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Volume 7

Part 1

The Leichhardt diaries  
Early travels in Australia during 1842-1844

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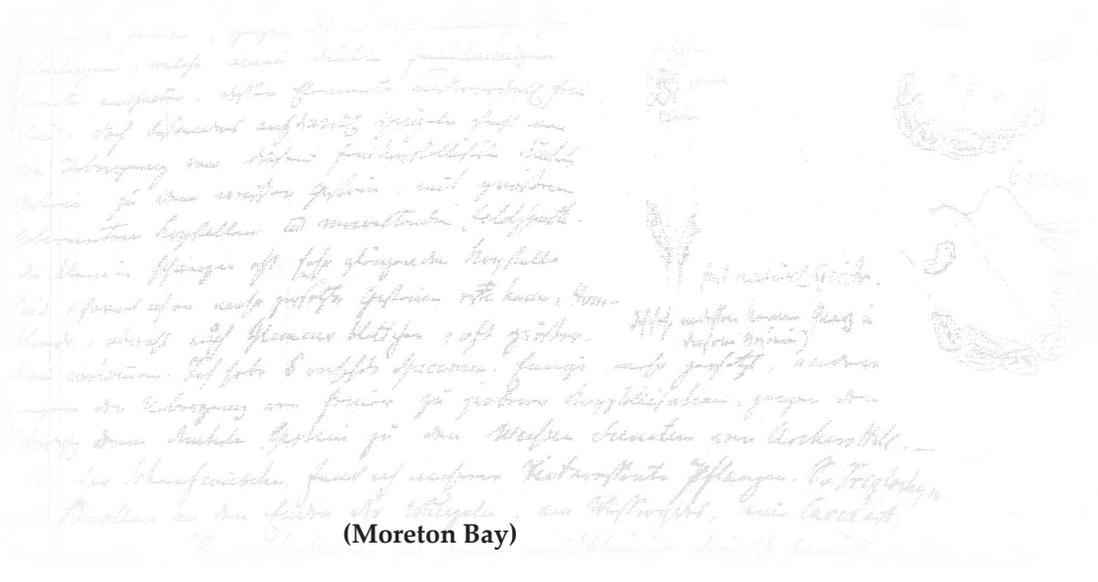
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**A Queensland Government Project**

30 June 2013

# Diary No 3 30 July - 3 December 1843



### (Moreton Bay)

[Inside front cover ms calendar with days marked off, 23 July 1843- 17 February 1844]  
Mire thunder

**30 July 1843,**  
**head station of Mr Eeles [Eales],**  
**White Bay River.**

Gnudurr Mamburr (Nicki) [Inscription in another handwriting] Removed from Sydney Mus III 1854 WBC [William Branwhite Clarke?]

*Eurycles cunninghamii* Small flowered Eurycles or Brisbane Lily

Mai they call at Archers bim (beam Engl[ish]) tambam or dambam resembles gurrar or urgorka remarkably. This tree is found two miles from Archer's and on the ridge of hills (sandstone in nature) between both the crossing places to the White Bay River. Syenite appears on the projecting spurs over which we crossed from Archer's to the main range. Dambir Damberri Qurn Creek is the first that we crossed. A tree with rough bark belonging to the myrtle family grows on the side of Mumbill Creek and in addition gnarrabil, which grows very abundantly on damp low ground in the valley of White Bay River between both the crossings.

On 25 July we left Archer's station. The character of the region was the same as between Pine River and Archer's. The valleys with clayey soil and rich grassy vegetation at present covered with water are separated by hills, which here are probably spurs of the northerly and north-easterly mountains running out towards the Brisbane basin. They consist of syenite. As we came to the mountain, which first became visible on the left and right in the far distance but then drew nearer on both sides and finally lay before us in a connecting ridge, from which a spur descended, we found genuine granite. The ridge was steep and narrow and offered us several restricted views over a mountain landscape in which valleys and ridges were visible in all directions. As we began to descend on the White Bay River side, basalt appeared, which, however, made way for granite again on the lower side. On the mountains the blackbutt particularly drew

my attention by its size. My Black boy called it binaroan. Most of the gum trees from Archers and Taylors Range were also found here. Tabil pillah (tang palam of the boy) seemed to occur more towards the coast. The bloodwood bunairr (bunah) is growing everywhere. We spent the night on the upper part of Wide Bay at the northern foot of the chain. {Bulla silver-leaved Ironbark on the hills of Mr McKenzie's Run and on those of Wide Bay.} On the second day we rode over grass-covered narrow plains, with the heights covered by open forest. *Angophora* particularly and the manborri (blue gum) were growing on the former. We crossed White Bay River several times. Remarkably fine pasture for cows and sheep. Archers Point, a beautiful mountain mass, lay before us. We rode for several hours and eventually had a similar view on the other side. On the second day, the track seemed to lie north-east. We had to pass a large number of wearisome hills. This part of the river basin is the finest for cattle and sheep pasture that I saw during our journey to the head station. On the third day we crossed the river twice; the water was about 4' deep. The river is covered with brush on both sides. The shrubs from Archer's and both the small palm-like trees are also found here. I had to leave behind a quite marvellous specimen of *Acrostichum grande*. {(udlo Blackf[ellow])} The area was extremely hilly. However, it seemed to me that a better road could be opened and that the various creeks, which flow into the White Bay River, are surrounded by grassy plains and hills for many miles. On the third day I saw for the first time in a brush the magnificent crown of the bunya bunya tree, which projects far above the other trees of the brush. We spent the night about 10 miles beyond the second ford. The sky became overcast, the wind dropped and we feared rain. The latter then came too on the fourth day towards evening. The rock that I investigated on several hills was conglomerate and coarse sandstone.

On the fourth day we arrived at the first station of Mr Eels, about 24 miles from the head station. This station was established so as to receive the scabby sheep. Five shepherds were living there. They were attacked by the savages and as they, low born Whites, seem to have lost all courage and all sense for defence, they were killed by the united tribes of the Blacks with the exception of one shepherd, who set out for the head station in the depth of night. The tribes, who had plundered the hut, were now attacked and several seem to have been killed. It is very highly likely that two lucky shots on the part of the shepherds would have saved the lives not only of the four Whites, but also perhaps of several Blacks. Now there is open warfare between the two. The Blacks steal sheep and attack shepherds, whom they find without firearms. They seem to fear horses and the sword very much. The stations are put closer to one another now and when a shot is heard, they immediately hurry to help. The region that I have seen and in which Mr Eels has taken possession for his sheep is beautiful, grassy and well watered. The woodland is open and small ships can even come up the river to within five miles. However, an extraordinary amount of rain falls. The sheep are very much exposed to footrot. The shepherds leave the station only for short distances from fear of the Blacks. This makes the sheep small and thin. Their weight is between 30 to 40 lbs. There are a number of beautiful lagoons in this region, which are provided with water the whole year through. Mr Eels would have gained considerably had Mr Tolmie, who brought Mr Eels' sheep flocks here and chose the runs, taken the runs up from the region through which we rode on the second day, and had he tried to find a better road to Brisbane or to Archer's. But the present situation, however beautiful the region may be, does not seem to be favourable for sheep, because I think that the savages are not the only reason for their small weight.

I heard that the Governor has forbidden the felling of the bunya tree. The bunya tree by no means produces a regular harvest for the savages and when the harvest occurs, many tribes descend, who fight for the fruit daily. Many a Black finds his grave in the bunya brush. Although I also saw the high crowns of these trees projecting on the far hills, yet the tree seems to grow only in brushes on mountain flanks covered with rich humus.

It was interesting to see the borah, which is situated between Durrambois Lagoon and Robertsons Lagoon close to a brush. It is a circle surrounded by an earth wall about a foot high, which opens towards the brush, to which a levelled foot path led down. I was told that the Blacks come there twice in summer to make their young men. The trees all around are notched high up with the tomahawk and now these places with young, thickly deformed bark give the trees a strange aspect.

{\*1 handful of hops, 2 quarts of water boiled,  
3 spoonfuls of flour                    "  
3 tablespoons of sugar. Mix it well together.\*}

Milky white quartz is abundant everywhere on the mountains for about 30 miles and further, as on the mountains around Brisbane. A small tree with triangular obtuse-lobed leaves appears on these hills three miles from the head station. {This tree also appears on



the syenite or diorite mountains north of Archer's.) The wood seems very light and is said to be used by the Blacks for swimming. It is perhaps a *Sterculia*. *Dillwynia* is here too. An herbaceous legume was growing on the scabby sheep station and a plant with opposite lanceolate leaves, the flowers and heads in the leaf axil, monopetalous superior corolla, four stamens, one style, two stigmas covered with small hairs. It seems close to the campanulas.

That the journey should now not pass without mishap, heavy rain set in on the fourth day. Mr Last, who never seems to have been a regular bushman and at least had no need to care about himself, rode through the rain until it was dark and we were drenched. Then an enormous fire was made and I changed my trousers. The sparks from the fire fell on blanket and trousers and the latter were burnt completely and a large hole was burnt in the blanket. Again I felt how inconvenient it is to travel with men who take no interest in science and strive to get over the area as quickly as possible. I scarcely had time to fix my horses, which were not very manageable and I had to make continual trials with the pack saddle of one of them. I thank God that from now on I know the region so as to find my way alone. The cooes of the Blacks were heard several times, but we did not see one. Up to 20 humpies and more were close to the brushes and not uncommon at the lagoon. {Didnga bellbird.}



Section from Archers to White Bay River head.

Yesterday we saw a black swan and two redbills on the lagoon before the dwelling. Many ducks lay sluggishly on the water. A tree is growing near the borah that is very much like the moreton bay ash (gurrān) (wanga Black boy). However, the boy said to me that he did not know the tree. Likewise another gumtree was unknown to him. {Dibilpalah.}

We had a magnificent view from a mountain between Archers Point and the river ford(?). Towards south-east by east a high mountain became visible, which the accompanying man named Korura. I thought it was the big Glasshouse, but the Black boy said to me that \*the big Glasshouse\* was Biroa ~~the second knobbed Glasshouse~~ Paesa and the small Ngarranurrni, and that he did not know Korura and the nearest track to Archers led to Korura and from there to the Glasshouses. I have not the slightest doubt that a fine open road would be found to Brisbane. This road would open a magnificent country to the colonists. {I found later on that paesa indicated mountainous country in general. Paidarr mountain.}

\*Green wattle bark well dried or baked and ground to dust with a pinch of arsenic. In

stuffing birds clean the bone and wrap cotton or wool with this stuff around it, clean the tail well of every fatty substance.

Maddā the orchidaceous plant which grows in the rotten holes of the gum and the ironbark.\*

## 2 August

The day before yesterday I was in the brush that covers the side of a stream, which comes down one mile south of the head station probably from Boople, which is opposite the station towards the south.

Many beautiful moreton bay pines were growing in the brushes. A new species of fern particularly attracted my attention. It has simple lanceolate 1½-2' long foliage and the fructification is distributed in small dots over the whole upper leaf surface. In general there is little difference from Brisbane. The same forest and the same river scrub. However, in the forest there is a new species of *Sterculia*, which, however, I have not yet seen in flower. It is a small tree with corky bark and soft wood. In the bed of the stream there are pebbles of hornblende porphyry (or perhaps hornblende conglomerate). In addition a



\*Northern view of Boople from the head station of Mr Eeles.\*

kind of hornstone, dark bluish, very hard, fine grains without other inclusions; as well a quartzite or a sandstone with few united elements. Yesterday I rode west from Boople and found a syenite on the sheep station; furthermore on the Kondscholii hills a coarse-grained but very pure sandstone. On these hills the vegetation changed. Magnificent araucarias perhaps 120 feet high, the yellow-berried shrub or small tree with ovoid leaves that I saw between the Condamine and the Severn, a new species of fig with the same digitate leaves as the garden fig occurred here. The forest everywhere the same ironbark, mangorri gum, gurran or wanga gum, gurrar with benjoe gum.

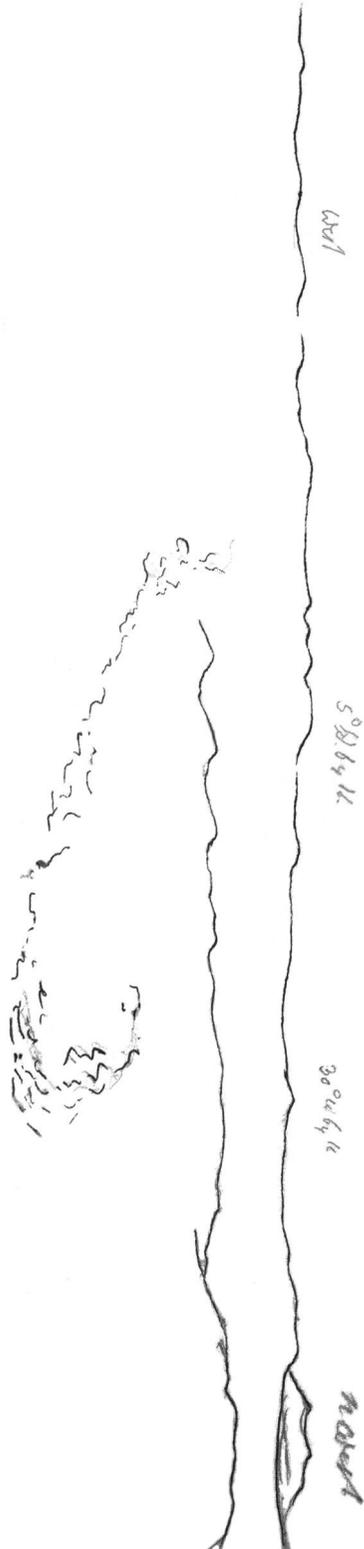
The head station likewise stands on primitive rocks that at first seemed to me to be conglomerate. It is probably syenite with much hornblende. Thus hornblende also seems to be a component of most rock formations here. Then at Archer's the hornblende is pure.

### Evening

This morning I went to Mt Boople, which rises about 1000-1200' towards the south. The stream that comes down from it, rolling along the rock of the mountain to the valley, is surrounded on both sides by dense scrub that spreads towards the upper middle of the mountain and completely covers the northernmost summit. Low ranges of hills lie before the mountain or mountain range, because it consists of several summits. The former are formed from the dark syenitic rock of the head station. This rock seems to consist mainly of small hornblende crystals and feldspar. As it decomposes in the air, the feldspar crystals appear as sprinkled white powdery flecks, whereas the hornblende crystals weather less quickly.

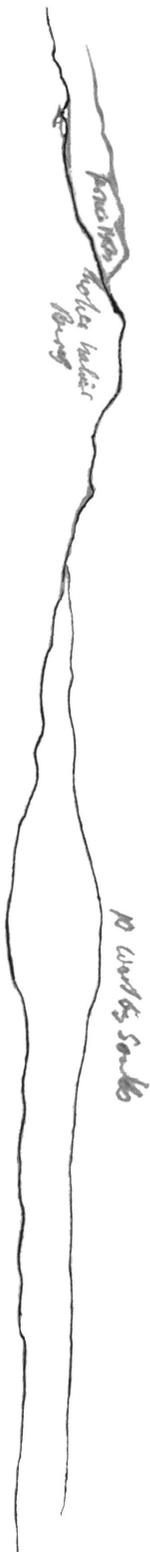
I thought I noticed whitish metallic dots, but my attention was diverted by other objects and I did not pursue the nature of

these dots in the Boople rock further. This is a dark, very hard hornblende porphyry, in which the large hornblende crystals remain standing in relief on the weathered outer surface. The vegetation of the hill is a rich grass cover, mainly kangaroo grass with some composites. The forest vegetation is ironbark, gurran (wangä Black boy) and gurrar (damban B.) with benjoe gum, on the depressions manborri gum. {Kangrakall the *Acacia*, which is called kakrakall in Brisbane.} The scrub that covers Boople is very diverse, but I am still not in a position to bring clarity to the trees. Few are in blossom and I make myself master of the characters as fate brings them into my path. The climbing bushes are very numerous. One attracted my attention by its corky outgrowths. It seems that the bark develops more quickly at particular places and so sharp corky outgrowths develop, which give the sparingly flexible trunk a strange appearance. *Acrostichum grande* and *alicorne?* were here, perhaps a third with confined fructification surfaces in the secondary axils. Often these masses of *Acrostichum* are so large that their weight pulls down the tree. I saw two examples of this. It is possible that the wind is the proximate cause of it, but they predispose them to it. The Black boy showed me a species of yam, different from the previous with shining leaves. A pinnate-leaved *Polypodium* and the new fern with dot-like fructification on the lanceolate foliage are common. The Black boy called it undlu (hudlu), but I found that he also so named *Asplenium nidus avis*. A new fern with *Nephrodium*-like involucre, simply pinnate with watery, not unpleasantly tasting tubercles was on the rocks of the west side. Orchids were abundant; a new *Cymbidium*, then a sword-leaved one on the rocks, then on a fig-tree the one with long cylindrical leaves in full snow-white blossom, then a *Dendrobium* on the rocks and *Polypodium* with simple fleshy lanceolate foliage creeping on the fig-tree. A



shrub that probably belongs to the family of *Ruellia*, a saffron-coloured [tear in page]-leaved composite and a plant similar to the nightshade (*Plox*[?]).

The view over a vertical rock wall about 30' high on the west side was only allowed from north-west to south-east (in the course of which, however, you had to change your position several times). The valley of the Wide Bay River lies, as far as it is visible here, from north to south. Several mountain ranges run out obliquely from north-west to south-east towards the river, between which stream valleys seem to come down far from the north-west. No mountain range or isolated mountain drew our particular attention. However, far to the north-east a bluish mountain massif with three peaks appeared, which continues in a long, little changing line of horizon. A high mountain with two slight elevations appears about 10-15° west by south. The north and south ends with a saddle like depression. This mountain is at most 40 miles or scarcely so far from Boople. Behind it a further blue mountain range appears, which also begins on the north with a saddle. 30° south by west is again a more isolated closer mountain mass on the west bank of the Wide Bay River. South 25° east appear some very far off hilltops, which, however, by no means call to mind the bold soaring



outlines of Koroora or the precipitous fantastic forms of the Glasshouses (Biroa and Ngarranurmi).

The soil seems moister, looser, and at present is very soft. The horses sink in over their hoofs and riding becomes extremely arduous. My Black boy, Charley, who accompanied me from Archer's, is very afraid of the Blacks. Every day it becomes clearer that this region is not suitable for sheep, despite its prolific growth of grass. Almost every change of the moon brings rain and at present this often comes in torrents from the sky.

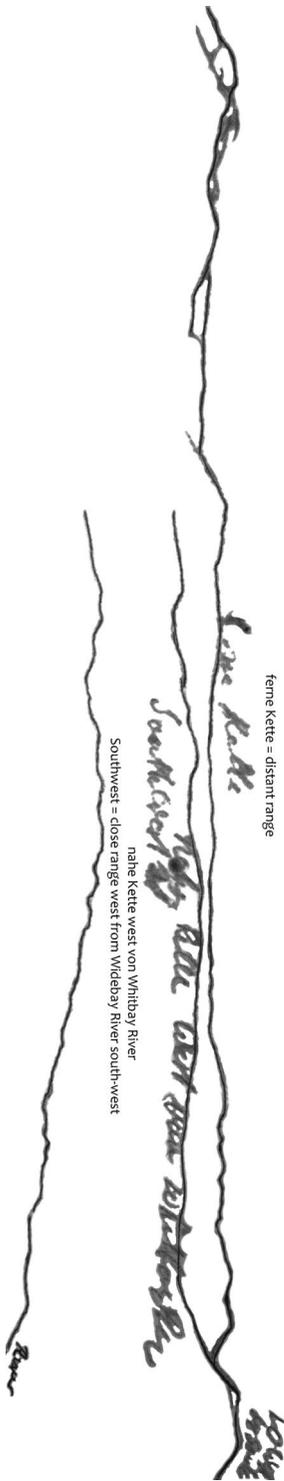
This region would better suit cattle. (Butter of antimony against footrot.) Footrot afflicts a large number of sheep. They are thin and wretched and are slaughtered at 30-35 lbs, whilst at Laidley Plains they rise to 70 lb. This is now mainly brought about by the shepherds' fear of the Blacks. Moreover several flocks are united into one up to 2500 or even 4000,

which spread out as if they grazed in smaller flocks, although two to three shepherds follow them. The scabby flock, more than 4500, presents one of the saddest spectacles that I've ever seen. The poor animals are robbed of half their wool, the naked skin red; they are always biting themselves and are occupied rubbing themselves and therefore cannot get very fat. The shepherds are well paid and yet they lack good will. Mr Eales must suffer enormous losses.

### 3 August

The large snail of the bush is called dirall. The morning begins with the sparrow-like twittering of a small species of bird, then a larger species sounds his louder call, hereupon the settlers clock, alias laughing jackass, greets the dawn with a strange clucking melody, different from his Hunter River brother. The black raven hereupon shakes his tail and circles over the crowns of the trees with an unpleasant aa aa. The migratory call of the black swans sailing high in the air is also heard and the alluring cackling of the wild ducks sounds from the lagoon from time to time. In the evening the frogs are heard in full chorus. One attracts attention by its higher shriek that sounds almost like a cricket call. The other[?] sounds[?] its melancholy call through the stillness of the night and the goatsucker (*Caprimulgus* nighthawk barking bird) soars through the night air (particularly with approaching rain) with its dreadful ki ki (or bii bii). Swarms of parrots make a noise through the tall tree crowns during the blossom time of the various eucalypts. These are the invigorating voices of this now wintry nature.

In the brush of Boople I found three uncommonly large heaps of leaves of the wild turkey, in which it lays its eggs. I thought at first they were fallen down masses of *Acrostichum* or *Asplenium nidis avis*.



**Afternoon**

Around about the sheep station, which is almost without vegetation in consequence of the grazing, several small plants are nevertheless sprouting forth. Thus a small legume with small, fine, pinnate leaves, almost like *Mimosa terminalis*, but without sensitivity and not prostrate but upright. In general few plants are prostrate here, which is so characteristic of the Liverpool Plains and similar localities. The kangaroo grass also does not grow here in separate bushes, but in free blades shooting up more together. This is also the case in the Brisbane region. Then there is a plant about 1' tall with linear flax-like leaves blossoming in white spikes. The so-called indigo plant, which shows such a long life, is very large-flowered here with faint pretty purple colour, the small pinnae somewhat narrow. A little plant with opposite leaves and continuous stipule, bluish in small flower heads, superior corolla, white, monopetalous two stigmas, four stamens.

Also there is a *Polygonum* here that is similar to the *temulantum* of the Hunter River in the leaves, but is probably specifically different from that because of its habitat (on hornblende hills). It is not in flower now. A tiny little plant with small whitish flowers, below somewhat extended, and procumbent is common. At present *Caladenia* with lilac and white flowers is in bloom everywhere. The sandstone mountains are differentiated immediately by the *Acacia* with linear leaves, at present in full rich fragrant yellow blossom, by *Xanthorrhoea*, the spadix many times shorter than the pedicle, and by another *Xanthorrhoea* with thick trunk, spadix 1/3 length of the pedicle. Fruit of the former three-cornered but blunt. A probable different species of *Zamia* with linear

leaves spirally arranged, but not so glistening green. Two other *Acacia* species, one kankarkall, the other ? *Dianella* on the sandstone mountains.

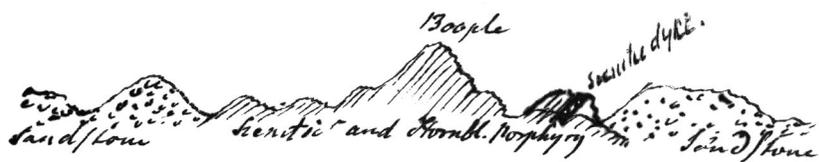
Whereas now the rock containing hornblende is found from Boople up to the second sheep station towards the north and appears usually in moderately undulating elevations, and whereas Boople projects at least 800' over them in bolder outline, the sandstone ranges appear towards east and west. The sandstone towards the east is compact with splintery fracture, and towards the west on the Kongili (Kondschilei) Hills it is coarse-grained and pure.

The large numbers of dead snail shells (*Helix*) and of living snails that seem to live in the trees particularly, reveal the humidity of this atmosphere. We are reminded of the common shells of *Helix aspersa* in Devonshire or the smaller *Helix* species that populate the mosses and grass plots in woods on the continent.

My bitch hunted a kind of forest rat out of its hollow trunk. It seemed to me tailless or only with a very short tail and ran up an ironbark tree with great agility. The Black boy called it gilli.

The damban or gurrar gum exfoliates from the base of the trunk upwards. This makes the otherwise light violet tree appear with a whitish base of the trunk.

30° South latitude



Section from west to east through Boople.

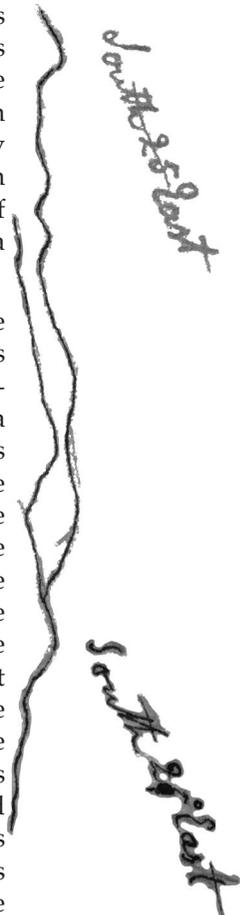
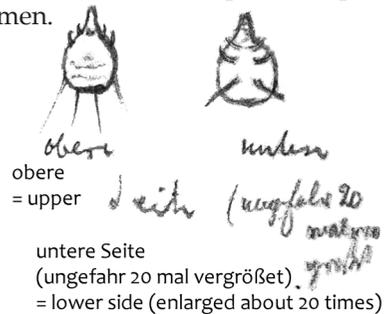
5 August

Yesterday I rode to Kongili of the scabby sheep station. I crossed a small northern spur of Boople that showed quartzite at its foot, and the dark hornblende rock at the peak, which was traversed by a syenitic dyke at its northern end. This dyke cuts the line of strike of Boople, if I remember correctly, at a right angle from east to west? On this mountain are some small mountain thickets that showed several bushes and small trees and a legume in flower, one with greenish monopetalous flowers, another with five petals, almost like belonging to the Pittosporaceae. The legume differed by the faint reddish blossoms and by the reflected pods in standing clusters. Two *Xerotes* were collected. A grass, which I found on Bundock's cattle run, either identical or very similar. I shall point out here that the beautiful, vigorous, yellow oat grass that grows in tall bushes separated from one another was growing particularly towards the heights of Boople and on the ridge of this mountain range. These thickets grow between naked loose pieces of rock and the water attracting power of the latter and the dampness between and under them, which even withstands the strong heat of the sun, seems to explain this greater richness of the vegetation in apparently absolutely infertile places. Here a remark of a Mr Neale, who had lived in Mauritius, also struck me. He said that the pineapple is much better, when you put a good large stone near it. It seems to me that the stone must be laid towards the north, since the surface situated to the south draws more moisture. The sterculiacean? grew on the hillock and Mr Agar found the red beans, which seem to belong in a peculiar empty pod. This tree seems to belong to the hornblende rock and also to the syenitic. I never observed it on sandstone and I was told that it occurs on good soil. This soil holds moisture for an extraordinarily long time and even today eight days after the rain, the horses often

sink up to their hooves in the soft ground. This is particularly the case on the heights and on the hillocks. In the clayey plains the soil is much firmer and the hoof of the horse at least finds a firmer soil.

The wild parsnip, the wild mustard with its irregular pinnately-divided leaves, and a probably different species of an Amaranthaceae grow on the creek. On the lagoon the remarkable reddish *Lemna*, the white lily (butomacean) of the *Nymphaea* leaf and the yellow-flowered plant lying together on the water are abundant. In the creek besides the pebbles of Boople, I also found a piece of calcareous concretion, three species of snail, of which one seemed to be a water snail (*Paludina*?).

I had the opportunity to observe the scab louse on scabby sheep station. It resembles the itch louse or the human mite very much. Female and male seem different by the two fixed forms of hairs on the posterior part of the abdomen.



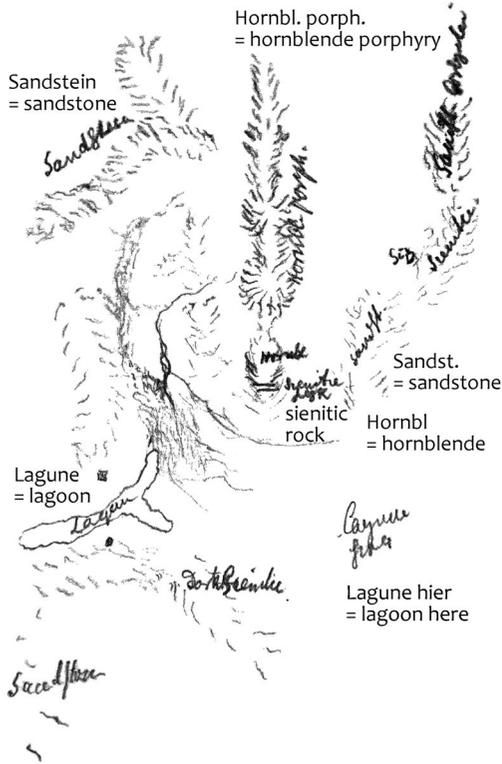
Never have I seen such a wretched sight as the scabby flock; 4525 sheep good and bad, strong and weak, are crowded together here. Commonly they have lost half the wool. Often only a tuft of wool still sits between their shoulders, like the head of an Indian. Of those that still have much wool, it is woven together in damp locks that shake about the body. They reminded me forcibly of the sight of the mad Ophelia as she sings her valentine song with loose garlands and locks dangling fantastically; a ridiculous association of ideas and yet a natural one.<sup>1</sup> The track, the pasture, the sheep folds, the night quarters, everything was thickly bestrewn with wool, of which at least 7/8 is lost, because both the hut keepers only shear just what they find near the hut.

**6 August**

This flock is guarded by three shepherds, one of whom rides. Although the forest is open, yet the grass is so high and the shepherds spread themselves over such a large area that it becomes extremely difficult even for three shepherds to



guard the sheep, to find the dead ones and to keep the hawks and wild dogs from them. The shepherds of course exaggerate the matter. Yet one said to me that even the eagle hawks that hover round the scabby station in large numbers, descend on the sickly sheep and pick out their eyes. It seems to me therefore unreasonable to hold the shepherds responsible for the loss of the sheep. The provisions of these shepherds were all bad. The flour could not be baked into damper. They bake this bread in the hollowed out anthills of the white ants. However, they made tolerable bread, though tasting of cockroach. The sheep that they slaughtered were wretched and more like leather, than like meat. I thought to have noticed a genuine flavour in the meat, but that might originate from the water and so on. The tea and sugar are bad too and the men complain of course, as people like them are seldom satisfied, even with good provisions. In addition to this they were without salt for three months. One of the most extreme examples of neglect that I know of; yet not Mr Eales, but the captain of the ship is said to be at fault. Nevertheless I could not observe or ascertain that the health of the people had suffered particularly from the lack of seemingly so necessary a digestive. On scabby station two men suffered from ulcers of the foot; one in consequence of the injury to the bone by a kick of a horse's hoof becoming necrotic; the other with superficial ulceration. Another man on another station suffered from a similar ulceration. I should not be surprised if the persistent character of this ulceration is connected with the lack of salted food.



### 9th August

On the bank of the lagoon a large number of water hens play their games. They are very tame and allow an approach of 20 paces. Their tail is short and somewhat white and they move it with almost every step.

A shepherd found very attractive inch-long quartz crystals on the north and north-east hills, which are covered with sandy soil. They probably come from geodes in the syenitic rock that seems to me to lie under the sand. Further on towards the river sandstone seems to occur again. At least the vegetation (a large number of small *Xanthorrhoea*) indicates that. At several places the soil is formed from rich ochre sand. It is often difficult to classify the rock, which was often exposed to bush fire. Tracts that I investigated showed a white pulverized mass traversed by quartz

veins and mixed with quartz grains. The hills are separated by shallow marshy or at least very damp hollows (or valleys). In these *Melaleuca* and the manborri gum grow, forest *Casuarina* and *Acacia* (kakraal and deie) also appear. The river is surrounded by dense bush. In this is *Calothamnus* with narrowly lanceolate leaves and a whitish tree, but without scaly bark, with almost inverse egg-shaped (obovate) leaves (lanceolate, membranous, dark green, broadened towards the apex. Another tree becomes noticeable by stiff leaves with few distinct veins. A bean-like legume and one with simple leaves that I found on Taylors Range, only with longer pods was common, also a broad-leaved stink plant, further the broad-leaved, yellow-headed composite, these latter plants all growing on open sunny hills. On these I also found the three-leaved, rough-leaved legume in flower.

Captain Macdermott, a handsome well-educated man gave me the following information about the region around the river mouth. The meanderings of the river from the mouth to the rocks, about six miles from here, cover perhaps 50 miles. In a straight line the sea is not over 25 miles away; then I saw Fraser Island stretching out as a long narrow band before the bay. As soon as you come down about 30 miles on the river, a wild flat land spreads out towards the sea. This will probably be the so-called Honey Ground. The river is filled with a large number of islands and a creek flows into the river from the north-west. According to Mr Agar, besides this creek, a river with fresh water of considerable width flows into the bay. This might be the Boyne, but this is by no means reliable. The ebb and flood comes up to the rocks five miles from here. In the mouth is a bank, over which only vessels up to 200? tons come across with difficulty. The vessel that is here at present is a small schooner of 120 tons.

The captain gets paid £4 10 shillings for the voyage to Sydney and the people have to provide their own provisions as well.

I was told that the other part of Eales' Run on Manna Creek and on the Ubi Ubi Mountain was more open and better than that on this side of the river. The sheep are said to weigh from 40-50 lb. Footrot is there too.

I never saw such lazy, bungling, farming superintendence as here. Mr Eales seems to concern himself little with this part of his property. As I already mentioned the people were three months without salt; likewise they lacked the most ordinary and simplest medicines and although he has at least twelve horses here, there is not a single horseshoe to be had. The consequence of this is that the horses can scarcely walk on this often stony ground, which also alternates with soft, moist, marshy ground.

I saw a pretty alert dog (half poodle, half sheep dog) on the ship. As I needed such a dog very much, I purchased it, but the inexperienced animal got lost in the bush and because I endeavoured to find it again, I stayed two days longer than I intended. Now the clouds are gathering again in the sky and we will probably soon have rain again (Full moon is close).

Night in the bush.

### 9 August

Over us the moon almost full, the silence of the bush only broken by the low croaking of small frogs, a few lost mosquitoes hum their faint wintry song. The dark shapes of the grazing horses between the shadows of the trees; a large fire, whose sparks rise up high in the column of smoke. Jupiter light and sparkling below the moon. {Nattangill Moon}

*Lotus* in the open forest between the kangaroo grass.

### Monday 10

The sun is half an hour under the horizon, the morning sky becoming light and clear. The voices in the trees become loud. First the settler's clock, then a small bird phii phau phau phi phau phau phau phau. Then a third piercingly loud whistling fi fi fi fi fi. In the distance a lovely call unknown to me.

~~Noticeable sinking of the needle on syenitic soil, probably attraction of the north pole towards Boople, which lies east.~~

Tangpalang with deciduous calyx teeth. Dark rock of syenitic nature in the area of Robertson Lagoon.

Two high mountains west from Durrambas Lagoon.

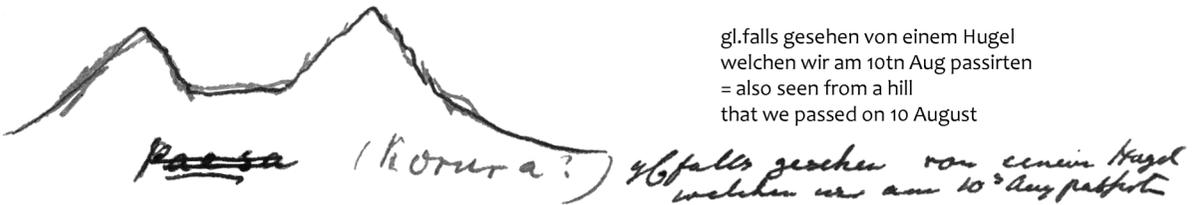
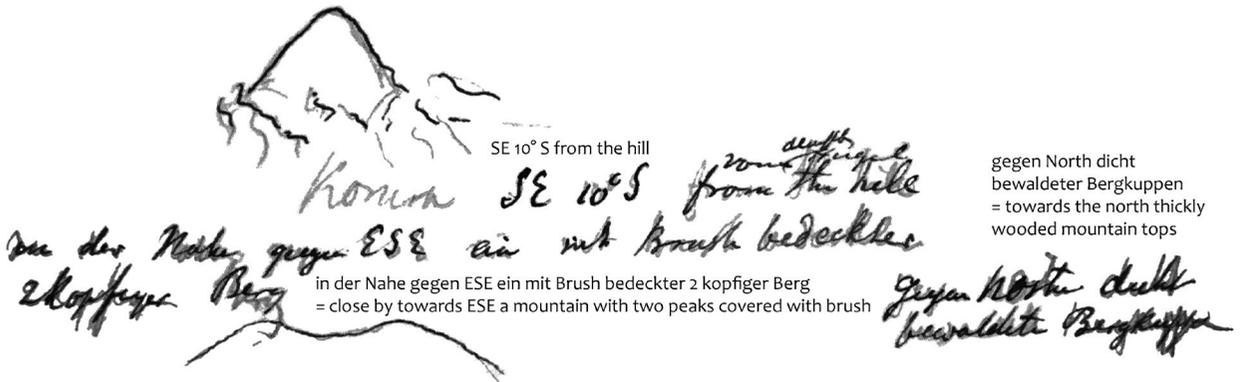
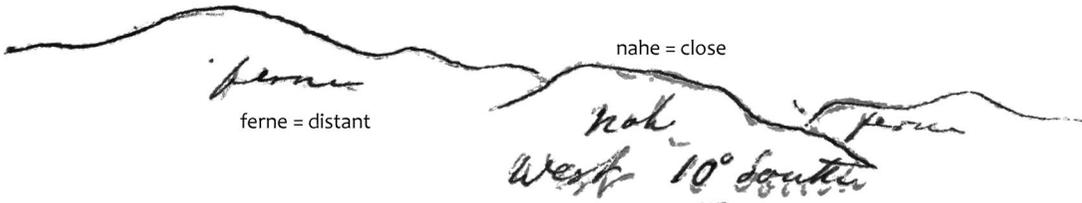
### Friday 11 August.

The boy called the tree on the boorah that he did not see at Archer's dibilpalah. It has bark resembling blackbutt (binaroan). The younger layers are red, not yellow as in Stringy Bark. I found two new legumes on the probable sandstone hill between Boople and Robertsons Lagoon, one a handsome shrub like *Gompholobium*, the other an almost woody 1½ foot high erect twiggy plant with few simple leaves. The boy showed me a *Casuarina* at the boorah to which he gave a new name (gnurujirr).

Syenite with attractive hornblende crystals was found around Robertsons Lagoon or at least easterly a short way before our entry into the large brush. On decomposing the white feldspar stands out clearly. The large scrub grows on similar rocks. Northerly and southerly ranges all covered with similar scrub. It was inexpressibly difficult for us to work through it. We could not do it and after a mile taking three hours we were pleased to be free again. Around Durrambas station jasper and flint is found. I found the latter in pebbles likewise very common in the creek next to the scrub, through which we had to pass.



Mountain towards the west of the dry forest oak range with the feldspathic micaceous rock covered with dunti

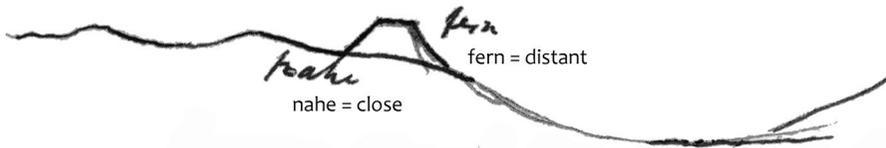


**Saturday 11 Aug.** [should be Friday]

Of the plants of the day before yesterday, I mention a small *Bellis* with spatulate dentate leaves. Yesterday particularly the *Acacia* with narrow linear phyllodes was in bloom (capitate racemes) and it filled the air with the sweet scent of honey. In addition I found *Chorizema* — a small, bushy, yet prostrate legume. The blue and pink *Caladenia* adorned the forest floor with their unobtrusive little flowers. Before Durrambas Lagoon was coarse and fine-grained sandstone. The soil of the hills was sandy. The valley trough was damp and marshy. Behind Durrambas Lagoon a rock appeared that seems to be ground into feldspathic-micaceous flakes. I named the range of hills the Dry Casuarina Range, because the *Casuarina* particularly grows on it. Higher the rock is almost granitic, but so many bushfires have gone over it and have so changed it that it becomes difficult to recognise the real components. Before this range a high mountain appeared covered with jungle on the right. Further on we came

to a range of hills with clay slate rock, at least the majority of the pieces seemed bluish-grey like clay slate. They broke into various irregular pieces. In the end the arduous, slow Gulul Range, which offered me the preceding vistas. Yesterday my dog caught the brown forest hare with reddish shining golden hair on the flanks. {(Gilli)}

The boy ate the fat larva of a large night moth that lives in the wood of the trees (in the damban gum). The moonlight was delightful. The white trunks of the dambirri gum and the reddish-white of the dambam, the black of the ironbark durro, the bloodwood (bunairr of the gnarrabill) all with extraordinary foliage, through which the light blue night sky peeps everywhere. Close by me 3-4 foot high trunks of the *Xanthorrhoea* with their crowns of leaves hanging gracefully over all four sides, their leaves whispering in the slightest puff of wind. As a small tree was the forest *Casuarina* — the ground covered with rich kangaroo grass.



\*Korura from the second hill between the Rivers- East Direction the white Mountain to the right.\*



**Saturday 12th**

If we had an extremely mountainous or hilly country, in which the road led us in all directions the day before yesterday, then our journey now lay chiefly between both the fords of the river through moist narrow flats, which a Dr Simpson had intended for the missionaries. We passed several creeks of considerable volume of water between the fords and even better land is probably situated up them (four creeks). Two mountains in the loop contain the hard

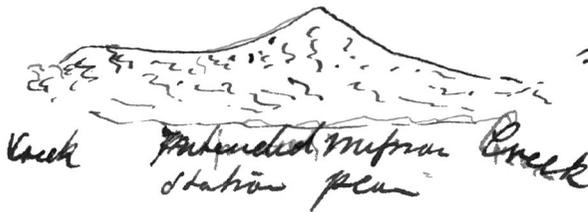
flintstone and all streams carry it in pebbles, only this and quartz. After we passed the river for the second time, we ascended a very significant range of hills, from which we had a beautiful view of the Archers Point range and some foothills. Towards the south the region seemed to me traversed by moderate ranges of hills; the rock again grey or reddened flintstone. At one place, however, it seemed to me like thermantite. We crossed a mountain brake (a mountain thicket), in which were bunya trees. *Diuris* was in bloom on ascending and a small violet *Bellis* as well.



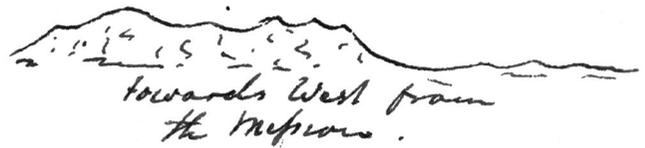
Range of mountains north-west by north from the Gulal range of yesterday



South south-east from the mountain between the fords, which consists of flint.

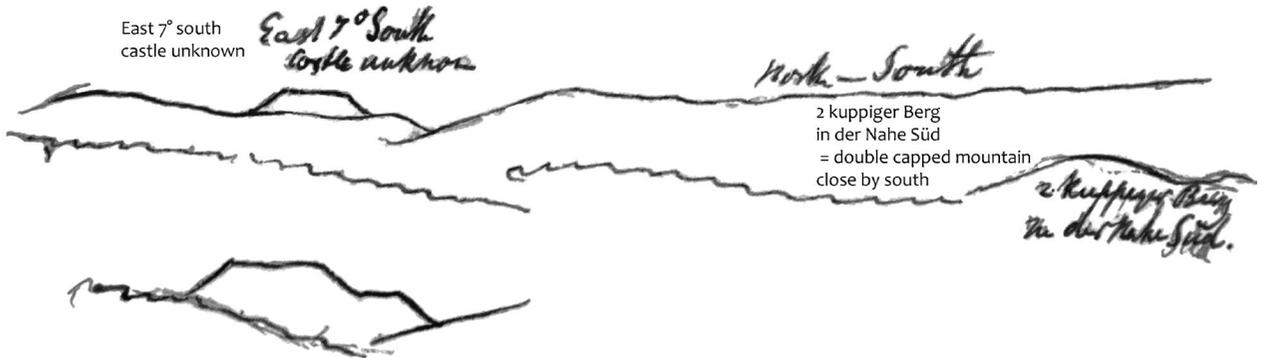
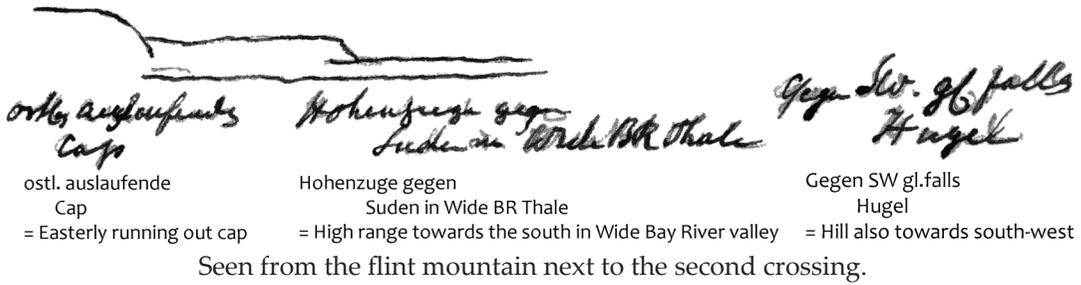


\*Intended Mission station plain.\*



\*Towards West from the Mission.\*





This step appears a little later easterly and just a few degrees northerly.

Seen as extending from west to east into the valley of Wide Bay River, behind which from north to south a magnificent now dark range, which is taken up again further to the west and continues north-west, on the east side a similar cap.

**Sunday 13 August**

Yesterday our track led us through the Ubi Ubi district. It is extremely mountainous particularly in the uppermost reaches. Ranges draw nearer; others appear far towards the west. Archers Hill range and the easterly ridge opposite were seen again but behind us. A range towards the west was conspicuous, because a head was domed;

an almost simple, long mountain outline emerged. We crossed Wide Bay River several times. The Blacks were seen everywhere with their fires, once we ran into a camp, in which there were seven gins. They ran from us frightened. {\*The creek of the Seven Foolish Virgins.\*}

The rock varied; at first we still had flintstone, then a fine clayey sandstone (psammite) was found. Further up there is a blue conglomerate, but until now still no primary rocks in the various creeks, which flow into the Wide Bay River. The character of the region is more that of Archers and Mackenzies. Small, narrow, treeless, damp flats surrounded by high mountain masses.

**Monday 14 August**

Yesterday we rode for the whole day about 12 miles from the foot of the main ridge. More or less subdued mountain ranges appeared, several were climbed over, the long domed ridge (Tuellarin) was seen again. Then flats and open forest with apple tree on a moderately steep hill. Wide Bay River in its upper course meanders many times. Here the blocks of granitic rock appeared at first and the streams were filled with red and white granite. The main mountain mass drops off very steeply towards the valley and at first is granitic, then a kind of sandstone, and further on a porous trachyte or at least belonging to the group (mimosite) appears in a gap; later syenite. Also towards the other side the descent is very steep with deep gorges and narrow ridges in all directions. The mountain range towards the west with the dome. Blackbutt binaroan, this excellent forest tree (its branches are deciduous). The stream along the southern foot full of the most varied granitic, syenitic, harmophanistic, and feldspathic rocks. Traces of a metal (silver?) in a dark rock.

The part of Mackenzie's run, over which I rode, is interesting in so far as extended slopes of an eastern mountain range are separated in undulations by damp flat valleys. They are syenitic, the soil sandy. The valleys seem clayey and are damp and yielding at present and often covered with reeds or with hard tall water grass. We still had to spend the last night in the open and when the morning sun lit the sky, whilst after some hours the waning moon in light silver lustre stood below the horizon, my eye rested with pleasure upon the different foliage and branches of the surrounding trees. Then whilst the bulburri (*Angophora*) with triangular irregular branches formed a wide crown with light foliage, as the dense towering branches of the gnarrabill covered with dark foliage, and even darker appeared the kulu tree, which always grows

close to water and moreover has a dark bark, the mangorri gum with the white trunk lightly rose up among them and the sun just gilded its light transparent foliage. Within the range of our hearing, a stream trickled between the dark shade of tall plants and shrubs. It was a great refreshment even for a very hungry stomach and after five days of a tiring ride. Already twenty-four hours before our supplies had been consumed. A kohlrabi that Mr Eiper had probably sowed on a stream on the other side of the mountain was greedily eaten. My pointer was so fortunate to catch a quail and it was divided between me and the Black boy in a brotherly fashion. Now I am sitting in Mr Archer's dwelling, comfortable and well content and again the old words of comfort are true, et haec meminisse juvabit.<sup>2</sup>

**17 August**

Yesterday the north/east hill was climbed and a mountain scrub visited that came to light on a deep creek. The forest orchids come one after the other. After the reddish *Caladenia* almost begins to go to seed, the delightful sky-blue *Glossodia* adorns the forest floor and *Diuris* with long lateral petals of the two or three whitish yellowish flowers appears here and there. A pretty sulphur yellow *Diuris* grew on the mountain. In addition a yellow composite (belonging to the senecios) with lanceolate leaves was found abundantly; it grew particularly in almost woody stalks in the neighbourhood of the scrub.

The bloodwood (bunnah) was very tall and with an attractive regular trunk, the boa (a species of stringybark) and a thicket of the magnificent buddul (flooded gum of the colonists). There were a few specimens in bloom in the thicket. A myrtle-like shrub with green fruits was quite new, however.

At the foot of the mountain a rock appeared, in which feldspar crystals and hornblende were mixed. Therefore this has to be called



on hornblende soil, appears here too and often in much greater proportions than there. It is easily recognised by the strange ternate leaf, the leaflets blunt, three-lobed, by the thorns, which cover the younger twigs, by the spongy bark and by the soft spongy wood. {*Erythrina*}. I do not know whether the red beans belong to it, but I am very inclined to believe it.



Mr Lynd, to become superintendent of Ash Island. Were this proposal just made when I was in Newcastle, I would have accepted it with the greatest joy. But now, as my knowledge of the colony gradually is procured and set in order, the eager desire for better knowledge drives me almost irresistibly forwards on the path begun.

19 August

I received letters from Mr Lynd and William. Poor William has decided to make good his way in Newcastle-upon-Tyne. May God help him. Mr Lynd sends me Mr Braim's proposal to write a popular botany and geology for his book. Mr Scott makes me the offer, through

The Glasshouses appear in the following views from the south hill behind Mr Archer's sheep station, which consists of hornblende, hornblende porphyry and a simple feldspathic rock.



Biroa East 10° North  
 Bayarr (Crappi means mountains, Birwah Dunbo Nikki Paiedorr Charl.)

Ngarranurrni East 6° North  
~~Buttaraia~~  
 Kunnaūurru

\*Biroa East 10° North  
 Bayarr (Crappi means mountains, Birwah Dunbo Nikki Paiedorr Charl[ey].

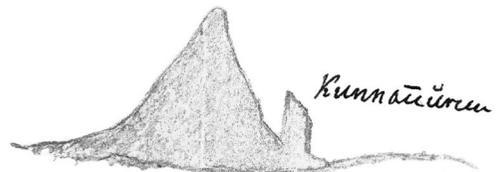
Ngarranurrni East 6° North  
 Kunnaūurru



Birwamann  
 East 5° South  
 Birwamann East 5° South



East 13° South.  
 East 13° South



Biroa seen from the spur north of Mr Archer's Station.  
 Kunnaūurru

Biroa seen from the spur north of Mr Archer's Station Kunnaūurru

## 20 August

It seems to me a very correct principle of Archer in reference to the treatment of the Blacks, when he says "The shepherds and hutkeepers can not have little enough to do with the Blacks and the gentlemen never too much" \*(the white fellows cannot have too little to do with the blackfellows and the gentlemen do not too much).\* The gentlemen must, however, be people like Archer.

Yesterday I found several interesting things in a low thicket and as I believe a completely new plant. This is shrub-like with large green, broad, lanceolate leaves but becoming wider towards the apex, short leaf stalks, which descend in weak [...] somewhat from the stem. The plant is about 1-1½' tall and has a kind of oblong tubercle on the roots. The calyx is green, then follow several rows of more and more yellow-coloured corolla petals, which enclose a surface thick with tubercle-like stigmas. The *Notholaena* [?] were particularly pretty. They were in full fructification. A thorny creeping shrub with pinnate leaves (small leaflets). *Eustrephus* just before the flowers. On the hornblende mountains *Prasophyllum* in flower. In addition a young tree with extremely large leaves was in the thicket. I have seen only about four of these large-leaved trees.

The long-leaved violet with pretty blue or purple or whitish-blue flowers, a species of mustard plant, the green-flowered aromatic chamile, the plant with small white flowers that I found in Wide Bay, a species of Amaranthaceae, and *Xerotes*, of which the Black women make dillis, are growing around the sheep station. This morning a *Polygala*. In addition the small-headed gold everlasting is common. *Pimelea* shows its unobtrusive white flower heads everywhere, and a narrow-leaved *Dillenia* with the prettiest sulphur-yellow flowers was found below the mountain.

## 22 August

Mr Archer's sheep also suffer much from footrot; a flock of Mackenzie's and Bigge's sheep are scabby. In any case the sandy high ranges would be more suited for raising sheep than the cold moist plains and the hornblende mountains, whose decomposed components seem to form a spongy soil, into which the sheep sink deeply during wet weather. Mackenzie treated his sheep with arsenic, but he failed in both cases, if I understand him correctly, as at first the mixture was too strong and killed the sheep and later the arsenic was mixed with lime, and as a result the mixture was too weak.

Very many lambs died owing to the rain. However, even without this, the ewes are without sufficient milk for the nourishing of the lambs. Thomas Archer said he had never seen a good flock of lambs on this side of the range. The grass is good for nothing; it is too high and hard. They will postpone the lambing time now to September and the last two weeks of August, to avoid the rainy season. They are convinced that this region is not suited to raising sheep. Nevertheless the dry ewes are fat and healthy. They treated their scabby sheep with arsenic, the next day they began to die and so Archer lost 400 sheep.

The weather is overcast and threatens rain. The same stillness of the air, or weak easterly wind currents. Never was the change of the weather during the change of the moon (particularly full and new moon) so clear to me as here and in Wide Bay.

The Blacks are a short sturdy race; many are very hard working at least for some time. The young men are well built and in general very intelligent. Myall, who belonged to the Severn, imitated the verses of Ned very well and easily. The boy on Hetherington's station whistles 'Ei, du lieber Augustine'<sup>3</sup> as well as a Whiteman.

**23 August**

It seems to me according to the quartzite and porous flint with small quartz crystals in the hollows, which are found everywhere in the garden in the clay soil, which is moderated considerably by sand, that the rock on which Archer's dwelling rests is sandstone. In fact a coarse-grained sandstone in some places penetrated by silica-bearing water and transformed into a quartzite-like rock, which no longer shows the separate grains but is a homogeneous rock in whose hollows, quartz crystals have formed.

**24 August**

Song of the Black boy whose meaning he does not understand.

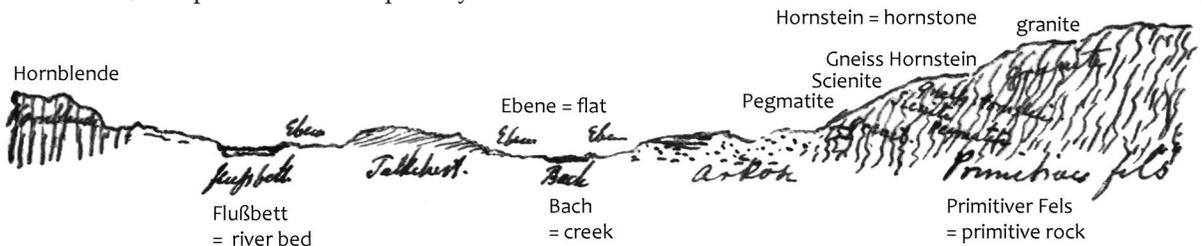
Bolim bolim bo  
 Bolim bolin bong  
 Gnato worrango  
 Bebbo galiman  
 Bebbo galiman  
 Dollodolino (Dollordollono)  
 Yawa Yawararaya  
 Yawa Yawararaya

Yesterday I went with David Archer and a Black to the western mountain on the other side of the river. Downstream along the river beautiful flats are found, which would be very well suited to cultivation, dairies and paddocks. A stream comes from the south? to the river. This side of the stream is talc schist such as near Brisbane town; on the other side on a low hill, a rock that at first leads the observer astray by its crystalline texture, as quartz and feldspar crystals are

visible in it. Higher up where the primitive rock first appears, you recognise, however, that the rock just crossed is anagenetic and that it has formed from the constituents of the decomposed granite after the mica was washed out. The granite consists of equal parts of mica, quartz and feldspar with abundant hornblende. In other places hornblende is abundant and mica rare, on the other hand in some both are absent. Higher up gneiss appears and over and under it granite or syenite, often with large hornblende crystals. This gneiss then changes into a completely dark homogeneous hornstone-like rock and in fact this transition is very gradual in some places and at others the contact of both forms a sharp line. That rock comprises the perhaps 600-700' high mountain.

This section goes from Archer's sheep station through the river, then through small elevations, small flats with a stream to the mountain, which has received the name Archers Hill (the section is curved).

From the peak of this mountain we compared Dixon's map, whose northern part is based on observations of Petrie. We found that nearly all mountain ranges were falsely laid down. What he called high range and whose strike line he laid from east north-east to west south-west, on the contrary lies from west by north towards east by south. Another chain that he continued from Biroa and which according to Mr Archer really is connected with Biroa by a low range from here, falls with its cap running out south-easterly 80-85° south-west of Biroa and its direction is from south-east or east south-east — north-west or west north-west.



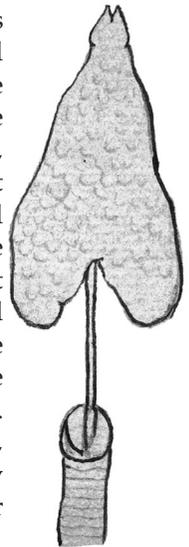
We found a gum on the arkose heights that Jimmy called manarm. It resembles the spotted gum remarkably, but differed from it by the colour of the cherry red gum. The enlargement of this tree contains much syrupy thick gum or water. The Black told me that they drink the water of nickkurr. I also found here a narrow-leaved *Xerotes* with two sharp apices on the leaf end and the yellow *Diuris* in flower; furthermore the legume with almost horizontally-separated branches, red blossom, reflected fruits (from Wide Bay), an *Adiantum* with hairy involucre and finally a legume 4' tall shrub with tomentose pinnate leaves and large attractive reddish flowers. Many kangaroo helmets without flowers were close by.

The Black could not be surprised enough at my observation of the plants and fruits and stones. He climbed up the trees to throw the branches down; however, as the number of plant specimens began to increase, he protested and advised Mr Archer to have a team of oxen come. He was curious to see the map. Mr Archer opened it and the Black quickly understood the position of the place and was surprised that the course of the river was laid down there with its many meanders. Mr Archer remarked very correctly that many a white man would hardly have understood the map as well, but this Black is very sharp and experienced, and with his knowledge made just as much an exception among his brothers as the ignorant white man among his own. The diversity of languages is recognised very easily in the names of the trees. In Brisbane they call the bloodwood bunah, between Brisbane and here bunar, here bunairr. Another man from the mountains called it bün. All these tribes visit here and daily we have opportunity to see new Blacks arriving. It is possible that even very distant Blacks, curious to see the white man in the neighbourhood, come to the camp of the local Blacks and then perhaps seldom more friendly

inclined, yet full of curiosity[?], return to their country. They feel homesickness as strongly as any Scot or Swiss, as I noticed in Charley at Wide Bay. Two boys from Brisbane ran away from Messrs Taylor and Pitt, to return to their relatives 120 miles away through hostile tribes. They love the use of fire arms and riding and the clothing of the whites and blankets; and that then also induces them to accompany the white man further. However, often having arrived home, they soon cast off their clothing again, particularly after going around with their tribe.

### 26 August

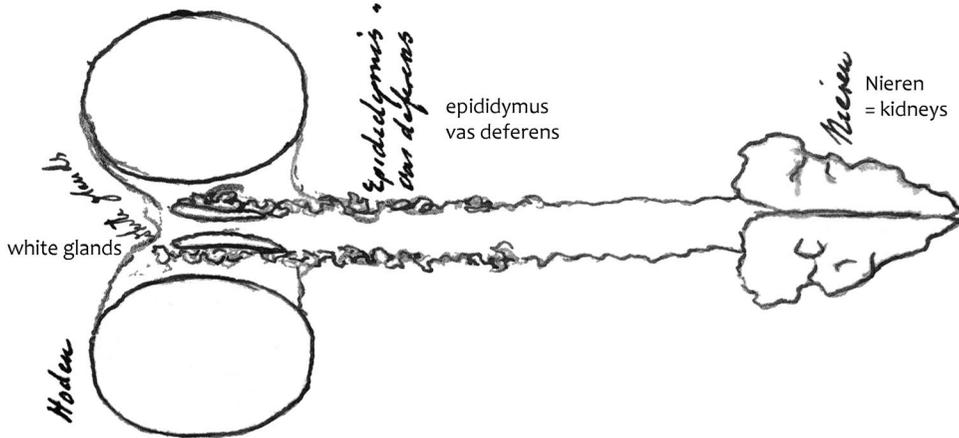
The sleeping lizard (gubbebi Charley, uan Bunga Bunga Black. Goragan Baker) was found in the high grass on the foot-hills of Archers Hill. The Blacks esteem its flesh and Jim got the flesh for himself several times, after I had taken the skin myself. The animal seems sluggish in its movements, but the Gwydir Blacks seem misinformed when they say that it always walked in a straight direction, as the thick body is probably capable of sideways movement. It was 1¼' long, the body completely covered with large scales, but the head scutate; the tail short and conical. Dark transverse stripes on a light brownish background lie diagonally over the back. The teeth are bluntly conical, the tongue wide towards the back, the end a little cleft, somewhat cut off, the whole tongue blue and covered with fleshy scales, the underside connected by a light membrane in the base of the oral cavity up to ⅓" from the end. The glottis is a simple opening, the vocal chords scarcely perceptible. Complete rings in the trachea, connected with one another by a fine membrane, not lying over one another.



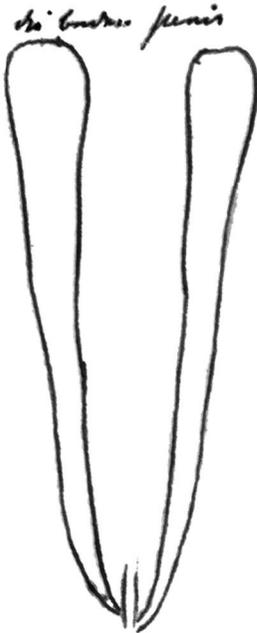
The apex of the heart is bound to the pericardium by a ligament as in *Chlamydomorphus*.

Two large oval testicles, almost 1" long. On the upper part, the vas deferens folded

together many times, two ½" long white glands. I saw no connection between testicle and vas deferens, but probably a few or several fine lines in the connecting scrotal[?] membrane are spermatic vessels.



Die beiden penis = both the penises



Die Eichel = the glans



die Lungen

Die Lungen = the lungs



die Leber

Die Leber = the liver



Two penises, one on each side of the anus, long and club shaped. The glans slightly emarginate, spongy, fleshy.

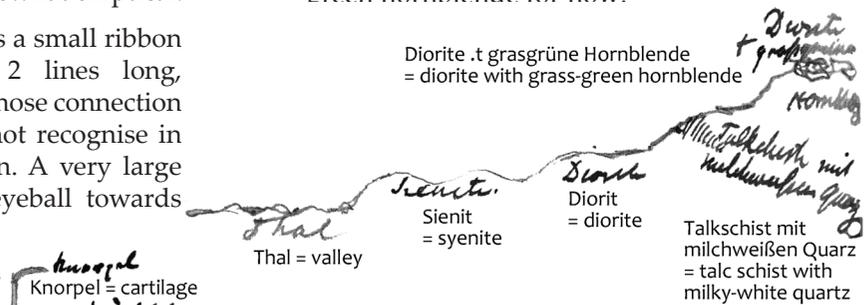
Fifteen transparent scales lie along the sclerotica and form the casing of the eye. The iris is yellow, the pupil in proportion to the eye ball small, and somewhat elliptical.

The crest[?] in the eye is a small ribbon or corpuscle almost 2 lines long, scarcely 1 line broad, whose connection with the lens I could not recognise in such a rough dissection. A very large gland surrounds the eyeball towards the outside.

The ear bone is a simple peg, about 1/2" long, with a cartilage, which lies in the tympanic membrane and with an enlargement in the foramen ovalis? The stomach is intestine shaped, the small intestine and duodenum covered with villi. Indication of a caecum, by the large intestine being somewhat widened into a pocket shape. I found a white substance like urine in the large intestine. However, I could not follow the course of the urethra, because my implements were coarse and limited. The length of the whole alimentary canal was little longer than the whole body.

I felt extremely unwell during the last three days, coffee in the morning, many vegetables at midday, and incessant rainy weather that kept me inside caused diarrhoea, which exhausted me very much as usual. However, yesterday afternoon I rode to the first creek on the way to Mackenzie's and found pebbles of diorite (feldspar and hornblende, very hard perhaps quartz, which would make it syenite), furthermore a soft feldspathic rock and talc schist. Where the latter outcrops, milky white quartz is sure to be found too, as in the neighbourhood of Brisbane. Much iron pyrite in some diorite pieces. On the mountain to the left as you return to Archer's you find under sandy soil firstly syenite (the hornblende so rolled that I was instinctively reminded of syenitic arkose),

higher up the dioritic rock, then talc schist, and right on top diorite again with a grass-green substance, which I must call grass-green hornblende for now.



Knorpel = cartilage  
Gehörknöchelchen = ear bones

{On the creek a beautiful *Carex*.}

On the creek a myrtle tree grows, which the Blacks call kulu, opposite, dark green, broadly lanceolate leaves, dark short-fissured bark. Now the white and yellow *Diuris* blossoms everywhere over the forest floor, particularly on the hills and *Prasophyllum* with beautiful fragrance on the low hill ridges. On the mountain between the loose rocks is a creeping shrub with pinnate leaves, *Polypodium pinnatum*; the many herbaceous legumes all without fruits and flowers. A *Dianella* just before the flowers.

28 August

*Potamogeton*

*Chara*

Aquatic plants with linear water leaves and lanceolate air leaves, hair-like stem.

Obtusifolious explanate *Velleia* (small-flowered).

{both became black during the drying}

The rough-leaved kidney-shaped *Goodenia*

The linear-leaved slender *Hypochaeris?* *Creppis*

Manborri gum flowers three

Manderoljan gum fruit three

The rosette-leaved *Bellis* one.

The spatulate-leaved dentate *Aster*.

The bipinnate, small pinnae, hook-thorned

bush vine. {*Caesalpinia*}  
 The sharp-pointed, cordate-leaved, dentate thorny *Sida*.  
 The plane tree three-leaved corkwood. {*Erythrina*}  
 The kidney-shaped-leaved silver *Hydrocotyle*.  
 A plant as if belonging to the stink plants *Teucrium* with elliptically elongate leaves.  
 Narrow and stiff-leaved *Dillenia*.  
 The white-leaved long-tailed *Diuris*.  
 The three dentate green-flowered *Camille*.  
 The spiral branched *Medicago*.  
 The orange-coloured upright *Oxalis*.  
 The small white-flowered Euphorbiaceae.  
 The Rubiaceae with compact white flowers on sheep manure.  
 The small-flowered *Campanula*.  
 The narrow-leaved, small-headed grape-like everlasting.  
 Dedembi (dilli-grass).  
 Gonnergonner with purple berries. {*Dianella*}  
 Tarrom (with two prickles on the leaf stalk)  
 Däl (diia) \*the yam root\*.  
 Kjorn kjombi *Nephrodium*.  
 Durrbuny (a new herbaceous plant).  
*Pimelia* naal (Charley) näri  
 Mundirä (*Notolaena*) munderall Charley  
 Bundall (*Rhipogonum?*) bunda.  
 Dallwir Ch[arley] wunga Paddi. *Stylidium*.  
 Dundunbill Ch[arley] red-flowered legume with reflected pods.  
 Dunbatä Ch[arley] red-leaved leguminous shrub with yellow tomentum.  
 Baran baran slender three-leaved low-growing legume.  
 Gaiwamm Ch[arley] *Adiantum* with hairy involucre.  
 Gerran narrow-leaved *Daviesia*.  
 Unga narrow-leaved dilli-grass.

Manarm gum.  
 Bann *Geranium*.  
 The small-flowered greenish orchid.  
 \*Bungundolwall Charl[ey] Bundei Bundei (Ubi) a tree with immense bipinnate leaves, leaflets 2½" long, acute, elliptical.  
 Darrum(?) oblong 3½" long, 1" broad leaves with rare horny teeth at the margin, secondary veins strong, anastomosing in strong arches, leaves opposite, short thick petiole. Brush.  
 Gangarall Charl[ey] Dillor. Nikke Mang (Ubi) *Acacia* with bipinnate leaves, (15 juga in gland at the root of the two top juga) leaflets linear (45 pairs 2½" long, each little leaflet, leafstalk and midrib hairy, angular stem dentilated.  
 Bumbungall Charley broad leaved vine, margin of the leaf with large teeth, leaf broad, heartshaped.\*  
 The green-flowered, small-flowered orchid in moist ground (30 August).  
 The hairy labiate with dentate, almost heart-shaped, inch long leaves.  
*Dillwynia* with 1/3" long leaflets linear, but enlarging towards the apex.  
 The grey-leaved *Dillenia* with pretty large, sulphur-coloured flowers. Sandy soil.  
*Chorizema* with ovate-acuminate mucronate, opposite leaves.  
 The blue-flowered *Dianella* with broad linear grass-like leaves, dentate on the keel.  
*Carex* the first creek towards Mackenzie.

## 29 August

After we have now been afflicted by almost 14 days of rain, which fell from beginning to end in short sunny showers, and during the middle period in persistent small drops, a strong dry west wind set in during the night of 28-29 August, which drove all clouds from the sky. However, it was so cold that we felt

very uncomfortable under a few woollen blankets. This wind is rising during the last three hours. I observed a quite similar event in White Bay.

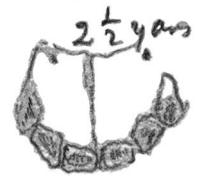
A small *Chrysomela* is eating the seed leaves of the rock melons in the garden. A gray reue[?] lives from the roots and stems of the young cabbage plants. All seeds are beginning to germinate; the vine buds are swelling and are beginning to break open. *Geranium* is beginning to blossom. A large number of fungi are springing up. Thus a pointed hat with brown lamellae and a brown flat hat. A smooth puffball and a puffball covered with small protuberances.

The bark exfoliates here during the winter \*(the bark strips)\*. The summer seems to correspond to the European winter. Mundeli, boa, binaroan and burawam are chosen for covering the huts. The box is absent in the immediate neighbourhood.

Today I found an orchid with small greenish flowers, three petals form the lower lip and three the helmet, the centre one by far the largest and arched. The anthers are apical (terminal) and deciduous after the pollen falls out. The orchid has one leaf, which forms a sheath around the stem. The upper part of the leaf resembles almost a fine *Allium* leaf. It grows in the almost treeless, moist, grassy place between Archer's dwelling and the lagoon. Now a new shoot is sprouting from the root crown, probably to form the tuber for the next year. The small flower stalk 1"', the seed capsule 3"', helmet 1½"', bracts 2 lines (comes to half the length of the seed vessel)



fast natürl. Größe  
= almost natural size



### 30 August

We went to the other side of the creek, where there were some pretty though narrow flats with rich grass growth, towards east and west slight rises that contain a dark syenite, whose elements are extremely fine. However, particularly on the south-westerly hills the transition from this fine crystalline dark rock to the white rock with larger separated crystals and predominating feldspar is seen. The small black, often very glossy crystals are hornblende, as far as I can make out on more decomposed rock, although mica flakes, often larger occur in it (I saw, however, no quartz in this rock). I have six different specimens; some more decomposed, others show the transition from finer to coarser crystallisation, and the transition from dark rock to the white syenite on Archers Hill.

At the sheep wash I found several interesting plants, thus *Triglochin* with tubercles on the ends of the roots, an aquatic grass, a *Carex* species, *Mitrasacme*, *Prasophyllum*, and that white-flowered dioecious plant (a bulbaceous plant), which I first saw in the neighbourhood of Newcastle in company with Mr Scott. A new orchid with woolly lip was also found very abundantly here. Also the Blacks showed me the edible *Blechnum* (tangba). The Blacks collect the fleshy rootstock and roast it in the fire. It tastes like dry biscuit (ship zwieback). Also they grind it sometimes into fine pieces and thus make a kind of cake, but which does not taste so well at all.

In the water itself I found *Limnaeus*, in whose eggs I observed everywhere the slow movement around the axis of the shell. The *Unio* that the Blacks eat, they call yü, but Nikki called it yun.

The long-leaved *Senecio*?, long linear leaves, lower side tomentose.

Mundirallbill (Charley) Fern probably several species, at least a very abnormal variety.

A *Mimulus*-like plant on the edge of the bush and in the immediate neighbourhood of the streams.

Leafless legume 8-9' tall greyish green shrub.

Kulu a tree belonging to the myrtle family, lanceolate leaves 1/3" to 1/2" long, dark green, rough, fissured bark.

*Magnolia*-like, foot high shrubby plant with single flowers.

Wide-leaved *Eustrephus* \*low net brush\*

The white long-tailed *Diuris*.

*Solanum* with elliptical coarse cut-out leaves, almost heart-shaped at the base, yellow thorns 2" long on the middle ribs and secondary rib on calyx and twigs.

Lanceolate-leaved, twiggy, small-flowered purple labiate.

*Hopaticum* with erect 1 1/2" long, leafless small stalks.

*Festuca* with erect stalks, fine leaves.

*Aster*, stalk \*3-4" high, small single head, leaves downy spatulate, crenate, roots fleshy.

Pink *Caladenia* with linear leaf, 4" high, leaf 3-4" long (1" broad).

*Dillenia* with rough linear stiff leaves, calyx hairy.

Small blossoming *Convolvulus* with hastate leaves.

Brush shrub with roundish or obovate leaves with blunt teeth 1/2" long 1/3" broad, fruit 3 capsules tubercular. (male and female shrubs)

Small kidney leaved *Hydrocotyle*, leaves 2" long, 3 lines broad, single flower in the axilla. Flowerstalk shorter than leafstalk near the Creek.

The small leaved *Oxalis*, creeping single flowerstalk in each Axilla.

The parsley leaved *Hydrocotyle* (small leaves 3 lobes or divisions, margin dentate[.]])

*Hydrocotyle* with round leaves, with an incision corresponding to the insertion of the leafstalk.

A plant with stolones with spatulate blunt leaves, decurrent at the leaf stalk, roughly dentated 1½" long ¼" broad (towards the top[.]]).

The 4 last plants grow together on the moist slopes towards the Creek at Archers, besides these a small *Veronica* growing in a low dense bush

*Adiantum* bipinnate (subtripinnate), smooth darkbrown and lightbrown shining stem, rounded leaflets, few fructifications on each. Smooth involucrem.

A small palmlike tree 5-8' high with elliptical or oval pinnate leaves - (leafless long linear fructification and blossoms in hanging racemes. (Not yet in flower) the stem forming fine walking sticks. The roots form a kind of crown at the end of the stem and do not interlap in the ground.

Native lettuce.

Tangpalam (Tabil pillah) worm *Eucalyptus* (fruits)

The nettle grows in groves near the creeks 4-5 feet high and higher and its stings produce a violent burning

Bannbaranbill *Kennedia rubicunda* (Nikke)

Bi (Nikke) *Seaforthia*

#### 5 Septbr

The spreading woody leguminose plant of moist flats. (Young plants with simple leaves[.]]).

Labiata with heartshaped, hairy leaves with sharply serrated margins

*Kennedia* with ternate leaves, linear lanceolate leaflets (*Glycine*?)

Euphorbiaceous shrub with oblong or elliptical leaves which turn black in drying.

*Agrostis* or *Stipa* with loose panicles.

*Leptosperma*

*Xerotes* with thickly set fascicled flowers, middling leaves.

*Goodenia* with erect stems, yellow blossoms arranged in a simple spike

*Hovea* with thick neck of the root

*Kennedia rubicunda*

*Stylidium gramineum*

Dibilpalam Stringy bark in blossom bud and fruit.\*

#### 4 September

The sea breeze is felt here at 2 pm, often earlier. The distance in a straight line from the coast is about 20 miles. After we had rain for a long time, the west wind suddenly set in two days after new moon, which usually beginning with sunrise, increases up to 12 and then decreases again up to sunset. I have previously attempted an explanation of this phenomenon, yet were it correct, an east wind would have to arise from sunset to midnight.

Mr J. Archer reported that one could hear the breathing in and out of the sperm whale (*Physeter*) very clearly, whereas with the other whales only the breathing in is audible. In the sperm whale one finds a thick tube full of oil in the head, which is baled out with buckets and in addition much blubber in a triangular piece.

The Blacks go to Biroa to look for stones and [use] the latter to bewitch the wild Blacks (their enemies), as they ascribe all sickness to stones, with which they have bewitched

their enemy. (Yackamudlu). A small red spotted beetle about 2'' long is eating the seed leaves of the rock melon. At first it was called lady bird (*Chrysomela*), but it turned out that this beetle does not belong to the chrysomelids. A *Chrysomela* was found on the sunflower. An infinite number of weevils [unfinished sentence]

The buds of the vines began to swell and spread out on 25 August.

30 August cold morning, the whole night a strong dry westerly wind.

### Journey to Biroa

On Thursday 31 August I left Durrundur, Mr Archer's station, with Messrs David and Charles Archer and a Black by name of Nique (Nikki) to climb Biroa. However, at first we followed the road to where the track from Brisbane climbs up to the range to find a less steep slope. The soil of the range is sandy. The grass tree grows luxuriantly. Flowers and fruits of the stringybark dibilpalam were collected from the forest trees. The gum of this tree is light honey-yellow (kakki Nikki). A *Goodenia* with the flowers in erect separate spikes was found. *Kennedia rubicunda* was in flower everywhere, a white *Kennedia* monopetalous, *Chorizema*, *Gompholobium tenuifolium*, which appeared again later at the foot of Biroa. *Ophioglossum* with pretty fruits grew in the oat grass in moist ground on the slopes towards the stream. Here the root leaves of the deflorate *Pterostylis* and the small kidney-leaved orchid turned up. The spreading, woody legume in large numbers in the depressions between the hills; their roots are studded with small tubercles. {One other legume with long lanceolate stipules, ternate leaflets, soft, elliptical pods jointed.} A plant probably belonging to the Scrophulariaceae is flowering on the creek. The Black said that only the old stems of *Caladium* had tubercles, thus tubercles are

also found on the *Triglochin* (edible) and on *Thysanotus* (the fringed violet). Very many plants are furnished with similar tubercles. *Prasophyllum* in beautiful specimens on the mountains in high grass. *Schizaea* grew in places where thick trunks lay burnt, but on the third day I found it very abundant on the sandy soil around Biroa.

The region over which we came was sandstone; the depression in which we camped showed large pieces of quartz in clayey earth. {Later talc schist outcropped towards the creek. The sandstone now and then very fine grained, often psammitic (with clayey laminae[?]).} We saw and caught a kangaroo, which grazed with three others in the high grass, and a kangaroo rat, which crept into its lair lined with leaves. The kangaroo was called burrall by Nikki (dangam Charley). Krumann is the name of the male, yimmarr the name of the female. It was about 4 ¾' long, 2" tail two feet from tail to shoulder; ¾' head and neck, plainly mouse-grey on the back, the tip of the tail, hands and feet blackish, belly and upper part of the extremities whitish-grey. The thick skin covering the lower half of the feet forms a large number of horny warts, which correspond with fleshy elevations inside. In the stomach were found a huge number of white 2-3" long worms, which perhaps help in breaking up grass and so contribute to digestion. I observed them previously in the stomach of the wallaby near Newcastle. Several elongated glands in the inner stomach lining towards the pylorus are very interesting. The ducts and deciduous mucosa of the stomach were seen here very clearly. The penis is sharp and conical, between penis and anus black gland spots, outer preputial torus covered with erect hairs.

The kangaroo rat rests in a lair lined with dry grass and lies so fixed, that you can tread on the animal before it runs away.

Bbai (Nikki) common name for the male and female (kumulbi Charley). The pelt is at present reddish mixed with whitish hair. It is a very different species from the Hunter River kangaroo rat. Moreover the latter does not lie up in lairs but in hollow tree trunks. Dukku Nikki the brown and black striped lizard, the tail long and free, twice as long as the body.

A carpet snake was killed and the Black said it is less angry (narrang koolah), i.e. it is not poisonous, but it bites. He looked for the excrement of bees at the foot of old trees. As we returned over a small flat between the streams, he said that he would go to look for money that he lost there some time ago. He went and after a short time he came back with a penny. Although the whole flat with trees of the same size (for the most part boonah and ngarrabill) seemed indistinguishable to us, the savage wandered over this his home like us on a well known highway, and his memory and knowledge of the locality and the sharpness of sight were so great that he found the penny again in high grass perhaps in an old tree trunk.

On the 5th September we followed a high range, which led us to the high watershed between the east and west waters. Then we went on this almost without interruption up to the foot of Biroa. Both ranges were formed from a coarse-grained sandstone, often very ferruginous. We came to the south side of Biroa or the south-west and now had an arduous march through scrub to go around the foot of the mountain, because it is only climbable from the north and towards the south forms an almost vertical wall. Here the sand-hills of Sydney appear and probably old marshy ground; the vegetation was poor, not identical but very similar. The blackbutt and manderoljan and *Angophora lanceolata* were the prevailing forest trees. At the creek where we stopped at midday, *Seaforthia*

raised their high crowns on slender trunks, a small legume was also found here. Tabil pillah (worm *Eucalyptus*) likewise grew closer to the moisture. {The youngest leaves of the *Seaforthia* have an extremely attractive fresh taste and the Blacks know this very well. Bi. Nikki.} *Patersonia* very abundant, *Xanthorrhoea* everywhere. I found the passion flower in full bloom here along the water holes.

Where the sea ground begins, *Chorizema* becomes very abundant, three species of *Daviesia* grow here together — two species already on Archers Mountain. *Tetratheca* with wide leaves, several *Dianella* — *Casuarina* — *Lomatia* very common and now in seed — a cable-leaved *Acacia*.

The south and west sides of Biroa were separated by a deep moat from the surrounding sandy elevation (ferruginous sandstone), towards the north the foot runs into the sand-hill. This also explains that the ferruginous conglomerate is found here rather high between the stone blocks of Biroa that have rolled down. In general the mountain is extraordinarily bare; but wherever a small embayment collects moisture, a large number of plants sprout forth. Thus a broad-leaved pretty *Buttneria*, a red *Dendrobium*, *Calytrix*, *Leptospermum* in two species, then two cyperaceans, *Leptospermum*, one *Goodenia*, and a small *Convolvulus*. Under the steep slope on the upper half of the mountain, a scrub of small white-flowered 3-6' tall trees, which seem to belong to the Tiliaceae, entwined by *Kennedia rubicunda* and yam root runners, whose roots the Black avidly dig out. {Let no one say to me that the savages cannot work. Nikki dug untiringly in the burning heat of the sun after this root.} For this purpose he sharpened a stick about 4' long, which served him as a spade or rather a hoe. He found the root 2-3 feet deep and he distinguished the young sweet and the older

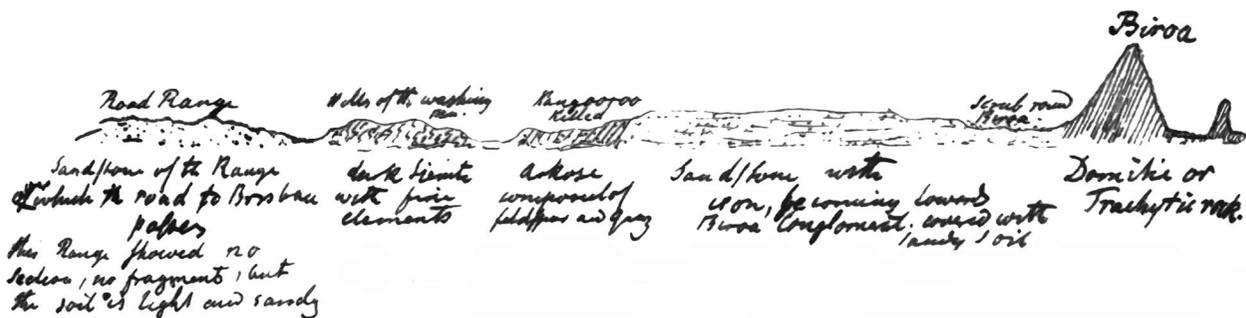
stringier root. The youngest end of the root is extraordinarily tender and tastes like the nicest asparagus. The Black called another plant very like the yam — brother to yam — could this perhaps be the male individual? The shoot of this root causes sickness on touching? The Black gave no thought to this in digging after roots. A *Pimelea* with pretty flower heads and leaves arranged in four rows grows here, also a small sweet scented *Acacia*, and a sweet *Gompholobium tenuifolium*. *Eustrephus* is also common.

The rock shows an earthy cement or mixture with many feldspar crystals, the larger ones flesh-coloured, the smaller ones transparent, and a glassy feldspar, black spots probably pyroxene, and attractive green specks; it is the rock of the Rocky Mountains and probably belonging to the domite of the Puy de Dom and Sarconi. The upper part of the mountain shows a pseudo-prismatic jointed structure. The fissures seem to go from north to south. Although Biroa appears as a dome seen from the west, it is nevertheless no proper dome but a sharp ridge with a saddle-shaped hollow. When you approach it at night in the moonlight from the south-west, you think you are standing before a massive dome with a colonnade in front. The view changes, however, towards the north and you see the hollows in the mountain ridge along the extension of the mountain from east to west.

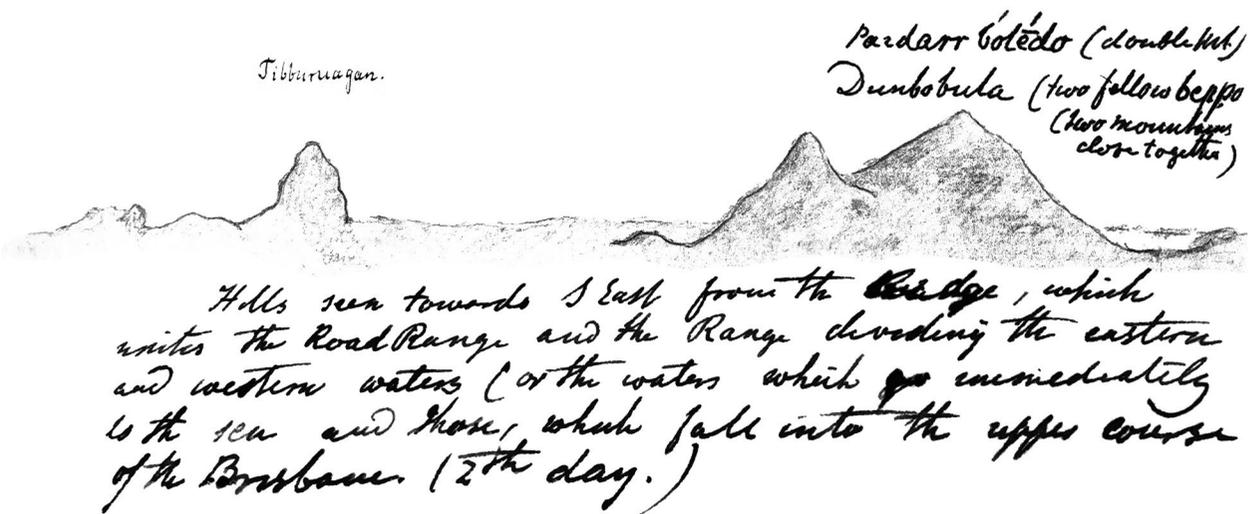
From its peak you enjoy a very wide, beautiful, instructive view. Towards the south and east isolated mountains appear, some steep and fantastic like Biroa itself, especially Gnarramirruie and the rock adjoining it. An isolated mountain mass appears at first from east to north, then the Bunya Bunya mountains extend from the east to the west and four or five spurs descend from north to south downwards to the wide basin traversed by low ridges

which surround Biroa. The western spur is Durundurum, under which Archer's station lies. Then the mountain range appears, which separates Mackenzie's and Archer's runs (Krin Kringa) from another far further. A blue, little characterised mountain appears between the latter and the northern ranges. Towards the west Taylors Range is seen and over this Mt Brisbane, then further south other far mountains appear with several indentations and finally a faint far elevation is seen further to the south (somewhat easterly), which is situated perhaps on the other side of the mouth of the Brisbane River. Moreton Bay Island appeared towards the south-east. There was no doubt for me that Biroa and the other rocks were once washed around by sea water and at the foot of Biroa you can easily imagine traces of former wave action, although the atmosphere together with their soft nature is sufficient explanation for the rounding.

As we returned home, at first we had sandstone again, then a rock appeared that shows feldspar and quartz, which seemed to me, however, not to be crystalline but anagenetic (arkose). Gradually, however, we came on primitive rock, in fact on syenite with very small components and so many small hornblende crystals mixed with mica, that it looked quite dark. If the sandstone should also be from the pulverised primitive rock of the more western mountain, then we would have at the eastern foot of this mountain, firstly arkose mountains and further on sandstone (firstly two components, further on only one). However, other pieces were found, which were not able to be assigned to the rock types seen, unless they are pieces from Biroa changed by bush fires and hardened, which were washed here by high tides over the surrounding seabed.



\*Section from Biroa to the hills of the washing pen at Mr Archers Station and to the road to Brisbane.\*



\*Hills seen towards SEast from the ridge which unites the Road Range and the Range dividing the eastern and western waters (or the waters which go immediately to the sea and those, which fall into the upper course of the Brisbane (2nd day).\*

\*Leguminose fairly low shrubby plant with rare linear leaves, blossoms rather at the top in a cluster.

*Acacia* with broad phyllodia (3 nerves more distinct) racemes geminate

*Schizaea*.

Leguminose plant with articulate fine pods, lanceolate long stipules, ternate leaves, leaflets soft oval or elliptical.

*Chorizema*.

A white *Kennedia monophylla*

*Gompholobium tenuifolium*

Narrow leaved dilligrass with spreading panicles, clustered male blossoms

Tangba (*Blechnum briatum?*)

Narrow-leaved Dilligrass, other species

*Grevillea* (?) with fascicles or clusters of white blossoms in the axilla of each leaf.

*Thysanotus* with simple fleshy distafflike roots.

*Drosera peltata*.

*Velleia* with spreading stems, small yellow blossoms, thick woody collum radice

Cyperaceous plant (2½') high, not determined in blossom.

Small cyperaceous plant (1-1½') ditto from the washing pen

A broadleaved (reedy, water grass but not *Arundo*!).

*Smilax* with 5 veins, sweet scented blossoms.

*Rubus* (native Rawsberry!).]

The yellow *Daviesia*

The reddish *Daviesia*

The broad leaved *Daviesia* round Biroa

The soft *Mitrasacme*

*Lyperanthus* (?) with two radical leaves

*Hypericum*

*Tetratheca* with ellipt[ical] leaves

*Dampiera* with leaves 1½" long, ¼" broad

The small blossomed *Pleuranda* with narrow spatulate leaves

The young plants of the grass tree

*Diplacrum*

The hairy *Adiantum* of Biroa

The stiff mt [mountain] grass of Biroa

*Milium* of Biroa

*Erigeron* composite with large radical leaves

The yellow *Diuris* (*maculata*)

The white long tailed *Diuris*

*Prasophyllum* with large flowers

*Prasophyllum* with small flowers

A rushy cyperacea (from the neighborhood of Biroa.

The lanceolate Tea tree (Gundder)

The inner sheath of *Seaforthia* leaves

Cyperacea with wool fringes round the vagina

An Operculariaceae

The finger leaved small chenopodionian? plant, which grows and sprouts at present everywhere, but is out of blossom on Biroa

The spiny *Daviesia*

The half reclining *Goodenia* of Biroa.

A branch of Binarran (also one specimen in fruit)

*Doodia* from Seaforthia creek small pinnae

Pinnate *Nephrodium* of the flats

Great *Cheilanthes* with fibrous roots

*Patersonia* with woolfringed leaves

*Pultenaea* with linear oblong leaves (slightly emarginate at the top!).

A cyperaceous plant with broad light green leaves from Biroa

*Casuarina* from Biroa

A small creeping grass from Biroa

Small tiliaceous tree from Biroa

*Baeckea* with small blunt elliptical leaves (quadrifloriam disposita.)

Small *Convolvulus* of Biroa with a cordate base and emarginate at the point.

A kind of *Leptosperma* from Biroa the anthers of which are drawn out into a sharp bristle

*Calytrix* (a very little 1' high shrub at Biroa[.].)

*Gompholobium speciosum* on the sandy soil round B[iroa].

*Pigea* branched with long linear leaves, sandy soil round Biroa

A broad leaved dwarfish swamp *Banksia*

A long linear leaved *Banksia*, the margins of the leaves with sharp teeth, joint of the leaves sometimes acute, sometimes truncate

A little shrub with very fine linear leaves (without blossom) round Biroa in sandy soil

*Loranthus* from *Casuarina* (near Biroa, stalks triflore[.]).

The little dioecious bulby plant of moist flats (males and females[.]).

The Myrtle tree from Seaforthia Creek with red fruit (*Acmena*)

A pink orchid 3-4" high similar to the pink *Caladenia*, but not *Caladenia* (with a scraper)

*Persoonia* with elliptico lanceolate leaves all over the forest ground of the district (in fruit not ripe)

*Pterostylis* 5 radial leaves, one leaf at the stem.

Gnunti *Zamia spiralis* good eating for the Blackfellows

Kai-arr a tree observed in the Bunya scrub Nurum Nurum

Gungam Gungam, the blacks make spears of the wood

Blue *Dianella* with broad grassy leaves near creeks frequent.

An orchidacean with wooly lip, with a small long (grassy?) leaf, found on the flat near the sheep washing pen ½-1' high, one tuber

*Triglochin* with potatoe like swelling at the ends of the roots. Sheepwashing pen

*Comesperma* from the sandy scrub round Biroa

A kind of prostrate *Indigofera* everywhere on moist slopes and flats where it almost creeps between the high grass

{Bodne

Banni (between Banni and Bagni) Charl.

Bonyi Bonyi (Blackf. in Brisbane)

Gunnam Nikki  
Warrall Charl. } Mt [mountain] Pine}  
Gudnem. Jacky }

*Convolvulus* with hastate leaves 1½" long ½-¾" broad, small flowering at a creek between Archers and Brisbane

{Dorrawar (Nikke)} + Tarrabarr a small tree at the creeks and brushes, broad leaf, whitish blue at the lower surface (3 large veins)

*Dracaena?* about 3-5-8' high with the leaves at the top (sometimes shooting out at the stem) fruit a grape of red berries, commences to enter in blossom

The black leafless climbing *Dendrobium?* from Biroa and near the creek in old trees

The red *Dendrobium* from the naked rock of Biroa.

The sweetscenting orchidacean between Biroa and Archers Station grass leaf 2-2½" broad 2' long 3 nerves

The orchidacean from the Bloodwood and Ironbark on the Mt. North of Archers Station.

Sections of the native Passionflower

*Calytrix* from Biroa

The small capitate trapezoid *Acacia* from Biroa

*Geranium* from Biroa

Broadleaved *Zamia* from Biroa

*Euphorbia* from Biroa

A turf Cyperacea from Biroa

The small narrowleaved *Dianella*

Female plant of the narrowleaved Dilli grass

The downy wattle

The broadleaved *Dianella*

A leaf of the *Seaforthia*

The wool leaved dioecious plant of the outskirts of the brush. Male flowers in catkins.

2 branches of the Bunya Bunya tree from Nurum Nurum.

The 5 lobed small leaved shining creek *Hydrocotyle* (in blossom and fruit)

The 5 lobed kidney shaped long stalked hairy *Hydrocotyle* from Nurum N.

Bodni (two branches of a young Bunya Bunya tree[.]])

*Villarsia* (?) with long stalked small yellow blossoms round but a little oblong leaves, the stalk inserted between the rounded lobes of the basis.

The [blank] with small yellow blossoms, bulbous? or thick fleshy root, flower stalk short, bearing only one blossom.

*Lentibularia* with Helix turned radial leaves, two blue or white blossoms, no leaf at the simple stem.

A kind of hairy *Agrostis* or *Stipa* from Nurum Nurum.

Dorrawar (Nikki from Nurum Nurum fruit 3 capsules monosperm.

The spiny *Daviesia* from Biroa, a small shrub scarcely 1' high.\*

## 7 September

Yesterday I rode with Mr Thomas Archer to Tschentschillum, which is the name of their sheep station. Some pretty, narrow flats — sandy range of hills. On the other side of the station a dense scrub. As you travel from the moist flats into the scrub, you pass certain plants, which always keep to the outskirts of the scrub. The kangaroo grass and coarse oat grasses, between which a *Geranium* and *Ajuga* are now flowering, grow 3-5" high in the flat; in the scrub green bushes of a cyperacean occur, which then follows the woolly *Solanum* and *Sida*, and *Abutilon* with ovoid yet sharply pointed downy leaves up to 5 and 6' tall. Hereupon appears the pinnately-divided, smooth *Solanum* in stout herbaceous stems up to 10-12' tall, between which the nettle also makes itself conspicuous through the trousers of the botanist. Several shrubby creepers, (e.g. the pinnate-leaved) after that *Smilax*, a *Bryonia*, also probably *Ipomoea* and the native cucumber were found on the outskirts of the scrub. If a flowing stream is close by, the immense trunk of the buddul gum is never absent. Bolorta is more in the flats covered with trees, but tabilpillah (tangpalam) is common in the creek scrubs; this tree has, however, very different states and satisfies the eye by the rich decoration of its broad lanceolate leaves not only along the banks of the streams, where it even penetrates into the interior of the scrub, but also on the sunny, even sandy hills. On penetrating into the scrub, only *Dracaena* is seen, which, however, always peeps out from the scrub into the open air. As you go deeper, the trees become taller, striving without branches to considerable heights, where their crowns then spread out towards the light as

over a new ground so to speak. Creepers were seen everywhere. With loops wound, they embrace the trees and climb up on them, their usually flowery bushes spreading out over the crowns of their patient supporters. The fig tree, which develops on a rotten knot hole, or on a mass of *Acrostichum* or *Asplenium*, sends its roots to the earth, gradually they touch mutually, grow together and so form a sheath around the tree, which is smothered between them and decays. But these roots by no means keep to the outside, they penetrate through between the bark and wood, and are sent through to the usual hollow centre of the tree, which is filled with decay, and so interweave the dying supporter with new life. Where the moisture is greater, *Acrostichum grande* and *alcicorne* appear, and *Asplenium nidus avis* and a second *Asplenium*, and several creeping polypodiums, but in dry scrub that is less the case. *Asplenium* and *Acrostichum* occur but in smaller numbers and the smaller epidendritic ferns are often completely absent. One of the greatest adornments of this scrub is *Grevillea robusta*, the moreton bay pine and the bunya bunya tree. {The resin of the bunya tree is more transparent than that of the moreton bay pine.}

In the scrub of Nurrum Nurrum I found a tree about 50' high with reticulate wood, which recurs in several trees here. The leaves have the underside shining silver (the small young trees show almost a golden underside), the flowers are like *Sterculia* flowers in miniature. {Sterculiaceae *Hildegardia*?} A shrub about 5-8' tall with small leaves was in flower (monopetalous with jasmine fragrance). The *Asplenium* from Breakfast Creek is growing under the stream bank and shows new little plants on its foliage ends (second example among the local ferns) magnificent specimens of *Adiantum*.

Today I was in the Nurrum Nurrum scrub and saw the bunya bunya. To judge from a

small young tree, they grow very slowly, the 11th year's shoot was scarcely 5' high. The shoots appear in regular intervals, but the branches by no means have this regularity. Probably that is in consequence of broken branches. The leaves are in tufts on the end of the branch, which gives the crown quite an odd appearance. Here I also saw a tree that forms a very regular attractive trunk 70-80', the bark was regularly fissured and extremely, if not almost rock hard. However, only the outer bark fell off, the inner was soft and showed many medullar rays, which contain a sweet sap; deeper inside latticed wood was found. The Black boy called the tree kayar and said that they could use the wood for dillis and that the interior was full of edible pith. Another tree with whitish denser[?] wood and red bark containing a thick sap was also observed. I found a small tree in flower; it had the most beautiful deep green leaves that I've ever seen. The flowers are monopetalous. The root of the young nettle tree is formed with two strong lateral roots and a vertical. Three species of *Hydrocotyle* grew on the open creek bed, also a prickly amaranthacean. As we came to the sheep station and crossed the moist depressions, *Bellis* from the track from Wide Bay appeared everywhere and the composite from Mr Rusden's station. At the water hole *Lentibularia*, white and blue with helicoid leaves, *Villarsia* with small yellow flowers on the water, and a small flowered one bearing tubercles with the latter.

The forest was embellished by these rich yellow-flowering bushes of the greenish grey *Viminaria* and by the flowers of *Acacia* (kakrafall), which flowers here much later than in Brisbane. Both have a very pleasant fragrance, the latter [unfinished]

Kangaroos and kangaroo rats in large numbers, two king parrots.

8 September

I saw irregular white patches on tabilpillah in the scrub of Tschentschillum, which are due to a fungus; I collected several of them. In the scrub of Nurrum Nurrum a dry, flat funnel-shaped fungus was found, brown on the upper side, white with fine pores on the underside, short stalk. This fungus is at first three quarters of a circle or kidney-shaped and gradually grows together. However, possibly that depends on its standpoint, the latter form is on dry fallen tree trunks, and the former on the flat bark.

A small, whitish, dry fungus species found on dry fallen tree trunks, upper surface rough grey, underside white, irregular.

8 September. Evening

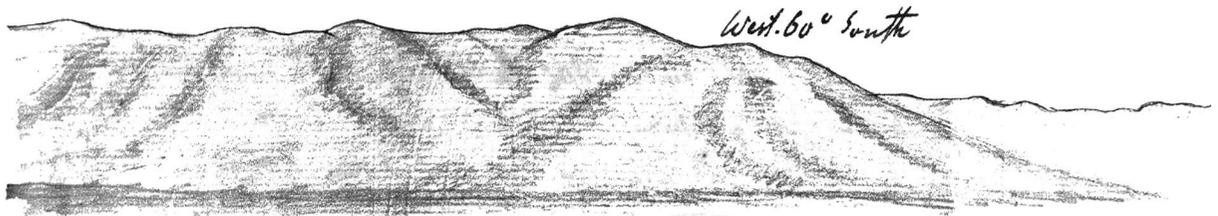
In the afternoon I investigated the trees in the creek and some plants, one below the steep bank. The Dicarposa three bracts, \*5 divided calyx, corolla personate, enlarged, four stam[ens], didynamous, yellow hair at the place of the 5.\*

A tree about 30' tall with outer granular bark, reddish lines form a network that is filled by whitish cellular tissue. The wood short fibres; the leaves turned up ovoid, tapered towards the base, very shining. At present no trace of flowers or fruits.

A small tree with lanceolate leaves is immediately recognisable by two glandular adenophores at the base of the leaf; bark with



\*Glasshouses to the south from Biroa seen from the mountain spur north of Mr Archers Station.\*



*An abrupt range. The continuation of Taylors Range round the north cape of which the Brisbane River turns. Here is a dense scrub with numerous Bunya Bunya trees. The distant Range is the Kirkring range, where Mr Mackenzies Stat. is. Seen from the Range north Mr Archers Hut.*

\*An abrupt range. The continuation of Taylors Range round the North cape of which the Brisbane River turns. Here is a dense scrub with numerous Bunya Bunya trees. The distant Range is the Kirkring range, where Mr Mackenzies Stat[ion] is. Seen from the Range north Mr Archers Hut.\*

a sharp aromatic taste, female flower like the Euphorbiaceae, male and female flowers in the same upright cluster (terminal).

A tree of considerable height, easily recognisable by the strong brightly-coloured secondary veins in the dark green leaves. Two small trees with strong fragrance. The leaves of one punctate, those of the other not, also the bark and the growth of the young shoots somewhat different.

Ngarrabill, bolorta trunk and branches covered with lamellose bark. Between layers of very long fibres lie leaflets, which at first unite the fibres, but then become dry and yellow and break and [...] the peeling off of the bark.

The small *Euphorbia*-like shrub shows the following characters. Leaves with fine lanceolate stipules. Flowers surrounded by a row of three smaller outer and a row of three larger inner leaflets. The  inner imbricate, the outer situated on the edges of the inner. Female and male flowers. Female with six scales or glands, which alternate with the perianth leaflets. Three styles, each style with two stigmas, the stigmas alternating with the flower leaflets. Male flowers with five large scales, three filaments, each filament carries two lobes, but these lobes are on separate little stalks, the clefts corrugate the lobes.  Three capsules, each with two seeds.

The tree with fibrous bark, which contains a sticky sap, which I found yesterday in the Nurrum Nurrum brush, grows on all streams and was called kulu by the Blacks.

The tree with fleshy bark, white wood and green leaves with few distinct secondary veins is growing here likewise on the creek.

*Ripogonum* vines, the scaly-leaved umbellifer, *Smilax*, between them *Pteris* foliage is shooting up high; the dry masses of timber piled up by floods and *Aneilema*

growing luxuriantly everywhere, often make following the stream impossible, by either mechanically hindering or covering the deep clefts in the bank with deceptive green.

*Oxalis* with small, thick, fleshy roots shows on another species, the small wattle(?) with small tubercles on the roots. Also the small bank *Adiantum* has rootlets all studded with small tubercles. The digitate *Adiantum* has hairy capsules; *Doodia* has extremely narrow, pinnate fruit foliage.

## 10 September

### Sunday Reflections.

The requests of Mr Scott and Mr Braim occupied and troubled my mind for a long time. On the one hand I felt more secure because of the possibility of gaining a permanent appointment after my wandering about and really earning my living. I was less anxious in making the necessary expenditure to ensure more comfortable travel; I lost that worrying feeling of the scientific beggar, who wherever he goes is just aware of living by the favour of the hospitable inhabitants of the bush. I lost this feeling at least in part and that finally made my situation more comfortable. On the other hand, a host of other feelings came into play and struggled for influence on the new plans, which would have to be made. As I always saw the possibility before me of marrying, I abandoned myself, at least for some time, to happy dreams, in which Maryanne Marlow always played the principle role, despite a long absence and many other considerations. Although my affection in certain respects on principle is now bound systematically to this young woman, I really feel only too well that it is more the animal nature in me, which requires a wife, rather than the intellectual, which craves an intelligent and friendly comrade. On the contrary, when I think about my scientific undertakings, the

thought of marriage fades as a secondary one; on the one hand I do not see how my unrestricted free travelling life can combine with a family life, and on the other hand I feel that I can best work in undisturbed solitude. Thus it also seems to me now that the best, the richest and the most thought out parts of my diary are those which I wrote down without disturbance.

In addition my mind is agitated by many other worries. On the one hand it is very desirable to finish and put in order the store of experience obtained. That can only happen in Sydney, where the necessary resources are at hand for me. But then so many unknown blue mountains lie before me, which I am striving to learn about that I am seized by deep pain, as I am conscious of the limited nature of my means. In addition the frequent accidents on a journey, the sore backs of my horses and the constant rain, which contribute their part in making me very unhappy. In such a mood the shortness of life, which runs past before me so quickly with each second, the distance that separates me from dear mother and family and from just as dear friends becomes doubly tormenting. Suddenly I feel alone, abandoned and gloomy or the deepest melancholy takes hold of me and my sorrowful thoughts wander over the fatherless home to mother weak, sick or dying, growing older and my brothers and sisters growing older with their manifold worries and the friend, who is not happier than I, and then I remember many a beautiful feeling during my travels and my sojourn in Europe, and I intentionally abandon myself to the sweet pain of homesickness. Now and then on my excursions a beautiful view appears, a mountain landscape before my eyes, and puts courage and strength through every vein with invigorating heartbeats. All of a sudden I feel again that God's nature, God's beautiful nature surrounds me here too and that I belong to it. I feel that I could

sacrifice all pleasures of life for it, because it offers me even higher pleasures. Often, when sunk in dreams of love I think of my sweetheart, and then bluish mountain ranges peep out, one behind the other in fainter and fainter blue and the view fills me with a strange fresh feeling of pleasure. I asked myself: and would you abandon this nature in order to perhaps rest on the full soft white bosom of a young woman? And the feeling winning through cries out, "Never never", although the repressed pangs of love, like the fallen angels, still resist while falling away.

I have experienced the invigorating influence of scientific masters and companions. I have felt my ambition charged, when I heard men, who had rendered service to science, praised and lauded. So it happened that William's letter, in which he promised to send me a microscope, a mountain barometer and periodical scientific journals, spurred me on powerfully. I found in the *Colonial Observer* of 12 August 1843 some remarks of R. Owen about the fossil bones of the Darling Downs and I have at once decided to go there, as soon I am acquainted just to some degree with the trees of the scrub in this region. The letters to Durando and Hooker seem to have got lost, or the people do not regard it worth the trouble to answer.

\*A creeping grass from the brush of Nurrum Nurrum with stiff leaves 1-1½" long 2" broad.

A composite from the Mt behind Archers, outskirts of the brush, leaves broad lanceolate with stem and stalks tomentose, coarsely dentate at the base, flowers in a kind of cyma involucre double, white rayed pappus, slightly dentate, receptacle with short processes.

The branchy *Euphorbia* with oblong 1" long leaves (2" broad) from Biroa.

Gungan Gungan a small tree in the brush of Nurrum Nurrum scarcely distinguished by broad lanceolate leaves of a glossy dark green

colour (but yet of membranous texture). The blacks make spears from the trees.

The black wattle. Phyllodia very long, a little falcate, many veins but 3 more conspicuous. The blossoms in racemes. The racemes geminate in every axilla.

*Myoporum* from the outskirts of the brush of Nurum Nurum, leaves lanceolate 1½" long ⅓" broad acuminate

*Solanum* with thickly tomentose leaves and branches from the brush, leaves ovate but acute. At the base heartshaped.

*Dianella* leaves broad grassy but the keel not sharp, colour dark green

The young Nettletree, the tap root sending 2 strong lateral roots from the neck.

A compound plant which I found at first at Mr Rusden[']s station

A cyperaceous plant ¾' high, red roots, shining little brown spikes

*Hydrocotyle* hairy, long leafstalks; leaves kidney shaped, broad, 5 lobed.

*Carex* with black striated seeds 2''' long with two points at the top, leaves long 2''' broad, margins sharp in moving the finger towards the top, stem triangular, fructification compound narrow spike, leaves covered with little brown excrescences produced by insects from Tschenschillum.

*Milium* with leaves 3" long or shorter ¼" broad, margins sharp from top to base, vagina long hairy, seems to shoot out roots at every knot.

A very spiny shrub with oblong leaves, ½ inch long, 2''' broad or a little broader, spines frequently bifurcate, leaves opposite, but one leave often wanting branches and leaves the more or less all in one plain (- brush) 

*Gymnostachys*, leaves more than ⅓" broad, 2 veins more visible (brush)

A little shrub with spatulate leaves from ¼-⅓-½" long, ¼" broad, dentate at the blunt top (6 teeth and more) small white monopetalous flowers with Jasmine smell.- brush of Nurum N.

*Solanum* leaves lanceolate 1½" long ½" broad, upper surface green with some few spines on midrib and second[ary] veins, pale green as if covered with dust at the lower surface which is like the calyx, blossom devoid of spines, brush of Nurum Nurum.

*Adiantum* from Tschentschillum. 3 pinnate, pinnae and pinnulae alternate, pinnulae 3 lobed, every lobe composed of two smaller between which the fructifications (the whole rhomboid) (like a kind of broad hatched, the stalk being the handle, midrib of the frons dark shining. Roots without excrescences. 

A Malvaceous plant (if not a Sterculeaceen) the anthers grown together in a sheath surrounding the pistil, perianth simple (4-5 toothed), hair starry all over the compound racemes, leaves ternate, leaflets 2½ -3" long and longer 1-5/4", broad dark green at the upper side, bright silvery, or even golden at the lower surface - margins entire.

*Asplenium* which I found in Breakfast Creek with young plants at the top of each frond.

The mountain balm from Biroa 2 without and one with blossom.

*Solanum* with long large pinnatifid leaves, 7-8 feet high and higher at the outskirts of Tshentschillum brush and in its opener places.

The native tobacco, small flowers at the creek in Tshentshilum

The brush balm or balm of the flats outskirts of Tschentschillum leaves 5/4-6/4" long ½" broad dentate.

The pearl immortelle from the flats before Mr Archer.

The gold *Cyperus* forming dense turf[?] 9" high in the moist flats

A tuberculate *Bovista* from the garden Mr Archer[']s\*

The Archer brothers are well brought up, strong young men, Charles was in the West Indies, David was mainly in this colony, John was a sailor and saw the South Sea Islands and Thomas, a really original, wise, cheerful young man came from Norway, where he spent the greatest part of his life. Each of these men has his peculiarity, which they assert against one another without reservation, but they all are capable persons and so they live contentedly and cheerfully in this isolated region.

### 11 September

Also this full moon has not passed by without a change in the weather. On Friday afternoon (the day before full moon), thick clouds appeared in the sky, which, however, passed over without rain. The air was still as usual, and the clouds appeared from north and north-east. On Saturday morning and almost the whole day through (full moon) it rained in light silvery drops. In the night it cleared up somewhat and Sunday, although cloudy, was without rain. In the evening, the south cleared and in the morning the north-east sky, but towards the north-west and west heavy storm clouds appeared with frequent intense lightning. The wind blew mildly from the sea (east wind). On Monday morning shortly before sunup, we had a shower of rain, but the sun appeared and seemed to want to carry the day. The Black said to me that we would have a little more rain and the clouds, which I caught sight of towards the north-east, seemed stopped by the Bunya Mountain and to drift along its east side towards the sea. Yesterday afternoon (Sunday) a thunder storm threatened from the north-east, but the mountain chain also seemed not to allow it

to come up to the Brisbane River basin. Mr Archer told me that the summer thunder storms approached from the west. This rain has not, as previously, ended with a strong west wind. The period was therefore not completely finished. The clearing west wind arose in the night of Tuesday to Wednesday and we had glorious weather on Wednesday, Thursday, Friday and early Saturday.

{On 16 September in the afternoon clouds again in the western and northern sky. They came slowly over the whole sky and moved down in loose light cloud. The air felt moist. Light currents of air moved. In the night (according to Mr Archer) a strong wind gust then calm, then light rain the whole of Sunday, dense heavy rain, shower upon shower. In the afternoon it cleared in the west, the clouds gathered. In the night the sky became brighter and gradually clearer. At 4 o'clock or later, as I was awoken, the full[?] rustling of the trees revealed the well known west wind. Monday fine weather.}

### 12 September

At present the wind is blowing from south by west. In the evening we had fine weather and moonshine, but during the night a heavy thunderstorm with much rain approached (with westerly wind) and today the whole sky is clouded over. A light wind is blowing from the north-west.

Yesterday evening I saw a corroboree of the Blacks. The bunya bunya tribe paid the local Blacks a visit and entertained them with a corroboree dance. The place was about two miles away from the dwelling and we went there with the bark of the tea tree rolled together and ignited as torches in our hands. It would have delighted the artist to see three Black boys and three white men with these brightly burning sparkling strips in their hands going over the river on one of the tree trunks that had fallen over the water. Its

banks are covered with tall trees and dense bushes, the torchlight just sufficient to set off the cautiously marching entourage from the close darkness, with fluctuating reflections from the choppy, rapidly flowing water. The familiar Blacks received us with many attestations of pleasure and led us to the place where the bunya bunya Blacks had already begun their dance. One of the boys took hold of one hand and the other boy the other hand to accompany us, but beforehand the older married Blacks introduced us to their wives, children and relatives and these, as they addressed us, did not miss touching their noses with their fingers. That is a mark of politeness, which at first I did not understand, as I believed they pointed to their nose with a particular intention.

You would have thought to have seen a village mayor of olden times coming to the entertainment of the inhabitants of his village. The unknown Blacks had their arms painted with white clay and had drawn a band of similar colour over their forehead. They sat down, kneeled or squatted and after the singing and drumming of their wives made various movements with their hands. They went through four or five different figures and finally ended with a new and quite strange one. They had you see a kind of arcade built of leafless branches or plaiting, in which they crouched down in two rows, the first of each row had a boy on his shoulders, each had branches in their hands and as they turned around rhythmically and as they fell on their hands they struck the ground with the green branches making a hissing sound. There were 35 dancers and probably there were in total 150 Blacks altogether. (As a sign of the power of endurance I will mention that Croppi and Paddi, two Blacks, one with 60 lb weight on his head, the other perhaps with 20 lb walked 16 miles to Mackenzies and returned the same day. They were very tired).

{After a dance one of the wise men gave me a valuable stone picked up from the ground. This stone was a small piece of glass.}

This corroboree was by no means as picturesque as a previous one that I saw at Rocky Creek. The illumination was very unsatisfactory and the forms did not stand out from the dark strongly enough.

\*A tree near the creek with smooth bark, leaves with a strong smell, elliptico lanceolate, broader towards the top.

The Ngarrabill leaves, broad lanceol[ate] downy with the branching calyx dentate.

Small tree of the creek, leaves lanceolate 3-4" long  $\frac{3}{4}$ " broad opposite, cinnamon smell.

Little *Oxalis* on the flat near the creek, creeping (shooting roots from the insertion of the leaves in the prostrate stem, thick taproot about  $1\frac{1}{2}$ " long.

A tree with thick cellular bark, leaves secunda, small stipulae, flowers in axilla single, fruit a capsule {Boboyum}

Little Wattle? with tubes at some of the roots.

*Doodia* the pinnulae of the fertile leaf extremely narrow, from Archers Creek.

*Croton* with strong smell of the bark and leaves from the creek, shrub and small. tree.

Simply pinnate *Nephrodium* of the flats and outskirts of brushes and near creeks.

The vine of the creek, white wood, leaf 1" long  $\frac{1}{2}$  broad, elliptico lanceolate.

*Teucrium* of the flats, 1' high, lower part of the stems slightly prostrate.

Dark green Myrtle leaves of the Kulu?

*Adiantum* hairy stem, palmate frond[s], hairy capsules.

Three capsules shrub of the brush and creek, leaves 1"- $\frac{3}{4}$ " long  $\frac{1}{2}$  broad.

*Adiantum* with small bodies (tubers?) on the roots.

Branch of a small tree from the creek, leaf lanceolate from 2½ to 3½" long 1" broad, secondary veins arching, forming very large angle with the midrib, transparent dots.

Branch of a small tree from 2½- 4" long ¾-1-5/4" broad second. veins few form an acute angle with the midrib, no transparent dots.

*Pittosporum* Kurrngamanna?, yellow flowers in a short grape terminal, leaves 3" long 1" broad, in a tuft at the end of the branches.

Passion flower from a rotten creek between Mr Archers and Biroa.

The fungus of Tabilpillah or Tangpalam Charl[ey].

The fern with 2" high stems (about ¼" in diameter, growing from the lower part of the masur[?] of *Asplenium nidus avis* and of *Acrostichum*. (The same place is sometimes occupied by the other kind of *Asplenium* or by an *Orchis* (*Dendrobium*))

Garrungall small branch, many thick lentilli on the bark.

Mommoyem branch— a small tree 10 feet high, covered spines which are thick and disklike at the base and with a sharp mucro at the top (Mummoyem Charl[ey])

Koba vine (it seems that Koba is a general name for one sort of vines, leaves 3" long 1½ inch broad.

Bundarr *Smilax*, small sharp tubercles, turned downward ?

Allon a myrtle tree, smooth bark leaves ovale, visible marginal vein formed by the two lowest second[ary] veins strong smell.

Dullabi very visible medullary rays, leaves lanceolate decurrent at leafstalks 3" long ½" broad, distant teeth at the margin, white and

brown lichens cover the generally smooth bark- a cherry coloured sap, flowers in grapes- white- Proteaceous pl[an]t.

Wairum (Waerrum) tree 1½' diameter, 40' high covered with white lichern, cellular fine scaly bark, thin layers of wood, compd. leaf, 3 juga, leaflet 3" long 1" broad, medullary rays very distinct. Does not agree with 29 Catal[ogue].

Tunwarni a vine, wood porous, medulary rays very thin but in great number, pyramidal design with section of the bark.

Billan fine white bark on the small branches (thick white epidermis old tree, blackish with many thick corky lentilli.

Dimwarni Nikke (Dilligarimba Abel) easily recognised by the corky excrescences- the name which I mentioned before (Tunwarni) appears to be a general name for a number of vines.

Kinindir vine, very porous wood very visible medullary rays uniting with the bark which enters into the wood.

Gitta yellow wood thin annular layers, contains much milk whitish bark, long transversal fissures- does not agree with 116 Cat.

Dil a *Eucalyptus* on the slight elevations between Mr Archers and the B Bunya scrub- layers of fibres, separated by lamina

Palengbin porous many fine medullary rays, pyramidal bodies of the bark- with pods like *Bignonia*? leaves oblong slightly lanceolate 4" long 1-5/4" broad alternate external bark rugged.

Bom (Abel and Charley) dense, tough white wood, thick bark (¼") externally general aspect smooth, but corky tubercles and generally covered whitish lichens.

Kayar the bottle tree swelling a little (about 3-4' above the ground), external bark very

hard, almost like iron, internal bark very soft, woody layers in fine network. Medullary rays broken in small lines, leaves with long stalks, a little like the platanus leaf green upper surface, white the lower, fruit in pods bitter, capsules 2" long, almost 1' broad, covered with thick hair outside and inside—much similarity to *Sterculia*. {Ger Simon. Gayar Brickm. eat the seed.}

Nimgo thin medullary rays, bark uniform cellular, epidermis, or ext[ernal] bark general aspect smooth, but irregular with corky lines.

Durrungum tree 40' high, cellular bark, red juice which thickens into a dark gum.

Ullal general aspect of the bark smooth, thin homogeneous, thin waving layers of the wood, it is a small tree which belongs to this brush.

Kaddir external bark smooth covered with lichens, wood with thin annular layers separated by a whitish as if of mealy substance, liber fibrous, fibres surrounded by a [...] substance. {This does not agree with what Nicki called Kalddir catal[alogue] 111.}

Bum Abel, Bumbumgall Nikki (probably the same as Bom. One perceives a great number of white dots in the wood[]).

Dukko dense wood, bark thin smoothish with small tubercles {used for waddis by the blackfellows.}

Dalldarr Charl[ey]. Daa Nikki external bark square scales, not very thick, medullary rays distant and visible

Bon wood short white thin, numerous medullary lines, white rather fibrous liber, dark finely scaled external bark - broad lanceolate leaves with cymes of flowery white blossoms.

~~Kunyoro? (kunyurro) tree with grapes of small yellowish green blossoms, wood white, with whitish annular lines, bark pale grey with longitud[inal] fissures [this entry crossed out and substituted by one in~~

the left margin] Kunyoro (Nicki) Kanninbull (Abel), dark green leaf, myrtle tree different from Ulloa.

Yikko (N[icki]) bark scaly (scales squareform and polyedric small scales, fibrous wood, compound leaf ternate and 2 jugal.

Kurrnda Nicki wood fibrous, very white soft wood, fibrous bark, cellular longitudinal fissures and transverse short ones, leaf compound several jugii.

Dannallum smooth yellowish bark, yellow fibrous wood.

Gnanarr (Nikki Gummerigo) with thin fibrous reddish bark, no flakes between the layers, but a kind of grainy or dusty stuff round the fibres, they turn white at the exterior, short reddish light wood {gum cherry colour not sticky.}

Burrawamm (Gummerigo) the bark with layers of fibres and flakes outside red or brown, inside yellow full of a sticky gum.

Billiya dense yellow? wood, rather heavy, fine layers, corky tubercle, in longitudinal series on the ext[ernal] bark {The black Gins make their yam spades of its wood}

Garrumgall smooth bark comes off in scales like the platanus, red bark, reddish light wood (shrub and large tree, 3 capsuled yellow fruits {Gnana N.}

Girkangurkan thin bark, coming off in small irregular scales.

Dinnangurumbin, smooth bark, medullary rays visible, numerous in interrupted lines - with pinnatifid leaves, silvery at the lower surface {probably proteaceous.}

Gnurrir (Charl[ey]) grey bark, smooth longit[udinal] fissures, anastomosing little.

Bummingall Charl. Donnamin (Nikki) wood very fibrous, annular layers rather loosely ended, fine darkish lines from the center to the periphery, lenticular tubercles on

the ext[ernal] surface, flowers smaller than *Tecoma* of Sydney, but leaf very similar.

Birrigamm dense white wood, fine annular layers, thin bark, longitudinal shallow fissures {Paddy went to fetch this wood for a waddi.}

Murretetta bark without fissures, but covered with very small tubercles.

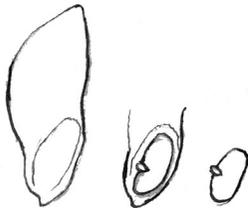
Dananbarr Nicki, Damdamm Charl[ey] yellow wood, short, annular layers little distinct, bark thick yellow (sulphur like) a mawkish rather disagreeable smell, very bitter, pungent.

Dunwarrni a vine, the medullary rays very visible, the red bark entering into the medullary rays. No juice.

Kannanbi fibrous bark, yellowish wood, milky juice. Murnam N[icki]. native plum.

Gnarro (Nicki) bark in fine layers separated by triangular masses of a rather grainy tissue which correspond to the longitudinal fissures of the tree (this grainy part is formed by ~~small~~ [...] cylinders, which lie tangential and correspond probably with the medullary rays, the wood is hard white finely netted, with a kernel in the fruit which the blackfellows eat.

Tibburra N[icki], Dummangall. Wood with fine white waving annular lines, with white dots in the intermediate wood, thick bark, white liber, red more externally finely fissured surface (longitudinal and transversal fissures, the fruit capsular 1½" long ¾" broad, all covered with sharp tubercles or spines, opens in 5 fissures every capsule separated by a rather loose septum contains 4 winged seeds, the wing towards the apex of the fruit, leaf imparipinnate 3 juga, leaflets lanceolate 1½" long ½" broad, veins arched pellucid dots - kernel with a slightly bitter nutty taste.



Durrumbamm dense wood, middling[?] red bark 2''' thick, rugged, leaf compound - two - and ternate lanceolate serrate.

Gnarrambill Ch[arley]. Banni Banni Nikki. rather porous wood, numerous rather interrupted lines as medullary rays, layers of wood netted, bark thick, smooth with some lenticular tubercles. The fruit is eatable, tree 40' high.

Ungunurr, tough white wood, thin bark, grey fissures little visible.

Wombai (its gum with wax is used by the blackf[ellows] to fix tomahacs. Wood white tough, thick cellular bark, rugged by densely set longit[udinal] anastomosing fissures. Nyabi Charley.

Kidnabalam light wood, bark smooth coming in fine scales (young tree)-

Dullum brother to Durrumbamm? wood light, bark thin, grey with longitudinal fissures (not shallow)

Bauin (Gnanan Charl) in figtree, wood in layers separated by a grainy substance. Medullary rays in numerous fine lines, bark almost spongy with white juice.

Yidni (Nicki) the prickly pale leaved vine.

Kiddebin *Helenium* (Abel. Charl[ey]).

Willangurgan-Dobakkadel-Kurrungamanna.

Gurro a vine whitish green veins in dark green.

Gurkunn strong stiff opposite sharply dentate leaves.

Mayann? large compound leaf.

Bimbirumbin the creeper with articulate leaf of the brush *Pothos scandens* belonging to ~~Piperaceae?~~ Kurrngamanna small tree, the flowers coming from the wood below the branches. (*Pittosporum?*).

Gilgiralbin (Abel- *Solanum*).

Munno (Abel) native Elder.\*

The male catkins of the bunya tree were named peribalam.

\*Gurro a very flexible tough vine - bark corky, entering between the wood, which is very porous.

Yarrom a thick tough vine.

Tinbill a small vine with milky juice.

Gurrobalam a vine.

Gnanna, of which the blackfellows make their wommaras, has a compound leaf (Garrungall Ch[arley]).

Kurrai (N[icki]) Guddarr (Abel) pinnate leaf, leaflets alternating, flowers on short erect racemi to 3-4 in the axill of the leaf, 3 larger and 2 smaller ext[ernal] sepals, five broad but jointed petals, 7-8 stamens, wooly scales at the bases and externally to the stamens.

Tuliptree Meulan (Nicki) comp[oun]d leaf, red flowers in beautiful racemi - Marra.

Tatta or Datta near the Tulip at the creek, white bark, divided by shallow fissures into small square and polycone[?] designs.

Murramm Ch[arley], Dugoi (Nicki, Mäem Abel), a large tree at the creek in the brush next to Mr Archers Stat[ion].

*Gymnostachys* (Dallwill).

Balbaram (Niki) (*Tristania*) eatable Balbammill (Charl[ey]), the leaf with 3 strong veins.\*

{When dullum fell down kobavine and gurrobalam vine fell with it. The leaves of gnana and the bunya tree were also torn down as well.}

\*Mambobalam Kar[edo] the leguminous shrub in the forest ground, mild beautiful smell.

Gnanna leaves oblongolanceolate 3" long 1½ broad, stipulae united, decidous leaving a common scar.

Wainun leaves 9"-1' long, stiff with several lobes, resembling a little the oakleaf. This agrees with No. 29 Catal[ogue].

Karre there are two specimens, both with spines, the one with one in every axilla, the other frequently 2. The leaves of the first narrow with transparent dots, those of the second broad, short (short oval) without transparent dots.

Gnurir (Karredo) wood white, dry leaves black, opposite lanceolate 3"-9".

Gillgirallbill (Karredo) the native citron.

Girkan Girkan Kar[redo], large leaves, large united pointed stipulae.

Banban (Kar[redo]) just entering in blossom {20 September}.

Darrumbamm leaves ternate, leaflets lanceolate serrate.

Bum leaves simple lanceolate, slightly emarginate at the top.

Murnvitta leaves opposite, elliptico lanceolate 1½"-10".

Ulloa leaf elliptico lanceolate acuminate marginal vein, pellucid dots very fine 2"-1"

Donnan climber, leaf simply imparipinnate, 3 juga, leaflets oblongo lanceolate, obtuse at the base, wood with transparent sap in the bark with red juice in the center.\*

## 18 September

Finally last Wednesday the weather allowed me to make an excursion to the scrub of the Bunya Bunya Range. Three Blacks accompanied us. One, Nikki (Nigui), bore the name of one of the mission brothers, the other, Gummerigo, a boy of 16-17 years was the jester and clown of his tribe and finally an old man, who was previously called Burbillo, but to whom Mr Archer gave the name Abel at Nikki's request. These three

Blacks belonged to two different tribes and language families. Nikki spoke Karwa (Karrwa), which is spoken by Ubi Ubi's Bunya Bunya tribe, by the Blacks of the coast and by those of Wide Bay. Gumerigo spoke Karredo and it seems that Abel belonged to Gumerigo's language family.

{Gumerigo – Karredo

Nikki – Karrwa

Paddy – Badda

Ubi Ubi – Karrwa

Wide Bay – Karrwa

Ninga Ninga – Karruba?

Yarrun – Girra

Brisbane – Girrar (Gerrie blacks of the missionaries).}

They told me that Paddy the one-handed Black on Mr Archer's station spoke Badda and that the Ninga Ninga Blacks?, the oyster eaters, spoke Karruba, which, however, probably seems to be the one and the same word as Karrwa. We passed several creeks, which all were accompanied by more or less dense scrub from the mountains downwards. These gradually become narrower and narrower and finally remained only in a simple row of green leafy trees along the banks of the streams that increase in width of the bed, but diminish in quantity of water. Low ranges of hills lay between these streams with open forest ground or treeless flats of greater or lesser extent covered by high grass. Besides the usual forest trees, three new ones were seen. Gumerigo called one burrawamm, the second *dil*, and the third gnauarr, the latter two are recognised by the thin bark, which consists of fibres without a scaly layer. These latter are found between the fibres and alternate in layers with them in burrawamm and *dil*. But the former is full of a sticky gum, which is absent in the latter. In the scrub *Tecoma* was found

in flower. The stem climbing to the top of the trees was more than 2" in diameter. We stopped about three miles from the station. Here the Blacks had built several huts on a hill, a kind of small village, which now stood empty and we took possession of its principal hut. The framework is formed from sticks, which were supported by a main pole. This framework is covered with the bark of gnuddur (*Melaleuca*). After we had eaten our evening meal and made ourselves comfortable for the night, we began to talk with our Black friends. The old man had built himself a new hut and kindled a small fire, over which he stretched out. He carefully maintained this tiny fire all through the night, whilst ours, which at first blazed like a bonfire, nearly went out several times. Nikki now gave us the following explanations to several cross examinations. Birall is the name of Bayami among the Blacks of the three local language families. He lives far to the west and knowledge of him and the information comes from there. Also they believe that he sleeps. The small pox ballorang comes from him (from far away), but the legend of the ibis is foreign to them. Also their corroborees have nothing to do with Birall in a religious connection. It is rather a festival that the various tribes give to one another, or which the members of a tribe hold among themselves by a general assembly. {They were very intense when Nikki was small. Gumerigo took no little pride in having made up a new corroboree. When he was asked how he succeeded, he said that he sat at a water hole with his legs in the water half asleep and half awake; the devil devil gave him the idea. Gumerigo is the general funny man.} Thus the Bunya Bunya Blacks gave the local ones several corroborees, among others a sheep corroboree, in which they imitated the shepherd with his gun over his back and his dog following him. {While we break wood under the knee, they break it over their heads.}

Greetings: The bunya bunya Blacks of Ubi Ubi alone lay their finger on the nose in greeting. Nikki's, Paddy's and the coastal inhabitants have no form of greeting. They silently sit down at the same fire and only gradually do they begin a conversation. The women, however, when they meet other women and children in the forest utter a long ohh. The White man, who lived with Ubi Ubi's tribe and who had died a month before was regarded, as a brother of Ubi Ubi. {This White man died by falling out of a tall tree that he had climbed to get honey. Accidents of this kind are not too uncommon even among the Blacks.} They believe that the Blacks go into water after death and it is by no means a general belief that they are changed into a White man.

The borah — dorr (Nikki) is a round, shallow depression surrounded by a slight earth wall, from which a foot path leads about 2000 paces to a creek. The women sit in the borah, the kippers around them. Those, who are to become young men, are each led along the footpath by two old men. One leads the youth by his right hand, the other puts his hand on the head of the youth and both forbid him to look around. So he slowly walks with bowed head up to the end of the path under a shady tree. Here are small trees or posts rammed into the earth and on the trees there seem to be Blacks. Having arrived here, the elders say to the youth "look up, look up". He looks up and sees the tree with the Blacks and the old man, who swallows a large stone, draws it forth again, and now hands it to the youth to do the same thing. The latter is in great fear and does it.

(That was incomprehensible enough and I am far from believing that I have understood correctly). We asked Nicki whether he swallowed a stone and he answered "No. I was too silly, I was too frightened" When we answered him that we believed he was a clever fellow, he said "No, no! I was too

young" and he seemed to deeply regret that he did not swallow the stone. — Then the old man told them what food they had to avoid. They must not eat the flying squirrel, nor opossums, nor bull (as long as they are kippers). Bungwall and mountain yams were allowed to be eaten (not the yam of the scrub and streams). This again seemed to be connected to the great difficulty of finding food. {When I went to Durval via a borah, and turning to my Black companions, men from Durval, I imitated the walk of the kippers and said "look up", the old men stepped nearer to me and said: Here there are children and boys, who don't know these secrets yet, they must die if they hear it from you. This at least was the sense of their protest.}

Some anatomical observations. The Blacks, who live in the scrub and look for food continually climbing up and down the trees, are easily recognised by the callosities that the vine (bogurr) leaves on the first phalange of the little finger. You see they make a grip on the end of the vine by bending the end around and simply binding. They strengthen the four fingers by this grip and the main load rests thus on the outer side of the little finger. Another callosity is between the big and second toe of the right foot.



The Black fishermen of the coast on the other hand show a large callosity on the outside condyle of the right hand by fastening the net rope around the back of the hand.

The sitting of the Blacks is also based on interesting anatomical conditions of their body parts. Their usual method of resting is a kind of squatting, at the same time they rest on the flat of the feet and on the buttocks; at the same time they lean the upper arm over the knee and the latter sinks towards the ground. If a White man tried such a position, he would fall over backwards, if he did not push his behind and his feet further from

one another. If he now leans his arms over the knees, these would not drop down but would be directed upwards. If you look at the naked Black, you always see both the dust marks on the buttocks, with which he has just touched the ground.

The old men of the tribe like Paddy, Ubi Ubi and Abel do not smoke. Probably their first reaction to the tobacco was too great. They attach much value on the naming of respected white commanders like Mr Archer. Thus he had to give the old Burbillo the name Abel and Nikki's wife the name Clara.

It is striking what influence boys often exert on their fathers. The small Black David had his father Ubi Ubi carry fire and basket, which he probably would have hesitated doing for Mrs MacKillen.

The next morning (Thursday) 14 September and Friday 15 September, we were occupied in the scrub of the Bunya Bunya Range. The sharpness with which the Blacks differentiate the various trees of the scrub is extraordinary. More than 50 different trees were distinguished and hand specimens of bark and wood and specimens of leaves or fruit and blossom were collected. Each of the three language families had its own name for each tree. In the process they are so certain that all specimens with few exceptions would be recognised again by the Black kippers on Archer's station, although they had not accompanied us. I recognise how important it is to be accompanied by Blacks, and how desirable it would be even for my science to associate with Blacks during our expedition. The old man was an excellent climber and climbed up many trees with the vine and without it. Thus he brought me down several bunya bunya branches. This tree is said to bear only every three years, but there is no doubt that some trees have fruit every year, because last year Mr Schmidt was here and two years ago Mr Bidwill and this year I also found them. Moreover I found the

male catkin about 2½-3-4" long, which were called peribalam by the Blacks and they seem to have a very correct idea of their function. We found the strange fruit of the tippura tree and the almost decayed capsules of the bottle tree (kayar), whose seeds are also eaten by the Blacks. Birrwill the female fruit of a vine that grows in the bush and of which Mr Archer and Mr Schmidt had spoken to me, was not found.

The various mouse-like animals have the following names.

{Natelrat[?] (moburr)}

Mogurr (Nicki) gilli (Charl[ey]) a kind of *Sorex*  
Dungull (Nicke) yauvi (Charl[ey]) bandicoot rat.

Don (Nicki), (nanarangann) Ch[arley].

Gogundurango - gogubi

Undarr undarr (Abel) gämundarr (Charl[ey])  
gummundarah (Charl[ey]).

The following animals belong to the kangaroo family.

1. Krumann N[icki] (burro) male yimarr (female).
2. Tallum (mutti) a small wallaby.
3. Boal (wallaby) gurnwarri (oldman).
4. Uolan (oldman) guibirr, a white spotted kangaroo with white stripes on the hindquarters, on the head and flanks, lives in the mountains, open forest of Taylors Range.

Uallä guoirir

5. Pademelon

\*[6]a. Kummang (female) gullimbi (old male)  
gullembill (Charl[ey])

6. b. Barall (old male) bauue (female)\*

7. Kangaroo rat

Bai (Nicki) gumulbi (Charl[ey]). This species builds a lair from dry grass.

8. Dungull (female), bullwann (old male)  
Bandicoot.
9. Banamm (Nicki) banann (Charl[ey])  
banam Charl[ey] \*like the pademelon  
in the brush.\*

Knii (kuppi Charl[ey]) \*like the opossum in  
the brush, great tail.\*

Narambi (narangam) (opossum). I found this  
in Durval.

Dunbadoran \*(watermole?).

Gimbi echidna (Nicki) Barre (Charl[ey]) in  
the brush.\*

Nira (between i and e) a small lizard (Nicki)  
nüga (Charl[ey]).

In the morning we heard the call of the  
swamp pheasant, which the Blacks call  
bunnbunn.

*Caladium* has tubercles on the roots when it  
becomes older; the main root ends abruptly in a  
small nipple and superficial roots shoot from the  
root collar. Mr Archer said he thought that the  
tubercles had eyes, therefore were real potatoes.  
They take the thick stem and roast it over a fire,  
and then they crush it, roast it again and then eat  
it without fear. They are afraid of the fresh plant  
so much, that they urged Mr Archer not to eat  
with the knife with which he cut the plant into  
small pieces.

They make their woomeras from the wood  
of the gnanna, one of the most common trees  
of the scrub, with tabular, but not too large  
outgrowths, from which they split off the  
necessary pieces. They make their spears  
from the young stems of momoyem, a small  
tree with large pinnate leaves (more than  
1 foot to 1½ feet long), whose upper part is  
completely furnished with shield-shaped  
thorns. They use the gum of the wombai to  
fix their tomahawk and knife to the handle.  
{They also make their spears from the wood of  
the mayan, which is said to grow particularly  
in the neighbourhood of Mackenzie's.}

Geological comment. The rocks that we  
investigated in the stream beds coming down  
from the Bunya Bunya Range almost without  
exception were made up of hornblende  
and feldspar and probably quartz. Now  
here feldspar and feldspar crystals were  
predominating, and there abundant mica  
was present if the rock had a granitic and  
syenitic character. If the components were  
very small, they formed a bluish very hard  
rock, while unmistakable hornblende  
crystals were often distinguishable. The  
feldspathic nature of the rock was revealed  
by the white decomposed external surfaces.  
Finally hornblende prevailed, present in  
large crystals, thus forming a hornblende  
porphyry and a crystalline hornblende rock,  
as for example in the bunya scrub, where we  
had pitched our camp. This rock and that  
with small components was identical with  
that of Boopul Wide Bay.

We found two lizards in the first scrub, one  
of which had a yellowish-olive colour and  
the other was marked with blackish patches  
on a similar background. They were both  
little longer than 1', the tail almost as long  
again as the body. Their feet had long and  
thin hind feet. They had projecting crests  
from the nose to the arch, ears on the level  
of the oral fissure, a sharp crest over the back  
of the neck and at least the upper part of  
the tail, the serrae of the neck much larger  
than the remaining serrae of the crest of the  
back. Tongue fleshy, short, pyramidal, a  
little incised at the point. Two females with  
eggs the size of large peas. The iris brown,  
round with sharp golden edge around the  
black pupils. In the sclerotica a transparent  
glassy capsule. They are eaten by the Blacks  
when the bunya fruit is ripe. {Duallim Nicki,  
binnangaram Simon. One prettily spotted  
blackish-grey, the other simply yellowish-  
green, pale violet towards the tail. Lives on  
trees, feigned death, probably had climbed  
down to the earth to lay its eggs.}

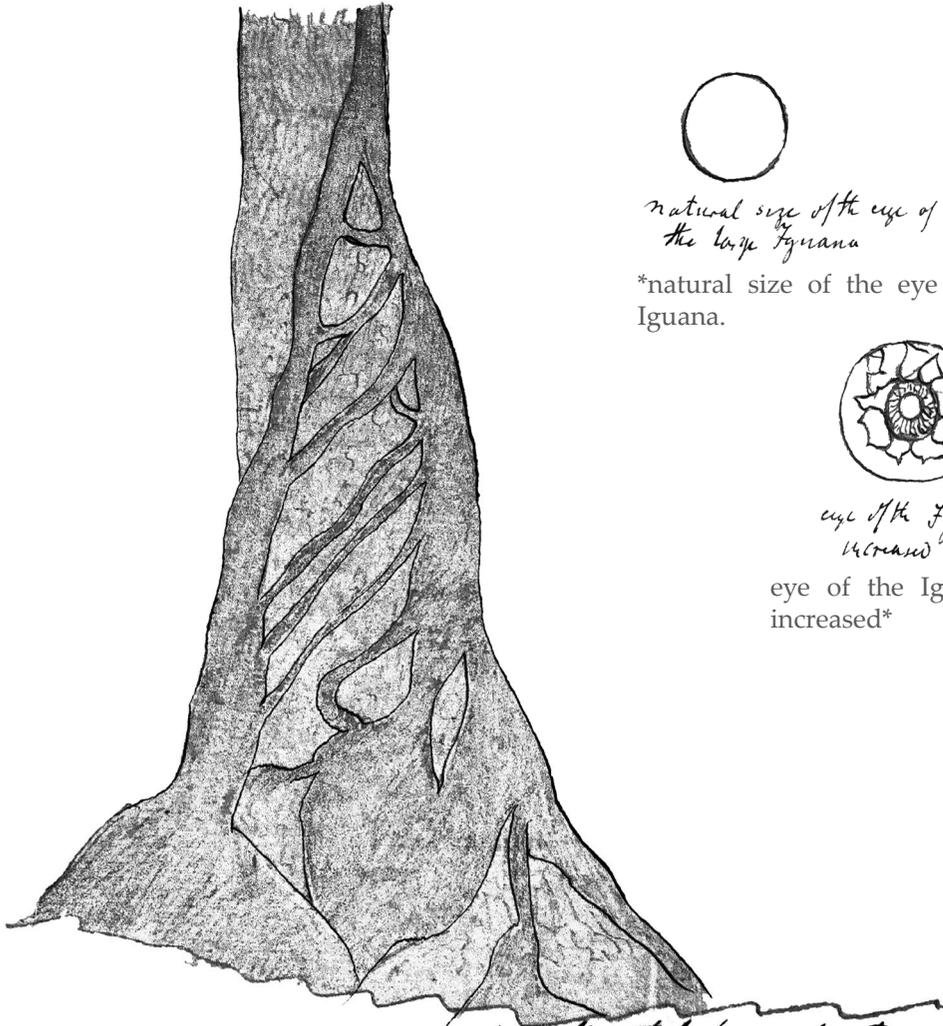
As we returned home, an iguana {uarram Jacky. Dunnam (Brickman). Narram (Simon)} was caught, which showed exactly the same body proportions and the colour of the spotted duallim, but was at least three times larger. The digestive tract was only half as long as the whole animal. The caecum forms a significant pocket. A male with two oval  $\frac{3}{4}$ " long testicles and two penises. It is 3' long, the actual body 1', the tail 2', the crest with sharp compressed, lanceolate teeth from over the ears up to half the tail where there are two crests with weaker toothy spots[?], these correspond under the tail to two ventral crests and on each side are three even weaker crests. The edge from the nasal opening to the arcade is blunt, head and neck are covered with mammilate scutes, which the further back they are the more they assume a scale-like nature. Black ear stripes, two black shoulder patches, one before, the other behind the shoulder, throat hanging a little, light brown with seven yellow stripes. Venter dark brown, under side of tail completely white, about seven black rhomboid patches diagonally over the crest, on both sides of the latter conical, compressed wedged teeth.

A bee's nest was noticed on a bunah (bloodwood). Nicke brought it down. The entrance is covered with wax and probably with the strange sticky mass of the bees. The honey was watery and tasted almost like the liquid in the flowers of *Doryanthes excelsa*. The little bees are blackish, very small and stingless.

We found very many rotten trees in the scrub, in which the Black companions keenly looked for the fat larvae of a beetle belonging to the family Melalonthinae. They were so industriously occupied there, that it was almost impossible to move them on. {Dundurr Charl[ey], buyum Jacky.} {They said of another larva, that the beetle goes into water. This is probably a *Hydrophilus*.}

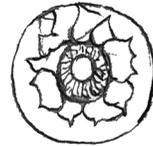
They call the larva tundurr (Nicki) and well know that it develops into a beetle, which made a buzzing noise on flying. I was curious to taste this larva and overcame my repugnance after a long resistance. The outer skin is thick, as you chew the creature, it has a fine pappy fat taste, in which is mixed, however, the taste of old wood in which they live and which fills their entrails. When they are roasted and eaten with salt, they taste even better, but with bread they lose their peculiar taste. Another, probably lepidopteran, larva lives in living trees and seems to come at night to eat?? the leaves. This was eaten by Charley when we returned from Wide Bay. It gives out a yellow juice when it is pulled out and is often  $3\frac{1}{2}$ " long,  $\frac{1}{2}$ " thick.

Mr Archer made some very appropriate remarks about the moral condition of the colony. He asked what moral benefit the colony gained from the young men bringing capital, who came here, set up stations, and carry on sheep breeding or cattle breeding, with the intention of making a lot of money and then returning to England. They employ a large number of unmarried men, live dissolutely and thoughtlessly when they come to town and to the pub, think little of religion or make fun of it and leave no trace of their existence, as soon as they leave this country. How different it would be, if active hard-working families had settled here, like for example the missionaries at Brisbane! Thus I find that my opinion and my estimation of that brotherly community is also subscribed to by other men.



*natural size of the eye of  
the large Iguana*

\*natural size of the eye of the large Iguana.

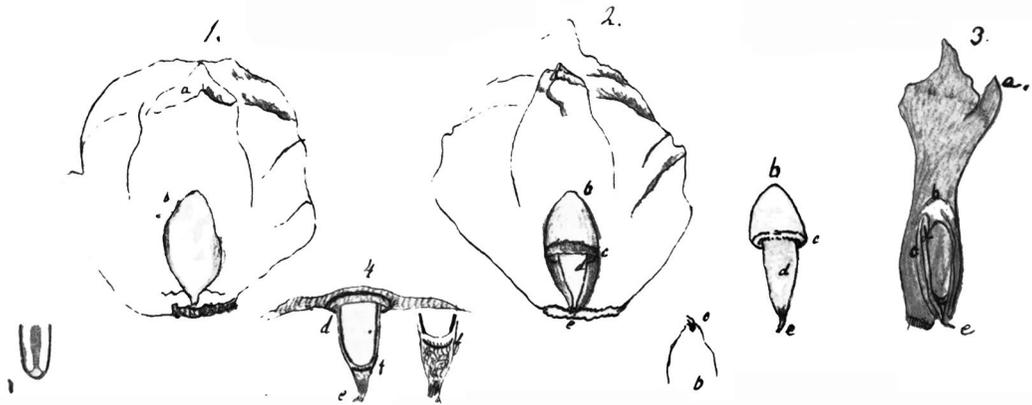


*eye of the Iguana a little  
increased*

eye of the Iguana a little increased\*

*old tree surrounded and suffocated by a fig tree  
the dark shaded is the fig tree the light shaded the tree  
which bears it.*

\*Old tree surrounded and suffocated by a fig tree, the dark shaded is the fig tree, the light shaded the tree which bears it.\*



\*1. view of the scale as it is taken from the cone a. the seedscale which corresponds to the wing of the other coniferae, which is here connected to the principal scale. b. the seed

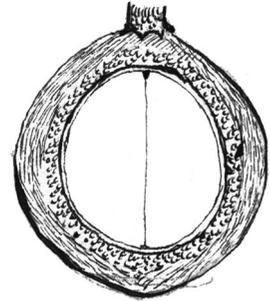
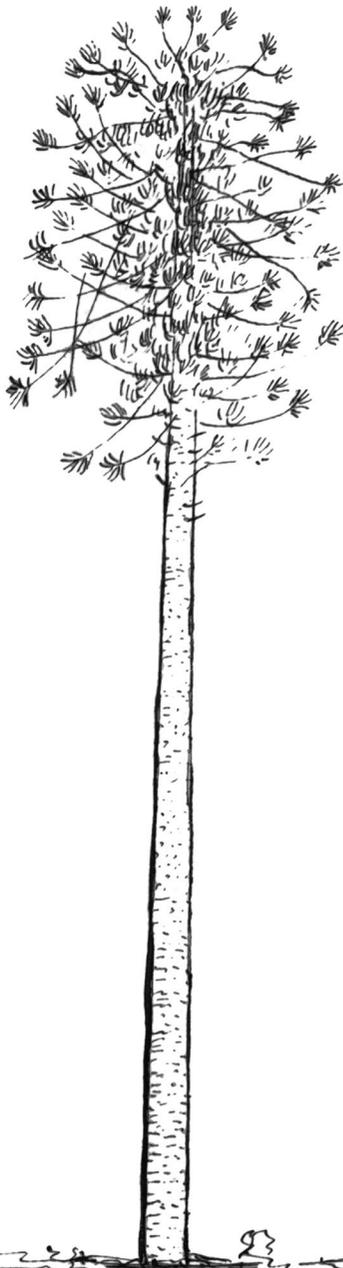
2. the external membrane (c) of the seed is removed, the second membrane d. becomes visible, which terminates in a dry transparent little process e.

The interstice between the top membrane of the albumen and e the fringed process of d, is filled with a kind of papilla d. is coloured red at its neck below the e.

3. Vertical section from top to the basis of the scale.

4. transversal section of the scale, first membrane removed.

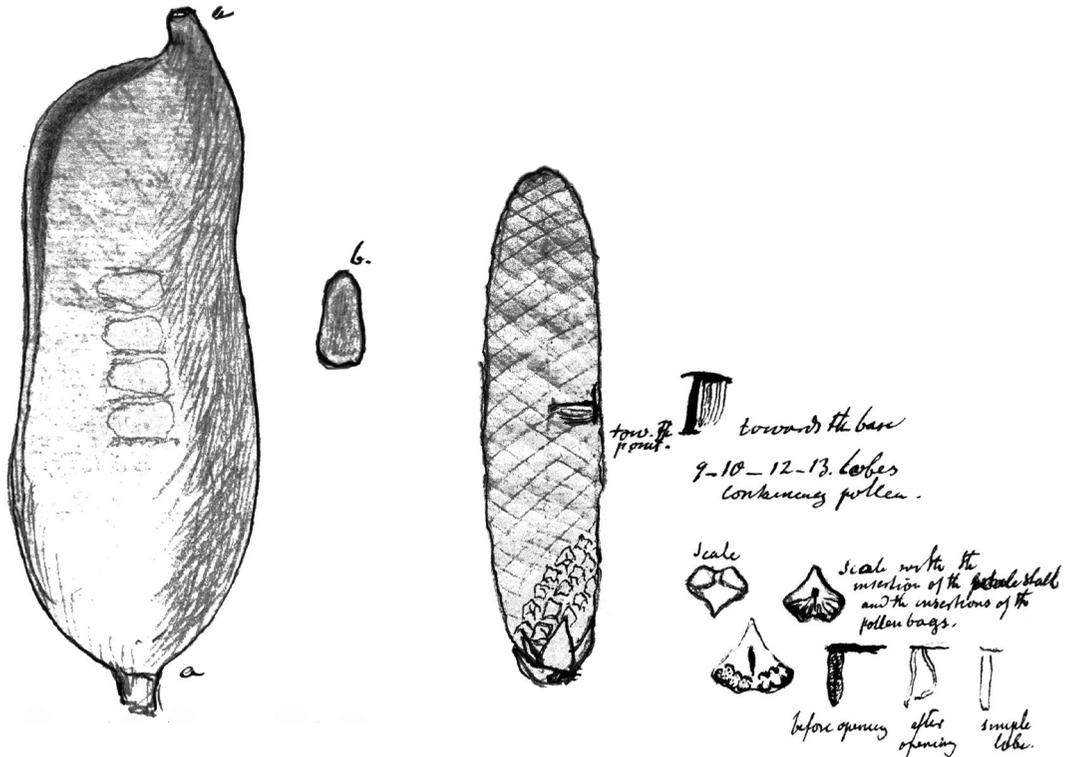
4. 4 shows besides the 2nd membrane d. the albuminous body, in which the embryo is just forming the top of this albuminous body is not covered with the same membrane which covers the rest, it appears bare but of [?] in the top of d that part of the membr. which belonged to the albuminous body, but was torn off. Some little dry processes are visible which entered the albumen (f).\*



\*Fruit of Jindilli (a brush tree) deviating from the globe by a slight narrowness at the base and the top; a green cellular external smooth coat (a), a second granular one (b) which lies in a yellowish loose membrane on the slightly rosecoloured embryo, which is large with big cotyledons, but with a very minute radicle towards the fruit stalk. The calyx (6 toothed) is remaining at the base of the fruit.\*

*Bunya Bunya or Bōdne (Nicki) at the B. B. brush  
8 miles Neast from Mr Archers Station.*

\*Bunya Bunya or Bodne (Nicki) at the B.B. brush 8 miles Neast from Mr Archers Station.\*

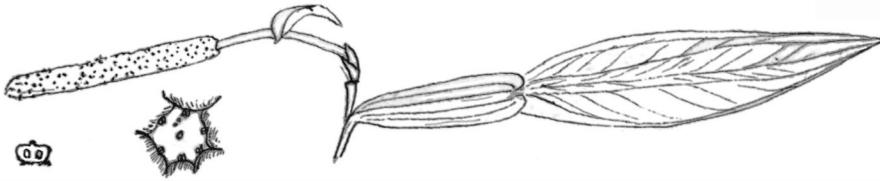


\*a. Seedvessel of the Kayar (Ger), the position of the seed b. shown, surrounded by honeycomblike cells full of starry hair.

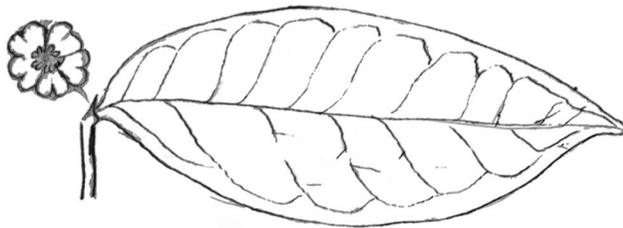
Male Katkin of the Bunya Bunya every anther is composed of 2 lobes the only [sic] anteriorly the other posteriorly these separate on both sides longitudinally and the pollen escapes, every lobe is slightly emarginate at the top c.\*

Gundoin name of the small palm.

\*Bimbirumbin *Pothos scandens*.



One female flower seems to be surrounded by 6 male ones, every one consisting of one stamen, covered by one scale. Every capsule seems to contain only one or two ovula.

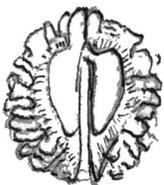


Boboyum.

*Boboyum*

\*Small stipulae at the leaf, fruit composed of 5 capsules, every capsule slightly 2 lobed, containing two suspended ovula.\*

The Tuliptree Meulan has five imbricated sepals, five petals bent with their tops back over the sepals, 10 stamens, the yellow anther just emerging from the blossom, inside the stamens a yellow glandular disc, with 10 slight swellings corresponding to each stamen, are these stigmata? in the middle of the flower their is a green glandular part inside the disc.



The fruit of Dullum Jacky

Munyo Paddy 5 capsules, every capsule one suspended seed fruit found in the brush of the creek.\*

## 3 October 1843

On 23 September I left the station with Mr John Archer to see the coast and to find the plants, which are in blossom in this present season. I had intended to travel as independently as possible and therefore did not let myself be deterred staying where ever the circumstances required it. Mr Archer also agreed with this, who accompanied me more on account of his health. On the first day we went through some tea tree flats, in which were some watercourses or waterholes that were surrounded by cyperaceans and some *Juncus*. *Thelymitra* was also found here. On the sandy plateau of the mountain chain on which we found ourselves, several trees were growing that had a very similar bark, which, however, our Black boy taught us to distinguish as different species, thus dibilpalam with yellowish young bark, brown externally, gnauarr thick brown bark, dil sharp reddish young bark. {Gnauarr common on the edge of damp flats.} Burrawom and boa had fibrous bark. Gnarrabill was also found here in damp places.

In addition to these forest trees galä was found, a massive tree that resembles the bloodwood (bunnah) very much and finally mingagabarre, which is the true *Angophora lanceolata* and appears here on the heights, whereas bulbarri grows on moist flats. {The native pear (Arrung) grows on the sandy soil.} A beautiful large-flowered blue *Lobelia* with linear leaves was found here. We followed a spur of the mountain that brought us almost uninterruptedly to the sea. {On this spur between mountains and Waiamurrum the Glasshouse Mountains come together more and give the most beautiful mountain view that I have had of them. The mountains had the following directions from our night camp. \*Biroa N10°E. Little Bir[oa] N. 29°E. Double B[iroa] large one 65°, smaller 72-73°. Small southern N. 120°E. Birwamann 56°,

little Mt north of the double one 63°. Between Gnarranuan and Birwamann 41°.\*)

We passed, however, one of those conical mountains, the southernmost, and since I was curious to know whether the rock of Biroa was also there, I climbed it and determined the direction of the other mountains with my compass. Nicki called it Waiamurrum. {The directions from Waiamurrum. Biroa 357°, Paeder Bolula 7°-12°, Birwaman 25°, that to the right 38°.} The rock that forms it shows many feldspar crystals in an earthy cement coloured red by iron. Where the rock is exposed to the moisture of the atmosphere, the feldspar crystals stand out in relief. General parting tabulate. Although individual differences occur between the rocks of Biroa and Waiamurrum, they are still the same by their nature. At the foot of Waiamurrum are grassy, almost treeless, meadows, over which a decayed forest tree and some *Melaleuca* grow only here and there. The grass is very dense. The linear, rough-leaved *Dillenia* grows here abundantly, also *Prasophyllum?* with long lip, {I don't think this orchid species is *Prasophyllum*} *Burchardia* and a reddish *Drosera*, *Anthericum*, *Dianella*, a reddish, scarcely a foot high *Grevillea* and finally the long-leaved, white-flowered *Hakea*, which is now in white blossom. The melaleucas grow here, all with white leafy bark, one with lanceolate leaves (gnuddur), the second with short linear leaves (kuppebill) and the third with long, linear, mucronate leaves, for which the Blacks did not give its own name. The wood of the first is a beautiful rose colour on the inside, the wood of the others is simply darker on the inside than that on the outside. Water is found lying in extensions between the barks, probably of all three species, but particularly gnuddur. The water has a brackish, i.e. slightly salty, taste and is not drinkable. Ironbark tabilpilla, bunnah, boa, and dibilpalam are growing on the peak

of Waiamurrum. More towards the foot a small woody legume with slender stems, but many twigs shooting from a rootstock was growing, it has yellow flowers and short cylindrical pods. The kangaroo grass covers the hill, just like its foot and the forest ground. On one of the damp, marshy fern (bangwa) grounds, into which the streams towards the mountains usually come to an end, two new species of *Eucalyptus* were found, one dadangba with fibrous bark like stringy bark, with rough dark leaves and very large fruits, the other binnamdall, more a marsh tree, rarely tall, usually in low bushes, but one about 25' high and ½' in diameter, while dadangba resembles tabilpillah in foliage, the other resembles dambarri in the bark.

The soil of the chain of hills that led from mountain to the sea is sandy. The rock a coarse sandstone, the vegetation sparse. *Xanthorrhoea* grows principally and a low broad *Acacia* with two-rowed wide phyllodes. {The daviesias have finished flowering and are now forming fruits.} The bangwa swamps became more and more abundant towards the sea and drop away on both sides of the low ridge of the hill like flat troughs. The low, large-leaved swamp *Banksia*, several species of *Leptospermum* and some other low shrubs, belonging to the myrtle family, are growing in these marshes. I found two species new to me here, both almost finished flowering. Besides the *Burchardia*, a reddish flowering plant similar to *Allium*, but with looser flower heads (umbels), particularly drew our attention by its abundance. {Also *Burmannia?* and *Xyris!*} Also I thought to be able to easily distinguish three different species of *Dianella*. One with a bunch of fleshy roots, both the others with a kind of rhizome, with simple roots; of these latter, one had wide, pale green leaves, while the other had narrower darker leaves and grows taller. One completely narrow-leaved *Dianella* was found on Archers Mountain.

One of the *Anthericum* was white, the other yellow. Three species of *L.* were found in the swamps, a tall three-flowered species, a middle sized and a very small one.

As we went from Waiamurrum towards the east, we came on another hill or rather two connected hills, which were also formed from Biroa rock. At their feet long flats spread out. Mr Archer, who went from Waiamurrum towards the south to Karrawi Creek, found another similar, only smaller, hill. On our return, we crossed between Waiamurrum and the easterly hills and found the Biroa rock as well on a surface just rising above the plains. Therefore this formation seems not to be restricted to the conical protuberances, but has also erupted through longitudinal clefts and has spread out horizontally, or it poured out like a river over perhaps confined tracts around a central mouth.

We now followed one of the low ridges from these hills towards the east, which was covered with continuous forest. The forest floor showed a luxuriant growth of grass everywhere here.

In the night from the second to the third day Mr Archer's horse tore its tether and returned to the station. We sent the boy to get it back and were forced to wait 1½ days there. Unfortunately the region was very uninteresting and I tried to pass the time drawing the various forest trees. I found, however, that it required extraordinary practice, to reproduce the various characters.

*Thysanotus* (the fringed violet) was in the prettiest blossom and an asclepiadacean that climbed in the forest trees was found as well. On the second day we packed all our things on a strong pole, laid this over our shoulders and now journeyed 1½ miles further. As we traversed a bangwa swamp, the vegetation suddenly changed. There was a dry sandy soil with many scattered oyster shells. The cypress pine arose here, a handsome tree to

60' tall. Besides the usual *Banksia*, the dambar *Banksia (serratifolia)* appeared, whose flower honey is used by the Blacks for a beverage and whose seeds are eaten. The bark of the tree is thick and corky. Under the shade of one of these trees, hardly 300' from our camp, we found the camp of the Blacks, in which the morning fire still smoked. The Blacks had left it to search for food. Oyster shells lay around everywhere; the stone and block on which they grind the bangwa root lay in each hut. Their dillies were hung up on the trees standing around. We botanised on the side of the swamp. *Pultenaea* and *Villarsia* grow here, and several smaller trees, one of which I had already seen previously, but especially a tree *Dodonaea* was abundant. {Kureck!}

When we returned to our camp, Charley and Nicki, both our Blacks, came accompanied by a crowd of other Blacks, who were returning to their respective dwelling places from a battle with the Gonmonde Blacks on Worarba Creek. They were splendid, well-formed men, taller with more attractive proportions than the Bunya Blacks, who usually are smaller and stockier. We now went with them to the sea coast, Durval or Turbool as it is called on Dixon's map. Further towards the sea, a richer grass growth appeared again, and several new trees were seen, thus for example a fairly tall (50') tree with completely shady crown, which they called nonda. The flower is tripartite, the fruit is a ½- ⅓" long nut with an embryo with thick cotyledons. They called another tree bobryum. Finally *Pandanus spiralis* appeared, at first a simple shoot, then a tree about 20' tall with abundant branches, with bunches of long leaves at the end of the branch, the young fruit cylinder upright, the older heavier roots hanging down surrounding the bottom of the trunk, aerial roots descend down, but seldom from the branches. We stopped under the dangann tree. The short thick trunk of 8' diameter divides 5' above

the ground into a large number of strong branches, which are nearly all indicated in the trunk itself from the surface of the ground. The wide crown appears in cross section as half or ¾ of an ellipse, presently crowded with red leaves, which are driven down in hundreds by every breeze. The leaves are oblong-lanceolate, 3-4" long, 1½" wide. The bark gives a white milk?, the wood is soft. The crown overshadows[?] an area of 36 paces in one direction, and 40 paces in the other, 27' in circumference. I recall now also having seen a similar tree on the west side of the Brisbane River in Brisbane town. The Black boy named it tuncann, which obviously is the same word. The wangä gum becomes more and more significant towards the coast and a similar tree appeared here, often afflicted by parasitic fig trees. Another tree about 25' tall is in flower. The petals are simply slit and the tree itself is perhaps *Elaeocarpus*.

Shortly before our arrival on the coast, the Blacks left us to kill kangaroos. They were not lucky but they brought a possum (narambi, duan Paddy), an iguana (gutt-ti), probably a monitor, and a pretty black snake (mullo). Spring our kangaroo dog caught a kangaroo, which the Blacks called tallum (mutt-ti the male).

One of the wild dogs, which the Blacks tame and keep in the camp, took our stock of meat during our absence. One of the Blacks found him, saved at least a piece of bacon and brought it to us with bones of the rest. I mention this circumstance, because Mr Archer described these Blacks to me as particularly thievish. He later changed his opinion. Next morning I visited their camp. It resembled a small village. Each one lived with his wife and children in a separate humpy, which is covered by tea-tree bark on the windward side. These humpies are more or less complete and my Black companion said to me that they were very large on Brieves

Island (Yarrun), and some were inhabited by the men and others by the women. The old men came and were introduced to me. The boys brought oysters, the women brought out oysters or lupacas from their humpies; in short they were extraordinarily hospitable. Next to the hut stood a receptacle hollowed out from soft wood and another receptacle, which they make from the leaf sheath of *Seaforthia*. I walked along the sea through the mangrove bushes and mangrove groves. Several new trees were seen, few in flower. In the afternoon we reached our camp at the real Turval and two Blacks from Brieves Island showed us the way. They were pleased to hear us praise Durval. They themselves praised the large numbers of fish and oysters and the numbers of inhabitants, while indicating that at certain times the coast is densely occupied by the humpies of the Blacks. We saw numerous camping places with heaps of fish scales and oyster shells. I will not forget how one of the Blacks sat down in the white sand of the coast, with radiant countenance, his hands filled with sand and called to us: that is our flour, that is our flour— this country is good! and then sprung up, pointed to the coast of Brieves Island opposite and said: many Blacks! many huts! good country!

If we observe the Black here, where the sea produces the greatest portion of his needs, we again find that he well knew how to derive advantage of the opportunity offered, but only as far as his requirements went. The women made very strong nets from the bark of the *Hibiscus* to catch fish. The Blacks fence round certain stretches of water along the shore and allow an opening through which they drive in the fish, then they have nets spanned in semi-circular lines, one in each hand. The way they hold these nets causes a remarkable enlargement of the inner condyle, over which the arm rests on the ring. During



low tide they go to break oysters and to catch crabs. These crabs have a very fine delicate taste and surpass all lobsters, crayfish and crabs, which I have eaten previously. They roast the oysters, which then are easily opened and taste extremely agreeable. In Durval on the bangwa swamp I found a species of bean and two new grass species. On the sandy seashore was a thick-leaved composite, which I had already seen on grass-covered sandy soil at Newcastle, and another twiggy composite, not yet observed, with brownish shining stems and twigs. But the sea alone does not supply the Blacks' food. The swamps are full of *Blechnum*, whose underground fleshy stem they collect and roast. Often they grind it as well and make a kind of cake. They have strong kangaroo nets, in which they catch kangaroos and kangaroo rats now and again. Possums live here in the trees. Snakes, lizards, and the various species of beetle larva supply them with more or less pleasant food. When the dambar *Banksia* flowers, they know how to prepare a sweet drink and the small bee, which they know how to spot on the tallest trees with their sharp eyes, supplies them with a pleasant change the whole summer through. {They do not find honey by gluing a feather down on a bee.}

If I observe the Blacks here, where they have not yet come in contact with the Whiteman, where they have only seen him from time to time as a guest and foolishly request him to come again, I must admit that it seems true to think that this peculiar race of men is not ripe for civilisation, and that in less than a fifth of a century it perhaps will disappear from the coast on which it now lives in powerful tribes. There is a means to preserve them — this means, o hear you pseudo-philanthropists, who want to judge all their circumstances only according to your narrow horizons — this means is slavery. I should say compulsion, but compulsion on a large

scale must become slavery, because the latter just involves somewhat brutal compulsion by unprincipled gentlemen too. We have an education for children and we must have an education for nations, which in respect to civilisation are at the level of childhood. We must take the young generation of the old tribes by force, educate them, compel them to work and so get them used to work. Has it been any different with the European nations? There[?] nature compelled. Here nature is mild and at present quickly satisfies all the needs each one desires, therefore the more powerful Whiteman must compel the Blacks, because without compulsion, this Black, left to himself, will be irretrievably lost, as soon as he comes into contact with civilisation with its vices. {Although slavery seems the only means to preserve these tribes and in the course of generations to civilise them, I would prefer to see them die in freedom than be civilised in slavery. That is my opinion on 15 February 1844 and it will probably remain forever.}

Not the slightest doubt prevails over the certainty of this means. The question is — is it good to preserve a race, which physiology has inclined to be subordinate to the caucasian race? I must acknowledge that this assumption seems to me to be exceptionally doubtful. I have observed the Blacks in many circumstances. I have seen him as remnant of powerful tribes with his humpies before the public house, and I have seen him as a member of powerful independent war-like tribes. In my journal there are many remarks, which point at astuteness and at determination. The Black with his weapons is no coward. Calmly he meets his enemies — he only fears unknown misfortune — such as the unknown wild Blacks, whom his superstition endows with great power and the Whiteman with horse and gun. Let us return to the times when the free German lived in his cold forest, it seems to me that

there is not much difference from the Blacks of this region.

On Saturday I went to the sea shore to a scrub, in which *Seaforthia* grows, to see what part of the tree the Black used for the manufacture of water vessels. Under the high tide in the mangrove scrub, I found a fig-leaved tree *Bruguiera* with simple pretty red flowers — 10 slits of the perianth, 10 stamens, one pistil, corolla superior, furthermore a new *Casuarina* with greyish drooping branches. A *Scaevola* and some grass species were growing here. Having arrived in the scrub, I found that it was just the leaf sheath of the older trees (*Seaforthia*) that the savages took. Here the *Corypha* palm is also growing, the shoots of both species taste very sweet.

On Sunday we returned without interruption to the station of Mr David Archer “richly laden with treasures”. Saturday 30 September was exceptionally warm. Towards evening sudden change of wind, south wind and south-west in gusts. In the night at first thick cumulus cloud, at 4 o’clock overcast sky and light rain, on Sunday overcast sky, but only few drops of rain.

Remarks that I wrote down during the excursion.

Gnanarr leaves stiff and dark green. Burrawam resembles ngarrabill in the bark. The brown falcon kallakan Ch[arley], a tooth in front of the beak tip. Earth-brown woolly legs.

When we lay in the camp under Waiamurrum, we heard the sharp call of a small animal, which Charley named diddeng and he said that it could see the devil. Then he added that another small animal babbarä had a call like man can man can, which it sounded to signal that Blacks approached its lair. {(This in consequence of its call mill mill mill)} Both seem to be regarded by the Blacks with a kind of superstition.

The Blacks know by the yellowish colour of the leaves of the grass tree, whether beetle larvae are in the root ends. If the latter is the case, they break easily when you push against it with the foot. Charley called the beetle larva of the *Xanthorrhoea* kummurr, he called the one that lives in young trees burrall. Tundurr lives in rotten wood of the scrub. Yarredamm also in *Xanthorrhoea*. Tunbä in the scrub. Turrum in the ground, nirruuall in trees and in the ground.

\*Bearing of Dunnul from the small conical hill N.8°E. Ngarranurri 355°, another hill 343°.\*

On the grass flats at the foot of the domite hill Charley saw a flock of emus. On our arrival I found a double feather of this creature.

Gnurrugir Ch[arley]. Billair N[icki] swampoak. Gunnangerangbill Ch[arley] — barrambin N[ikki] weeping oak. Dunindolen Ch[arley]. Bon? N[ikki]. Naal Ch[arley]. Guija N[ikki]. (Naal saltwater naar dunti) Bundanbill Ch[arley]. Bundanbin N[ikki]. Naalbill Ch[arley]. Kuya N[ikki]. I am not acquainted with the latter three yet.

Binnamdall a small tree in the *Melaleuca* depressions (gum tree).

A bees' nest was cut out, in which there was little or no honey, but a dry mealy substance, which to me tasted like gingerbread. When this substance became soft it was quite sour. Many bee larvae were in the lower part of the hive.

Every morning a large number of swamp pheasants belonging to the family of the cuckoos sounded their clucking call, particularly in the *Melaleuca* depressions. In the night a flying fox was heard and Charley said that they probably just settled here coming from far away. They often journey in long flocks.

During the whole day through, the silence of the bush is only rarely interrupted. Many voices ring out in pleasing chorus from

daylight into the morning. I have often mentioned how the feathered sleepers wake up one after the other and blab out their dreams to their companions as it were. Here the swamp pheasant joins many of the previously mentioned, which now sounds its clucking call around the damp depressions in the earliest morning.

The sandfly, a tiny, almost microscopic creature, cannot withstand the breeze in moving its true, but as you rest they come in swarms. They are active during the day; during the night the grey mosquito with three blackish spots on the wing edges appears. Its sting hurts extremely. They just cannot tolerate the direct rays of the sun, but unfortunately they are active even through the day in shadows. {A large greyish-brown gnat with white spots, fringed wings and generally lightly haired.}

Another very large hairy gnat was also seen. Besides the usual flies a brownish one, which lays its wings over its abdomen and does not spread them like the others. In addition the horsefly with brownish metallic abdomen and the usual greyish horsefly that especially torments the horses. In the fissures of the trees I have often observed a small grey creature, which [...] a proboscis and has the habit of the small cicada and bears two bristles on the hind part.

The root collar of *Lomatia* spreads significantly and irregularly. It is a horn-like, cellulate object of sharp taste, which becomes noticeable on the tongue particularly some time after chewing. {At our forced[?] camping place.} The bush here is extremely sparse. The various species of *Daviesia* are forming shoots, the *Lomatia* shows only the black dry fruit capsules, in which the winged yellow speckled seeds still show now and again. On the trees some plants probably belonging to the Asclepiadaceae climb into the heights, of which, however, only one was found in flower.

The stomach of the cockatoo was filled with the black seeds of the *Xanthorrhoea*.

*Xanthorrhoea* flower cylinder 2', flower stalk 6½'.

I found an orchid (*Prasophyllum*?) in the morass, also an epacrid with broadish, small, stiff, pointed leaves surrounding the stem. — A small *Acacia*.

The absence of epacrids or their sparse occurrence is very interesting. Where are the many pretty *Epacris*, *Styphelia*, and *Leucopogon* that adorn the bush in Sydney? Of Proteaceae, one *Persoonia* appears in the forest, a *Banksia*, two other *Banksia* in the morass and in addition a red *Grevillea*, the white-flowered *Hakea*, another *Hakea* and another *Grevillea* in the morass. The most important genera of the shrubby legumes likewise have only few representatives here. Thus *Pultenaea* only in two species, *Dillwynia* only in one. The rutaceous plants are also very rare. A *Boronia* and a *Zieria* were found on Biroa and another small *Boronia* in the swamp. Where are the other numerous handsome genera and species?

The mosquitoes, after they suck themselves full to bursting, let fall drops of serum at the anal opening, at first almost colourless, then little coloured. The creature is light reddish coloured. Do the blood corpuscles not pass through the proboscis, or are they retained in the body of the mosquito as food while the serum trickles out again?

1½ miles from the old camp the cypress pine in beautiful individuals, *Monotoca*, *Leucopogon* with edible fruits, *Dodonaea*, swamp oak with beautiful *Dendrobium linguiifolium*.

Dambarr *Banksia* (gult ta), fruit eaten[?], flowers rich in honey. On sandy soil a large shady tree, with spreading branches, with thick rough bark, corky externally, fairly soft, fruit monospermous, embryo with two coffee bean-like cotyledons. Nonda — flower ternate.

In the scrub along the sea shore a fig-leaved Malvaceae is found, a tree with short branches dividing over the ground, which the Blacks call gallabi. The wood is dark brown with green boundary lines, the outer wood yellow.

Bomboyum, a small tree that grows on the sandy high extension and abundantly in the scrub at the sea.

Gnamo, a small tree at the foot of the sandstone heights. Two other bark specimens were also called Gnamo, but they seem different.

Kulluroar, a tree about 30' tall, with weak crown, bark rough fissured like ironbark, underside of the long lanceolate leaves white.

Kollowi is the cypress pine that grows here on sandy soil surrounded by the above trees.

Umam is *Pandanus spiralis*.

\*Minko } the tree with yellow fruit or  
Nimgo } berries, small oval or elliptical  
leaves just before blossoming,  
wood hard\*

Yappar, the wood is used for the manufacture of small receptacles.

Wainim, Nickey *Banksia* (dambar) fruit good to eat.

Beir *Avicennia tomentosa*

Worarrbei, *Myoporum* wide lanceolate fleshy leaf, purple brown.

Dandarangin, the finger-leaved tree in the mangrove scrub with simple ten-toothed perianth, ten alternating filaments, one pistil, superior perianth.

Dattora, name of the myrtle tree in the coastal scrub.

Leup (lip) with *Verbascum* scent. The Blacks smoke the dry leaves, when they have no tobacco. It seems to be a *Solanum*.

Tangara *Crinum*. The Black said that the plant was poisonous, however, took the young shoot, which he freed from the green leaves so only young, delicate, whitish, rolled up leaves remained and these, about 1' or 9" long, he stuck through his pierced septum.

Gangan or yungan, a kind of dugong. Trunk with two tooth holes, jaw with three round molar holes.

Kauna, cabbage palm *Corypha* (binca Simon from Brieves Island).

Warriula, a small tree.

Panbalam, long flat shoots, which belong to a liana-like, three-leaved *Kennedia*(?). The flower umbels sprout even from the old wood.

Ammung (N[ikki]), white wood, genuine short corky bark. Charley called *Xylomelon* ammung.

Bunyan, a kind of wasp on trees. The Brisbane town Blacks speak the Girrar language, and the Blacks of Brieves Island Girra.

A small island between Brieves Island (Yarrun) and the mainland was seen that the Blacks called Muyir. The Bunya Bunya Mountain was seen in the distance towards the north.

Tubhuri pigsface, the fleshy *Mesembryanthemum aequilaterum* is eaten by the Blacks.

?Kallabill.

Mirri mirri, the large-flowered everlasting, whose golden-yellow flowers they stick in their hair as decoration.

Their nullah nullahs are from the wood of the maling (ironbark - durro), the nullah nullah is called gnirimm.

Killuri. On the other side of Brieves Island south-east of Durval. {Moreton Island.}

Bibbar[?] (Bibbar) is the name of Amity Point.

Dibalam, a small tree with divided corolla leaves.

Durvall. As yesterday we found sandstone on the rising ground and conglomerate at the sea where we bathed, so coarse sand appeared on the coast opposite Brieves Island and many ½" thick [...] ferruginous pebbles. Between the ranges of hills that run out towards the sea and which end with grass covered 30-40' high slopes, before which lies a sandy sea shore, are the tea tree depressions or just flat tracts of sandy soil, on which the prevailing kidambarr (wanga gum), buboyum, uingan (*Pandanus*) bestow a peculiar character. Where meagre streams of fresh water come out of the bangwa swamps to the sea, mangrove scrubs occur on the sea shore, but also extend on other places on the sea shore for a long way. The bed of the shallow swamp water is full of iron ochre and limonite is probably in the bangwa swamps. In the coastal scrub *Corypha* palms, *Seaforthia*, and dattora, a myrtle tree, are usually growing everywhere and between the mangroves dandarangin. A mourning *Casuarina* with greyish hanging branches and with extremely hard wood grows between the scrub on the sandy shore towards Culbuture Creek; under it *Scaevola*, several grasses that bind the sandy soil together and the *Sonchus*-like composites. I found a shrubby legume in the scrub about 5' tall with simple pinnate grey leaves.

The Blacks build their boats from the bark of dibilpalam, their nulla nullas are of ironbark wood, their shield gundilbill Ch[arley] gundimiran N[ikki]. Their fishing rods are billair (swampoak), their water vessels the leaf sheaths of the bi palm. Their ropes from kurradjon (*Hibiscus* - dirn tangballbill Ch[arley]/dungang Ch[arley]?). They make spears from mayann. The kangaroo grass here has hairy sheaths, those of the other species are smooth. Is it a local or a specific difference?

Guinam is the name of the crab.

\*Bonbollen kind of *Kennydia* with long hanging seeds (Panbalam)

Balbaram N. Balbannbill Charl. *Tristania* (?) a kind of eatable Myrtle (Mandelgum)

The native Rawsberry

Dibil palam dry specimen in blossom

Mingagabarre (*Angoph[ora] lanceolata*)

Boa (a branch)

Gnauarr (branches)

*Dampiera*

*Pultenaea*

A knotted rush

*Leptosperma?* from the swamp near the road to Durval

*Leptospermum* small oblong leaves

Small leaved *Dianella*

*Thelymitra*

Kuppibunda Charl[ey] Dilligrass\*

Birri Pad[dy]. Birwi Nicki magnificent racemes of violet flowers climbing high up on the trees. The fruits eaten by the Blacks.

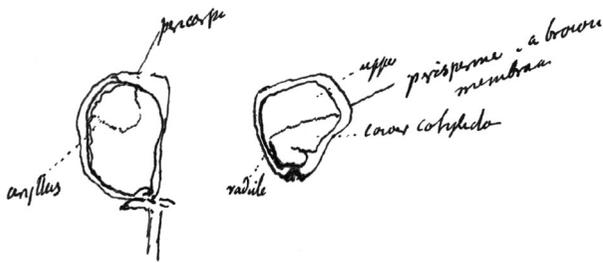
Wombalang male flowers (dabram Pad[dy]) \*ovatolanceolate leaf, few more prominent nerves — white bark.

Utta Red Cedar. Found in the little Creek brush of Mr Mackenzies Sheep Station. Nicki says, that it is found equally at Durrundur.\*

[Lists of plants and Aboriginal

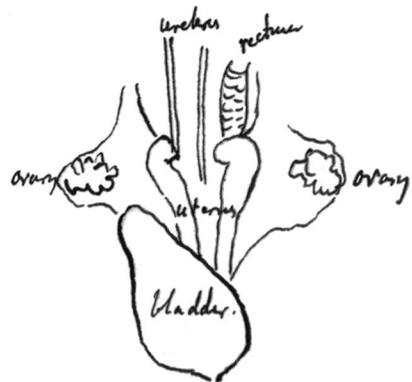
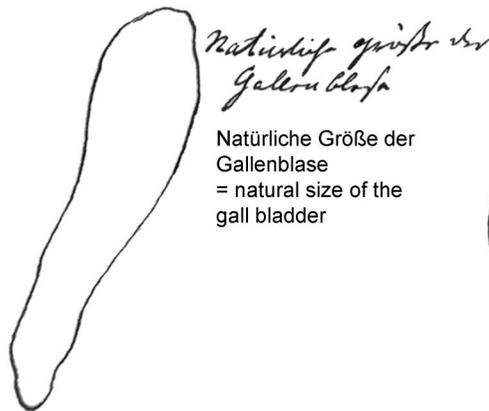
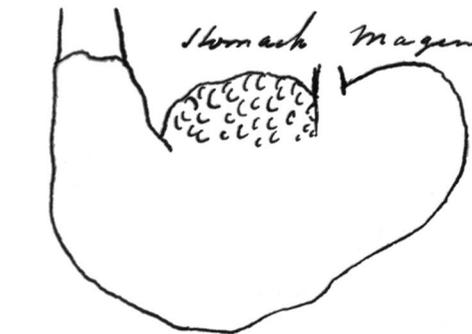
words, the latter in three columns matching equivalent words from each of his three informants Charley Ch., Nikki N. and Paddy P.]

Wangä Ch.	Kurrandarr N.	Gudden P.
Mangorri Ch.	Yarra-ra (N.)	Manburrir P.
Manderoljam Ch.	Killambarr N.	Manderra P.
Dambir Ch.	Dambir N.	Tambir P.
Manarm Ch.	Manarm N.	Manarm P.
Dambam Ch.	Dambam N.	Dambam P.
Binnamdall Ch.	Binnamda N.	Binnamda P.
Durro Ch.	Malling N.	Tandurr P.
Bunnair Ch.	Bunnah N.	Bunner P.
Galä Ch.	Gallai N.	Gägä P.
Bulburri Ch.	Buppo N.	Nuckurr P.
Mingagabarre Ch.		Bugginagauri P.
Dibilpalam Ch.	Dibilpalam N.	Wanga P.
Dil Ch.	Dil N.	Jirnbiom P.
Boa Ch.	Biggin N.	Boa P.
Binaroan Ch.	Doai N	Bundinbill Binargan (Tschentschillum)
Mundeli Ch.		Bea
Gnauarr Ch.	Dall-la N.	Gnar P.
Burrawam Ch.	Burrumbam N.	Biuam P.
Dadangba Ch.	Dannangen ([?])	Dadangaba P.
Bull-la Ch.	Kannaibalam N.	Kakkarr P.
Mingall Ch.	Mingall N.	Boargan P.
Tangpalam Ch.	Uirrauah N.	Tangimbam P.
Gnarrabill Ch.	Burrabi N.	Guannarr P.
Buddul Ch.	Dullarr N.	Gnamborro P.
Gnuddurr Ch.	Nambur N.	<u>Guannarr P.?</u>
Kuppebill Ch.	Yadabin N.	Kukundenbi P.
Burrndah Ch.	Nindarr N.	Burujarr P.
Billah Ch.	Billair N.	Billar P.
Gunnangerangbill Ch.	Barrambin N.	Geranbi P.



\*a tree with three capsular fruits, each capsule monosperme, the seed surrounded by a reddish fleshy aryllus, the membrane surrounding the embryo brown, the thick unequal cotyledons green, the radicle towards the insertion of the seed but a little removed from it, the cotyledons an upper and a lower, the plane of separation being almost horizontal, slightly inclined, the apex towards the centre, the radicle at the periphery. The fleshy aryllus is acid and makes with sugar a fine jelly. Ripe the 20 Novbr. grows in Mt. brushes and Riverbrushes.\*

A young koala (or kullu as the Blacks call it) was dissected. It lives on the leaves of the appletree. The front extremities are by far the stronger and once it climbs on an object, it is difficult to detach. The stomach is simple but with a large gland on the right of the cardinal opening. The spleen is very long and tongue-shaped, the gall bladder extremely long (1½" 4" wide) with yellow gall. Five liver lobes, the right one against the intestines incised many times. The intestines five times as long as the animal, which externally seems without a tail, which is indicated only by a few rudimentary caudal vertebrae. The large intestine and rectum are longer than the fore part and the stomach. The caecum is 1½' long, with eleven elongated folds; the colon with 13 folds. The kidneys are oblong, just with some urinary vessel papillae, the left far back, and the uterus with two horns. It was not possible with my coarse instruments to investigate the entrance to the uterus and the connection with the horns.



The animal has the pouch of the Marsupialia, it has a nail-less thumb on the hind foot and the two first fingers are like a possum &c grown together up to the nails. During the day it is sleepy and sluggish — about evening it becomes livelier and through the night is very active. It resembles the possum in many respects, whose foot formation it has, but because it lacks the prehensile tail of the possum, the forward extremities are developed all the more. It has a cracking call *krak krak krak*, which this little creature sounds during the evening and the night probably in consequence of becoming unwell until it becomes irksome. It shares the food of the possum too, although it seems to me that the possum belongs to certain *Eucalyptus* species, which also agrees with the blacks distinguishing the various species of this abundant genus with names.

### Sunday 8 October

On Friday a four foot long snake was killed, which fled up a *Casuarina*. It is very thin, as thick as a thumb. On the back dark olive-coloured with blue flames, which, however, seem to come from the scales separating from one another during movement. On the venter it is sulphur yellow, just as on the lower and upper lips. The head very narrow, two pair of scutes between intermaxillary scales and brow scales. On each side of the brow scales, an ocular scale, two large ones behind main scales behind the brow scutes. The ventral scales form a simple row, but they rise up in a right angle on each side, so that a sharp edge occurs on each side of the abdomen. Under the tail two rows of scales. The snake seems to have just one lung. It had a grey spotted frog in the stomach. The pterygoid bone and maxillary bone are filled with sharp not very strong teeth. When the mouth is opened, the lachrymal gland is seen behind the eyes, but the poison gland is absent, just as the perforated teeth, which

also agrees with the opinion of the Blacks that this snake is not poisonous. Paddy's son called it *gurro*, probably from the similarity with a bush vine. The ventral scales show a kind of limb at the mid line and it seems to me that they move against this limb, which would be of great assistance for climbing up on the bark of trees during ascent.

Yesterday afternoon as I went to the next creek towards Mackenzie's to look for my mare, I found a *Clerodendrum*, a small tree 20' tall with large dark green leaves, with large yellow and white flowers and not far from it a shrub, whose leaves were not yet developed, and on which two or three flowers resembling those of jasmine, but with five filaments, had unfolded. A bushy legume with wide pods, with large yellow flowers was found a little further on close to the same stream. A brown bird flitted from its nest, in which there were two bluish dark speckled eggs. The nest was about 2' from the ground attached to the branches of a shrub.

I saw how much a naturalist with little means could achieve in this region. With assistance of the Blacks, he could study the various creatures with great leisure and benefit. What I shall do, I do not know yet. Were I to enjoy later support, I would remain in this region for a year and request to live as much as possible with the Blacks, who observe nature itself or who receive their astonishingly exact knowledge from their parents.

8 October

Some anatomical characteristics of the bandicoot. \*The clavicular bones wanting, the marsupial ones very strong. The glandular system extremely developed, perinaeal glands, an enormous hollow prostatic gland. A great number of glands round the neck, salivary and submaxillary glands.\*

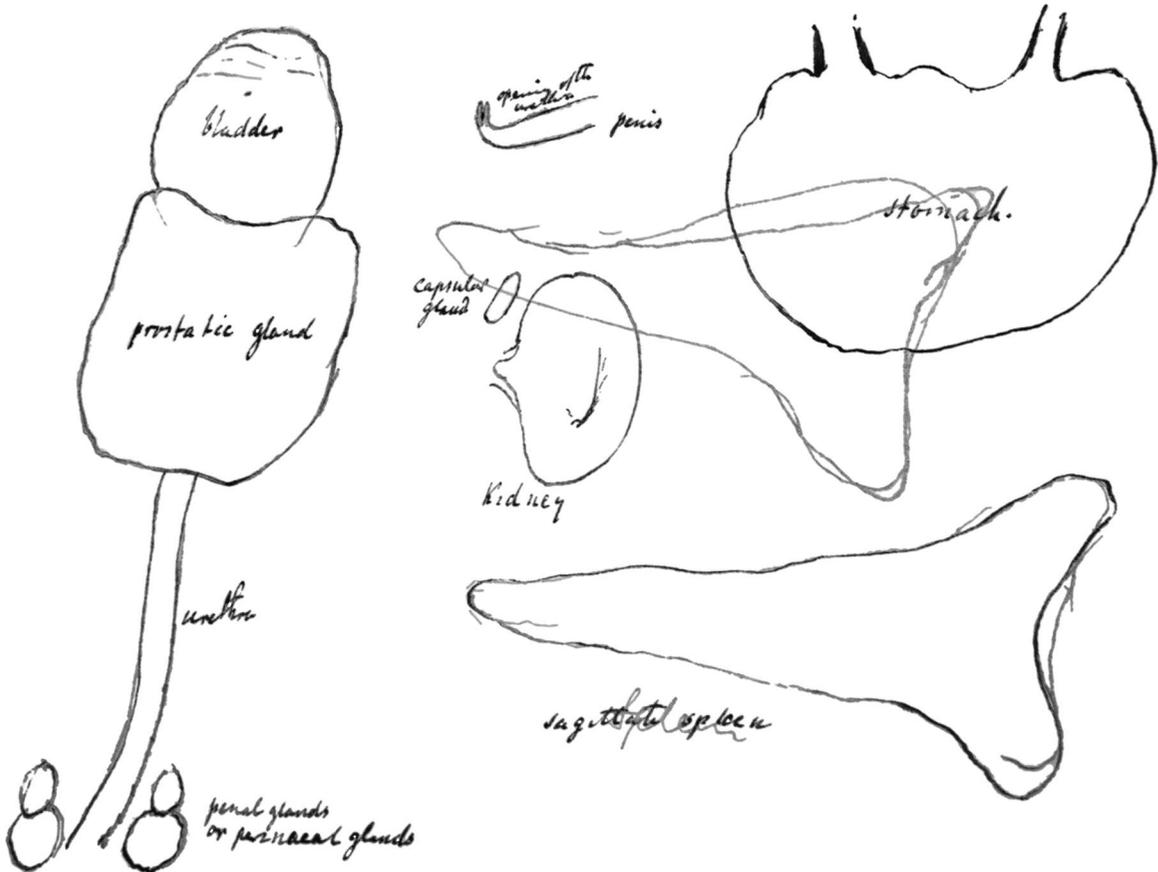
\*Stomach muscular, without glands at the mucous membrane, spleen sagittate, thick tapering caecum 4" long. Kidney inner side flat, ext[ernal] side a little conical — one large cone of uriniferous ducts, small white capsular gland. The animal lives in fallen hollow trees, has a long snout like a pig; I found in the stomach leaves or herbs ground — and the elytra of beetles. The food seems

therefore analagous to that of the pig. The tail about 3-4 inches.— Dungull Nicki. Yavui (Micky).

Yesterday I saw a rabbit rat, which the blackfellow called Mogurr, it jumped during the night almost in the fire.\*

12 October

I left Archer's on 9 October with the intention of staying some days in the scrub on the same path. The heavens intended it otherwise. When I came to Nurrum Nurrum, it began to rain and I have to thank the assistance of my Black companion that I was not completely drenched by rain. Naturally he made a hut of grass by piling up long kangaroo grass like a roof on pieces of wood put up crosswise. Next



morning the rain continued and I felt obliged to decamp to Mackenzie's immediately. I hit upon a camp of Blacks, about 15-20 men and their wives and children. The men were out, one kangaroo hunting, the others looking for honey. An old man brought me yam roots, which tasted very good. On the stream the bread vine was in flower. The Blacks call it birrwi. It climbs up on the trees and forms magnificent festoons from one tree to another with its clusters of violet flowers. {Wombalang N[ikki], dumbram Paddy was in flower. Male and female flowers, three stigmas.} This is the richest collection of choice flowers that I have seen until now in the colony. Even the Black boy agreed with my joy too, although at the same time he had another interest in it, the Blacks eating the fruits (probably also the young pods). In addition *Ripogonum* was found in flower. On another stream a leguminous shrub grew, which was presently in flower. The flowers are yellow and the inflorescence is an upright terminal raceme. The Blacks were friendly and behaved well. Some had a wild treacherous eye, but the majority were peaceful and friendly. Although the old man gave me yam roots, the others ate the leavings and peel as I cut off the outer skin, like the Nynga Nynga Blacks who brought us crabs, but eagerly sucked out the cast off shells and legs. In the river, which we pushed through next day, was quick-sand and the horses found it difficult to get through it. Syenite appeared between Archer's and Nurrum Nurrum. Primitive rock also seemed to crop out between Nurrum Nurrum and the bunya scrub. Box and silver-leaved ironbark also occurred here. Primitive rock again, above the scrub, although in the scrub itself, as already previously mentioned, earthy conglomerate. In a watercourse that we crossed before we came to Mr Mackenzie's, second creek (Sandy Creek) I found small pieces of talc schist, jasper and a hard blue rock that probably belongs to the schist. My direction of travel

was westerly and somewhat southerly. We went almost constantly over primitive rock up to the above mentioned water course before Sandy Creek, from there a hard psammite, a rock that was fundamentally changed by bush fires and whose nature therefore I could not yet recognise exactly. Pieces of quartz around tree trunks were seen here abundantly. The hills over which we came were not significant. Bloodwood and stringy bark appear here. Ironbark and higher up to the cattle station silver-leaved ironbark and manarm and bluegum (mangorri) in the flats, box abundant, but usually without grass growth.

Yesterday I saw Mr Mackenzie's cattle run. Two streams combine above the cattle station and they come from the main mountain and are bounded towards east and west by high mountain ridges. Beautiful flats lie between and on both sides of the streams. The grass is very dense and yet the paddock shows that it cannot carry a large number of cattle. Mr Mackenzie has washed his scabby sheep with sublimate solution. They are now dying in large numbers and show inflammation and hepatisation of the lungs and softening of the liver.

Tertian fever is common here at times — presently one case of this kind. The region leaves nothing to be desired for pasture. However, it lacks timber fit to be split. Ironbark, silver-leaved ironbark, bulburri, manarm, and gnarrabill in damp places and manborri gum are the only kinds of trees.

### 13 October

The cattle at Mr Mackenzie's belong to Mr Thomas Barker. They are small, but not badly formed and presently extremely fat.

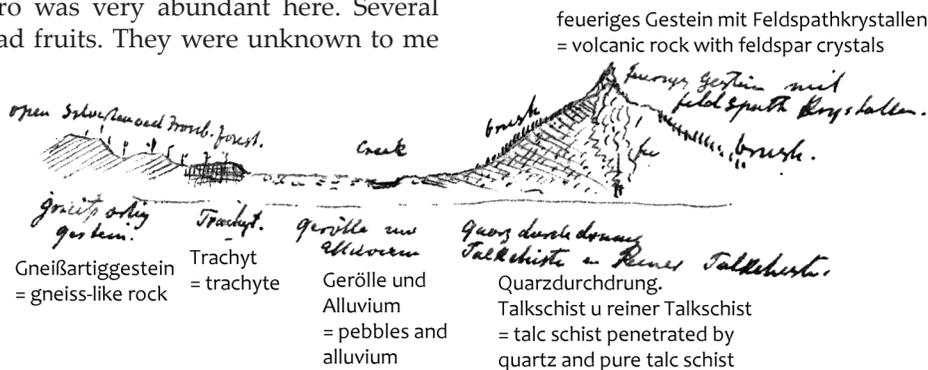
Yesterday I made an excursion towards the north and north-east. I investigated a place about two miles from the station where a trachytic rock outcrops. It seems quite

isolated here and is surrounded by low ridges that seemed to me to be a kind of gneiss. Walking around a lagoon here I found a death adder and it is one of those wonderful chances, which according to religious belief we ascribe to a kindly divine providence or protection that my footstep was just so measured that instead of falling on the snake, it fell one inch over it. The poor Black was on the point of treading on it, but his sharp eyes recognised the enemy and so he luckily threw himself away over it. The poison glands are very large, the poison teeth long and a dog hair can very easily pass into the channel. However well the Blacks recognise the nature of their enemy, they do frequently make peculiar mistakes. Thus Nicki believed that the death adder could sting him with its very thin short tail, which it could bend like a scorpion. However, I convinced him that this would not be possible and that the tooth would be the sole deadly weapon that it could make use of. We now walked to the stream, crossed it and at the foot of the mountain opposite found a dense scrub in which we botanised. I found a new species of *Xerotes* and *Goodenia* in the silver-leaved ironbark forest. In the scrub was momoyem in beautiful full bloom, in addition ulloa and a tree that Nicki did not know, as we then found several others of them. Meulan had finished flowering here already. *Grevillea robusta* has the wood of the rest of the Proteaceae, that is very clear medullary rays. Kunyuro was very abundant here. Several trees had fruits. They were unknown to me

and Nicki. *Hibiscus* has a beautiful yellow flower here; many small mayan stems grow here. The leaves and wood smell like celery. Now and then the momoyem trunks were very strong. The wood is yellow and attractive, hard or tough. On the last quarter of the mountain open forest occurred again. Tangpalang (tabil pillah), bunnah and stringy bark (dibilpalam) are growing here, which are absent on the rest of Mr Mackenzie's run.

The geological circumstances are the following. The hills on the right of the track to the cattle station are a kind of gneiss, with the exception of one point, which is trachytic. The brush mountain is talc schist, whose lower side is very unrecognisable by quartz infiltration. In the middle of the mountain, however, it has a real schistose character, which indeed remains towards the peak, but belongs to a very hard rock penetrated by quartz. The highest peak of the mountain is an earthy feldspathic porphyry, which reminded me of the rock from Biroa, but does not show such definite feldspar crystals or such an earthy cement; black spots, probably pyroxene in the Biroa rock, are absent here.

From the peak of the mountain on the right hand, Mr Mackenzie was south 10° west, the saddle west 10° south?, both sides of the saddle rise to rugged mountain crests. Berronbonger plains N 20° west. The Flag Mountain north 30° west. Nurrum Nurrum north 120° south, Durrundur east,



Tibburnacan due east. You overlook a wide basin towards the south-west, into which the valley of Mackenzie's cattle station runs. A long blue chain from west 30° south to south on whose western side the Stanley Creek basin spreads out. Over the saddle several ranges of hills appear in the far distance.

#### 14 October

Today we rode up the other more westerly creek, on which there are two of Mr Mackenzie's sheep stations. The creek was separated from the creek of the cattle station by a high mountain crest, the general direction from northerly to the southerly quarters. This stream is bounded on both sides by attractive flats, on which westerly hills with corrugated ridges and with flat hollowed-out valleys arise. These hills are covered with low-growing ironbark trees, silver-leaved ironbark and bulburri, the valleys with bulburri and mangorri, damp places with gnarribill. At present the beautiful *Calothamnus* is in full flower on the creek, also *Clerodendron* with large yellow flowers with jasmine scent occurs in flower. The kulu is sprouting young pale green shoots. In a small scrub on a stream I saw two red cedars of about 20" in diameter. Nicki called this tree uutta and he assured me that it is also abundant on Archer's run. In the stream were small rubbed pieces of talc schist, a hard flint (hornstone) in moderate-sized[?] boulders, and boulders of a soft conglomerate-like rock. Granitic sand was completely absent. As this stream came down from the main mountain, which divides the Brisbane from the Wide Bay River, it is remarkable not to find the drift formation rocks, so abundant in Cattle Station Creek, in Sandy Creek and in the rest of the creeks.

We have westerly and south-westerly wind. The day was very warm and oppressive, just now in the evening fine rain without wind.

The sheep are lambing and if the rain does not continue the weather would be extremely favourable. Mr Mackenzie is postponing the shearing to next month.

The air, thick with the fragrance of flowers and the scent of young vegetation, swelled my breast with a feeling of well being and their mildness, by enveloping my body in soft veils, aroused a feeling of comfort as I never remember having felt. It is in fact a magnificent climate. I will feel homesickness, when I leave it. Although it is extremely warm and probably in the summer, when "peggy kulah" as the Blacks express it, might be even much more oppressive. For example the moderately occupied man even during activity is not too much exhausted at all by this high temperature, as the increased evaporation cools him. The layabout has to suffer the most!

#### Monday 16 October

I left Mr Mackenzie on Saturday. The track to Mr Bigge finally led me through a country no less suited for raising cattle. At first I crossed the creek on which is Mr Mackenzie's main station, then the combined sheep and cattle station creek. The box became more abundant and white ant nests occurred with it and the grass growth became thinner. About seven miles from Mackenzie's the mountain chain appeared to the west on the right. That seemed the blue range, which I saw from Mackenzie's Brush Mountain extending from south-swest towards the south. This chain strikes north-south or almost so and continued with few interruptions during our whole travels to Bigge's. Another range appeared towards the east, which is D'Aguiar Range. Both seem to form the basin of the river. Several short waterless creeks come down from the west. In one of these creeks boulders of a rock appear that consist of a fabric of feldspar crystals, in addition pudding stone and a

kind of brown hornblende porphyry. Pieces of quartz were also found. Shortly before you come to the river, you have to cross a creek filled with many large pebbles, in which there are some waterholes. In its high bank a greenish feldspar rock with feldspar crystals crops out. Both streams are covered with rich vegetation of stream plants. The wild carrot and two *Galium* grew on the rocks. *Sonchus*, *Hypochaeris* and a brick-red poppy form almost a forest on the south side. The horses eagerly ate the *Hypochaeris*. Here the river forms a large basin, from which the water gurgled over the boulders. This sort of pond was surrounded all around by *Calothamnus* trees in full flower. Several grasses and a new *Hydrocotyle* were found.

If the rock between our night camp and the river was sandstone, we now stepped on primitive rock. If the tract passed through was a very open country, as you find on soft rock, then the rock south of the river formed significant regular steep hills. Here large numbers of legumes were found in flower, which, however, I have already seen in one place or another. Along the small creek three miles from Bigge's, where we ate our midday meal, a stream comes from west north-west from the westerly mountains. The rocks are partly feldspathic, partly they contain hornblende, and partly it is amygdaloid belonging to the trachyte group. A pretty coloured jasper-like rock was found and finally a solid grey hornfels? or hardened clay?

Between the creek, where we stopped at midday, and Bigge's station, some flats appeared, in which calcareous concretions appeared in a rich black soil. While these recalled Liverpool Plains and the Gwydir, some of the plants also reminded us of those localities, above all the palm-leaved, five-leaved legume. {On Mackenzie's flat *Mimosa terminalis* grows.} On the hills south of the river a species of dwarfish *Cassia* appears, if

I am not mistaken, the yellow bush legume from Wide Bay, and the two or three species of three-leaved legumes with articulate fruits.

The following words from Nicki belong to the Karrwa language. [Leichhardt added in an extra column in the margin with words from P. = Paddy? to the left of Nicki's list as far as karroyanande. He then added words to the right of Nicki's list from kamain hair to üppe neck. These extra words were written in a different coloured ink. The translations were given in English by Leichhardt.]

*bubba P.	babunn father
gnuin	gnarang mother
borarr	gnon brother
tatti	garoin sister
nucker	nummah child
namgan	mallanuin wife
ball	ganni wommman?
gnuim	guiarr sun
kakkarl	babunn moon
	ringnurr great
darrai	dirrai star
	mandeam cloudy heaven
birra	birall blue heaven
bummengo	bumballimann sunset
	bamann sunrise (?)
kujum	kirrah fire
gunni	uuloi smoke
goni	gnanda flame
ning	dimgi sparks
gurrui	yurrung rain
burran	dungai wind
	burrann (lightning?)
gnarvamä	dinamann wind
	nollai soft wind
mire	mumba thunder
marra	ball la lightning
gurrui ba	yurrung baman rain comes
rakaeen gurrui	kabbirvan yurrung yurrung
gnuim gämga	guiarr yalliman the sun is very hot
tanga ba	dangai bamana blackf. come
majaba	magurang magurang white fellow fright

	gnallinrann naralla na boya	do wood tree
	boyo when come back	gambarr bark
karro	kuallin bomgaman one	uang leaf
	blackf. come	yarra blossom
biajo	bull la baman 2 come	ganganbalam seed
joraun 5	marin bamann 3 come	worrra creek
	yanangai bamin gins come	boggann
karroyanande	kuallim yan baman 1	uingnurr great
	yan bullla baman 2	dommai little
	yannan murm 3 come	iango to go good way
	kamin hair kunyarra	bittallio to make haste
	uoll uall head uon uong	krauman ga bittallin the R.
	mi eye mia	goes quickly
	dingurr eyebrow dibindinn	dan bittalimann blackf.
	gnullung forehead siem	make haste
	murri nose mi	annauah to give*
	nangumm cheek uonga	dakkeh block of rock
	damburr mouth tambirr	*norrah creek
	danja teeth deong	rollai it cold grnarr P.*
	dunnum tongue tunnum	
	rarran chin yikka	Rock types from the creek, which flows
	binnang ear pinnang	next to Mr Bigge northerly from north-
	uppe neck bukkurr	east to south-west or west. 1. quartzite;
	gnang chest	2. ferruginous quartzite with pyrite
	gnaya heart	crystals; 3. quartz pudding; 4. decomposed
	gurro shoulder	conglomerate; 5. flesh-coloured rock with
	ginning humerus	rare feldspar crystals, earthy cement; 6. hard
	ganburr arm	rock with feldspar crystals; 7.8. grey rock
	birri thumb	with rare feldspar crystals and pyrite; 9. rock
	bangan finger	with quartz and feldspar.
	bingamburring little finger	Rocks types from <u>Midday creek</u> . 1. a flesh-
	dan hand	coloured very hard decomposed feldspathic
	gillin nail	rock; 2. a tabulate quartzite; 3. a red iron
	gninnim belly	ore; 4. a vesicular trachyte with carbonate of
	dungunn stomach	lime in the vesicles; 5. *a dark flintstone;* 6.
	darrang thigh	vesicular trachyte with quartz; 7. grey rock
	bon knee	with feldspar crystals; 8. flesh-coloured rock
	buijo leg	with feldspar crystals; 9. syenitic rock, flesh-
	ull lo ankle	coloured cement, green hornblende; 10. a
	ginnang foot (they do not	dark cement with decomposed hornblende
	distinguish the toes)	with small feldspar crystals; 11. brown
	da earth	cement with feldspar crystals.
	goan path	Rock types in the dry creek between the back
	gong water	camp and the river. 1. rock with feldspar
	dunba mountain	crystals and bluish chalcedony-like pyrite?
	ban grass	almost like blue grains; 2. quartz boulder

white and blue; 3. brown hornblende porphyry with small feldspar crystals; 4. a greyish probably feldspathic rock with very small crystals and druses — belongs to the trachyte or domite group; 5. rock which shows feldspar crystals, but which resembles more an arkose than an originally so formed primitive rock; 6. a rock resembling this blue rock; 7. porous flesh-coloured rock, which seems formed from an inner mesh of feldspar crystals; 8. a quartz pudding.

# Mr Bigge said to me that he found a remarkable marine creature, probably a shell fish, which he kept in the clubhouse at Sydney in spirit. Probably the sea feather *Pennatula*.

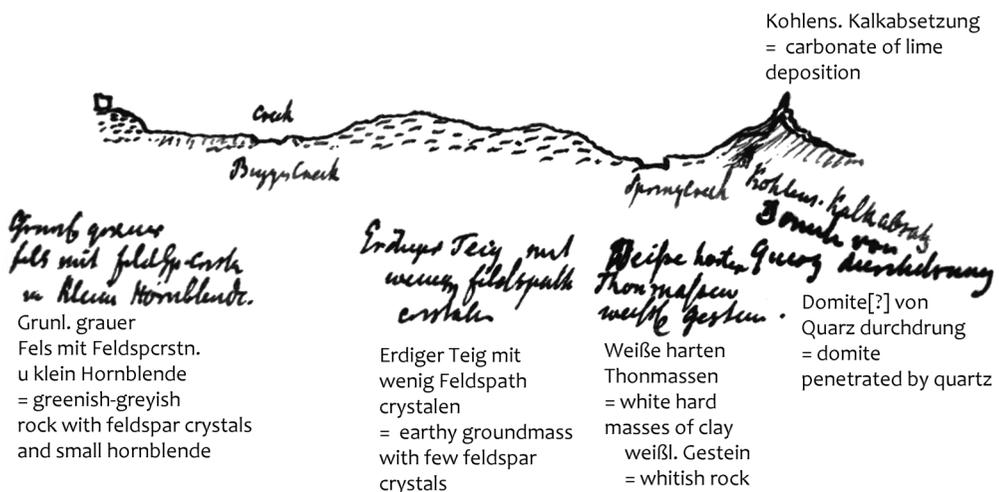
Here I saw a lizard from Swan River, which was completely studded with tubercles. Mr Bigge had it living for a long time. It changed colour. He showed me [remainder of sentence not finished].

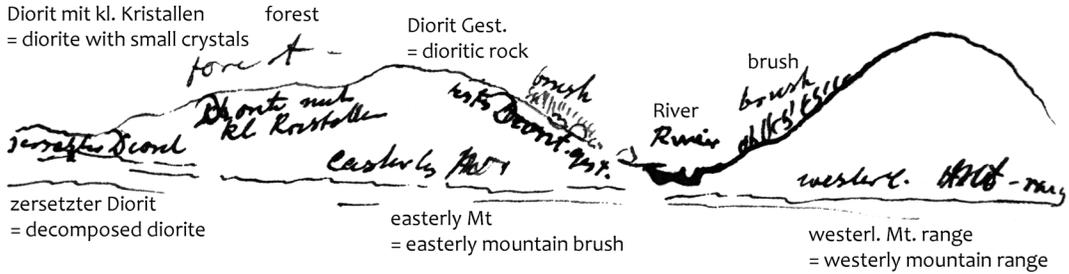
18 October

On our ride to Springy Creek we found a grey-greenish rock with small crystals of

feldspar and smaller ones of hornblende behind the paddock. We crossed Mr Bigge's creek, which flows from the east or east by south and towards the west flows into the Brisbane. Quartz with pyrite crystals was again found in this creek. On the westerly hills was a greyish earthy [...] domitic rock, which, however, is probably the same in nature as the former (dioritic) only more decomposed. In Springy Creek the rock becomes more whitish and its jointing is in small round pieces as if calcareous without quartz[?] surrounded by whiter soft material. Here there were also white irregular rugged masses of clay at a deep waterhole. The easterly range of hills is striking; each hill is abruptly sharply pointed. The rock has an earthier groundmass and few feldspar crystals. In a gully it was penetrated by quartz, hard and attractively marked by iron. In this gully carbonate of lime was also deposited here on the rocks, over which the water flowed. A lighter carbonate of lime coating covered the reed stalks and the boulders in Springy Creek.

Yesterday I climbed Mt Brisbane, about 600 feet high, where it runs out towards





Mr Bigge's station. Here this is an easterly mountain ridge, which is separated from a westerly almost parallel hill by the narrow river bed. On the low foothills I found the same rock on which Mr Bigge's station stands, very decomposed and disintegrating into irregular, but sharp angular pieces under the hammer. Further up it became tougher and crystals of feldspar appeared, these gradually became more distinct towards the hill and on the west side, which slopes much more steeply towards the river and is strewn with large blocks of rock, genuine feldspar porphyry appears. However, in other places, particularly where there is scrub, hornblende with radiating crystals and druses with greenish crystals become more abundant. Whitish earthy clay? became visible under some of these stone blocks. At some places the rock appeared light green. At the level of the river the feldspar crystals were small again.

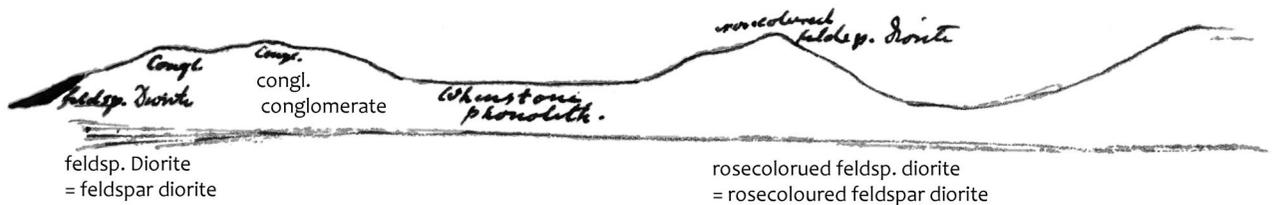
On the west side of the mountain, I found the malvacean shrub in pretty red flowers, which I saw in Wide Bay on the sandstone mountains of the scabby station with the shrub that has its lanceolate prickly leaves in whorls of four and is lightly downy. *Araucaria cunninghami* also grows here, therefore the same association, but not the same soil.

In the scrub I saw boal, a small kangaroo, brownish red as it seemed to me with a bushy tail. {Nicki said to me later that Charley called this animal nonnanarr.}

19 October

\*Temperature in the shade 85°F.\*

Rocks of my excursion of yesterday. I climbed the hills, which lie north-east of Mr Bigge's dwelling. Here I found at first 1. a tough bluish rock with fine shimmering surfaces, which are feldspar crystals. Over this strangely a conglomerate very indurated (2), on this appeared a rock according to its composition like no. 1, but more porous, like some types of trachyte (3), upon this on one of the higher hilltops, an iron-red rock with numerous small feldspar crystals (4). In a kind of saddle a phonolitic rock was found that is very similar to that on Mr Mackenzie's Whinstone Point (5). I now crossed the upper part of Spring Flat and climbed up the easterly hill. Here a rock like the [...] Glasshouses (pleasantly variegated with iron) (6), this is partly loose, partly solid (7) and seems penetrated by quartz in the gully between the first and second hills from the water hole (8). The rock at the foot of the westerly hill at some places is very hard, but of similar nature (9). I now walked south-westerly, crossed the creek in which I found a loose conglomerate (10), a deposit alternating in layers of quartz and white material (11) and a hard dark rock with small shining spots (12). {12 is probably a syenitic rock containing feldspar, hornblende and quartz in very small components.} At the foot of the hill an earthy crystalline domite



Section of the hills north-east of Mr Bigge's dwelling — towards the north

lacking crystals was found in a small creek south-westerly (13). Higher up on these hills there is a dark rock with many very small hornblende crystals and single feldspar crystals, this rock seems identical to that on which Mr Bigge's dwelling stands and which forms the lower southerly foothill of Mt Brisbane (14).

The sea wind appears here at present towards evening. You see it long before coming down the valley. The air becomes hazy and somewhat foggy. Finally the crowns of the trees rustle and a cool wind refreshes the skin exhausted by the heat of the day.

The silver-leaved ironbark is forming young shoots now. It has a transparent cherry-red gum and is not very astringent. On the foothill of Mt Brisbane, silver-leaved ironbark, ironbark, bulburr, huge xanthorrhoeas, *Velleia* in pretty blossom, and *Indigofera* (the native vetch). On the rocks the fleshy-leaved *Tetragonia?*, silver everlasting, *Cheilanthes* woolly, mountain balm, and a *Panicum*. Wombalang was growing here too.

**20 October**

Thermometer 87° F.

The bees nest in the dry hollow branches and trunks, often on the highest point of the tree, often almost not much above the ground. The sharp eye of the Black sees the small stingless creatures leaving and entering and even the

greatest tiredness does not only stop him robbing their store of honey, but destroying the whole nest at the same time, by cutting into the tree, taking out honey and bee bread and throwing off the young brood as not fit to be eaten. It is strange that the young brood is extremely sour, whereas the dry bee food tastes like gingerbread. The honey often has a somewhat sharp taste. It seems to me that as soon as the little creatures take possession of a hollow tree, they secure a certain space with wax and the cement peculiar to the bees against the attacks of ants, then they place their nest, and honeycomb below, then bee bread, which they perhaps gradually make into honey and finally the honeycomb for the young brood. The entrance to the nest is a tiny knot hole, which I would not have discovered even 3' above the ground. They lead a wax tube from this opening a certain stretch on the inner wall of the hive, probably to protect against enemies or rain and wind.

My payment was a pretty bean plant and the insight into the geological formation of these hills, which remind me of the rock of the Glasshouses, which for its part led me back to the Puy de Dome and Sarconi and to the dear friend, in whose company I climbed them.

Yesterday evening at 9:30 we heard a soft bird cry, a pleasant melody, which, however, matches our nightingale neither in strength nor in variety.

Two species of bees: Gillah, which makes its

comb finer and its honey tastes better and finer, and kabei, which seems to make bigger nests. {On 2 January 1844 I saw another species on the male flower of *Zea mays*. It was somewhat larger with yellowish bands under the abdomen. Nicki said the bee makes honey, but in smaller amounts than karrwa.} The latter are somewhat greyer and thick-set. In the brush very few durrungum and billan and tibburah (some attractive trees). Also dungann, which occupies a very different locality from Durval here on the rock blocks. Two *Cymbidium* (of Wide Bay) in full bloom. I will also mention a *Crinum* here that grows next to the creek and reminded me of Liverpool Plains.

Boppul Mullo Murrui — Yarra?

Uan Worrui Narambi

Duallim Fom Gutti (this is another species of the so-called iguana, which Nicke called worrui).

Bukkem (Karredo) seems to be an eel, of which the Blacks seem to be very much afraid and nonetheless their imagination increased its form, so they say that it has the head of a horse and that it is very long. It seems to be one of their ghostly forms.

### 20 November 1843

Yesterday evening I arrived safe and sound again in Durrundur on Mr Archer's hospitable station and as always was welcomed in the friendliest manner by the brothers. Having now put my plants in order, I must make up my travel report from Bigge's to Prior's stations and back, likewise the journey up Stanley's Creek.

Before I returned again to Archer's, I rode with Mr Bigge up Reedy Creek, on whose lower part is his dwelling. On both sides narrow flats with dense grass growth, in which the horses now usually graze. Presently there is sufficient water, but in

summer the stream stops running and the water holes dry out, except for some. Higher up, as in all streams of the colony, there is more water than in its deep course. Indeed they often run close to their source, whilst their lower part is dry. If wells were dug, probably water would always be found at a certain depth and it would be interesting to observe at what depth permanent water would be found even in the hottest summer. Three streams combine about six miles from the dwelling, a south-easterly, an easterly and a northerly. We climbed on the hills between the south-easterly and easterly streams and saw a huge mountain in the north, which turned towards the east opposite us and up the northerly creek gradually lead away to smaller mountains. The directions of the other mountain masses from this hill were the following:

\*Mt Brisbane West 5° South

South Creek SSE

North Creek North\*

Range of hills on which the Blacks walk to Brisbane south-east.

The rock is that feldspathic rock, which Mr Archer showed me previously and had called the MacGregor Sandstone.

When I returned with Nicki to Archer's and crossed a high range of hills between Kirkringia and Durrundur, I took the following compass directions:

\*End of Mt Brisbane South 10° W

Biroa East 3° N

Ngawarranurrni East

Dunbobula East 10° South

Nurrun Nurrun South East\*

After I returned to Kirkringia, I killed a long murrui snake. As I removed the skin, I found large numbers of long white folded

tapeworms under the skin. I had already found similar ones in the death adder and regarded them as fat initially. Jimmy mentioned a snake yarra, which Nicki had not yet named to me.

About 24 October I commenced my journey to Prior's station. I crossed several streams, which flow from D'Aguillars Range westerly to the Brisbane. The stream on which Bigge lives is Reedy Creek. About three miles further is Sandy Creek, on which at present is the station for the scabby sheep. Whereas a porphyritic conglomerate is found in a gully in the intervening mountains, reddish quartz rock is seen on the other side of Sandy Creek. In the following small stream there are limestone concretions, also boulders of that rock from which the Blacks seem to make their tomahawks. A third stream is deep between the mountains and these are formed from a pudding stone, whose cement is porphyritic and encloses small greenish bodies, but whose boulders seem to be the various kinds of diorite and syenite. This rock is of considerable expanse and seems to fill the region between Mt Brisbane, Mt Esk and the river with little change.

We saw here the silver-leaved ironbark abundant everywhere, which, however, Jimmy called tunninbin.

From Jones's to Wingate's small trees of ironbark and tuninbin prevailed. The bark of the huts from Jones's station manborri. Puddingstone probably with primitive boulders.

In a water hole between Logans Creek and Sandy Creek, between Jones's and Wingate's, a dirty crumbly sandstone, which, however, seemed to contain some carbonate of lime.

Between this and Sandy Creek a fine-grained, pure sandstone on the road. Here kinigo grows, kulluroar — kurrabi or gnarrabill is the sole tree, which still remains apart from ironbark and manaram. {Gudmunn

*Exocarpos*, Tanmurri the purple ant, burrah white ant, kumburr grasstree, karrua blossoms of the grasstree.}

I will briefly summarize the geological knowledge here again. From Bigge's to Jones's you firstly come over hills of a somewhat decomposed feldspathic rock (porphyry conglomerate), then quartz rock appears on an old sheep station, under it in swelling hills, a tough feldspathic rock with grey spots. In a creek pieces of concretionary limestone and marl appeared. On the south side of the river Jones's station on quartzrock. Between Jones's and Wingate's fine-grained sandstone outcrops, which seems to prevail in the whole region of Lockyer Creek.

The young *Calothamnus* leaves are hairy. I find the white lily usually in numbers together in the poorest and in the best soil. Quartz pebbles in sand on Goodwin's station. {\*Tandallin bronze winged pigeon. Medam Medam brother to it.\*}

The yellow aquatic plant with spongy stem is now in flower too.

On the mountains behind Prior's hut, I found *Thysanotus* without fleshy root in flower. In the scrub, a genuine brigelow scrub, several shrubs were found. The rosewood *Acacia* prevails, a significant tree of 1½ - 2 feet and more in diameter, whose wood smells almost like myall and exudes a yellowish or cherry-red gum and whose flowers form an axial flower head. The phyllodes are stiff and broad. The tree is probably 40-50' tall and perhaps higher. I found a shrubby *Jasminum* in flower, also the shrub with the headed stigma, between Mackenzie's and Archer's, furthermore the pale-leaved shrub of Ottley's, *Triglochin* with tuberous roots, a plumbagien, and a shrub with stiff dentate leaves, almost like ullal. *Anthericum* grows abundantly in the paddock, *Crinum* at a very sandy place covered with quartz boulders. Several grasses, also the woolly grass.

When I returned from this rosewood scrub, I climbed down to the bed of Laidleys Creek, which unites with Lokyers [Lockyers] Creek hardly a hundred paces further. Some almost dried up water holes were still filled with a little water. They were full of frog larvae (tadpoles) and some small fish, whose backs projected from the water and were covered by maggots, as the flies had already taken possession of the unfortunate animals while they were alive.

**(28 October 1843)**

Here I sit like a kingfisher over a long water hole in Lokyers Creek, on a *Callistemon* that bends over the water and shades me with its hanging branches, full of ill-humour about my incessant travel mishaps. My mares disappeared suddenly on Bigge's station about 35 miles from here and because I found no trace, I suspected at first that they returned to Archer's, where they had enjoyed six weeks rest and a good pasture. I returned on foot 18 and 16 miles and did not find them, but I found a large number of my not fully dried plants hidden. Mr Archer gave me a mare and I returned to Bigge's. The horses were not yet found. Then I thought it very probable that the young mare, which I purchased from Goodwin's station, had returned there. I made two tiring day marches there and back in vain. Here three days previously the Blacks had threatened the hut, and the poor inhabitants, a married man with two children and a single man, were pleased to see help arriving. However, the Blacks are making the whole area so dangerous that I risk no large excursions. The inhabitants of the station are without meat for a long time and these three days I have lived on their damper and brown sugar. Tomorrow I am now returning to follow another direction. I found here *Charles O'Malley or the Irish Dragoon*<sup>4</sup> well written, a truthful picture of the soldier's life with all its

change, with all its shallowness; they cheat, love, flirt, come to blows, shoot themselves, dance and ride, then fight courageously and win our affection by their courage, by their free, open, happy nature, even if their damned shallowness and their interminable trifles make us angry with them. Where the author describes deeds or scenes, he shows his well-educated, rich mind. It is as if he had the object of intertwining Maxwell's reminiscences of the Peninsula War<sup>5</sup> with his novel. Major O'Shaugnessy appears here again and many others. How poor is Lucy Dashwood the heroine of the piece? How poor Donna Inez the coquette? How differently would Walter Scott have introduced these women?

I must really think about returning home to Sydney so as to come to terms again with my old books, with my almost forgotten friends. The continuing observation of natural objects, and the description, indeed the necessary description of external conditions exhaust the mind, while it never completely exerts itself. It cannot collect itself, nor scrutinise itself, it cannot digest and throw the unusable stuff away. So it is exhausted, although full of swelling blooming food, which above all things requires rigorous work. Entertaining books, such as *O'Malley*, which transpose me into a new scene, surround me with interesting strange forms, whose deeds and doings amuse, are very desirable companions in this forest solitude, even if they seldom come. You think you are carried back into the European world and dream an exciting, mostly pleasant dream, upon which you ponder[?] again many a day in leisure hours.

**Evening 28 October**

What mildness of the air, what stillness in branches and leaves of the trees; with their flat patterning against the light yellow evening sky, they appear as in a daguerreotype

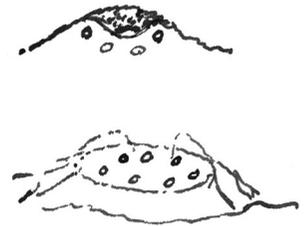
landscape. But the birds sound their evening call, if not melodic in itself, it is, however, always tuneful, almost always strange and melodic in chorus. The mosquitoes are beginning to buzz and to torment, and the flies gradually cease swarming. The light singing of the branches of the wangä gums, the denser darker bushes of the ironbark. The manborri is in flower and fills the air with its sweet scent.

Tu tu tu tirrigo, a bird call. Glücken glücken glücken, another on Balfour's station.

When I returned from Goodwin's or Prior's on 29 October, I saw a small conical mountain rising from distant plains that surround Lockyers Creek on all sides. The unusual position and distance roused my curiosity and I hastened to climb it. As I came to its foot, I found that it consisted of basaltic rock. It is in part covered with scrub, but the south and west sides are tolerably free of it. At separate places on the upper part of the mountain there are bare slopes covered with debris. If you investigate this debris more closely, you recognise the components, 4-5-6 sided, somewhat irregular columns, which cropped out regularly on the other side. These columns appear on the east south-east side rising obliquely towards south by west and in fact at a very small angle. The rock is basaltic with olivine and probably diallage crystals.

The vegetation is very striking and new. Plains are all around and towards the west a mile-wide lagoon. Towards the south-east a low range of mountains, to the east a far blue mountain range, Taylors or D'Aguillar Range. Towards the north-west 10° north, a similar mountain like Tarampa, probably Mt Hallen. Towards the north Mt Brisbane. Before it low ranges of hills. Towards the west the coast range. Gap south 35° west.

It was interesting to see in the scrub of the Brisbane the arrangement of the eggs of the bush turkey *Lathamia* and to observe their different development. The good eggs, white, of the size of a goose's egg, only more oblong, had a fine rich taste. There were young in some of the eggs, which friend Jimmy consumed with just as great an appetite, but some eggs were bad. It seems that the bird at first heaps up the earth somewhat, then lays the eggs, which it covers separately and finally tops up a funnel-shaped depression with lighter leaves and humus. However, I must still make this out. The position of the eggs as well, which eluded me.



The basalt ridge cone Tarampa on Wingate's station. The hill is about 400' high.

A *Mimosa* in flower was also found in this scrub, a handsome tree with larger flowers than the usual *Acacia*.

I returned to Bigge's on 30 October and again looked in vain for my horses for several days in the neighbourhood. Mr Bigge was so kind to loan me a horse so as to continue my journey with him. On 5 November I left and went to Scott's on the bank of the Brisbane below the junction of Stanley Creek and Archers Creek. About two miles from Bigge's there is a small plain covered with *Xanthorrhoea* with a rich loose black soil and limestone concretions. The rock of the hill is pudding and conglomerate. The latter becomes visible particularly on the sandy hills before Scott's, below which several chains of waterholes with reeds growing around them, which fill the valley basin, the basin sloping towards the Brisbane. It is very noticeable that the box here usually grows on a poor soil. At least the box forest stands out by the denseness of its grass vegetation. However, I should not be surprised if this box were different from that which covers the basaltic soils. Here I also saw a very long thin greyish-green snake, which very hurriedly fled. The surrounding mountain masses of this region are the southerly end of the Brisbane Range with Mt Esk in the west on the other westerly bank of the Brisbane and the Scabby Sheep Range in the south on the easterly bank. The conglomerate was observed at several places, on the bank of Reedy Creek, below Mt Brisbane, along Emu Egg Creek and in the range of hills before one climbs down to the plain opposite Scott. In the bed of the river I found a large tabulate piece of scoria and only a single one besides pieces of quartz, milk white, grey, and bluish-grey with pyrite. Furthermore there was diorite, the one with equal mixture of feldspar and hornblende, or feldspar predominating, or the latter very little. Then also some decomposed rocks. A third series

are quite feldspathic in nature, an earthy cement adhering to the tongue with more or less feldspar crystals. Finally a conglomerate and a rock that seems to be arkose, however it might indeed be primitive.

In the river I found three different species of bivalves, a large thick-shelled one with two protruding dentate tubercles in the hinge, one valve with two, the other with a longitudinal fold.

2. The valves are much thinner, wide, purple-coloured (but not universally), the teeth compressed, two longitudinal folds in one and one in the other, this latter has another smaller one over the large tooth.
3. *Cyclas* inflated, three diverging teeth, which engage in the corresponding sockets. One longitudinal fold and one (in the left), which corresponds to a longitudinal groove in the right.

On the north-east side of the river, perhaps two miles from Scott's, a range of hills with strange puddingstone from Emu Egg Creek. Here there are diorite and augite porphyry and quartzose rocks enclosed in a crumbling feldspathic rock.

The river is accompanied by a low chain of dioritic rock that protrudes in small round bodies. As you go over the forested plain west towards Mt Esk, boulders of flint rock become visible again. You cross a kind of foothill or embankment, where a feldspathic earthy, much decomposed rock outcrops and finally you find a kind of domite and earthy trachyte on Mt Esk.

*Castanospermum australe* occurs here in flower. The red flowers form short racemes and stand out from the leafless part of the branches, whilst the dark green compound leaves are on the end of the branches. The delicate red and the dark green make a very pleasant impression.

Below the hills along the river the narrow-leaved kangaroo grass grows, in it the violet flowers of *Thysanotus* with its pinnate petals appear everywhere, the pinnae crowded with fine glands. Also the Carro Creek legume grows here abundantly. Where the river bed begins, which is indicated by the swamp *Casuarina*, grasses with fresher green appeared, the large bushes of yellow oats, a squarrose[?] *Milium*, the genuine native mustard with pinnately divided leaves. Bunches of *Xerotes*, [...] *Sonchus*. Along the river itself *Calothamnus* and kulu, which is beginning to flower. Here the wool oat grass, the native bean, the prickly umbelliferan and a peculiar ranunculacean with few (3-4) filaments and many capsules also grow. The forest floor towards Mt Esk is covered with ironbark, manaram, moreton bay ash and manderoljan. {foi foi foi foi}

The canes of the nettle, often 10-12 feet tall and taller, form an almost impenetrable thicket around the small stream scrub. The

alluvial soil is furrowed everywhere by gullies. On the river bed a cyperacean, on the high sandy bank a bean very abundant and the small legume of the Gwydir and two other legumes almost woody decumbent plants. Mr Scott's plain is covered with blady grass (silver tail), between which a bunch of kangaroo grass stands out here and there. *Oxalis* and an amaranthacean.

As you go down from Scott's to the plain, rocks outcrop, which are very much decomposed and are coloured earthy bright yellow and red, almost like both the lead oxides.

On the track to Maconnell on the easterly side of the river, a composite with *Bellis* flowers, lanceolate, whitish green leaves.

Along the westerly bank not far from the place where the track from Scott's and Bigge's to Maconnell's crosses the river, there is a long river "mountain brush" with many pretty, highly prominent *Araucaria cunninghami*.



I was often asked what caused the strange division of the mountain scrub. Often they appear to hang in restricted dark spots on the mountains, neither reaching up to the peak, nor extending down to the foot. Often it extends many miles along the mountain and descends down from the peak to the foot, whilst probably accompanying the streams far through the valley. I have seen scrub in all directions. Nurrum Nurrum and the Wide Bay scrub are on the northerly slopes of the mountains bounding the valley on the south — the scrub under the south end of the Brisbane Range looks towards the south. {(Likewise the scrub of Durrundurr).} Scrubs cover the westerly and easterly slopes of the Brisbane Range. However, it seems that the easterly slopes that are exposed to the moist east winds are covered by larger denser scrubs. Northerly and southerly scrubs are usually well developed where the sea air flows up a valley extending from east to west and its moisture deposits on the mountain slopes. I have already mentioned previously the scrub of Piri and Mt Royal and their strange position. There the distinction between the dry west and the moist east wind is so great that the scrub on the heights of the mountain seems cut off as with a knife, the whole west side remaining free and is covered only with grass or with open forest. I have often found the so-called scrub embryo. Loose heaped-up masses of stone, as are often found on the mountains of igneous rocks, are not so well placed to attract the moisture of the air, as to preserve the moisture in consequence of rain, fog and dew under and between them. If now seeds of the trees of the scrub fall into such a mass of stone, they do not fail to germinate and to grow. I will mention here a small patch close to Sandy Creek Ravensworth, where some *Acacia*, a nettle tree and some other scrub trees twined around by *Smilax*, *Tecoma* and some other bush vines grew under a rock wall on loose piled up masses of stone. Gradually

the falling leaves and rotting trunks fill the gaps in the rocks and form a rich soil, which now on its part becomes capable of giving nourishment to other trees. So the scrub seems to grow only slowly. It follows the moisture and accompanies streams to the valley and is found along the banks of rivers and often amounting to several miles in width. The rock is certainly of great influence on the formation of the scrub, but it seems to me that roughly speaking the more slowly the rocks absorb the moisture the more favourable it is for the dense vegetation of the scrub. Thus I have never seen scrub on sandstone, but on diorite (Mt Brisbane) (Archer's), syenite (Maconnells), clayslate or talc schists (Durrundurr), a conglomerate at Nurrum Nurrum, and clayey conglomerate (Durramba). A very sparse scrub accompanied a domite (a feldspar porphyry) at the foot of Mt Esk behind Scott's station. Usually the plants appear in thickets on the outer or weather side of the scrub at first. Thus I noticed in such a brush embryo in proximity to the Durramba scrub, the woolly *Solanum*, the yellow, woolly podded legume of Nurrum Nurrum, *Dianella* with beautiful, sky-blue, edible berries. *Tecoma* with samara seeds of the head, *Ripogonum*, *Smilax*, and the brush *Mimosa*? Here a *Euphorbia* and a *Notelaea* as a large 1' diameter long-lived tree were found too.

On the hills above the scrub a flesh-coloured, earthy, feldspathic cement with feldspar crystals appears, whereas in the scrub, the pudding stone with diorite boulders outcrops. On these hills the large grass tree grows again. Where there is a small confined scrub on the track, diorite rock is strewn around in loose pieces.

On 11 November I arrived at Mr Maconnell's station. He has a very comfortable dwelling and his run here is very suited to raising cattle and sheep. Usually this run is regarded as the best in the whole district. Mr Maconnell

now has 1300 head of cattle and about 10000 sheep. His lambs give 95-97%, which is extremely favourable. The cattle keep to some open flats under these mountains and the sides of Stanley Creek. The sheep are in a more hilly area at Cressbrook.

Mr Mort showed me the lower jaw of a Black (Commandant), whom he shot in hand to hand fighting. This jaw was extremely strong and wide, 5" from one glenoid process to the other (from outside to outside), between the condyloid process 4". The skull coronal roof was extremely thick and showed previous injuries in two depressions, probably by the spear. The casing of the glenoid process was  $4 \frac{5}{8}$ ', between the last molars  $3 \frac{3}{4}$ '. The last molar had a slight hole. The molar and incisor teeth were worn down; the enamel was broken off the incisors.

{On 13 November the thermometer here was 62° in the morning, 87° at about two o'clock.}

On 13 November I went to the scrub about two miles away. Here and there in the creek at the start of the scrub there is a *Castanospermum australe* in red flower. A *Melaleuca* with small linear-lanceolate leaves is covered with snow of white blossom and also durrarwar is in full bloom, although less decorative flowers (six perianth leaflets, six filaments opposite the perianth leaflets, three filaments around the small pistil, yellow glands between the filaments). The native elder *Tripetalus?* is in [...] fruit. Tall reeds cover the banks of the stream; also a broad-leaved, fresh green grass is abundant. The peculiar flowers of the poisonous *Caladium* with fine, large, oval, heart-shaped leaves fill the air with a somewhat too pungent violet scent. The stream balsam is in flower as well and a new species of branched *Blechnum* covers the steep stream banks.



As I came up to the scrub, I first found a rock that resembled Bigge's foothills, greyish matrix, fine feldspar and hornblende crystals, then a syenitic diorite. A rock that resembles the white granite and syenite with large feldspar and hornblende crystals in equal proportions. On the outskirts of the scrubs and only where a large measure of light penetrates into the interior, I found a labiate? with reddish flowers, two filaments, the corolla tubes deeply divided into two lips, and allied with female and male flowers and a stiff-leaved, dark green shrub in bud. A tree was covered everywhere with small accumulations of a transparent gum. This was in consequence of insect frass issuing forth. The insect larvae live in the holes penetrating into the wood. The meulan was extremely abundant. The sassafrass with yellow, aromatic, bitter bark was found as well. I saw a large number of bees on the resin of a moreton bay pine, but occupied with collecting honey. {I found this tree later on the Downs in Mr Bracker's paddock scrub.}

You cannot imagine what a rich impression the moreton bay chesnut *Castanospermum australe* makes with its dark green pinnate foliage and the short racemes of red and yellow flowers shooting from the branches and next to it is a *Melaleuca* with linear lanceolate leaves of pale green colour adorned as with a cloth of white honey-scented flowers. So on the banks of the rivers and streams colours succeed colours now, one as beautiful and then more beautiful than the other. After the red *Calothamnus* finishes flowering, the white *Melaleuca* and the red and yellowish *Castanospermum* come. Already the buds of kullu mistletoe are developing, which probably in two weeks will be a new adornment of the murmuring streams or of the tranquil waterholes inhabited by tortoises and *Ornithorynchus*. I visited a mountain scrub north of Mr Maconnell's dwelling. The rock is syenite or diorite, while as far as I can see quartz is absent. The pieces

14 November

angular, heaped loosely over one another. Rarely have I seen a scrub on such a generally stony soil, although it seems to me as if they always begin from a similar focal point.

Mr Maconnel showed me rock types from the sheep station. Here the same syenitic, dioritic rock appears at the foot of the hill, whereas conglomerates rest on it. Graham and Ivory's mountain range is also formed from it. This mountain range of Graham and Ivory runs from north to south and is broken through by streams. Mr Maconnell called the southern part Noahs Range, the northerly Biah Range.

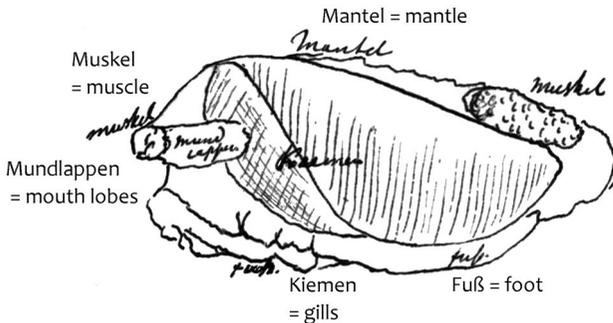
Today I rode with Mr Mort to the sheep station. At the second station were rounded syenite or diorite blocks on the surface at the southern foot of a low longitudinal rise, whereas the heights and slopes show pudding stone with quartz in indurated clay pebbles. Here I also found an angular piece, probably belonging to the conglomerate, which enclosed feldspar crystals in tough flesh-coloured cement. Cressbrook has a wide sandy bed and on the third station is overgrown with dense reeds. Mr Mort told me that they washed sheep in the large waterhole and that the water gives the fleece a reddish colour, likewise the skin of the men who bath here. He also said to me many flakes of mica are seen shimmering in the sand. However, I did not notice them further down.

The sheep are merinos in good condition. Lambs the previous year 97%, this year 95% is expected.

When we returned home, I found a decomposed reddish rock with white masses, probably decomposed feldspar crystals, and on the hill silver-leaved ironbark not too common.

When we went to bathe, we collected all the grasses that we could find on the way there. There were 20 different species, 3-4 cyperaceae, and two *Juncus* species. I must, however, remark here that *Anthistiria australis* is by far the most abundant, that after it the silver-tail or blady grass covers the flats on the bank and that the majority of other grasses only grow on the streams and on the bank of the stream or river.

A bird the size of the small jackdaw was shot by Mr Maconnell in the casuarinas along the stream below the garden. Insectorial feet, long tarsi, beak moderately long, somewhat broad at the base, wings short with about the 4th feather(?) the longest, colour canary-green and greyish-green, an upright crest, wedged tail.



Freshwater mussel *Unio* from Brisbane (Stanley Creek)

\*one round tubercle in the left, a long compressed one in the right valve with a slight indication of a second above it, one fold or ridge in the right, two, the upper one small in the left.\*

Mr Maconnel has prepared a very good map of Stanley Creek. General direction from north and north-west to south. Tributary streams from west to east and from east to west. The former Cressbrook, Adiramba and Murengi Creek, Emu Creek, Wallobi Creek; the latter Sugarloaf Creek, Niara Creek, Springy Creek, Kangaroo Creek. Several others lie higher up.

A *Caladium* leaf was boiled for half an hour. Although it lost much, yet it still tasted very sharp and even this morning the tongue feels a certain soreness, nothing was swallowed of course.

Thermometer yesterday evening at 11 o'clock 76°, day before yesterday 72°, today the whole sky overcast, yesterday a kind of haze in the atmosphere.

**15 November**

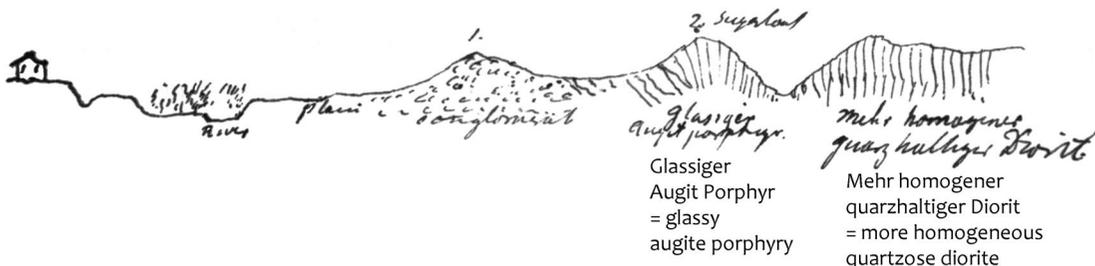
I went up to Mr Maconnel's Sugarloaf, the range of hills on which you arrive is conglomerate. In the creek that comes from the mountains, which are covered with scrub, there is syenitic diorite and brown hornblende porphyry and conglomerate.

On these hills here I found a legume with numerous almost recumbent stems, the leaves pale green, three juga, leaflets oblong. Ironbark. In the saddle diorite appeared with an almost glassy cement with glassy feldspar crystals and very fine hornblende or pyroxene crystals (augite porphyry). An extremely attractive greenish rock, almost glassy fracture with large feldspar, augite and pyrite crystals present under the second conical hill.

Large blocks of rock lie on the western slopes of the cone at the back. Mountain ranges appear in the west. There is a gap between the western peak and the flat-topped hill range. In front of this a lower one.

The same dioritic rock, however, with smaller components contains white quartz on the mountain behind the Sugarloaf, which is connected with the main range.

In the Sugarloaf Creek, we found pudding stone, conglomerate, grey diorite, feldspar porphyry with crystalline cement, quartz rock, and feldspar crystals in the quartz cement. It is a grey earthy cement with feldspar crystals with violet feldspar. Brownish diorite.



Section from Mr Maconnel's dwelling to the Sugarloaf and the mountain that connects with the main range (Brisbane Range).



Section of the saddle (gap) and the Sugarloaf on the track from Maconnel's to Balfour's south from Aduramba Creek.

In the chain of lagoons between Maconnel's dwelling and the woolshed, carbonate of lime is deposited. Mr M. said to me that a strange locality is found on the right of Duramba brush, which looks almost like an old mine. He showed me a soft, white, loose crystalline rock, which at first I took for hornfels magnesia (bitter earth), but which probably will be loose piled up feldspar crystals.

#### 16 November

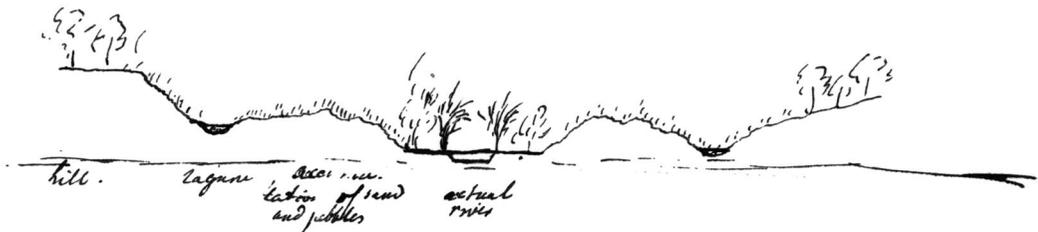
On Wednesday I rode to Mr Balfour and Mr Maconnell accompanied me to Balfours Sugarloaf, which we climbed together. We rode up to the river. Moderate ranges of hills to the left. All seem formed from a grey conglomerate that now and then changes into pudding with small boulders. This rock also comprises the largest part of the north-west side of Balfours Sugarloaf. As you come up to the flat peak, you are again on the syenitic, dioritic rock, greyish and reddish with equal portions of hornblende and feldspar.

I found the grey conglomerate particularly in a waterless ravine with narrow boulderless rocky bed, in which gundilbi Ch[arley] and another shrub or small tree (with binary flower parts) grew on a vertical bank. Also a fig tree grew here and a woody 2-3' high plant (or shrub) with four yellow petals, which seems to belong to the Onagraceae.

It seems to me therefore that the whole region between Cressbrook and Adurramba, even Emu and Wallobi Creek the other side of Balfour's dwelling is conglomerate, which in Noah Range and Biah Range and in some other points was broken through by syenite.

Also pieces of petrified wood are found on this mountain. The river is surrounded by dense reed scrub.

I think I have mentioned previously that river and stream beds on both sides are frequently accompanied by lagoons, particularly where hills bound the immediate area of the river. The following section makes these relationships clear.



The lagoons or waterholes are overgrown with coarse grass or reeds. Between them and the river are hills formed of sand, boulders and debris and covered with blady grass. If alluvial flats with black soil extend on the sides of the river, lagoons are usually absent. The bed of the river consists of two parts. The one to which the water rises only during larger floods is covered with boulders and overgrown with swamp oak, the latter going up to the edge of the flowing water, where *Calothamnus* and *Melaleuca* also grow. The *Castanospermum australe* appears in the rich places, often on the steep banks. Often the mountains lying between the lagoons and river are incised many times and divided into small mountains, as for example near Balfour's where the hollow under the hillock is not filled with water.

Mr Balfour's woolshed and woolpress are effective, the latter a very long heavy lever, which is moved by pulleys and windlass on the end of the winding tackle.



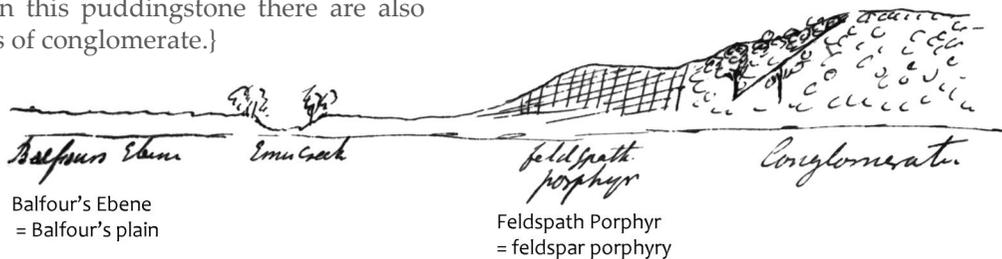
He seems to me to be correct when he says that good wool and good herds are only obtained when the owner fixes a certain number for his sheep that he does not exceed, each year selecting the old sheep either to sell, or for his own use, or for boiling down. {e.g. 15000.}

**17 November**

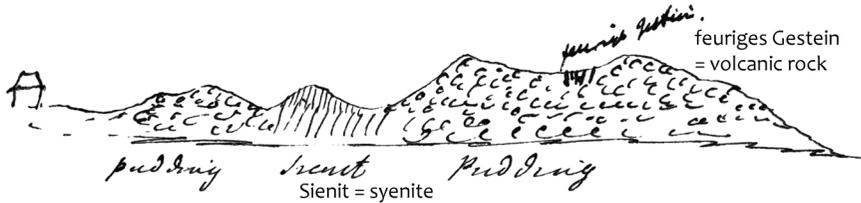
In Emu Creek I find a kind of psammite and quartzite On the hills south of Balfour's a strange feldspar porphyry with very long narrow feldspar crystals in grey and iron-coloured cement. {Mt Esk is about 160°.}

Balfour's southerly mountains show an arrangement the inverse of Balfour's Sugarloaf. At the foot we found a feldspar porphyry with long narrow crystals and at the second higher hill puddingstone! This mountain belongs to a chain in which narrow ravines are washed out, between which stand similar almost stepped crests. In the ravines on the mountains the tall grass tree grows. The general direction of the journey seems west south-west, the single ridge from west by north — east by south.

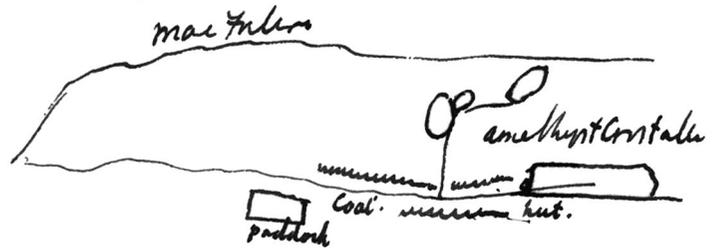
{It is strange that besides quartzite and diorite in this puddingstone there are also boulders of conglomerate.}



Section from Balfour's to the south chain.



Section from Balfour's to the western hills.



I climbed one of these mountains west of Balfour's station on the northern bank of Emu Creek. These show pudding stone everywhere and only at one restricted place did I find volcanic rock and indurated clay. When I returned to the dwelling I came to a hill, which was formed from syenitic rock. East from this pudding and conglomerate were found again. The highest chain strikes from 330-110 towards north north-east, a wide basin bounded by a mountain range, which sends out small branches towards the basin.

Mr Balfour junior told me that he found beautiful quartz and amethyst druses close to Byron Plains in a place called Rocky Creek, which previously was grazed by Balfours, later by Rob. Mayne, 20 miles from Cameron's (Watersford). This creek is 1½-2 miles from the old hut on the edge of a small plain, a branch of the main stream, very deep and rocky. One of the shepherds found a large piece of coal in a wall of rock in the main creek.

{Memorandum. Amethyst druses and coal in a stream that flows into the Macintyre.}

On 18 November I returned to Mr Mackenzie. As I came up to the main chain, I found the dark diorite of Mt Brisbane. From the highest crest Biroa was seen. In a ravine a rock outcrops on the track that encloses tough angular debris in a coarsely parted[?] diorite (between Balfour's and the main range).



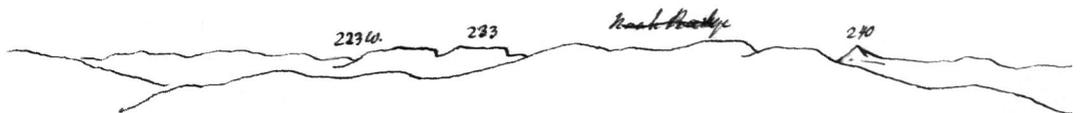
Mt Esk seen from Mr Scott's plain



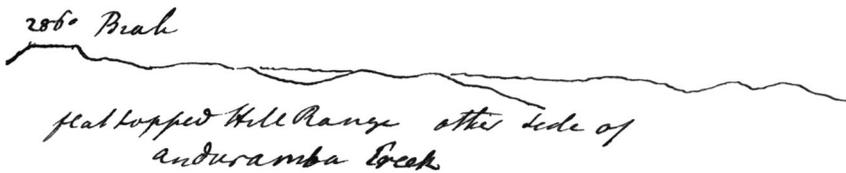
Brisbane Range and Scabby Range from Maconnells Sugarloaf.



The mountains covered with scrub north of Mr Maconnells Sugarloaf



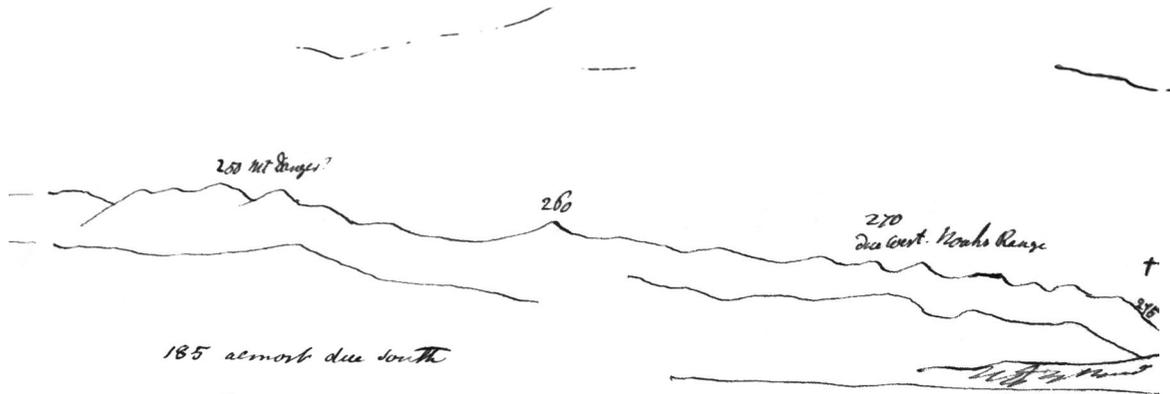
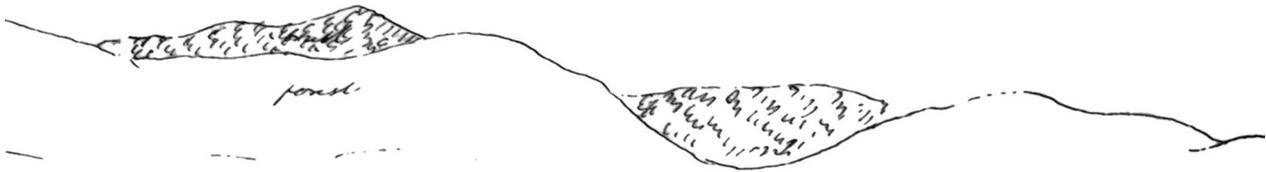
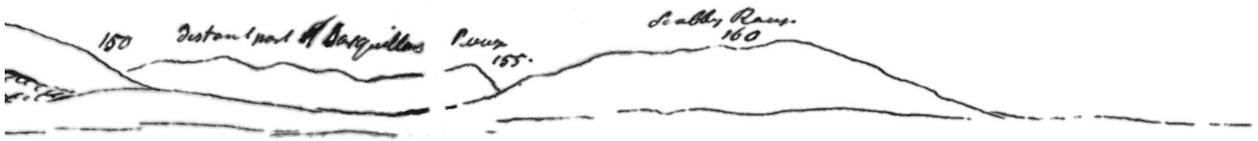
Mountain range west from Maconnells Sugarloaf.



\*Flat topped Hill Range other side of Anduramba Creek\*

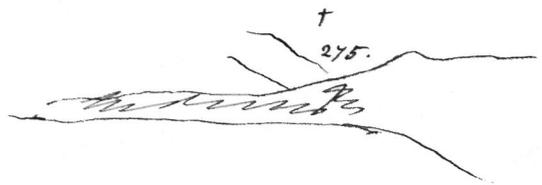


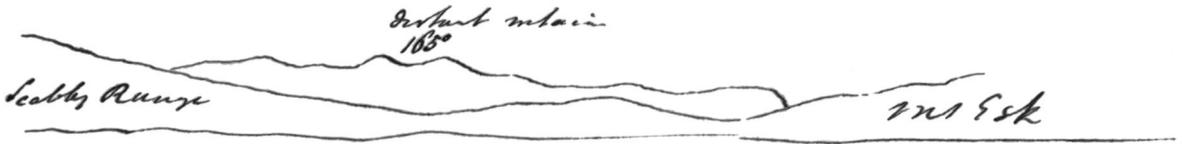
Mt Esk seen from Maconnells Sugarloaf.



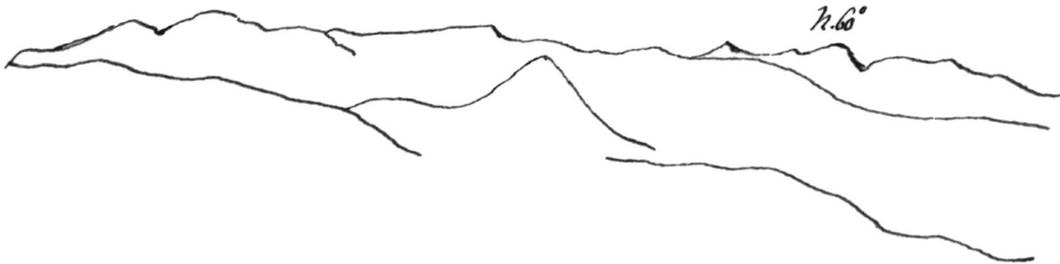
Two distant hills seen from Maconnells Sugarloaf.

\* Two distant Hills seen from Maconnells Sugarloaf.\*

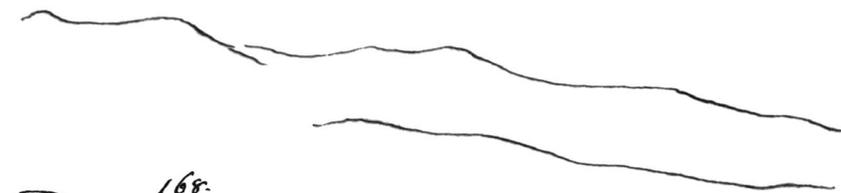
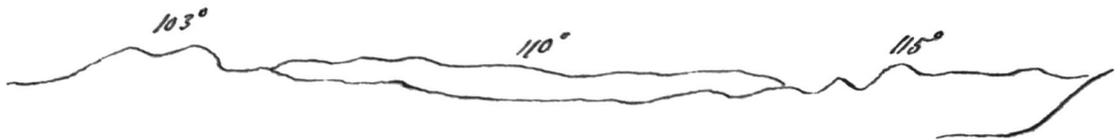




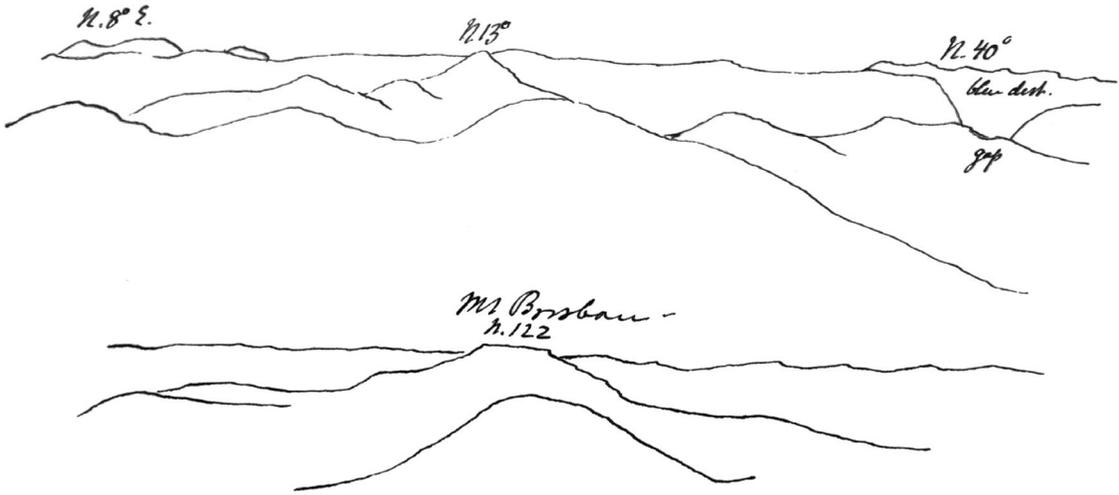
Seen from Mr. Macconnels Sugarloaf  
\*Seen from Mr Macconnels Sugarloaf



Views from the Range  
Views from a Range

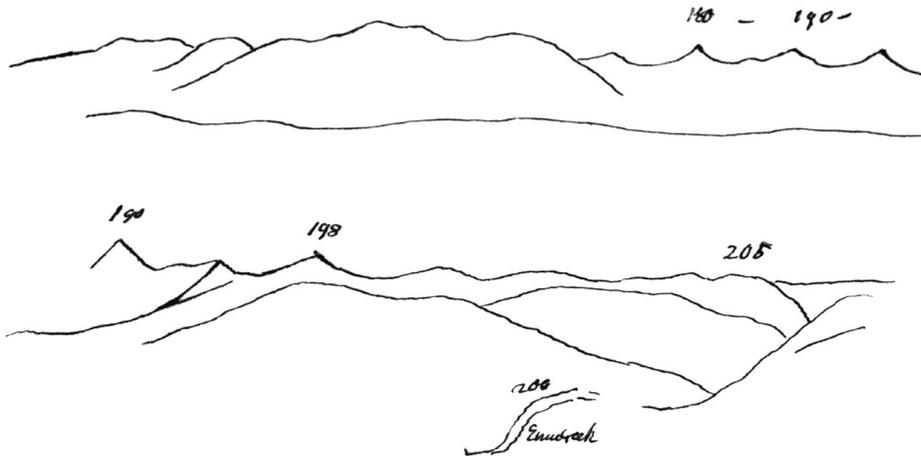


Views from a Range west of  
Balfours North of Emu Creek  
Views from a Range west of Balfours North  
of Emu Creek\*

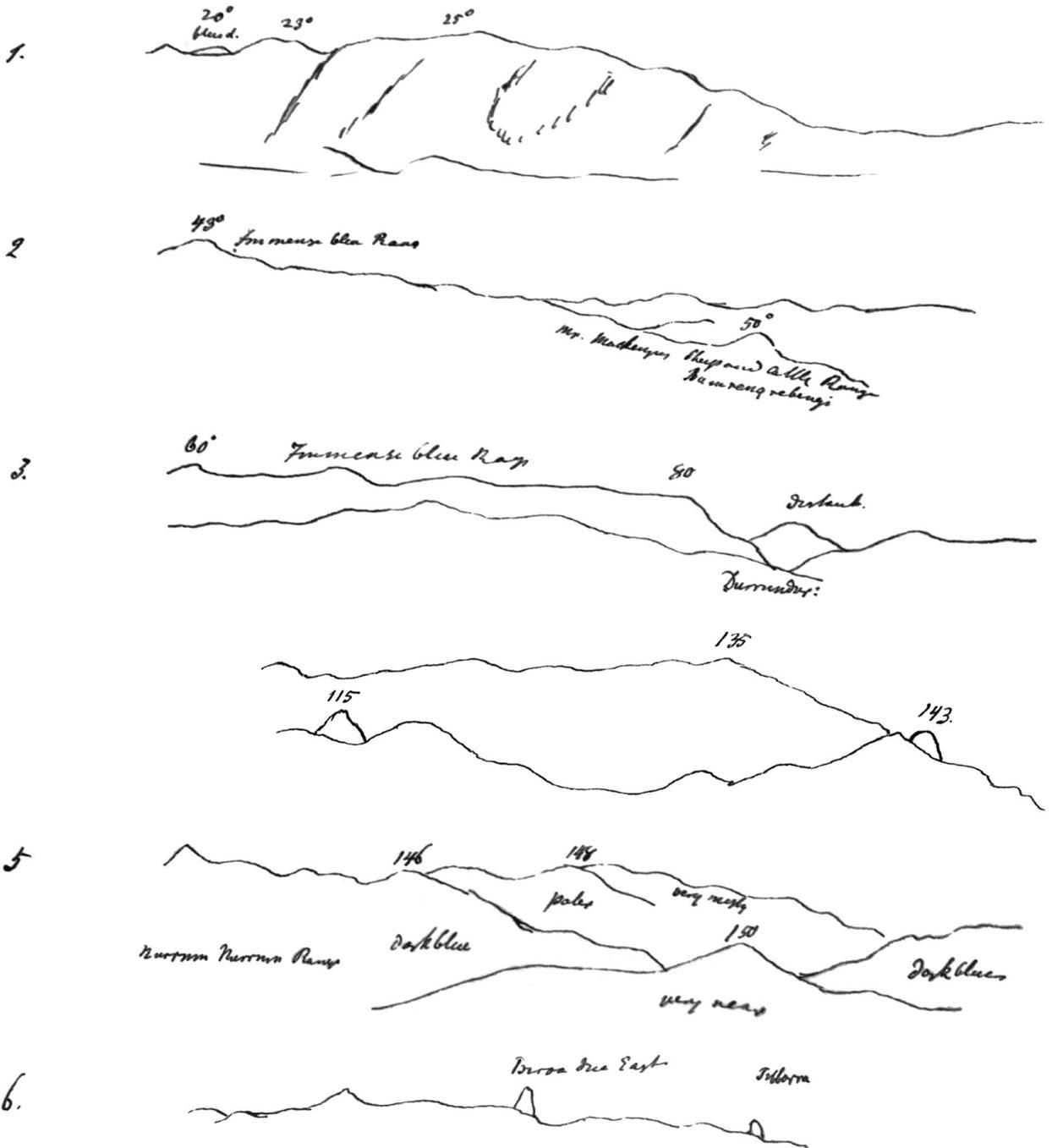


Mr Brisbane -  
A. 122

South of Mr Balfours  
due south of Mr Balfours



Emu Creek ?

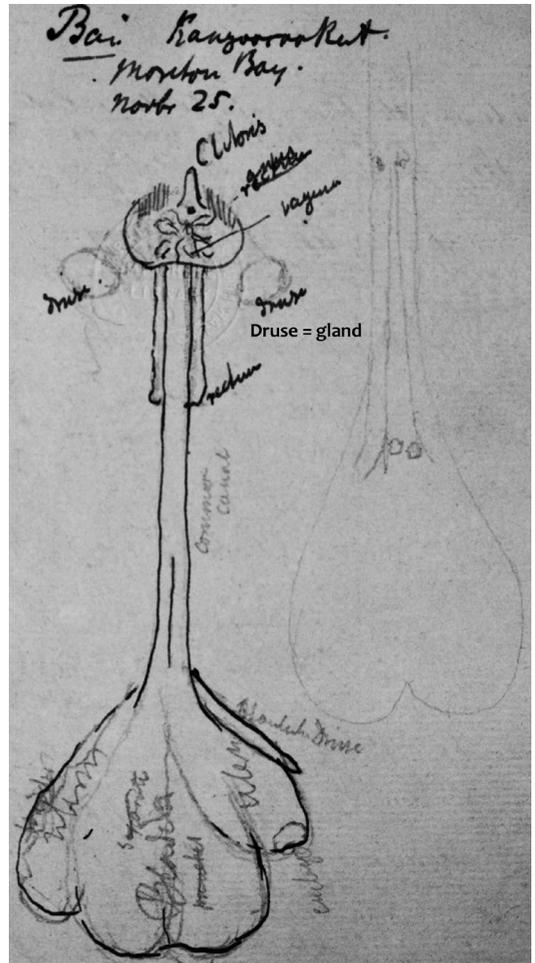


Rock types

1. A very hard flint conglomerate of the scrub of Nurrum Nurrum, of grey colour with small pieces of reddish brown flints and as it seems grey hornstone, several feldspar crystals and quartz grains.
2. A conglomerate with earthy almost friable cement, but very solid with reddish pieces of flint with quartz grains and small white pieces of quartz.
3. \*rock probably mixed of quartz and talk found on the mountain north of Archers Head Station in Talkschist.
4. Rock of light grey intermixed with many black points of Hornblende (probably a rock of Biroa changed by bushfires —
5. Rock composed of Quartz and feldspar with veins of oxyd of iron (fine layers) from the brush of Tschentschillum.
6. Rock which seems to contain feldspar and talk. Tschenschillum.
7. Specimens from the Bunya Bunya brush. Hornblende crystals very distinct (Hornblende porphyry) It resembles very much the rock of Boople as well in the porphyry as in the more uniform varieties, when the elements are small.
8. Rock from the most southern Glasshouse. Many cristals of feldspar in an earthy cement which is highly coloured with iron.\*

**November 25**

A very interesting case. A young one just born in the outer pouch, another very little developed, the eyes weakly indicated with



the placenta attached to the uterus. A third indicated close to the walls of the uterus, still no clear placenta formed. There are two different uteri, but how they are connected to the bladder, I could not see with my limited means. Under the clitoris is a small opening, which probably belongs to the glands, then rectum, then vagina.



\*Views from the Range between Balfours and Mackenzies\*

### 3 December

When I came from Balfour's to Mackenzie's, I found a letter from friend Durando, who wrote many bits of news from Paris and gave me, as often previously, great proofs of affection and friendship. He had shown my first letter to Mr Brogniart and the latter wrote to me that he could promise me a good price (5 francs per specimen) from the museum for a collection of wood from Sydney and New Holland. Also Mr Renault, a young man, whom I assisted by word and deed in Paris, was useful. He spoke to Cordier and the latter wrote to me that he promised me the price for a rock collection (6" long, 5" wide) of about 500 francs worth. This mass is, however, so difficult to keep and will require so much time that I would probably not agree to it. These letters pleased me extremely. Durando interspersed his with such a lot of news, of scientific notes, of sentences and verses having reference to our endeavours that I really found great pleasure in the reading of his letter. I felt, as usual, when I suddenly became aware again that my items would also be useful in pecuniary respects and are probably able to make me independent. I have seriously thought of settling in this district and perhaps purchasing an allotment in Brisbane. I would then go to Sydney during the autumn months to work with my friend Mr Lynd. Now comes another point just at the right time. Dr Charles Nicholson has proposed a motion in the Legislative Council to undertake an expedition to Port Essington over land and to unite both these settlements with one another. It is very probable that this motion will be carried, particularly since Dr Nicholson said to me previously he had the intention to undertake an expedition for investigation of the interior. I have written to Dr Nicholson to remind him of me and I hope that he will plead my cause, should I not be present. Here I am occupied in the scrub every day looking for fruit

and flowers and felling trees. Often I am so extremely tired, when I valiantly swing the axe all day long. However, even during the effort of felling, the thought of a new find encourages me and even the poetic feeling is rewarded when the thick trunk begins to crackle in the dark stillness of the forest and then the tall tree breaks thunderously through the neighbouring trees, tearing the twinning stems, with which the lianas are tied up on the high tip and striking down the young trunks and lateral branches as well. So poetic enjoyment, scientific passion, the feeling of peace after a significant effort and even the thought that I am working for bodily independence combine to make this moment, in which I am contemplating the tree just thrown down, extremely pleasant.

\*Kanggull Echo

Adieu and believe me always most affectionate yours

Believe however, my dear that it is the sincere expression of a heart entirely yours.

Tundurr the larva of a beetle, white with horny maxillae in rotten trees near the brush

Yull-la the *Banksia*, the blossoms of which contain so much honey and form the honey ground at Wide Bay, the blackf[ellows] of Wide Bay call it Tannmarra - Yunmonde Wide Bay, Danbar Brieves island Bl[acks].

Birrwil the eatable breadlike fruit of a vine growing in the bush

Duallim the little lizard called Binnangaramin (Simon)

Uarram (the Iguana- Jacky) Dunnam Brickm. Narram (Simon)

Binni (Brickm.) Babbull (Jacky) Gungo (Simon)

Bulle honey Gutta Simon (bee Dummung)  
Killah Jacky (Ugurr) Gutta Brickman (Dibing)

Mambo *Helix* Nicki  
Bunnbunn Swamp pheasant  
Grasstree *Xanthorrhoea*: Karwa (Nicki)  
Kummurr (Gummerigo, who was called so because he made spears of Kummurr when a boy[]).- Dakkabill  
The bullrush Uikkelbill - Wirrang?  
Wai-i Iguana (Charl[ey]).  
Uongai Carpet snake not poisonous  
Murray long snake very poisonous  
Mullo black on the back and whitish red on the belly blacksnake  
Mundullum (Jacky) not long in colour much like sleeping lizzard death adder  
Ngabbabang Charl[ey]/Korrodo Dandarra Badda the little brown striped lizzard.  
Bikki (Bi) Ch[arley]. *Seaforthia*  
Ballengar[?] fish  
Dulli seaweed of the Mangrove brushes  
Giunamm the crab which was eaten in Durval  
Dinnburr locusta is not eaten by these blackfellows but by those of Wide Bay. (Nicki)  
Nandaya the fish, of which we found heaps of scales at Durval  
Dumgulri Nicki brown field bug  
Gnurrunn Emu  
Beppa Nakatan huppi- Geom bird  
Dirriya black Cackatoo [Cockatoo]\*  
Kuggulurr a *Hydrophilis*  
Mebir water tortoise  
Gando Nicki gnarr[?] Charley.

\*Gillgill rallido Ch[arley] the blue Rosella of which I had pretty large young ones the 24th November.\*

Wrote to William and to dear mother on 27 August 1843. I believe also at beginning of July to have written from the mission. I wrote to William at the end of November and took the letter with me on 4 December.

\*Resin 4 ounces

Bees wax 3 ounces

hogs lard ½ lb

Common turpentine 6 ounces dissolve these in a pipkin with a gentle heat, add 2 ounces of fine powder of verdigris, stir them well together, with a stick and strain the whole through a course cloth, set it aside to cool for use.

Hot vinegar against heel balls, pressing the heels with very hot hogs lard or butter

Swelling in consequence of the saddle

A greasy dishclout laid on hot and a cloth or rag over it, bound on a quarter of an hour with a circingle and repeated once or twice will sink it flat. If slight wash it with a little water and salt\*

26 Novb. Wrote to William, Schmalfuss, Murphy and Mr Lynd. Took the letters to Sellbet 4 December.

My letter to Schmalfuss was forwarded to Gossner by the missionary society.

Yull

Murram

Boram

Garangall

\*17th Jan. Wrote to William\*

**End of Diary 3**

## □ ENDNOTES

1. Ophelia, a character in William Shakespeare's play Hamlet
2. It will be pleasing to have remembered these things. Part of a line from Virgil's Aeneid.
3. A very popular Viennese song composed by Marx Augustin in 1679
4. A novel by Charles James Lever, first published in 1840
5. William Hamilton Maxwell, *The bivouac: or, Stories of the Peninsular War*, first published in 1837