looking very much mystified and uncertain whether it was Box or Cox.

Friday, February 23.—Nothing occurred here till 4 P.M. when there were unmistakable signs of a real storm coming on. We now saw that we were in for it, but just before it came full on to us it sheered off again, and we only got the tag end of it, but that was quite enough for us who do not own the land. The track of these storms in the heaviest portion is often very narrow. The rain came down in torrents, and the lightning was most vivid; the clouds jostled each other in the sky in the most excited manner. Then there was a lull, a curious cessation of all noise, and we crept out to look around us. There, half a mile from us, was the rain coming down in a sheet of water, and we could hear the hissing of it as it fell, but with us it only came down in spasmodic jerks. As evening came on the rain closed around us and we were in the thick of it again. I had taken the precaution of digging trenches round our tents which I had pitched on a little knoll, so there was no danger of our being swamped out or carried away as sometimes happens. The rain, however, penetrates through my tent, which is now up again, and here am I sitting with waterproofs over all my things, water dripping at all points. I am eating *biltong* (dried meat), for I can get nothing cooked. There is another storm coming on and I must leave off writing for a while as we have to stand ready when the wind blows strongly. Nine P.M. You will hardly realise it, but, in spite of the storm, this is the first night since I left Port Elizabeth twelve weeks ago that I can sit down comfortably and lazily to write. Generally I have so much to get ready for the morning, or have to compute triangles, or am so dead tired, that I find it impossible to write. To-night there is a tremendous change after the great heat, and the thermometer is down to 63° F., almost cold.

The Dutch people about here are dreadfully inhospitable to us all; they are just as disagreeable to de Villiers as they are to me. They will not sell their sheep or their milk, but rather let the milk spoil or the sheep die. With thousands of sheep around and barely enough food for them, they will not sell one. The Kafirs follow suit and are just as bad. Palestine (barring the climate) is a charming country compared to this; far better to cultivate and colonise. This country, which used to support hundreds of natives, now only supports one Dutch family to every 300 square miles. It is

lamentable. Great hulking, able-bodied men, these Boers, they sit on their hams from morning till night, and scarcely stir except to abuse their Kafir servants. I think I may be rather severe on them because in the times of drought there is nothing they can do but wait for the rain, being without resources. The Kafirs when they are independent are even worse and do no steady work. I long to see a good negro or Nubian from Upper Egypt. In this country they do not know what it is to work: lazy vagabonds. I cannot get over paying six pounds a month to a raw Kafir for idling his time away.

White children seem to be remarkably healthy here; the Dutch children are particularly vigorous, but they become lethargic as they grow up. The English children look more fragile. Each family, Dutch or English, seems to consist of from ten to fourteen children, and many grow up to maturity and are not carried off by infantile complaints; but in some families a large proportion die, as many as fifty per cent. The young Dutch people marry very young, the girls at fifteen, and the boys at sixteen to eighteen, so that a woman of thirty-five may have fifteen to twenty children and still they cry they come! The women seem to die very early and the widowers marry again soon; but it is not becoming to marry within three months of the death of the wife. It is quite an ordinary matter to find a second or third wife in a Boer house. In fact the mortality among wives is a continual theme of conversation. I think it due greatly to their taking little or no exercise, and sitting *over* hot wood or charcoal all day long in winter. They put the brazier, protected by a wooden grating, under the petticoat, and that cannot be good for them.

Monday, March 5.—Salt Pan. We are now on our way to David's Graf, completing our beacons as we go along.

A few days ago, I was driving in the spring cart when the horses suddenly stuck and refused to move, and I had to wait for the oxen. On putting them in front, one of the horses deliberately leaned on the pole of the cart and broke it, turning round to me with a grunt as much as to say, "There, I have done that, what will you do next?" I was equal to the occasion and took the thick pole out of the bullock cart and put it into the spring cart, and then inspanned the horses, putting the oxen in front and the cart behind. The horse again tried the same trick, but the pole was too strong to be broken by his weight, and off they had to go following the bullocks. This they have now been doing for two days and seemed to be resigned to their fate and have begun to pull all right again, the oxen only being required in difficult places.

A few days ago I laid down at the foot of a hill on the bare ground, shortly after the first rains; not a blade of grass near me, all night long I heard little clicks all about me, and at last I struck a light and waited till I heard a click and then located it; then I found it came from a tiny blade of grass which had been folded up in its sheath and had suddenly escaped with a click. I am glad to have heard grass actually growing. I wonder who invented the term "spring up" as applied to grass, it exactly describes the operation.

What a nuisance these Dutch farmers are with their sheep; I have been obliged to treat one of them according to the law; he refused to sell at a time when we were quite without meat, so I said to him, "Well, there is the money I shall give, now I shall go and take one." Upon which he said with great alacrity, "Let me select it, I did not know that you were aware of our laws." It seems that under the Roman Dutch law, there is some reasonable ruling that folk need not starve if there is food all around and they have the means to pay, and that those who have the food must sell. I don't know if it is a written law, but it is quite evident that the Boers look upon it as a law. The Boer seems quite pleased now to let me have the sheep; they are funny folk.

We passed through a tremendous storm yesterday afternoon. Sergeant K. and I were walking alongside the Scotch cart, when a terrific thunderstorm came on, and the rain fell in sheets, and we could hear it hissing as it fell some miles away. The lightning came out of the ground to the east, went up in irregular lines in the

heavens, and then almost instantaneously there were the same kind of irregular lines darting from the clouds into the ground to the west of us, so that it circled over us. Electric light played about on the tyres of the cart-wheels, and on the barrel of the gun which I was carrying, so I put it into the cart. Suddenly there was a flash and a crash, and Sergeant K. fell over against me, and when he recovered himself said that he could not see, and I also had been blinded for a second or so. I had now to lead a blind man along, and this continued till we got to where our camp was. Towards evening he began to recover his sight, and this morning seems pretty well; but he will not go out observing for a day or two.

They say that during these thunderstorms, when a pan gets suddenly filled with water, fishes of large size, several pounds weight, are found in them. This is accounted for in two ways. Some fish, the Marsia, have large heads with a small reservoir of water in them, and when the pan dries up they burrow in the mud and lie there in a state of coma till the rains again fill the pan. The other way is, that when the pan fills there is a certain amount of overflow water which runs into the rivers, and that then the fish in the rivers quickly ascend these streams and so get into the pans; but if this latter explanation were correct, we should sometimes find fish stranded in the veldt on their way up.

His Majesty's Submarines

By Herbert C. Fyfe

Author of "Submarine Warfare, Past, Present, and Future"

Illustrated by photographs by Stephen Cribb, Southsea

Only a number, not even a name,
How shall posterity hear of my fame?
Perchance it may still live, after the grave,
In the name of an ironclad, under the wave.

THUS sings a modern poet of torpedo-boats, but the lines may serve as well for submarines. Battleships, cruisers, gunboats, and destroyers—these all have names—but on our torpedo-boats and submarines the Lords of the Admiralty bestow no names but only numbers.

Our first photograph shows "British submarine No. 3," and the number can be plainly seen near the bows.

At the present moment Great Britain possess six submarine vessels. The first five, known as "Nos. 1–5," were ordered in the autumn of 1900 from Messrs. Vickers, Sons and Maxim, the European agents of the Holland Torpedo-boat Company. They are similar in most respects to the seven submarines building for the United States Navy, namely, *Adder*, *Moccasin*, *Porpoise*, *Shark*, *Grampus*, *Pike*, and *Plunger*.

It will be noticed that the American Admiralty manage to find names for their boats and they may be congratulated on their choice.

Nos. 1-5 are diving torpedo boats of the Holland type. They were all built at Barrow-in-Furness and are now at Portsmouth carrying out experiments for the information of the Admiralty, and also serving as instructional craft for the officers and seamen who will serve in them. These volunteer for the work; for the Admiralty compels nobody to form one of the crew of an under-water vessel. Before being accepted they have to pass a strict medical examination and if they emerge satisfactorily they receive special pay. We believe that there has been no lack of volunteers and this is not surprising, for submarines are not such terrible weapons of warfare as some might be led to suppose, and it is possible that in the day of battle the young Lieutenant-Commander and his crew may cover themselves with glory. A lieutenant remarked once to the writer that he would sooner be on a submarine in action than in

Una had tears in her eyes as she lifted her little one into her arms.

"I meant him to be a sailor," she said, pressing her lips against the golden curls, "but my husband chose his name, and being the namesake of such a man, I shall pray that he may follow in his steps and be one of God's chosen messengers."

The boy grew up to fulfil his mother's desire, but from his infancy the sea and its surroundings filled his heart and soul, and there was one story that he never tired of hearing from his father's lips.

"Tell me about mother's lifeboat, dad, and that night when the old woman was nearly burnt to death."

So Cuthbert would tell the tale, and would picture the scene on that still night in October, when a young girl fearlessly stood up to quell the rage and wrath of the whole population of Perrancove, and with straight and simple eloquence turned the minds and purposes of the superstitious fishers from violence and robbery, to the noble work of rescuing their fellow creatures from the perils of the coast.

THE END.

Laying the Boundary Line from the Orange to Vaal Rivers

By Lieutenant-General Sir Charles Warren, G.C.M.G.

CONCLUDING PAPER

Thursday, March 15.—Magersfontein. We are feasting on fruit and vegetables from the garden, green figs, marrows and water melons, plenty of milk, a very agreeable change; the thermometer now only rises to 86° in the waggon, and 90° in my tent, so it is much cooler than it was. The sun is shining brightly, and there are a few flowers to be seen. The Boers, although they seem so poor, use up the value of a good deal of money. One of them said to me, "How is it you go about on horseback or in a cart, we thought that a great gentleman like you would have a carriage and four horses;" he did not seem able to realise that I had to keep within my allowance if I can, and that if I acted in the reckless way some of them do I should soon be poverty-stricken. I sent to Hopetown a few days ago to get some "boys" (Kafirs) to work on the beacons: they asked, "Is he lately from England?" "Yes." "Ah!" said they, "then he too much spring-buck!"—*i.e.*, an Englishman could not accommodate himself to their lazy ways.

We hear that the Transvaal has been taken over by Sir T. Shepstone, that like Oliver Cromwell he walked into the Volksraad and told the Volks that as they would not govern themselves he would do it for them; this is only a telegraphic shave. [The annexation was not proclaimed until April 12.]

I am really disappointed in this country, there is so little to be seen; people have so little information on any subject; they live only in speculation; but I have no doubt that when I get home I shall have plenty to say about the country. I wish, however, that there were any real natives here; the Kafirs are all imported, so that I have not seen a single native dance, or even a spear or a shield. I showed a very old Kafir my father's sketches of the Bechuanas and Griquas when he was here in 1825, but he said there have never been such people here in his time; in fact, though looking old I don't think he is more than 55 to 60 years.

Sunday, March 18.—Alexandersfontein (five miles from Kimberley). You see we are gradually creeping up the line; we shall round Kimberley on its eastern side and then go to Platberg. I hope to be at church on Easter Sunday. I have only been to service three times since I arrived in South

Africa: Port Elizabeth, Bloemfontein, and Kimberley.

We hear that the Transvaal has been taken over and that it is now British territory. I suppose the Orange Free State will soon follow and then this line will be pretty well useless.

There are such impediments in the way of letter-writing. This evening, for instance, thousands of moths have invaded my tent and stormed my candle. They lie dying by dozens on the table and the candle is so full of them that it will not give proper light.

Monday, March 26.—Macfarlane's farm, north of Kimberley. Returned from Bloemfontein with de Villiers by Boshof: he sent me on in the same cart with two mules, with Booy as driver. I started after breakfast, taking only a piece of bread and butter with me. Somehow the mules did not go well, and at sunset we seemed to be miles away from our destination; I could tell by the hill-tops. Luckily the moon was nearly full, and we wandered over the veldt getting our direction now and then, but eventually lost our way. Some Kafirs assured us that they had seen our waggons going north, but they proved not to be ours.

Soon I heard in the distance some of Moody and Sankey's hymns being sung very nicely, and thinking there must be an English farm near, I made for the sound, and shortly came upon a Kafir kraal in the hill, the people were having prayers without any white man near. After prayers they came and talked, and gave us the direction of our camp, where we arrived at 11 P.M. and got some food; we had had only one cucumber and some milk since breakfast. I think better of Kafirs now I have seen them at prayers all by themselves, there could be no humbug about that.

De Villiers was to go on to Platberg from Boshof and try to signal to me by means of a big flag, and I have got a piece of looking-glass, and have arranged to send him sun flashes by a code we have made out; the distance is over thirty miles.

It is so difficult to realise that this was once a well-watered country, and that there were large game all around. The hippopotamus used to abound in the Vaal river, and there are some still there it is said. It is wonderful how in twenty to thirty years this country has been cleared of its game and wild beasts. The Boers have a saying that sheep drive lions away. That is to say, it is impossible to keep sheep where there are lions, so that one or other must go; and sheep have the help of man on their side. I saw a jackal last night prowling near a farm, the first I have seen. The wild animals here are much more shy than they were in Palestine; they seem to know the range of a rifle. All the Boers have rifles and shoot well. They are the best pioneers to civilisation in the world, and the worst civilisers.

Sunday, April 8.—North of Platberg, near the Vaal river. The Dutchman living here has told me that he finds water at the intersection of two vertical walls of trap. He only finds it at one of the four corners and could not understand why. I showed him how the strata run here, and how these vertical walls dammed up the water on one side; he was delighted, as in future he will only have to dig at one angle. He is a very practical man and has made a nice garden, stocked it and walled it round. Near his house is a sluit of water running to waste to the Vaal river. He might fill a series of excellent dams with it.

There are plenty of snakes about, and I must tell you what happened to me the other night. I was asleep in my bed in my tent and woke up feeling something cold fall on to my neck. I put my hand up quickly to pull it off, thinking it was a centipede, or scorpion, or snake, but the thing only fell further down my neck at my back. I jumped out of bed, threw off all my clothes, and gave myself a good shake, but still the thing kept close to me, on my back, wriggling about. It felt very disagreeable, and I wondered I was not stung. I could not reach it with my hand, it seemed to elude my grasp. At last I got hold of it, and found it was—my eyeglass. I must have gone to sleep with it in my eye, and it fell down my back, and then the string made it feel as if it were something long sticking to my neck.

Now I will tell you of something that

happened to me to-day. I had just come down from a hill, and had got into the bullock cart with the instrument, and as it was starting off I began to drink some tea out of a bottle. Just then the driver shouted "look out!" and we drove through a thorn bush, which caught my head and seemed to tear my hair off; it was very painful, as the great thorns of the mimosa stuck into my skull and were dragged out again by the motion of the cart. I felt also streams of hot blood falling down over my head and hands, and thought that I had torn open an artery. I did not say anything, but when we had got out of the bush, and I could open my eyes, I looked down to see how much blood had flowed down, and found that it was tea colour, and then I recollected that I had been holding the tea-bottle of hot tea in my hands when we got into the bush, and without knowing it, and with my eyes shut, had tilted the bottle up and poured the hot tea over my head, which I naturally mistook for blood. My head, however, has been a good deal torn by the thorns: there is no mistake about them, and I shall have a sore head for some days.

Do you know how a monkey eats a scorpion? He quickly picks up the venomous creature with the one hand, while he nimbly picks off the tail with the other, and then eats the body at his leisure! We humans have lost all that quickness and rapidity of action that belong to wild animals.

Sunday, April 15.—Farm of Adolf Erasmus, near Platberg. We have now made great progress, and have nearly completed our work in the field, though we have a month's work indoors. We have fixed on a point at Platberg, and have done a good deal of signalling at distances over thirty miles, with a large flag, and with sun flashes (the heliostat). The latter is a very simple instrument. It is a round shaving-glass bought in the market, with a little hole scratched in the centre of the glass through which you can see; and the sun's rays are flashed upon the end of a stick which is placed in line with the station you want to signal to. It is far better than the flag, but as we are south of Platberg it is not always practicable to use the sun's rays in our direction.

Sunday, April 15.—There was a digger here yesterday who was full of the glories of the bygone days when the diamond fields were under the Orange Free State. "Three and a half years ago there were 100,000 diggers, of whom 25,000 were whites, these have gone home, now there are only 5000 whites. Made money? Yes! We had the dry sortings, there were then only buckets not tubs. Life was no object—road went through the mine, waggon would go down, oxen followed—down some seventy feet—Hurrah! another man broken his neck! A tin bucket would come down on a man's head. Hurrah! another man dead.—A fifty carat diamond found! Hurrah! Hurrah! those were jolly days under the Free State. I would sit in the morning looking on and find some big diamonds, and say to my friends, 'Come and have champagne,' we would go and drink (we worked fifteen hours a day)—another bottle!—get drunk and leave the sortings to the niggers—some of them were honest, and would bring in the evening several diamonds—say to him—'Boy, go and have a spree, and here is £5 for you!' We had no gold in those days—pockets full of notes—champagne 5*s.* a bottle—we cared not for money—A poor fellow would come with nothing—Go into my claim, old fellow, for the afternoon, and take what you can get, and give me a share! It will set you up.—We would then clear for certain £3000 a week in a claim; one week I did not drink, and at the end I had a cap-box full of diamonds—in dry sortings we did not see the splints and small prisms; they are now in the great heaps, and belong to government." Talking of native labour, Erasmus says that labour is so scarce because of the diamond fields, there they get huge wages and also the prospect of securing diamonds. He pays only £3 15*s.* a month to his boys, so that I pay twice as much as he does, but even what he pays seems to me enormous.

The Bushmen are hardly yet gone from here, but they do not do any harm now They formerly occupied all this land, but

now have migrated west, though many of them have been killed. There used to be numbers about, and there were severe fights between them and the farmers. When the old ones were killed the farmers took the young ones and brought them up as servants. If their heads were flat at the top with a protuberance at each side they turned out badly. They seem to be a very plucky little race, and will rather die than submit. Adolf says that in his early days there was constant war with the Bushmen. Whenever he went out as a boy he was armed with bow and arrow to defend himself against the Bushmen, and had to be constantly on the watch against being taken by surprise.

He gave me terrible accounts of the slaughter of Bushmen, and said he would show me a plain near Oliphantsfontein, where they were all driven together in a great drive into a valley, and there shot down, and the children that survived were distributed as servants. The Bushmen believe that the moon is an ox, which grows fat and is killed at full moon, and is gradually eaten up; then out of its sinews grows a new moon.

They kill lions by putting up ostrich feathers in the lion's path—he advances to attack, and they shoot him with poisoned arrows, and run away until the poison has taken effect. The poison that they use is derived from three different sources and all mixed together.

(1) From a root like an onion: this is to kill. The skin of this root is very fine, like goldbeater's skin, and is good to put on wounds and bruises.

(2) The second is the poison of the cobra, to kill quickly.

(3) The third is the juice of the euphorbia; and this is supposed to bring the poison back again to the spot where the wound was made, so that the rest of the animal is fit for food.

The Bushmen make a whistle out of the leg of a bird, and this one or other of them plays upon all night, and the shrill noise keeps the lion away. When they sleep they do not lie down as we do, but they kneel and put their arms on the ground, and rest their heads on their arms so that they can get up at once if there is danger. Strange to say, they are good grooms and fond of horses, though there were no horses in the country that the Bushmen inhabited before the Boers came.

At Doornblicht, twelve miles from Alexandersfontein on the Bloemfontein road, is a collection of Bushmen's drawings on the rocks, giving pictures of animals, one of which is said to depict the unicorn. My father, in his journal of 1825, says, "Dick had seen on some rocks near the head of the Vaal river drawings of all the animals, and one unicorn—the head like a horse or mare, but, like a buck, horn from the forehead. Other accounts agree with this, that he is very fierce, but that with muskets he may be killed."

It is curious how general throughout South Africa is the story of the Bushmen's picture of the unicorn, with the horn growing out of the forehead, thus materially differing in appearance from a straight-horned buck.

Saturday, May 5.—I went on an excursion with Mr. Alexander Bailie to visit a Kafir head man and landowner in the Barkly district, a Fingo named Piet Manzana, as I wanted to see what a real Kafir was like. I look upon all the Kafirs and Griquas I have met with as mostly scum, and unfit to be classed with the people of any tribe. Piet Manzana is a go-ahead fellow, and possesses a nice farm which he has stocked, and he has made a good dam. His farm arrangements seem quite equal to those of the Boers. We drove up to his Kafir establishment consisting of several round huts, in a compound surrounded by a stockade. The ground within this area was scrupulously clean and would have put the yard of any white farmer to shame; but then a white farmer does not have the assistance of several wives. Each wife occupies a hut with her family. We had our food with these Kafirs, and everything was most clean and comfortable and well cooked. The huts are divided into rooms or compartments, and one of these was allotted to us to sleep in. I was particularly warned that the *hearth* was sacred and that I must not spit on it. Our supper was a roast chicken and sour milk,

no bread or other farinaceous food and no vegetables.

There were several dolls in the the establishment, one of which Manzana presented to me. The following is the account obtained for me by Mr. Bailie: When a girl arrives at the age of puberty she takes a piece of wood conical shaped with the point cut off. This she decorates with different coloured beads, and a face is made by fastening a small disc of metal about the size of a shilling on to the wood. Hair is made out of coarse black and dark grey thread. This doll she calls by the name she intends for her first-born.

There is a tradition that if anything untoward happens to the doll her child will die young. If the doll is handled by an alien without payment being given its head will fall off, or the beads all loosen and come away. This is an omen of ill to a child whose prototype, so to speak, it is.

Tuesday, May 15.—We both proceeded to Bloemfontein to hand over our plans, and were asked by the President to meet the Volksraad at the annual official dinner. At this time there was a very strong anti-English feeling amongst the Volksraad in consequence of the annexation of Griqualand West to the Crown, and in consequence of the recent proclamation annexing the Transvaal; and there was some hesitation about proposing her Majesty's health at the dinner coupled with the toast of Great Britain and Ireland, for fear that the person who responded would be unfavourably received; hearing of this I begged that matters should proceed as in former years, and engaged that if I had to respond the members of the Volksraad would not receive me unfavourably. By this time I had a number of very firm friends in the Volksraad, and a great number also knew of me in one way or another, and I felt sure that there would be a favourable reception of the responder to the toast. As a result the toast was received with acclamation, and I was greeted most pleasantly when I responded, and there was great cordiality for the time.

Saturday, May 19.—We finally handed over to President Brand for his signature our plans of the boundary line, and they were forwarded to England, and so our task was concluded in five months' incessant work.

The Legislative Assembly of Griqualand West sent me a vote of thanks for the speedy laying down of the boundary line, which was presented to me by the Administrator, engrossed on beautifully illuminated vellum. I also received in conjunction with de Villiers a unanimous vote of thanks, at the suggestion of President Brand of the Orange Free State Volksraad, for the able manner in which the work had been done.

It was a great satisfaction to me to be able to report in conclusion of my work that not only was there a great access of cordiality with the Boers of the Orange Free State, but that also I had received the greatest assistance for the British side of the line from Mr. Orpen, our Surveyor-General, and from all our Government officials, and I expressed the cordial assistance I have received from Major Lanyon and the officers of his Government, which had greatly facilitated the work I had in hand. I had to thank his honour President Brand for his kindness and assistance on all occasions, and I could not omit to mention the most friendly attitude of my colleague, Jos. de Villiers, with whom I have never had the slightest difficulty or disagreement. Of the non-commissioned officers, my subordinates, Sergeant K. and Corporal R., I was enabled to speak in the highest terms. Major Lanyon on receiving my memorandum, wrote to the High Commissioner:

"I think it due to Captain Warren to record that in all our transactions together he has ever shown great cordiality, and has readily co-operated in matters which were connected with the Province.

"Captain Warren has been singularly happy in his relations with the Dutch farmers, and has, by his kindly manner, done much to conciliate those who live along the boundary line. It is not in my province to report on Captain Warren's performance of his duties, but I think it would be wrong if I were not to express my thanks to him for the very able and energetic way in which he has carried out his work, and for the moral assistance he has rendered to the Griqualand West Government."