

Supplementary Material 8

Dr Herman Beckler. Medical Reports, 9 & 22 July 1861, 75 pp. Records of the Burke and Wills Expedition. 1857–75. [manuscript]. State Library of Victoria. SLV MS 13071, Box 2082/4b.

Transcribed by Beverley Wood.

Dr Herman Beckler. Medical Reports, 9 & 22 July 1861

[Supply Party journey from Pamamero Lake to Bulloo, 28 January to 4 April 1861]

11.

[p83.] To the honorary secretary of the Exploration Committee

Sir,

The camp at Pamamero is at present in charge of a Mr. Knoles who was engaged by Mr. Wright. The invalids have now completely recovered.

Should you not have learned by this time that I have not the intention to accompany another party into the interior at present.

I beg you to accept these lines as a statement to that effect.

I would further beg to say that there is nothing like an adequate supply of medicines left for a party going out. The acids have been used up, so the greater part of the Quinine, not to speak of some accidental losses on the return journey.

I am awaiting an order from your Committee for me to return to Melbourne, and should that order not reach me before the next mail which will leave Menindee I shall forward to you the rest of the medical report by post.

I am,

Sir,

your obedient servant

Menindee, July 9, 1861.

[sgnd]. Herman Beckler.

Is

Medical Report¹

[p1.] To the honorably secretary of the exploration committee.

Sir,

With this mail I have the honor to send you part of the medical report, as the time between our arrival at Pamamero Creek and the departure of Mr. Brahe with dispatches for Melbourne was too short to allow me to do so.

Of all expeditions in Australia of which I know there has been none with the exception of Mr. Kennedy's unfortunate journey through the north-eastern coast country of this continent which showed so unfavourable a state of health, so large an amount of sickness and so great a mortality as our journey towards Central - Australia. Yet, most of those expeditions had a supply of provisions - and means of transport far inferior to ours; some of the parties had no surgeons, others were short of provisions an inconsiderable time before they could return to any settled district.

It is true our journey did not lead us along a line at a moderate distance from the sea-shore, but starting from an inland - river, our track shows us advancing towards the far north, independent of the character of the country passed through, but Captain Sturt after having been out about 16 months in the inhospitable interior had less mortality in his party, and Mr. Stuart crossing and re-crossing almost the whole of the continent succeeded, not without great sufferings from disease, yet succeeded in searching the settled districts without any loss of life.

[p2.] It must, therefore, be of some interest to your committee, to the medical profession and to future explorers to learn to which causes this deplorable loss of life was attributable as far as careful observation and, I trust, unbiased reflections can explain it.

To give you a clear view of the four cases which ended lethally, I shall treat them, as far as it is possible, separately.

¹ Minor editing has grouped the content under case headings, preserving all the original folios. The dates and some locations have been bolded to assist the reader. The Case Study dates start at the beginning of illness and end at the death of each of the four men. Most of the general observations and reflections have now been put together at the end. Generous editorial assistance was given by David Newgreen (Pharmaceutical Historian) in the transcription of drug names and dosages.

[The cases of William Persil and Mr Becker]

We arrived at **Duroadoo** on **Tuesday, Febr. 12**, the whole party being in good health. During the last stage William, our cook became so tired that he could not walk any farther so he rode for seven or eight miles on a camel.

We left Duroadoo on **Friday, Febr.15**, and we camped on a large depression full of clay pans but without water. This camp distant about twenty miles from Duroadoo, we left on **Tuesday, Febr.19**. The delay was caused by absence of water at this place and the uncertainty of finding any water outwards.

The camels and horses had to return to Duroadoo to get a drink and to bring some water in. Mr. Wright and Smith left the camp to look for water in advance, and returned on the 18th having found water at a distance of about 20 miles which water was expected to last us for four days. We arrived at that camp which we called ever afterwards **“Rat point camp”** on **Tuesday, Febr. 19**. The water lasted for two days only and we were now forty miles from Duroadoo, and quite in the dark about the country before us.

[p3.] It became at once necessary to send out a reconnoitering party and to take the horses and the rest of the camels back to Duroadoo, the nearest water and a green oasis amidst the large extent of undulating sandy country with hardly sufficient food at least for the camels.

Messrs Stone, Hodgkinson and myself left with the horses and camels for Duroadoo. Mr. Wright, Smith and Beloodch went on a reconnoitering tour and Mr. Becker and William Persil the cook were left in charge of the camp. They were to be supplied with water from Duroadoo once a week.

It was here at the mud plain or “rat-point-camp” that sickness begun to come over the party. Mr. Becker had been several times indisposed at the camp on Pamamaroo Creek, principally from his mode of living, still he stood the journey up to **“Rat point camp”** tolerably well.

The water at Duroadoo was purely rainwater.

Duroadoo was full of fresh water at the end of **December, 1860**. No rain had been observed since about that country. The distance of “Rat point camp” from Duroadoo is forty miles. Mr. Hodgkinson and myself made our trips from Duroadoo to the advanced camp without taking the waterbags from the camels.

This water supplied from the stagnant beds of the swamp could not possibly improve by being shaken in leather-bags for some twelve or fourteen hours. There was a considerable quantity of clay suspended in it, part of which

[p4.] settled some time after the water had been undisturbed; it never became clear and began to undergo a process of fermentation, and then it was unfit for use.

Mr. Becker and William were however never more than five days without a fresh supply from Duroadoo.

I wished I could give you as vivid an impression of that camp and its life as I received myself. Two persons are left alone in desert country. There they are, a cloudless sky above them, an atmosphere without a breath of wind and totally devoid of moisture around them, in a shadowless desert receiving and refracting an almost intolerable heat from the early morn to the advanced hours of evening.

They do not take any exercise, but they pass the whole of the day in the tent or under such protection from the sun as they can make with blankets and tarpaulins. They have no occasion to leave the camp and there is nothing to invite them to do so. The heat and the glare of light around drive them quickly back under the roof of the tent. They keep as quiet as possible so that they would not require more water than their allowance. They are sitting or laying spending the long burning hours of the day almost without a movement. They cannot converse with each other, because they cannot find one common subject of sufficient interest to both of them. Outside there is nothing to match the consuming heat, but the unbroken silence, and that all

[p5.] senses may be fed alike or harmoniously, your eyes wherever they turn wander over an ocean like expanse of yellow mud the horizon of which is limited here and there by chimeric waters of ethereal blue bearing the distorted and oscillating picture of splendid islands.

After having passed a few days in almost absolute rest it seems to Mr. Becker that it might be desirable and advantageous to their health to take some exercise, and they do so in the evening. Sleep was impossible except as the effect of complete weariness, for soon after sunset when the numberless swarms of flies which had tormented them during the day begin to disperse and to rest, the undisputable owners of these dreary grounds “the rats” made their appearance in such numbers that two human beings seemed at first to be helpless against them.

The rats make their way anywhere, they kept up the wildest most unhomely noise for the greater part of the night and consume provisions of all kinds. The provisions and other articles even then survived by burying them, but still the rats came in the same numbers.

So Mr. Becker and William spent the earlier part of the nights awake. At last worn out, not by hard work but by continual rest and by torturing their minds with all sorts of conjectures about the safety of Mr.

Wright’s party, about the possibility of accidents which

[p6.] might stop their own supply of water and revolving every chance for good and bad a hundred times in their restless brains they would get a few hours rest disturbed by numbers

of rats which would run and jump over them, which would fight with each other in the blankets covering the sleep (sick... ..) and which would wake them frequently by painful bites.

Such was the life at Rat point Camp from what I experienced myself and from what Mr. Becker and William told me.

Mr. Becker and William soon began to feel unwell, and the former looked very much changed when I returned with water from Duroadoo for the first time. But William was the worse off because he had nothing to do to fill out the dragging hours, and the languid state of his body was soon equalled by the torpor of his mental life. Mr. Becker tried to make himself independent of all external influences by study, writing and sketching, and we owe to that effort of his to keep himself continually occupied with something of interest a series of beautifully executed paintings representing principally lizards and such like animals which he found about the camp. But although he succeeded in this way to divert his mind from the dreary world around him he could not prevent those changes coming over his health which the peculiar arid character of the atmosphere, the heat, the continual rest of his [p7.] body, the sleeplessness, the restless disposition of his mind, and the exclusive use of preserved provisions and you may say badly preserved water wrought on his body.

All these causes together, wrought on him and on William with alarming rapidity and by the time we were about leaving that most inhospitable of camps both were suffering from a similar state of ill-health, want of appetite, indigestion, languor and more characteristic symptoms of scurvy such as numerous ecchymotic spots scattered over their lower extremities and a bluish flabby appearance of their gums with inability of masticating solid articles of food properly or without pain.

Mr. Becker looked very pale and suffering on the morning of Sunday March 10. He looked worse on **Monday March 11**, and he complained of having no appetite.

William complained of want of appetite and constipation and of a painful swelling about his left foot joint which almost prevented him from walking. Mr. Becker begged me to give him some compound Rhubarb pill which he said he was in the habit of taking, and I had nothing against it. I gave William compound aloëtic pills which had the desired effect.

We the party with the camels left the “rat point-camp” finally on **Saturday, March 16**.

Mr. Becker had then left with Mr. Wright and the horse-party for Puria Creek, where we arrived on Wednesday, **March 20**. **Puria Creek** is distant from “rat point” about 72 miles.

[p8.] During the latter part of the journey from the mud plains to Puria Creek, Mr. Becker had been very near exhausted from fatigue and want of water. At our arrival there he had recovered and he was in good spirits and in good appetite.

His gums were not better, his teeth felt loose and he had some trouble with masticating, one of his hands was swollen and the lower part of the internal side of his right thigh and the whole popliteal region was affected with a hard, colorless diffused swelling.

During the same journey but being with the caravan or camel party William was better than when he left the mud plains. He walked better and easier and did not want any attendance. We were not short of water as we had expected and a sharp shower of rain on our track provided for us even the luxury of a bath.

William did however not continue to improve after having reached Puria Creek, he had no appetite and the swelling about his left foot joint was larger and painful. Both his knees were swollen too and painful. Walking was very difficult to Mr. Becker and William, and the latter who yielded far more to anything what his disease seemed to suggest to him than Mr. Becker, took at once to such a way of walking that the sight of him was misery.

The actual state of health of both was such as to make a short stay here necessary.

We had been using citric acid ever since we had left Duroadoo and I told the party every day to use a certain quantity from a solution which I made for the general use

3.

[p33.] William had an aperient draught on **Friday, March 22.**

Mr. Becker took a saline aperient, March 23.

Since we had left the mud plains William had citrate of Quinine, and Iron \mathfrak{D} ii (2 scruples); dissolved in 3 fl.oz of water, of which he took half a fluid ounce three times a day.

I gave the same now to Mr. Becker.

Both of them used a solution of alum as a local application for their gums and fomentations on the swellings of their lower extremities.

During our stay here Mr. Hodgkinson shot a number of ducks and pigeons and we were all glad to get so welcome a change. We had also numbers of small fish several times and I expected a great change in our sick from such diet. Mr. Becker although less attentive to the fomentations than William seemed to recover rapidly but William did not regain his appetite.

I gave him therefore besides the Citrate of Quinine and Iron, small doses of Quinine and Opium and small quantities of brandy of which we had taken half a dozen bottles as medical comforts, as nothing else was to be had at the time at Menindee.

Sulphat Quin gr 1 [1 grain]

Pulv. Opii gr 1/8 [1/8 grain]

Sacch. Alb gr iii [3 grains]

dos. II per diem [2 per day]

Monday, March 25. Mr. Becker much the same. The bluish color of the gums somewhat diminished.

Tuesday, March 26. Smith, Beloodsh and myself left with nine camels to take part of the stores and some water to Koorliatto Creek.

Mr. Becker and William continued with the medicines named above.

[p34.] We left Puria Creek on Friday, **March 29**, and arrived at **Koorliatto Creek** on **Saturday, March 30.**

Here we pitched at once a tent for Mr. Becker and William and Mr. Wright intended to stop for several days on account of our two patients.

Sunday, March 31. The swelling of Mr. Becker's leg is very large. Bluish streaks run longitudinally over it, being small extravasations of blood, caused by pressure of the saddle against the thigh. Scattered ecchymotic spots increased in number. Both patients use hot water baths and fomentations, and continue with the Citrate of Iron and Quinine.

Monday, April 1. William is getting weaker and seems to be very indifferent. I have to give him every dose of medicine myself.

Mr. Becker who had hitherto preserved his good spirits seemed to lose them last night.

He had kept himself free of all reflections on his situation, that of a sick and helpless man in a wild country, but last night he became much excited by one of those peculiar turns which his thoughts would sometimes take, and from what he said, it appeared that the situation he was in was colored and magnified by his vivid imagination and reflected as a picture of utter misery on his mind. He was almost raving and wanted to leave the tent.

Perhaps the tent had something to do with it; it was closed although the air was oppressive, and as often as I would open the tent Mr. Becker would close it again.

[p35.] **Tuesday, April 2.** Mr. Becker is generally a little better. The swelling is hard, tense and to the touch of increased temperature – it is more concentrated around the knee joint, the largest amount of exudation being about the lower insertions of the semimembranous and semitendinous muscles and the biceps.

Tuesday, April 2 – Friday, April 5.

Continue with the same treatment, the fomentations produce a drip perspiration from the swollen extremity and there is much easier movement with less pain.

Friday, April 5.

Mr. Wright leaves with the whole of the party for Bulla, distant 20 miles. Mr. Becker and William are left here with me to attend on them.

It was Mr. Wright's intention to send Mr. Becker and William to Menindee with the camels which were to return to the Darling and to bring another stock of provisions to Bulla, and he thought two weeks would be sufficient to recruit the camels, and he hoped that during that time Mr. Becker and William would recover so far as to be able to undergo the return journey.

Mr. Becker is improving and in good appetite.

When Mr. Wright left for Bulla I told him that I was almost certain that Mr. Becker could travel in a very few days. William was not by far so sick as Mr. Becker.

Saturday, April 6.

Mr. B. complains of having had no sleep during the night from congestions to [p36.] to the head. Parts of the skin over the swelling wrinkled, swelling decreasing, movements easier. Affected this morning with diarrhoea. First stools thin, fluid and mixed with blood. Latter stools more consistent, of dark color, containing no blood.

Pulv. Rhei gr $\frac{1}{2}$ [1/2 grain]
Pulv. Opii gr $\frac{1}{4}$ [1/4 grain]
Sacch. alb. gr iii [3 grains]
doses IV [four].

I gave Mr. Becker one of these powders every 3 hours.

Several motions follow during the day of equal consistency, not watery, of brown color and foetid odor. Mr. Becker hoped the diarrhea would be over by ~~last~~ night, not so however. He was quite exhausted in the evening. He could not sleep. I gave him one gr. [one grain] of Opium. He had to go out twice during the night and had copious discharges of the same quality. They weakened him very much. I took him out of the tent and carried him back, as he was too weak to stand or to sit. His pulse was about 80, but threadlike and oscillating. Tongue furred, with a brown broad streak down the middle. He is very thirsty.

Calomel gr ii [2 grains] – Sacch. alb. gr iii [3 grains]

One powder every second hour. Rice - water for drinking.

Sunday, April 7.

Mr. Becker has had a stool after a rest of more than six hours. The appearance of it is most unpromising in his weakened state of health. The digestion is watery, brown and is discharged as from a spout or syringe, and contains a piece of the mucous membrane of the colon, about 5" long and so infiltrated that it is more than 1" [one line=1/12 inch] in thickness.

From 9 a.m. to 2 p.m. six stools – two of which contain detritus of infiltrated mucous membrane.

4.

[p37.] The last three of them followed each other quickly, and did not contain any particles of mucous membrane. Pulv. Opii gr i [1 grain] with one of the calomel powders. The same in the evening.

Monday, April 8.

The patient had again a very bad night. Pulse small, frequent (about 96), and easily suppressible. Tongue moist, thickly furred, fur of a brownish and grayish color. Great thirst. Urine transparent, dark. The patient took 2 gr. [2 grains] of Opium during the night. Sleep too often disturbed by stools.

From 4 p.m. to 6 a.m. eleven stools. The stools during the night mostly above a quarter of a pint, thin, of a greenish appearance, no detritus in any of them. The patient was slightly confused, probably from the Opium. I gave him during the night an injection of 4 ounces of Arrowroot. He kept the injections for more than one hour. Patient is and feels very weak.

In the morning two stools, green, not copious and of better consistency. Pulse and general appearance show the weakness increasing.

Complained towards noon of a pain in the caecal region and over the descending colon.

During the afternoon two foetid stools still of greenish color. In the afternoon the patient had a chyma of Arrowroot.

Continue with the same treatments, injections of Arrowroot, and Calomel, now in one grain doses, in the evening with Opium.

Tuesday, April 9.

Mr. Becker had two stools from about 11 pm. to morning. They were copious and thin, showing no improvement.

[p38.] I gave Mr. Becker four injections during the day.

He had Arrowroot and rice - water.

The patient was in an alarming state yesterday.

He was sunk so low that it was troublesome to him to breathe, and the slightest motion or exertion exhausted him. In the evening his pulse could hardly be found. Towards mid-night he seemed to get some rest, he had a stool at about 3 a.m. and shortly after he called me into the tent, telling me that he had no diarrhea more.

Patient is extremely vexed and irritable, but feels much better. (He took 2 gr. [2 grains] of Opium during the night). No stools during the day.

Wednesday, April 10.

Mr. Becker's pulse has much improved since last night.

During the night he had some rest. He is still very weak. He had a good [feculent] stool at about 11 pm., another stool of the same quality this morning. One injection of Arrowroot during the day.

Arrowroot for breakfast. In the middle of the day and in the evening soup made of pounded dried beef and meat-biscuit. No calomel to-day.

The patient's gums slightly affected from the mercury. Uses acidulated water (with muriatic acid).

Already before Mr. Becker was taken ill with dysentery he complained of a pain over the lower part of the os sacrum from laying and ridding. This is getting worse now in his emaciated state, and he is complaining much of it this morning. He takes his soup with great relish. He had only one thin foetid stool in the morning.

[p39.] In the course of the day and the evening he had six stools, fluid and mixed with blood.

I resolved now to give him the comp. powder of Kino.

Pulv. Kin. Compos. ʒ i [1 dram]

Pulv. Rhui gr X [10 grains]

Aq. fl iii [3 fluid ounces]

I gave him of this a tablespoonful every 4 hours.

During the night he had one stool, but he slept well. He had 2 gr of Opium during the night.

Thursday, April 11.

Mr. Becker told me, that he felt quite comfortable.

Slept the greater part of the morning, had two fluid digestions of the same character. They were discharged as the stools previously and they contained more blood than the stools of two days ago.

They did not contain any newly formed faecal matter. Continued with the compound powder of Kino suspended in water, and injections of Arrowroot.

Friday, April 12. Patient had a fair night, only one stool without blood. Pulse more resistant, but still of good frequency. In the evening rather above 100. This morning about 88. One stool during the morning, quite fluid but without blood. Patient feels very weak and desirous for sleep. Two fluid digestions without blood in the afternoon.

Saturday, April 13. Yesterday afternoon Mr. Hodgkinson came from Bulla to get some articles which were left with me and to see how we were. I send by him this day the following note to Mr. Wright.

[p40.]

The Camp. **April 13, 1861**

Sir,

When you left here I was in great hopes that both Mr. Becker and William would be able to return with the camels to Menindee in about a fortnight.

William is recovering but so slowly that I am certain he will not be able to undergo the return journey before three or four weeks. He regains his appetite but slowly, and he is still so weak that a few yards walk utterly exhausts him.

It is however still worse with Mr. Becker.

At the time of your leaving him for Bulla he was rather stronger and better than William.

On the day following, Saturday last, he was seized with a most violent attack of dysentery; a disease which in such a degree will speedily prostrate the strongest man, and which in his state made me fear for the worst.

I do trust and hope that his present improvement will last and lead to his recovery.

He will not be able to travel to Menindee for the next six weeks, at least.

I would therefore suggest to you to get both patients removed to your camp at Bulla and to let them recover there.

For Mr. Becker I am even afraid of this slow journey, but I cannot see any other way.

I am

Sir

Your obed. serv.

[sgnd.] Herman Beckler

to Mr. Wright,
officer in charge.

5.

[p41.] Mr. Becker had a passable day yesterday notwithstanding the little vexation which the deliverance of his materials gave him. He slept during the night but he had three fluid stools. Urine dark, transparent. Pulse about 100, weak, yet I think I feel more resistance.

He had 5 motions during the forenoon. The three last stools were not copious, but they contained again some blood and flocculent matter. He feels very low and weak, no doubt, as he acknowledges himself from the excitement which the large number of natives about the camp gave him. Treatment continued: Co.pulv. Kino. [Chyma] of Arrowroot

Sunday, April 14.

The patient had a better night than I could expect, as he must naturally have been much frightened by knowing that a large number of savages were so near our camp, and only one man at our camp to protect and to defend everything .

He had no stool during the night, one stool in the morning without flocculent matter or blood, and of more consistence. He has some appetite.

I did not give him any medicine to-day.

Monday, April 15.

Mr. Becker had no stool since noon yesterday, to-day he had a stool of much better appearance, but quickly followed by three thin, foetid stools, containing blood. Powders of gallic acid in 1 gr. [1 grain] doses with sugar. At night Morph [Morphine] muriatic gr 1/6 [1/6 grain].

Tuesday, April 16.

Mr. Becker had a good night. Stools less frequent, less offensive, contained small quantities of newly formed faecal matter. He is very weak and his right hip painful from laying on it.

4 doses of gallic acid. orph [Morphine]. muriatic. gr 1/6 [1/6 grain].

[p42.] **Wednesday, April 17.**

Mr. Becker had a fair day yesterday. The stools contained some blood, but also some faecal matter.

No disturbance during the night. Early in the morning a copious stool of lighter color, consisting mostly of faecal matter, but it was quickly followed by less copious discharges containing blood, mucous and what appeared to be blood serum. Pulse about 80, his tongue looks well, the broad roughly formed streak down the middle of it has disappeared, and he tells me he has a ravenous appetite. Continue with gallic acid.

Thursday, April 18.

The patient has now for the last three days soon after awaking a copious stool of good consistence, without a trace of blood or flocculent matter, but they are followed almost immediately by two or three less discharges of far different character, containing flakes of blood-mixed mucus.

His capacity for keeping himself tolerably warm seems to diminish gradually. He feels cold during the night. I hardly know from where to procure sufficient covering. The south-wind is increasing and blowing very sharp though the tent.

Mr. Becker remarked to me that he felt very ill.

After having slept all night (Morph [Morphine]. muriat, gr 1/6), he is desirous of sleep and rest, before sunrise.

He had no stool during the forenoon, and only a small discharge with hardly a trace of blood in it.

About noon a stool of better quality.

Citrate of Iron and Quinine \mathfrak{D} i [1 scruple]; in solution.

Sulphate of Quinine with sugar in powder 2 doses, 2 gr. [2 grains] each

He is more awake and feels better now.

[p43.] **Friday, April 19.**

Mr. Hodgkinson and Belloodsh arrived here last night with the camels to leave for Menindee and to take Mr. Becker and William with them.

I requested Mr. Hodgkinson to return to Bulla with a note from me to Mr. Wright, as it was impossible to allow the two patients to go to Menindee.

Copy: Sir,

It is impossible for me to obey your order regarding the start of Mr. Becker and William to Menindee, without drawing once more your attention to the great responsibility which rests both on you and on myself.

I am almost certain that less than the fourth part of the journey to be performed will be sufficient to close the days of both of them.

I will do anything I can, and attend on them as before, and as soon as ever it will be possible I shall be ready to say that they can travel.

I further beg to tell you that I decline stopping here any longer, alone with two sick men and exposed to the attacks of a host of natives, and I beg you therefore to have us all removed to Bulla, and to detain the camels as long as it is necessary.

The responsibility is not yours only but mine too and I request you to reconsider the matter.

I am, Sir,

your obed. serv.

[sgnd.] Herman Beckler

to Mr. Wright

Officer in charge

[p44.] Mr. Becker is getting better. The only serious thing is his weakness and the discharges in the morning containing blood. The freshness of the morning and the sudden loss of however small a quantity of blood but considerable in his state, make him very cold and weak, and it is with difficulty that he can be kept warm.

I hope and I have every reason to hope to get him sound if I have the time left to me.

Mr. Becker takes today

Co.pulv. Kino ʒ ii [2 scruples]

Saturday, April 20.

and 4 powders of Quinine (2 gr each) [2 grains each]

The patient had a very good night, but he lost again a small quantity of blood mixed with a gelatin like mucous. Great weakness followed and he was shivering under an abundance of covering. He would not eat anything to-day.

I gave him a little tea. He took as on the day before the co powder of Kino alternately with Quinine. He slept a good deal, and he was during the greater part of the day somewhat confused. Towards evening he felt very tired. His pulse throughout the day was less resistant and smaller than any day previous, and of about 100 in frequency, sometimes when he complained of feeling cold,

I could hardly feel it. His features and the color of his face and his hands show great collapse. At about 5 o'clock p.m., after not having had a stool since the early morning, he had in quick succession four most unpromising serous stools.

I continued the Co pulv. Kino with the Quinine but I gave him 1 gr. [1 grain] Opium instead of Morph [Morphine].

6.

[p45.] As he was restless and had about midnight again copious stools running from him as from a spout, I repeated the Opium dose.

He had then some rest. Towards morning again a pure serous discharge. Great weakness. Decreasing sensation of cold during the night and this morning.

I resolved upon giving Mr. Becker 2 gr. [2 grains] of Quinine with sugar every two hours.

He seems to be more composed now. The air is chilly, the wind fresh, yet he does not complain of feeling cold.

The serous stools which Mr. Becker has since last night and of which he had five this morning in rapid succession are all of the same appearance and look exactly like typhous stools. They are discharged as running from a spout and of a most offensive character.

With the first appearance of three serous stools the patient's tongue took another appearance. It is moist only on a narrow rim on both sides, in the middle a broad streak with deep crevices of brown, blood-tinged color. In fact he looks now like an advanced case of typhus.

Sunday, April 21

Travel to **Bulla**. Both patients stood the journey better than we expected. William became quite lively, encouraging Mr. Becker in a loud voice, after he had not uttered a loud word for weeks, and the latter too seemed rather to gain strength than to lose the small rest left to him.

He spoke low and distinctly to me near Bulla.

[p46.] **Monday, April 22.** Mr. Stone died in the afternoon. First attack of the natives.

Tuesday, April 23.

Mr. Becker had his serous stools on three periods during the night, almost without intermission and some of them involuntarily. Human suffering under such circumstances made me indeed a most painful impression.

In the course of the day he lost the serous stools, those following being watery with large blood mixed flakes and very offensive - frequent, discharged with great pressure and generally in a small quantity.

Continue with Quinine, 4 doses of 5 gr. [5 grains] each and Rice-water, arrowroot, beef tea.

His mouth tongue and palate are dry, shrunk, his body cool, emaciated, his pulse about 85, threadlike, sometimes not to be found.

Wednesday, April 24.

Second attack of the natives.

No change in Mr. Becker's state. Since we arrived here, I gave both to him and William small quantities of brandy, as there was one bottle left of which I did not know.

Thursday, April 25.

Mr. Becker is getting poorer and poorer.

He is so weak that the very light weight of his head is too heavy for him to lift it from the pillow. His discharges mostly involuntarily. Still I managed to give him the comfort of laying on dry blankets.

Pulse around 80 but intermittent.

[p47.] He cannot control sufficiently the motions of his bowels.

Pulse intermittent, small and somewhat tardy.

The digestions are fluid containing flakes of blood mixed mucous, the fluid of greenish brown color and of a strange iridescent appearance, but so offensive that they are even disgusting to me.

He is getting very indifferent to all round him, but his questions and remarks with regards to the few wants he has are still quite clear.

Continue with Chinin, Brandy. Morphine, sometimes Laudanum at night when he cannot get sleep.

Friday, April 26.

Mr. Becker had a good night and only began to call for me at about 2 a.m. He had then a small discharge, fluid but without blood or mucous. I could not feel his pulse for a long time. His breathing is very slight, superficial, as if the respiratory muscles were exhausted.

He is hardly able to eat, and yet he will not allow to be fed. Sitting up he cannot support his body even clasped by my arms.

His neck cannot uphold his head. His movements are indeed those of an artificial skeleton.

Continue with Chinin. Brandy, Morphine.

Saturday, April 27.

The patient had a passable night, less discharges for the rest the same. The blacks attack us for the third time.

Mr. Becker is breathing, that is all. His muscular strength is now completely exhausted and it is with difficulty that I can give him food and drink. His sensibility is decreasing, yet he retains still a [digne] which does not allow any comparison with his exhausted muscular strength.

[p48.] **Sunday, April 28.**

The patient can only be called a living skeleton.

I made him take a little Arrowroot and brandy. He is still sensible about the few things he wants, shifting, or lifting him, lifting up his head, covering him etc. etc.

He never noticed our firing upon the blacks yesterday. His power of swallowing is very small, the constrictor muscles of the pharynx seem to be very deficient in their functions, so is the epiglottis

Monday, April 29.

Mr. Becker continuing in the same state. Apparently sleeping or torpid. Respiration very slow and very slight. He is no more sensible.

At times I gave him small quantities of water with sugar and brandy.

He died, or better he breathed his last at 5.15 p.m.

We buried him on the following day at noon.

7.

The case of William Persil

Continuation. **Saturday, April 6.**

[p49.] William regains his appetite but slowly.

Sunday, April 7. Patient appears to have overcome his great prostration, he has taken a little food last night and this morning. He feels his legs easier, they are less hard and less swollen, but he cannot walk yet.

William lays dozing. He will not take his soup for dinner, but he begs me to give it to him by and bye. he poor fellow had no rest during the last two nights, as I had to come so often into the tent to assist Mr. Becker.

Continues with Sulphate of Quinine and Opium.

Quin. [Quinine] sulphate gr 1 [1 grain] – Pulv. Opii gr 1/8 [1/8 grain] – Sacch. Alb. gr iii [3 grains]

Four doses. Solution of Citrate of Iron and Quinine.

Fomentations to his legs. Citric acid with his drink water. Gargarisma [gargle] with Alum.

Monday, April 8.

William is better this morning. Sleeping and laying in the same tent with Mr. Becker, he has hardly any rest. The discolored parts of his skin shows rapid improvement during the last 3 days. Continue with the Citrate of Iron & Quinine now ʒ i [one dram] in 3 fl oz of water. Half a fluid ounce three times a day.

A few yards walking exhausts him and makes him breathless and pale.

I made him a small roof like protection of a blanket as I will not have him in the tent any longer.

Tuesday, April 9.

William rests well in the small blanket tent I made for him. He took some food.

[p60.] He asked me for some salt beef which I could not give him of course. He takes besides the Quinine, small doses of co. Rhubarb pill. 4 gr. p. diem [per diem].

Still unable to walk by himself.

Wednesday, April 10.

William could not sleep last night from the mosquitoes. Loses again his appetite.

He does not touch any food during the day.

His state of anaemia is serious indeed.

Pale as death he lays listlessly on his bed, and does not care for anything. What he drinks too is very little.

His pulse is weak, tardy but slow and regular. He does not feel any change of temperature in his body. His skin feels always cool, and he has no pain.

He says he has no appetite for anything I can give him.

The provisions I have here for my patients and myself are: dried beef (prepared at our camp at Pamameroo) flour, rice,, arrowroot, tea, coffee and sugar, some meat biscuit and a small quantity of ghee, preserved cabbage of which the sick cannot eat yet, nor myself, except if I like to eat it merely soaked and boiled.

The scorbutic attack was certainly worse on William than on Mr. Becker from the commencement, and the former soon came under the grasp of Anaemia with the consequent weakness.

Mr. Becker always had some appetite and apparently never so anaemic as William.

Thursday, April 11.

William has at last taken a little soup for dinner.

[p51.] **Friday, April 12.** No change.

Saturday, April 13. William continues in the same state.

Sunday, April 14. William is the same, he was like Mr. Becker much frightened by the natives keeping so near to our camp.

Monday, April 15. William is labouring under the illusion that the provisions which I was giving him here do not contain nourishment enough for his recovery. I do all to persuade him of the contrary, but it is of no use. What he wants is bacon and ham, and he complains that Mr. Wright does not send any of these articles to us. It is in vain that I tell him that he could not get any if I had even so much here.

There is no symptom of disturbed formation of the stomach or the alimentary canal on him. His tongue is moist, of regular shape and without any covering which would indicate an affection of his stomach. Yet, without any apparent affection of the organs of digestion he will not eat. His low spirits I believe do much towards it.

Change of weather and threatening rain compelled me to put William into the tent, as he could not have been sufficiently protected outside.

Tuesday, April 16.

William was feverish last night, and he continues to be very weak. He is in very low spirits and will not listen to encouraging and cheering words. The natives are still near, in great numbers, and he is much frightened. Continued the same treatment, mentioned above.

[p52.] **Wednesday, April 17.** No change.

Thursday, April 18. William passed to day from his indifference to a state of despair. He is continually grumbling, and quarrelling and often refuses what I offer him in the shape of comfort or assistance.

William has for the last two or three days discharged his urine near his bed inside the tent. I noticed it yesterday for the first time, and I told him to ask at any time for my assistance. But miserably weak as he is, he sulkily refuses my offer.

Friday, April 19.

William is getting worse. He is still obstinate and his language is full of lower expressions than I ever have been compelled to listen to before. He eats and drinks very small quantities. His stools are normal in consistency and color, but the volume has decreased very much, and no doubt from the small quantities of food and fluid he has taken his bowels have gradually contracted in proportion.

Since Wednesday he takes O ii [2 scruples]; of the Citrate of Iron and Quinine per diem, and Sulphate of Quinine in the same doses as before.

William was so weak yesterday, as I had not seen him before. He ate nothing during the whole of the day, he asked only now and then for a drink of water. A favourable change seemed to come over him to day and, what he had not done since we are here, he took with good appetite a large plate full of soup made of pounded dried beef and pounded meat-biscuit.

8.

[p53.] **Saturday, April 20.**

William declined to take any breakfast and he is not ready for his dinner at 3 p.m.

Sunday, April 21.

Travel to Bulla. William became quite lively during the journey, he spoke loud and seemed to regain some strength from his exposure to the fresh air and the breeze and the sunshine.

Monday, April 22.

During the journey from Koorliatto Creek to Bulla William kept very fresh and his voice now clear and loud. He spoke to me and to Mr. Becker and laid very quietly in his cachao [camel palanquin]. Mr. Becker was confused during the earlier part of the journey and looked like dying. He complained of feeling cold, although he was well covered and he was very restless pulling his bedding about.

In the afternoon he became more collected and did not complain.

When we arrived at **Bulla** they were both exhausted. I brought them some food, but neither of them would have any.

To-day William was very weak. He took for breakfast some arrowroot with sugar and a small quantity of brandy.

I offered him about a tablespoonful of brandy diluted with water during the forenoon, he took it but he vomited it.

As often as he rises his head to take a drink he faints and sinks exhausted down on his bed. This day the blacks attacked us for the first time.

[p54/...] William took a small quantity of soup in the evening. I gave him the Quinine in the evening with a small quantity of diluted brandy.

He slept very well. Once during the night he asked for water. At about 4 o'clock a.m. (Tuesday) I *was called up to see William.*

He complained of shortness of breath and asked for water. I gave it to him.

He sank fainting back on his bed and was then in (agoni) for about 10 minutes when he died.

He was buried on Tuesday night.

[William died April 23]

The case of Mr. Stone.

[.../p54] **March 3. Duroadoo** swamp. Mr. Stone showed me again his leg. It is a slightly elevated spot of the size of a shilling, of a circular shape, a little above the place where the soleus muscle and the gastrocnemius join into the tendon archilles, and is to all appearances a beginning furunculus. The color of it seems to indicate a scorbutical affection but there is no other symptoms of that disease.

He has a swelling of the periost of the tibia of the other leg - it is larger, hard, painful by pressure and he tells me he felt it ever since we arrived at Duroadoo for the first time three weeks ago. As he tells me that he has repeatedly been affected with syphilis and secondary symptoms, and that he has used mercurials indiscriminately, I took the swelling of the (periost) as a syphilitic affection and told him so. We expected then to be shortly at Bulla,

[p55.] and he quite agreed with me that the best thing he could do would be to return with the camels to Menindee.

We had no medicine with us at Duroadoo, except some citric acid to use with our water.

I advised him to bathe both spots with warm water twice or three times a day. I got some resinous cerate as a slight stimulating application for the first mentioned spot apparently a slowly forming furuncle.

Stone used to eat much less than either Mr. Hodgkinson or myself, and I frequently asked him whether he had lost his appetite.

He told me that he never had eaten more for some years back.

His periostitic swelling improved under the frequent application of warm water, it did not give him any pain, and it diminished in size. He was quite able to do his duty, which was to look after all the horses during the time they were to spell at Duroadoo, and he did his duty well.

During this time he complained once of constipation, and I gave him some (co. for. Aloëtic) pills, which had the desired effect.

The great fatigue he had to undergo during the journey from “rat point” camp to Puria Creek, to drive and to urge on as many horses which had been without water, made him very tired, he felt however better after having rested for a day at our camp at **Puria Creek**.

Sunday, March 31. Camp at **Koorliatto Creek**.

Mr. Wright, **Stone** and Smith came up with all the
[p56.] horses at about 8 p.m.

They had received a severe wetting at Puria Creek during the night from Friday to Saturday, whilst we had very little rain at Mr. Burke’s camp - distant from Puria Creek 11 miles.

Wednesday, April 3.

Stone complains of cold in his chest, he has a very severe attack of rheumatical pains in his extremities, principally in the knee and elbow joint on both sides.

Tinct of Colchicum m.XV [15 minums]

Vin. Opii mX [10 minums]

four doses during the day.

He could not get any sleep to a late hour, and was still in great pain.

I gave him 10 gr of Dover’s powder. He felt easier during the rest of the night, but could not sleep.

Thursday, April 4.

Stone still the same. Increase the doses of Colchicum to min.XX [20 minums]. At night
m.XL [40 minums] of Vin. Opii to procure sleep. He rested very well during the night.

In the middle of the day he showed me his gums which had been swelled and blue and bleeding at Puria Creek. They looked much better and the periostitic swelling was almost gone.

Friday, April 5. Mr. Wright left with the party for Bulla. Mr. Stone was very busy in the morning and said he felt much better.

I begged him to stay here with Mr. Becker and William, but he would not listen to it, saying that he was certain he would be quite well as soon as his cold would leave him.

9.

[p57.] He had been complaining several times at Puria Creek of shortness of breath when walking after the horses which strayed sometimes for several miles; but he had no other striking symptoms of any pulmonary disease (I did not make a physical examination) and he still felt tired from the fatigue he had with the horses coming to Puria Creek.

At **Koorliatto Creek** he complained simultaneously with the rheumatical pains in the principal articulations of a very severe circumscribed pain between the fifth and sixth rib on the left side of the thorax and in the line of the anterior inferior angle of the scapula.

I examined him there carefully, but there was nothing except a slight catarrholic rhoncus.

I gave him two mustard blisters for two evenings following – (**April 3rd and 4th**).

On **Monday, April 15**. Mr. Wright came down to our camp from Bulla. The natives at Bulla did not seem to have good intentions with regard to us, and as Bulla and Koorliatto Creek is one and the same water, and both camps only 20 miles distant from each other, Mr. Wright wanted to see how the natives behaved towards us.

Mr. Wright told me that Stone was very ill at Bulla and he did not think that he would live many days.

He was, to Mr. Wright's account not affected with anything like dysentery or diarrhoea, but he lost after every stool he had a considerable quantity of pure blood, and this repeated loss of blood weakened him considerably. Since yesterday (**Sunday**) or

[p58.] the day before he showed great collapse, and his features were those of a dying man. He felt the pain in his side had returned and he was quite dyspnoeic. I gave Mr. Wright powders of pure tannin with sugar to stop if possible the losses of blood with his stools. I would however not send him anything else, as I could not think what had caused such a degree of dyspnoea and as he was according to Mr. Wright's description too far gone to expect any benefit from active treatment.

I only advised him to continue with mustard-blisters and to give him small quantities of stimulants.

Friday, April 19.

Mr. Hodgkinson and Beloodsh arrived at Koorliatto Creek with the camels, supposed to go to Menindee. I was requested to go immediately to Bulla as Mr. Stone was reported to be dying. It was quite out of the question to leave Mr. Becker and William here, the former requiring such services as no one but myself would have performed for him, and if Mr. Stone was dying I could be of very small service to him.

Mr. Hodgkinson rode to Bulla with a note from me to Mr. Wright, and returned the day following.

On **Sunday, April 20** we left Koorliatto Creek for Bulla, and arrived there at sunset.

Soon after my arrival at the camp I saw Stone. He was laying on his bed in the ground under a low stage covered with branches which place he had probably preferred on account of the mosquitoes.

[p59.] His features were collapsed and distorted with the characteristic expression of great suffering from dyspnoea. His pulse was tardy and irregular and could not always be felt. He could not take air enough at a time to utter a few words and the drinking of a mouthful of water seemed to suffocate him. I could not make an exact examination of his chest because he could not well be shifted and because the stage under which he lay was so low that I could only creep to his bed.

I gave him gr1/6 (1/6 grain] of Morphinum which dose I repeated twice before he could get any sleep.

I examined him in the morning when I found by percussion complete dullness from the [...] line corresponding to the lower and posterior margin of the lungs on the left side of the thorax up to between the third and fourth rib.

The auscultation gave no respiratory sound below that point. On the anterior side of the thorax the percussion-sound was less dull, yet considerably so and slightly tympanitic.

Respiratory sounds could not be heard distinctly from the fourth rib downwards, except on two circumscribed spots where a small crepitus could be heard, such as would be produced by air passing through a small extent of permeable tissue with still partly accessible air cells.

Above the fourth rib the respiratory sound was present but covered by the vehement bronchial respiration so that it could not well be defined.

From these signs I concluded that the patient was suffering from exudation into the cavity of the thorax consequent to pleuritis and that his left lungs were

[p60.] considerably compressed to the extent indicated by the dullness of the percussion sound. As however the left side only was affected and parts of the lungs here still permeable the degree of the dyspnoea did not seem to me to be in proportion to the actual extent of the disease of the respiratory organ, but to be partly the result of his general exhaustion in consequence of repeated losses of blood from the intestinal channel, from which part is impossible for me to say.

He slept part of the forenoon until the natives came to attack us when we had to stand to our arms. We had patience enough with them for several hours but they would not go. At last we hunted them off.

Shortly after that Mr. Stone died - not unexpectedly, yet suddenly at half past one o'clock p.m.

1.

[p13.] **Continuation of the medical report**

The case of William Patton

Monday, Apr 29.

Arrival of the party from Cooper's Creek at Bulla.

Patton had been thrown from his horse at Cooper's Creek - about three months ago. He received a severe contusion in this left leg about the middle of the tibia and another in his elbow on the same side. He complained much of pain, but still he continued to do his duty.

A short time after the accident mentioned he was engaged in shoeing several horses, and he received a severe kick on the very spot of the leg injured before.

From that day he was laid up. This was eighteen days before the party left Cooper's Creek finally. He used cold lotions for a time and a kind of stimulating liniment which was taken out by the party for the use for the horses.

At the time Patton was laid up he began to feel his gums swelling and the mastication of solid food became inconvenient to him.

The party had about four pounds of citric acid with them when on Cooper's Creek, but this had been used up by the time they felt any scorbutic symptoms.

By great attention to the wants of his poor comrade and by many makeshifts Mr. Brahe succeeded in bringing Patton as far as Bulla in a much better state than would have been expected and bad as the state of his leg was then, it was clear that his friend had done for him everything in his power.

Shortly after the party had arrived at our camp at Bulla, I examined Patton's leg; it

[p14.] was swelled to almost double its size and the whole of the interior side of the leg down to the articulation with the foot, and round to the middle of its posterior side was hard, of increased temperature and of a dark bluish-purple color.²

Patton's gums were already then much more swollen than those of any other man of the party.

Patton was unable to walk by himself when he arrived at Bulla, but he said that even after that trying journey from Cooper's Creek to this, he felt generally better than he did during the time he was laid up at the former place.

² The injury on his elbow was caused by a fall from his horse - a small circumscribed swelling at first which increased gradually to the size of a small hen's egg. The tumefaction as well as the change of the hardness of the swelling into a softer character and the change from the natural color of the surface into a deep blueish red were very gradual.

There was no occasion for us to stop any longer at Bulla after the party from Cooper's Creek had met us here. Patton, Smith and Belloodsh were sick, none of them fit for duty, but requiring attendance themselves and Mr. Wright resolved to return to Koorliatto Creek, twenty miles from Bulla and to remain there for some time to allow our sick to recover.

Patton began the day of his arrival at Bulla with fomentations to his leg and a solution of Alum as gargle. Internally he took Citrate of Iron and Quinine \mathfrak{O} i [1 scruple] of the preparation p. diem [per diem] and citric acid with water and sugar.

[p15.] **Wednesday, Mai [May] 1.**

Leave Bulla for Koorliatto Creek. Patton felt very tired and somewhat excited. He takes Morph [Morphine]. Muriat. 1/6 gr at night.

Thursday, Mai [May] 2. Fomentations with Aqua Plumbii (Solution of Acetate of Lead)

Continued with the Citrate of Iron and Quinine etc.etc..

Friday, Mai [May] 3.

Patton's leg begins to improve under the application of warm water dressing. To-day I opened the swelling over the oben [upper] arm. It was very soft to the touch and fluctuation was clearly perceptible, but it had more the appearance of a subcutaneous extravasate or an effusion over or inside the bursa than an abscess. I made an incision of more than an inch in length dividing the skin longitudinally when an inconsiderable quantity of serum and coagulated blood escaped, and I saw that the swelling was nothing more than some coagulated blood enclosed by a loose network of newly formed fibres. After cleaning the wound I applied fomentations. Pulse in the evening 90.

Saturday, Mai [May] 4.

A small quantity of coagulated blood still to be seen through the opening. The dressing shows a sparing discharge of a thin blood-mixed fluid. Touch is less painful to the spot than it was. Finding that the skin had separated from the underlaying textures in two directions upwards and outwards I prolonged the original incision. I applied now oat-meal poultices to the elbow. Internal treatment continued.

Morph [Morphine]. Muriatic. gr 1/6 [1/6 grain] to procure sleep.

Sunday, Mai [May] 5.

Patton's leg is going on favourably.

[p16.] The swelling on the elbow diminishing and the wound is not looking worse, but under the circumstances I am afraid it will take a long time to close. The secretion is sparing, thin, without odor, and containing no puss.

His general state - however is not so satisfactory. He fainted yesterday whilst sitting up outside the tent and he felt cold and uncomfortable after a very short time.

~~From today~~ Pulse in the evening 88-95, he does not feel any change of temperature in his body.

Poultices over the elbow continued, fomentations to the leg continued. Internally – 2 gr [2 grains] of Sulphate of Quinine every 4 hours.

Citrate of Iron & Quinine continued - (3,3 per diem).

Monday, Mai [May] 6.

Patton is going on favourably, at least I cannot expect more for the present. Part of the coagulated blood is dissolving and the fibres are coming off in small pieces by sloughing under the application of the poultices. The secretion is still sparing, thin and to-day discolored.

The surface of the swollen leg is less sensible to the touch, the color is not so deep as it was, especially the larger dark blue spots, the swelling is decreasing. A native came near the camp last night at about 8 o'clock p.m. imitating very poorly the howl of a native dog. After he had gone on for some time I fired a shot. The shot excited Patton so much that he could not get any sleep during the night. Patton has still a moderate appetite. Pulse this morning 80, soft, softer than I noticed it before.

2.

[p17.] **Tuesday, April [May] 7.**

Patton's leg does not look worse nor better than the day before yesterday. The swelling is the same, the hardness rather more than yesterday. He did not sleep last night although he had Laudanum twice in such doses as I was justified in giving him, and he felt rather hot during the earlier part of the morning. Pulse this morning -100 soft. The secretion from the arm is little, a thin yellowish matter mixed with discoloured blood. Continue with the same treatment Oat-meal poultice to the elbow, fomentation to the leg, Quinine and Citrate of Iron and Quinine, Citric acid.

Wednesday, Mai [May] 8.

The arm is much the same, the secretion still insufficient in quantity and deficient in quality. Parts of the false fibrous organisations come off. By pressure at the upper end of the incision a few drops of secret come up as if from deeper laying parts, but no sinus is to be found. Pulse still [...], about 88. As he had no stool for some days, he took two tablespoons of Castor oil. The oil had a speedy effect.

The leg improved very much up to the day before yesterday, since that time the improvement has stopped. The irritation of the surface and the oedema of the skin are diminished and the leg is now very different from what it was.

It is interesting but most painful to watch all the symptoms of my patients, now principally Patton's. I gave him one and a half tablespoonsful of Castor oil; he had a copious motion of a very good quality two hours afterwards. Almost immediately after he felt the most severe pain over the middle of the abdomen, so that he cried out and fainted.

[p18.] The pain lasted for about 20 minutes almost without intermission; I thought I might relieve him with a small dose of Laudanum, 16 min. He vomited it immediately, and this was a tall, well-made, muscular man, a blacksmith by trade, in the best conditions at starting, able to do his work well and fit to undergo any hardship.

Thursday, Mai [May] 9.

Patton felt easy during the night but he could not sleep. Pulse in the evening 96; he did not feel hot nor dry nor uneasy. Pulse this morning 92.

The elbow does not look so well. The skin is more detached from the lower wound-edge, the discharge inconsiderable. The leg is much better, less swollen and less colored, but his general weakness is frightfully increasing towards a state of exhaustion.

The least breath of wind chills him, sitting up to get his face and his hands washed makes him faint, the palms of his hands are shrunk and of a wax-like appearance, his nails almond-shaped and white, his face much paler than when he arrived at Bulla.

The incision on his elbow looks gaping and has lost of its previous turgor however small that was. The oedema of the skin on the leg and the arm is marked by the bandages. He feels very weak. I changed to-day the dressing for the arm.

The poultices are left off, as they do not seem to do any more good, and I dressed the wound with lint covered with resinous cerate. Supporting and oppressing strips of adhesive plaster and a roller over the arm.

Patton feels his arm quite as easy with the new dressing as with the poultices.

[p19.] Friday, Mai [May] 10.

Patton complains again of having had very little sleep. I know that he slept part of the night. He had a dose of Laudanum twice. His leg is decidedly improving. The elbow is still the same, but skin is not separated further than it was yesterday, the secretion still insignificant. He bears the new dressing well. His pulse was better this morning than on any previous day.

Patton is very weak, fainting repeatedly when sitting up. His nails are now the same as William's were, all subcutaneous fat resorbed. The wound on the elbow still without turgor. Treatment continued. Since Thursday he has not had any Citrate of Iron and Quinine, but 20 gr. [2 grains] of Sulphate of Quinine instead.

Saturday, Mai [May] 11.

Patton does not improve generally although his leg is getting better every day. His pulse was very good this morning, 80, perhaps only from the Laudanum he took. He took 36 min in two doses and slept very little. The rats are constantly playing about him and run and jump over him, and someone on watch fired a shot. How can a sick person sleep under continued annoyance! I am satisfied with the state of his arm.

The wound and the cavity look clean and there is an increase and a change in the secretions from the lower parts. The discharge is more consistent and not mixed with blood. The skin is not detached further than yesterday.

Citrate of Quinine and Iron. 24 gr. p.diem [per diem].

Sulphate of Quinine, 3 doses, 4 gr [4 grains] each.

[p20.] **Sunday, Mai [May] 12.**

Patton's leg is constantly improving. His elbow the same as yesterday. He slept part of the night after a dose of 30 min [30 minums] of Vin opii. His gums are as flabby and swelled as ever but there is no ulceration. Pulse 88 last night soft. Treatment continued.

Monday, Mai [May] 13.

To-day Mr. Wright and Mr. Brahe arrived from Cooper's Creek.

They found both a great change in Patton's appearance. His leg feels quite easy and there is very little swelling to be noticed. It becomes clear now that the periost of the tibia is the mainly affected part. The skin over half the length of the tibia on the inner side is hardly moveable and tense and the swelling is now uncircumscribed by the extent of the affection. Pulse still excited but no symptoms of acute or subacute fever. The wound on the elbow is the same. He took a larger dose of Laudanum last night, but he is continually so excited about the safety of the camp that even with the Laudanum he had little sleep. The gums do not improve.

Treatment continued.

Patton fainted again when sitting up for getting his bed made; he feels still very cold after we had put him to bed more than an hour ago. Pulse 94.

Tuesday, Mai [May] 14.

Patton's leg continues to look well. His elbow has a good appearance but the secretion is still very sparing.

His general weakness is increasing. He slept a good deal during the night.

Treatment continued.

Wednesday, Mai [May] 15.

Patton slept during the earlier part of the night without Laudanum.

3.

[p21.] He took a dose of Morphinum 1gr. 1/6 [1/6 grain] at 2 a.m.

His pulse was 96 in the evening, but it is getting weaker and weaker. A look at his hands and his finger nails reminds me more of impending death than of prospect or hope of life.

He is still in fair appetite.

Patton is sinking now more rapidly than either Mr. Becker or William did. When brought out to sit in the sun he fainted so much that I began to fear for his life. After we had brought him back into the tent he vomited all he had taken for dinner.

His arm is not yet better. Part of the cavity seems to close and to fill up, but the granulations are larger, pale and spongy. There has never been yet any good secretion from it.

Treatment continued. He takes 24 gr of Quinine per diem.

Thursday, Mai [May] 16.

Patton had a fair night. Each time I entered the tent I found him asleep and he had not taken any Laudanum. His pulse was 108 last night. His weakness is increasing. The leg looks well, feels easy and bears a hard touch without pain. His gums are still without any improvement. He takes now a solution of muriatic acid as gargle. I made to-day an injection of a weak solution of Nitrate of silver into the wound on his elbow, instead of warm water. I wanted to give him some Castor oil to-day, but he had a copious stool of good quality without it.

Friday, Mai [May] 17.

Patton slept last night, but

[p22.] not before he had taken two doses of Morphinum, gr 1/6 [1/6 grain] each.

Pulse last night 100, this morning 96.

His leg is very well. It is his general weakness which prevents him from walking or standing, he has hardly strength enough to sit up.

To-day I took off the fomentation to Patton's leg, and I bandaged his leg with a dry flannel roller to see how he will bear it on the journey.

Saturday, Mai [May] 18.

Patton felt better yesterday throughout the day than he had done for some time. He sat up in bed for a considerable time without fainting, and he felt very easy in the evening. His arm shows a little improvement, but I cannot see any more granulations than the day before yesterday.

I applied again a weak solution of Nitrate of silver. His pulse is still frequent, 100 last night and very little less this morning. He took 30 min. of Laudanum, but as he could not sleep after it I gave him a dose of Morphinum about 11 o'clock pm. He slept then.

Continue to take the Quinine, etc.etc.

Sunday, Mai [May] 19.

Patton had a fair day yesterday. His pulse in the evening was 96, although he felt hot for some time during the evening. Pulse this morning 80. His elbow much the same, showing a very slow improvement. He has little appetite for his dinner and is inclined to sleep

Monday, Mai [May] 20.

Patton has had a sleepless night principally from the continual disturbance from the rats.

I gave him some Laudanum, later some Morphinum. I could not give him more.

[p23.] His pulse last night was 92, and he felt easy, neither hot nor dry, this morning 84.

Still his general state is the same and he is getting weaker every day.

All my other patients are losing their spirits, Patton is the only one who looks with some hope to the future, although his state is the worst when compared with his companions.

Tuesday, Mai [May 21].

Patton was not near so well yesterday as the day before. His pulse was 104 last night and he felt feverish for a short time. Again he had very little sleep. Notwithstanding that, his leg is in a very good state and his arm is improving slowly.

We were going to leave Koorliatto Creek today, but we could not come off early enough and we lost much time with the arrangements for Patton's transport.

We stopped again on the creek.

Wednesday, Mai [May] 22.

With the little fatigue and excitement connected with our start which Patton had yesterday, and with the discomfort of being shifted several times, he yet felt very well in the evening, he spoke with me for some time and he was quite cheerful with the prospect of being on his way to the Darling. He ate a plateful of soup and he slept for part of the night, but not before I had given him a dose of Morphinum.

His pulse was 92 at 8 o'clock p.m. but more frequent this morning.

Thursday, Mai [May] 23.

We left Koorliatto Creek this morning.

We did not go far before we had to alter Patton's seat.

[p24.] After several delays we had at last to put Patton into the couch which Beloodsh had made for himself and even so we had some difficulty of bringing him on. In the evening Patton felt very weak after the ride.

Friday, Mai [May] 25. (Puria - Creek).

Patton rode to-day very comfortably in his new seat with the projection which was made for his legs - so that they could lay horizontally. Yet he was very weak when we arrived at the camp, but he soon recovered. His pulse was 96 at 8 o'clock p.m. It was 100 this morning (**Saturday Mai [May] 26**). He slept after two doses of Laudanum, but not very much.

He had a good, yet suspicious stool yesterday morning. Continues to take the Quinine, 24 gr. [24 grains] of Sulphate of Quinine p. diem [per diem], but no Citrate of Iron and Quinine.

Sunday, Mai [May] 26 (Puria Creek).

Patton's pulse last night was 96. He ate a small quantity of soup for his supper, but he slept with intermissions after a dose of 40 min. [40 minums] of Vin. Op.

His pulse is 84 this morning. He feels better. His leg and arm are in a good state. There is only a small part of the skin still detached and the rest of the cavity has been filled up with granulations. The granulations look pale, yet the wound is beginning to close on both ends.

Monday, Mai [May] 27. (Puria Creek).

Mr. Wright brought some fish to the camp which we baked for supper. I hesitated for some time whether I would give **Patton** any. As his bowels were in good order and as he showed so great a desire to get however small a quantity, I gave him a small well-baked portion.

4.

[p25.] He had a very quiet night (there were no rats about our camp here) and slept without any Morphinum. This morning he had two stools which were almost fluid. I was certain that the small portion of fish I allowed him was the cause of it.

He took then the co. powder of Kino in a mixture with a few drops of Laudanum.

His pulse was 84.

Tuesday, Mai [May] 28.

Patton rested well during the night without having taken any more Laudanum than what he took in the mixture during the day, 30 min. He had no more stools. His pulse was 96 last night, but less frequent this morning.

His leg is much the same. The improvement does not go above a certain limit at which it has been now for several days.

The wound on his elbow is now as rapidly closing as it was at first slow in taking any change and this with apparently insufficient or definite granulations and a secretion to all appearances of a very inferior character. The skin is adherent on both sides, the wound is simply a superficial one of about 1 inch in length and from 3 – 4 lines in breadth. It will be closed in a few days.

Wednesday, Mai [May] 29.

Patton had a good sleep in the later part of the night. I gave him 40 min. of Laudanum, later because he had two stools during the night.

Both digestions were thin and accompanied by griping. I gave him as a change some soup made of preserved mutton and meat-biscuit, he took it with great relish, but he complained to me afterwards "that his supper was laying

[p26.]

Thursday, Mai [May] 30

cold in his stomach.”

He feels better this morning.

His pulse is quiet and not more than 80.

During the day he complained several times of pressure from gas in his bowels. He appeared to be weaker than usually, yet he sat up in his bed for about two hours. After making his bed and having shifted him he had a stool accompanied by great pains. The quantity was small, but it contained some mucous mixed with blood. I gave him again of the mixture with co powder of Kino and he felt easier during the evening. He would not eat anything for dinner, but at his request I allowed him in the evening some tea with well-baked bread soaked in it which he liked very much. His pulse quiet, 80 (9 p.m.)

Friday, Mai [May] 31.

During the night **Patton** took again of the mixture and I gave him 20 min. of Vin opii to procure sleep. He had no stool since yesterday afternoon. His pulse is 80 this morning. His leg is painful to-day. Continue with Quinine.

He had a small discharge with a quantity of gas towards evening. The stool was half fluid with faecal matter in small globules and contained small grayish transparent flakes of mucous tinged with blood. He had another stool of the same character 2 hours later. His pulse was very weak – a frequency of 98. I gave him again the mixture with the co. powder of Kino and he slept for the greater part of the night.

Saturday, June 1.

We left Puria Creek. We had made here a

[p27.] new couch for **Patton** to ride in. But this time **Patton** did not bear the journey so well. He had no stool during the journey, but he called for me as soon as we had arrived at camp, and he had then a copious discharge of soft consistency and for the greater part faecal, but part of the stool consisted again of greyish almost transparent mucous with smaller and larger flakes which were tinged with blood.

His pulse was weak and I counted 110.

Quinine, and Opium in powder. He slept till about 3 o'clock a.m.

Sunday, June 2.

I dressed Patton's leg in the morning, the roller had come off during the night. His elbow looks well, the wound is closing, yet it looks more livid than it did for the two (2) last (1) days.

Patton became delirious in the afternoon during the journey. During the whole night from Sunday to Monday he was moaning and in a soporous state. Whenever I entered the tent to ask him what he wanted he was asleep. Yet he called for me once during the night to assist him.

Monday, June 3.

Patton had a stool shortly before we started; it was thin, yet faecal to the greater part and without a trace of blood. Beloodch who had for the last two days been riding on the same camel, asked permission to ride Moirani. Patton was delirious during the whole of the day. He looked dying when we arrived at the camp. His pulse could no more be counted, it was too indistinct and too weak. I gave him a dose of Quinine which he vomited shortly afterwards.

[p28.] Tuesday, June 4.

Patton breathed heavily and with great effort during the night. I could not prevail on him to take any food. He called for me about 3 o'clock a.m. and asked for water. He had a discharge during the night but he did not ask for me. He vomited again the Quinine I gave him, but he passed the greater part of the night in a heavy sleep.

In the morning (**Wednesday, June 5**) when we put him into his couch he was without any voluntary muscular movement what so ever. He was no more sensible, and he continued in that state for the whole day. Several times when I looked at him I thought that he was dead. When we arrived at the camp he was in the same state and I could not rouse him more. He was pulseless and his respiration was no more a life-sustaining function.

He died about midnight. Mr. Wright and Brahe digged a very decent grave for our poor companion who had done his work and duty well and whose loss all of us deplored, and we buried him at sunrise at a place about four miles distant from the mud plain or "rat point" camp, where disease had made her first serious appearance among us.

[General remarks]

[p60.] The suspense we were in for four days at Koorliatto Creek, during which time we had every reason to fear an attack by natives was disagreeable enough to myself and must have been terrible to Mr. Becker and William both being unable to walk a yard without assistance.

During the whole of the time we had been encamped here up to Friday when Mr. Wright left for Bulla no natives were seen – just when the party was about starting three natives made their appearance. Mr.

Wright gave each of them a horse to hold and to take across the creek and told me that he would take the three guests out of the way.

10.

[p61.] He made them go with the party up to Bulla.

Many more natives were here what I learned only gradually; every second day a few men three or four would come to the camp, but never the same men came. They always gave me clearly to understand by signs that they wanted us to be off, and they asked by signs how many days we would stay here.

To make them some reply, I showed them, each time they came the five fingers of my hand, meaning that after five days I would go to Bulla. I allowed them to sit down near the camp and when I thought they had been long enough there I gave them some bread or meat and ordered them off.

On **Saturday, April 13** four natives came none of which I had seen before. I did the same with them as I had done with the others. They went away hurriedly shouting “dilaga, dilaga” and returned with a mob of natives, all men, twenty-seven in number, most of them painted, greased and having feathers stuck in their hair, and provided with nulla’s and boomerangs. They carried their beautiful fishing or hunting-nets neatly wound around their loins, and most of them wore tassels.

I counted them two or three times to have a look at each of them, some looked mild and harmless, others had most disagreeable and deterring features.

I succeeded however in moving them off before they had entered the camp, and I tried to make them understand, that they might visit us in threes or fours at a time but that I did not like to see them here in such numbers. They went away very quietly the Killparas going first, the Macquarras following.

See Note.

I was glad indeed, but they did not allow me much rest. About one hour after they had gone I heard a great yelling and shouting and looking in the direction I saw them come nearer in still larger numbers. They came, one by one, and in groups, leaving apparently their camp for another place and passing our camp outside from the creek. I saw women and children too, carrying large bundles whilst the men carried only their weapons and nets. It was certain they were on their way to another camp.

One by one they dropped into our camp, all signs I made to them were useless, so I posted myself near the tent to have in case of an attack a protection from the back, in front I had a thick box tree as a kind of shelter.

What must the two sick have suffered during that time! They, the natives would touch every article and they tried to steal different articles which I snatched again from them, threatening them with my revolver. Some of them would speak passionately, others would quietly look on. The most dangerous character among them was a young man who had lost one of his eyes, and who was very passionate and excited.

He had much to say, and was listened to by his countrymen. He wore a woollen

[p63.] shirt which he had stolen a few days before from the camp for which offence I made him repeatedly signs of my displeasure.

They asked again, many of them, how long we would stay, and as I thought that the camels would be down from Bulla in 3 or 4 days I made them understand that I would be off by that time.

Presently an old man came up looking mild and friendly, and he made me signs that they would be here again in four days and although very quiet, he certainly wanted to give me to understand that I should keep my word this time.

They went away. I saw them for a long time and for the distance of more than half a mile when I gradually lost sight of them.

Three hours after this I went down to the creek for water and my coming frightened two native dogs which were drinking. They gave me a kind of a bark and rushed up the steep bank on the other side of the creek. As soon as they were up, I saw five natives rushing down to the creek and I had just time to reach the camp before them. Arrived there I posted myself behind a small tree with a fork which was something of a stand and awaited them. They came up when I made them signs not to come any nearer, and I gave them to understand that if they would I would make use of my fire arms.

[p64.] They stood deliberating and looking for about 20 minutes when they turned around and crossed the creek. By that time I had seen that the whole tribe which had passed our camp at noon was close to the creek on the other side. They had kept so quiet that I could not hear anything of them, and the place where they were was at a right angle with the direction in which they had left the camp and in which they made me believe they would go.

For four days they were near the camp, leaving every morning with a yelling and screaming which seemed not to express anything but the immediate recommencement of hostilities, and returning every night. They never came, but the suspense in which we were was on that account not for one moment less painful. What an effect such a degree of anxiety must have upon two sick men, who can hardly lift their heads up, and whom I found on one of these mornings laying awaked on their beds, their eyes closed, and ready to receive the deadly blow!

None of the three persons who came to their deaths was fit for undergoing the hardship and trials of an expedition else they would not have yielded so soon to the weakening influences of the climate, to exposure and to a few days of hardship.

Menindee, **July 9, 1861**

[sgnd] Herman Beckler.

[p65.] **Note:**

At the swamp of Duroadoo and at Bulla two native tribes live constantly together. At both places they have the same names and wherever they came into friendly contact with us they would tell us to which tribe they belonged. They struck their breasts with their hand saying Macquarra, Macquarra, or, if they belonged to the other tribe - Killpara, Killpara. Comparing the two tribes it is not difficult to distinguish

them by their features, the Killparas have milder features and softer, less angular forms than the Macquarras. At Duroadoo the more friendly natives were all Killparas.

Since our return I have learned from a gentleman residing on the Darling, that the same distinction is known among the natives here and the same names for it are in use. The two tribes live constantly together for the purpose of preventing intermarriage in the same tribe. A Macquara cannot take a wife from his own tribe but he has to choose one from the Killparas and vice versa.

5.

[p29.] That so many of us were struck with disease was no doubt the effect of several causes and agencies.

One of them was the frequent delays caused partly by the necessity of reconnoitering the country and by the necessity of storing water for ourselves and the horses in advance of the moving of the party, partly by sickness itself as all our delays outward from Puria Creek.

During all these delays some of the party would take much more rest than they wanted and their then indolent state would allow. Even in these hot and arid conditions exercise is for the continuum of health not only advantageous but necessary, but my recommendations to that effect were not sufficiently regarded.

Another cause was real hardship and fatigue under unfavourable circumstances as is the cases of Smith and Beloodsh. These two men had been out with Mr. Wright for 13 days in mostly waterless country, subsisting for all that time on scanty rations calculated to last for one week. They were both much changed and weakened when they returned and they had both been affected with diarrhoea.

Mr. Wright alone regained his former health after a few days, and that after a severe setback of dysentery for more than 3 days.

But I am convinced that the principal causes not of scorbutic disease but of disease generally and the state of exhaustion consequent to it were the climate and the seasons.

[p30] There are so many different climates over the 'globe' acknowledged to be either productive of certain diseases or to possess the creative powers for others that it cannot be doubted, that the climate of the interior of this continent has its own peculiar effects on the health of those who are under its influence. The climate of a hot and dry country with a naturally scanty vegetation and with so small an area of surface water can, particularly during a period of extreme drought not possibly be a very favourable one to human health. The climate of the country adjacent to the river Darling is now after a few years occupation known to the settlers as being more enervating than that of any other part of New South Wales. What can be expected of the interior in comparison with which the Darling country is a paradise!

The use of salt provisions had I am sure very little to do with the wholesale disease in our camp. If I recollect right we had about 200 lb of salt beef with us, this divided by eight would give an average of 25 lb for each man for the whole of the journey, but we had about 30 lb of it left when at Bulla; we had used bacon only twice during the journey out to Bulla, and the first shin of ham we had the day before we left that place.

There are thousands of people in this country who have for months no more fresh meat nor any more vegetable food that we had during our short journey, yet they are [p31.] not affected with disease on that amount.

That the use of fresh vegetables is of greater assistance than any drug to bring about a favorable change in scorbutic disease, that this constant use excludes it under otherwise favourable circumstances is well known, but nothing grew at Bulla what I could recommend for use. The country was dried up. There was nothing on Koorliatto Creek when at the time we left Bulla I hoped to find *mesembryantheums*. There were none; it was only at Puria Creek that I found any and I made use of them immediately. There was also a luxurious species of *Polygonum* growing on the edge of the water of which the natives use the young shoots, and a water plant similar to *Limanthus* which they devoured in large bunches. I used both of them and recommended them to my patients. The use of small quantities of a decoction which I made with the leaves of the *Mesembryanthemum* continued for three or four days had apparently more effect than the regular use of acids for weeks (we had citric acid, afterwards sulphuric and muriatic acid) the regular use of alum internally and as an external application and the prolonged use of increasing doses of Quinine.

The European constitutions proved to be of greater resistance against the different influences to contend with than the others, for two of those who died had been in the Australian bush from their earliest youth, and of those who fell

[p32.] sick and recovered one only was an European; the remaining three were one Australian half-cast and two Indians, one from Punjab and the other a Parsee.

As the remaining cases of disease were very much alike, a copy of the notes in my journal would prove I believe so uninteresting that nobody would go to the trouble to read it, I will therefore attempt to describe to you the general causes of those cases and notice their peculiar features.

The first symptom was always a slight and circumscribed affection of the gums generally on the lower jaw; this was in all cases so insignificant that the regular use of acids was deemed sufficient to stop its progress; indeed the affection although it was unmistakably the commencement of scorbutic disease was so slight, that I was in the case of Beloodsh more inclined to take the hard diffuse swelling on the upper and posterior part of his left thigh rather as the effect of long-continued pressure than that of effusion caused by scorbutic disease. Beloodsh complained for the first time at Koorliatto Creek that he felt his left

thigh painful and swelling. He himself believed that the severe riding on the camel and the painful pressure of an inconvenient saddle were the cause of it.

The same was the case with Smith who was affected with a painful swelling of his left knee which I was more inclined to take as a severe rheumatic affection than scorbutic effusion, the more so as it had all the characteristics of the

6.

[p67.] former, and because Smith had been repeatedly affected with rheumatism on the same knee.

In Beloodsh the development of the swelling was very gradual up to a certain time when it increased rapidly. In Smith the local affection was developed rapidly under acute pains, and in McDonagh who had been suffering for some time from a contusion on the upper part of the tibia caused by a fall from his horse, this part was first affected from which the swelling spread rapidly over the whole of the knee and upwards along the exterior margin of the vastus externus.

The three men were attacked about the same time. When death had taken three of us in so short a time it seemed as if disease had quickly looked for other victims and it was then Smith, Beloodsh and McDonagh the latter of whom had just arrived from Cooper's Creek, who rose to fill the vacant places of our sick list.

Besides the local affections of the gums and those on the inferior extremities none had any other symptoms except Smith who was suffering from indigestion for several days, of which he became sick by saline aperients and small doses of calcined magnesia.

Both Beloodsh and Smith had large blisters applied to their legs. The blistered surface healed in both cases much slower than is usually observed. The effect of it was satisfactory in Smith's case, but that application did not seem to be of the slightest advantage to Beloodsh.

[p68.] McDonagh had no blisters, but he and Beloodsh had comp. Camphor-liniment and later Linim volatile, besides repeated fomentations with hot water, the liniments did neither improve affections nor even check the progress of their local affections, which negative result seemed under the circumstances to be after all very natural.

The pain and the difficulty they had in moving and the state of the affected parts itself made rest and a horizontal position of their lower extremities necessary whilst at the same time the general disease which had set these local affection could only increase by the continued bodily rest of the patients. (To this circumstance is attributed the [increasing and unredeemable] state of exhaustion and the death of William Patton).

But neither the continued softened and flabby state of the gums nor the local affections caused by extravasation and effusion could cause the anxiety which the rapid exhaustion of all three men naturally gave to me and to themselves.

In the course of a few days men who had before been able to do their duty, who had had no symptoms of either deficient or disturbed digestion and assimilation of food, men who had all the appearance of being well fed and in good health came down to the lowest state attainable in so short a time and under so slight outward symptoms.

Looking at the state and the change of these men a comparison struck me at the time [p69.] which although it cannot find a proper plan in a strictly descriptive account will give you a better general impression of that state than the most minute description could do.

The organisms of these men were like clocks from which you have suddenly removed the balances. The balancing or regulatory powers seemed to have been removed from the organisms, which still kept on their former functions but in an orderless and hurried manner quite at variance with the measured and rhythmical work of physiological functions.

Their pulse was accelerated, sometimes irregular and without any character, the vascular functions of the heart of such a vague character that it was impossible to distinguish the systolic and diastolic sounds, the respiration hurried and superficial, accelerated by the slightest effort or exercise of the patients to a surprising frequency; during all this time the patients still partook moderate quantities of food, such as might be deemed sufficient for persons in good health without fatiguing work, yet, the natural turgor of their skin disappeared and the skin looked dry and lifeless, the volumes of their muscles diminished rapidly and the resorption of the subcutaneous fat engraved hollows and formed wrinkles in their but lately round features, their voice became low and weak, their temperature to their own feeling changed with the least change of that of the atmosphere quite unnoticed by

[p70.] others, their strength seemed to be at its lowest ebb and their previously cheerful disposition had made room to a state of utter indifference changing sometimes with a state of despondency and hopelessness.

In this state Smith and Beloodsh continued for a fortnight when they showed a slow improvement caused principally by our movement to return to the Darling.

McDonagh was just at the point to fall into the same condition, but he had no time left to him, we were then leaving Koorliatto Creek, and nobody could be so blind as not to see that our moving was the first impulse the first step to their improvement.

Just at the time we were leaving Koorliatto Creek and when Smith, McDonagh and Beloodsh were not fit for duty, Dost Mahomed begun to suffer from the same symptoms. A painful swelling over both foot-joints (articular pedis) and in both knees and thighs and he became rapidly very weak. His case is a prove of what I said above, mainly that I believed that the use of salt provisions seemed to have very little to do with our disease. He had had fresh meat from Melbourne to the Darling, from there Mr. Burke's party had taken only a small quantity of salt beef (sufficient for about a week). After that he never had any salt-

meat, as he would not use any pork of which the party had a good store. The Cooper's Creek party had for weeks an abundance of ducks and pigeons, but they

7.

[p71.] became tired of it. With all that Dost Mahomed was taken ill with the same disease and to the same degree as the others and he was only recovering on our approaching the Darling.

The others recovered slowly during our journey inwards and they were in a fair state by the time we had arrived at the Motwinji range.

Beloodsh was the only one whose digestion did not seem affected. Smith suffered of indigestion, but this was before he fell into that state of weakness described above.

Only two of these four men were attacked with dysentery symptoms. They were slight, yet of a weakening effect in Dost Mahomed, but far more important in Smith's case.

When Smith was attacked with dysentery he was in a state of great debility already, and any other additional affection however slight deserved the greatest attention and caused me great anxiety.

He complained one evening of having had three fluid stools and that he felt very weak in consequence of them. It was night and I had no opportunity of seeing any of his digestions.

I gave him 10 gr. [10 grains] of mercur. pill with 1 gr.[1 grain] of Opium, after which dose he rested well without being disturbed during the night.

He had a renewed attack on the morning following when I examined his stool, containing a large and undivided quantity of gelatine-like mucous mixed with flakes of blood.

I gave him then the co. Pulv Kino and it

[p72.] proved to be in his case as grateful a remedy as I ever gave to a patient under impending danger and when I counted impatiently the hours I had to wait for the effects of a drug. A few days dysentery would have brought him to the doors of death.

8.

[p73.] All our cases of sickness were different from those cases of scurvy which came under my observation in this country and different from two cases I saw in Germany (cases of prisoners). I saw shepherds who had left their employ to get medical assistance and who had then been suffering for weeks. Even then they were able to walk a distance of from 150 – 200 miles and some had been suffering from painful swellings as much as some of our party, yet their exercise made their pain tolerable and they could continue their journeys.

I recollect particularly an old man who had been suffering for some time and who came from a distant station. His gums were in a very bad state, and the inner margin ulcerated, both his knees were much swollen, he had numerous ecchymotic spots on his arms and legs, and the whole surface of his body was discoloured, looking more like painted with a greyish-yellow color.

There was no difficulty in all these cases.

In our disease - extravasation from cutaneous blood vessels was not general. In Smith and Beloodsh I could not distinguish any on account of their dark skins, in Mr. Becker, McDonagh and Persil ecchymotic spots were only seen on the lower extremities.

Patton had none at all nor any part of his body discolored.

A higher (...) of the disease was developed in a shorter time than this is generally the case in this languid sickness –

F.

[p74.] The lower extremities were the only seat of local affections and here three places more particularly. The periost of the tibia on a spot distant about a third of the whole length of the bone from the foot joints, this was an invariable affection of ours and a very early symptom, the knee, and here it was always that place somewhat above and inside of the patella and limited by the common tendon of the quadriceps muscle. Of the muscles the triceps seemed to be the favourite seat of scorbutic impact.

It was certain that there was a deficiency of some important element in the blood. There were many signs which could not be interpreted otherwise than as those of an anaemia, the whiteness of hands and feet, the transparency of the skin, the frequent fainting, the great sensitivity for cold and the quality of the pulse itself. I compared these three cases with those I had seen of anaemia mostly chlorotic females, or people during their recoveries from Typhus - fever and I recollect a most interesting case of a young man (a clinical patient) in whom anaemia had gradually developed itself independently of any other diseases and apparently under otherwise favourable circumstances for health. Yet with all the anaemia and its consequent deficient nutrition of the different tissues there was nothing in those cases which could be compared with that kind of exhaustion which came over our patients.

[p75.] Which then was the deficiency? Was it simply a deficiency or a waste also, or was it perhaps an enormous waste alone? Were blood corpuscles perishing at a quicker or forming at a slower rate? Or is the deficiency in the fluid part of the blood? I thought of scorbutic disease which had raged in some parts of Germany during the last century and which was caused by the want of common salt; salt being a monopoly of the government and so high its price that this essential article of life was out of the reach of the poor. Yet, when I compared our living with that of most people in the Australian bush I could not find that we did not use a sufficiency of Muriat of Soda. The soup which we used daily and more frequently

twice than once was intentionally strongly seasoned with salt and pepper. Besides this we never used any other but light bread prepared with baking powder and judging from the quantity of bread we ate we ~~could not be without~~ had another supply of Soda.

There was one article of food of which I think we had not a sufficient quantity, this was fat. ~~The supply of the body with fat is often so [gradual].~~ We had only two tins of ghee with us and the rest of our supply with fat had to be found in bacon, ham, dried beef and meat - biscuit. We had been using rather small rations of sugar too (1½ lb. p. week) on the outward journey, when Mr. Brahe's party came to Bulla we had with his supply however for our return journey a larger quantity of sugar, of which we used them freely, to make up in some degree for our deficiency in fat.

[p76.] We had after leaving Bulla for three weeks a diet which ought to be well suited for an exploring party. We used then rice with apples and sugar every day, and the apples were one of the best articles of dried fruit I ever saw. If any preserved articles could in some degree supply fresh fruit these apples would be such an article. We used preserved vegetables every day and a large quantity of meat-biscuit, yet our patients seemed to go down irresistibly. I could not possibly find any other reason for that degree of exhaustion than the effects of the climate and the character of the country, and this was the cause of my urgent recommendation to return towards the Darling as soon as Messrs Wright and Brahe had arrived at Koorliatto from Cooper's Creek.

Our movement saved us; and a few green leaves boiled with some sugar seemed to do miracles in comparison with all the drugs taken previously.

The recovery of these patients with one exception (Batan) was quite as rapid as their growing worse had been.

[sgnd.] Herman Beckler.

Meteorological observations, made at Koorliatto Creek.³

[p79.] Aneroid (19884)

April 6. Sunrise, An. 29 48, 25. Therm. 68. No clouds. Calm

9 a.m. An. 29 60. Therm. 88.

Noon, An. 29 52, 58 Therm. 90. Wind – SSE A few solitary clouds low on the horizon from SW – NW.

4 p.m. An. 29 480. Therm 94. Wind WSW. Clouds low on the horizon.

³ The entry under this heading was ceased, and the observations continued in a separate document (Herman Beckler. Meteorological observations made at Koorliatto Creek 6 April to 20 May. 1861).

[p9.]

Menindee, July 22. 1861.

**To the honorary Secretary of the Exploration
Committee.**

Sir,

By this mail I have the honor to transmit to you the continuation of the medical report and a copy of the meteorological observations which I made at Koorliatto Creek.

I enclose also all the sketches which Mr. Becker made during the journey, and I would remark that the small sketches and tracings, torn out from a note-book were loose in his sketch books. There are many more small drawings in his metal note books. To those sketches which have not been marked by Mr. Becker himself I have put the necessary notes.

The sketches representing different animals speak for themselves and I can assure you that I had the opportunity of comparing the finished drawings with life - specimens. What regards the sketches so presenting different scenery – Mr. Becker was most anxious to give as faithful a copy of nature as one possibly can do and I consider them as such.

I enclose also a few sketches made by myself. If you will consider them better than none at all, I am fully satisfied.

I am

Sir

your most obed. servant.

[sgnd.] Herman Beckler