

NOTES OF RAMBLES IN SEARCH OF FOSSIL REMAINS ON THE DARLING DOWNS.

*Read at the usual monthly meeting of the Queensland Philosophical
Society, 7th December, 1875.*

At the request of a few of the members of this Society, I have consented to give the benefit of my experience as to the localities on the Darling Downs where the fossil remains of extinct Marsupials have been found. The Downs is worthily called the "Garden of Queensland," as it is capable of returning the grazier and farmer a large profit for his outlay; and to the scientific man it contains treasures innumerable and invaluable. It has often been a source of wonder to me that, where these specimens are so easily got, there should not be even one of our legislators who would say a word in favor of a systematic search being made, and these treasures thereby unearthed and recorded in the annals of Science. At the suggestion of Professor Owen, the Legislature of New South Wales voted £150 for the exploration of the Breccia Caves, Wellington Valley; and two scientific men—Professor Thomson (of the Sydney University) and Mr. G. Krefft (of the Sydney Museum) were sent out, and they were fully repaid for their trouble; or, as the *Times* of December, 1869, says, "With astonishing and unexpected results." It may not be out of place to give the following note on the Downs by Dr. Leichhardt, which accompanied some fossils sent home July 10th, 1844:—"The Darling Downs are extensive
" plains, formed by broad shallow valleys, without trees, covered
" only with grass and herbage, which grows luxuriantly on the
" rich black soil, in which concretions of carbonate of lime are
" frequently found; ranges of low hills, forming long simple
" lines with sudden slopes and flat-topped cones, accompanying
" these valleys, and having an open forest formed of various
" species of stunted Eucalyptus. All these hills are formed by
" a basaltic rock, containing frequently crystals of peridote, and
" being often cellular—sometimes real scoria. The base of the
" rock, however, is feldspathic; and as the peridote is frequently
" absent, the rock becomes uniformly grey, forms a white globule
" before the blow-pipe, and is therefore to be classed among the
" trachytes or phonolites. The plains are filled by an alluvium
" of considerable depth, as wells, dug 50 to 60 feet deep, have
" been sunk within it. The plains and creeks in which fossils
" have been found are—Mr. Hodgson's Creek, Campbell's Creek,
" Mr. Isaacs' Creek, and Oakey Creek. They pass all into and
" through immense plains on the west side of the Condamine,
" into which they fall. The bones are either found in the bed of
" the creek, particularly in the mud of dried-up waterholes, or

“ in the banks of the creek, in a red loamy breccia, or in a bed
 “ of pebbles, containing many trachyte pebbles of the coast
 “ range, from the west side of which these creeks descend.”
 These fossils have been known for a great many years, Sir
 Thomas Mitchell, C.B., having sent specimens home as early as
 1842. When writing in January 3, 1842, and forwarding speci-
 mens of *Diprotodon Australis*, he places the locality in latitude
 28° S., longitude 150° E., and thus speaks of the Condamine
 River :—“ This stream is remarkable from forming large basins
 “ at some places, and losing its course in swamps at others, and at
 “ other parts again cutting its course in a deep channel, through
 “ deep beds of alluvium, in which these bones are brought to
 “ light.” It is evident that the place thus spoken of by Sir
 T. Mitchell must be between Leyburn and Yandilla—unless
 wonderful changes have taken place since that time—as that is
 the only locality in which the Condamine loses itself at the
 present time.

In the years 1842-5, we hear of Mr. E. C. Hobson, M.D.,
 making discoveries from the Quaternary gravel, Mount Macedon,
 Melbourne, in a swamp or bog, at a depth of 4½ feet, of which,
 in a letter dated January 1st, 1845, he writes :—“ After digging
 “ through a solid peaty soil for 3 feet, you then arrive at a
 “ stratum of gravel, about 18 inches thick, in which the bones
 “ are deposited; this layer rests upon a bed of firm clay, which
 “ is unfossiliferous.” Then comes next in the list of discoverers
 Dr. Leichhardt (1844), that much lamented explorer; followed
 by P. Mayne, Esq., Count Stryelecki, Melbourne and Wellington
 Valley (1844); F. N. Isaacs (1849), Gowrie; and many others,
 up to the present date, when link by link has been gradually
 added; but the desire to become more acquainted with these
 extinct races of animals is waning—the old enthusiasts dying off,
 and none treading in their path. In fact, in my rambles, I have
 been surprised to find men of education totally ignorant as to
 these bones being those of extinct animals, and many of them
 believing them to be bullock bones; but I must give credit to
 the few that I have met—among the farmers and boundary-
 riders especially—willing and able to give me some valuable
 information as to the whereabouts of these remains.

We have now a Museum in embryo of our own, and shall
 be expecting to have some specimens of these extinct animals in
 it; but we shall not, if there is not a better spirit shown by
 those in power to parties willing and able to give their assistance.
 I do not mean in a pecuniary way only, but for room for those
 specimens that are already there, so that students of Geology or
 Palæontology may become familiar with them; and, what is
 more, to make that Museum valuable, there must be attached a
 Library for reference, so that the latest discoveries may be
 known, in order that we shall all be working in the light, and
 not groping about in the dark, imagining we have made great

discoveries, to find that others have been before us. I think by the foregoing remarks I have wandered from my subject, but I will now try and remedy the error by leaving town and proceeding to Gowrie at once, the great nest of fossil remains.

Gowrie, the property of George King, Esq., is situated on a creek of that name—or, as it was called in olden times, Isaacs' Creek, which rises in the ranges near Toowoomba, and, forming itself from a swamp, runs through that place until it becomes a fine running creek (now never dry), and empties itself into Westbrook Creek, which runs into Oakey Creek, and from thence into the Condamine River. The bank of this creek, from the Gowrie Junction Railway Station until it goes into Westbrook Creek, is more or less rich in fossils. The portion from the junction to the railway bridge, Dalby line, has only had a few stray bones found in it, as the black soil there is very deep, and, in my opinion, the strata containing the fossils are only just now becoming exposed; but from thence to the boundary of Gowrie is very rich. After any ordinary flood, it is possible to go out and get a great many specimens. I have found specimens of *Macropodidæ*, the most prevalent of late, although I have found a few very perfect mandibles of *Nototherium*.

It was in what was called the "Dog-trap Paddock," about two miles below the head station, that Mr. G. B. King and myself discovered the jaw of a *Diprotodon*, together with the foot bones of that animal.

In the same creek I also found a small reptilian jaw, which Dr. Bennett pronounced to be *Chlamydosaurus*, which he forwarded to Professor Owen, and had his opinion confirmed in the following letter:—"The portions of a jaw with teeth are those of *Chlamydosaurus*, but of a species with a shorter, more obtuse and higher head than *Chlamydosaurus Kingii*. I have therefore entered it, and shall find a place in some plate for figuring the fossil as *Chlamydosaurus Bennetti*." Close to this was found a mandible of *Thylacoles carnifex*. The nature of this animal is very much disputed, Professor Owen placing it as a *Carnivore*, but Professor Flower, Krefft, and others disagreeing with him on that point, each having good reasons for their opinions. Mr. Krefft, in his *Notes on the Mammals of Australia*, published in the *Sydney Mail*, says:—"The supposed marsupial lion, believed to have been the 'fellest of the fell,' was, after all, a harmless creature, which is proved by his weak incisors, small canines, and the highly inflicted scooplike angle of the jaw. This animal bruised his food with a formidable premolar tooth, whereof one was developed in each ramus above and below." Cuvier's well-known sentence, about the molar of a mammal explaining its character and position in the system, failed in this instance. *Thylacoles* was just three times the size of the native Bear.

It was noted the other day, in the telegrams from Melbourne, that a jaw of this animal had been found and sent to Professor McCoy to be examined and described; but, in the papers up to date, nothing has been written to state its value to science. To decide the disputed points, it is required that an entire lower jaw, or entire half or ramus, should come to hand. About ten yards lower down the creek I found the complete foot of what Dr. Bennett and others pronounced to be that of *Thylacoles*; but in this matter Professor Owen would not agree, unless they were found in such positions so as to identify them with other remains of *Thylacoles*. It will be very difficult indeed to find specimens as perfect as that, as I have had to walk miles, down even Gowrie Creek, and find only one specimen of a species.

Specimens of *Diprotodon Australis* were also found. Mr. Krefft, in a letter to the *Sydney Morning Herald*, thus describes the *Diprotodon*:—"The *Diprotodon* was as bulky as the largest living elephant, but stood low on its legs, which bore much resemblance to those of the *Proboscidean*. The feet, however, were more like those of the *Mylodon*, a South American gigantic sloth;" and further on, in the same letter, he says:—"I believe that the animal stood not more than six feet high at the shoulder, and that the tribe probably lived on coarse herbage or leaves, felling the trees with their great tusks like the modern beavers."

On the subject of the connection of this extinct marsupial with *Bradypodal* giants, in part 3, Phil. Trans. Royal Society, Professor Owen thus writes:—"It is true that in the proportions of the limbs, especially in those of the tibia and its distinction from the fibula, as in some other particulars of the osteology of the *Diprotodon*, it resembles more the wombat than the kangaroo; but the more weighty and essential correspondences are with the *Macropodidæ*—the equipedal modifications are adapted and necessitated by the bulk of the extinct marsupial herbivores. The most elastic imagination could hardly stretch to the association of the disproportionate hind limbs of the kangaroo with a trunk equalling that of a rhinoceros, for, according to that pattern, *Diprotodon* must have towered to a height of thirty feet. The departure from the type of its diminutive modern allies is again interestingly analogous to that which occurs in the herbivorous Bruta. The bulk and weight of body in *Megatherium* precluded the proportions of length and slenderness, with terminal prehensile instruments in the limbs, by means of which its diminutive congeners and contemporaries have been enabled to withdraw themselves from an unequal conflict in the safe shelter of lofty trees. In like manner, the weight and bulk of *Diprotodon* militated against its enjoying the privilege of the elongate,

“saltatory limbs to which its small congeners and contemporaries the kangaroo have owed their safety, or the scansorial ones by which the koala climbs out of danger.”

After spending about a week at Gowrie, I left for Eton Vale, the property of Messrs. Hodgson and Ramsay, situated on Hodgson's Creek, about eight miles from the town of Drayton. Although, in former times, many good specimens had been found there, on a previous occasion I had visited this place without any success at all. At that time, I went up from the head-station to the head of the creek, which rises in the Main Dividing Range, and from the time I started until my return, I never even saw the sign of a bone, which was very disheartening, as I saw the drift in which they are usually to be found, and everything looking most promising; but I was doomed to disappointment, after having gone fully ten miles. So this time I did not expect to obtain much, but I was very successful, which made up for previous disappointments. On leaving the station, I proceeded down the creek, and, after going about two miles, I found a very good specimen of *Diprotodon*, which appears new to me; but I have since sent it to Dr. Bennett, for his opinion. It is in a very brittle state, but, I have no doubt, will be fit for inspection and record.

I then proceeded about a mile further, when I obtained a very nice and perfect mandible of the genus *Nototherium*, of which genus there are many species. As in the previous fossils, Queensland is the foremost in yielding the earliest specimens of this fossil; Sir T. Mitchell, C.B. (1842), and Dr. Leichhardt (1845), being amongst the first to send home specimens of this genus. Professor Owen thus speaks in his paper on the *Nototherium*, in the Phil. Trans. of the Royal Society, 1871:—“So much of the molar teeth as remains in the mutilated mandibles transmitted to me in 1842, by Sir T. Mitchell, from the bed of the Condamine River, indicated their transversely two-ridged character, and suggested, at first sight, that the fossils might belong to some smaller species of *Diprotodon*. Closer scrutiny, however, showed them to be parts of full-grown animals, and that they could not be the young of any larger extinct herbivore. Moreover, sufficient of symphysial or anterior part of one of the mandibular fossils remained to demonstrate the absence of any incisor developed as a tusk or defensive weapon, such as coexisted with the bilopkodont molar tooth in *Diprotodon*. The small portions of the enamel on the remaining bases of the molars (for the crowns all had been more or less broken) showed a smoother surface than that at the corresponding parts of the molars in *Diprotodon*. I was therefore led to recognise with much interest, in the fossils transmitted by my esteemed friend, on his return to his duties as Surveyor-General of the Colony of Australia, after the publication of the work containing the first notice of

“*Diprotodon*, evidence of another genus of extinct herbivorous marsupials, second only in bulk to that first discovered, and I proposed the name of *Nototherium* (*Notos*, South; *therion*, beast).”

Mr. E. S. Hill (of Sydney) had, in 1863, sent some very valuable specimens, through Sir D. Cooper, Bart., to the British Museum, which were obtained at Eton Vale; but I had great difficulty in finding any clue as to the localities in which these specimens were found—most probably Emu Creek, about four miles from the head station, as that creek seems to be about the richest part of the run.

I then proceeded about three miles farther down the creek, passing over the Warwick and Toowoomba Railway line at the Cambooya Station, and found a bank, evidently a good place for my labors. I then proceeded down near the water, when, to my delight and surprise, in the water, at a narrow part of the creek, I saw a mass of fossils, a great quantity of vertebræ being exposed. It being late, I could not do much that night; so on my return to the station, I requested a gentleman, who was there on a visit, to accompany me next morning to exhume them. Next morning we proceeded, with hoe and shovel, to our work, and after making a small dam, and cutting a trench to turn the course of the water, we exhumed about a dozen vertebræ and twenty ribs of *Diprotodon*, but could not find any jaw or other more valuable bones. I hope shortly to be able to forward them to the Brisbane Museum, with a few others that I am keeping for that institution.

I then went further down the creek, and found a good many other specimens, but in too mutilated a state to be of any value, as the sheep and cattle coming to water had, more or less, broken them up. Amongst them, in a very fair state of preservation, was a vertebra of that huge lizard *Megalania prisca*, in speaking of which, in a letter to Dr. Bennett, Professor Owen says:—“How I long for a bit of the jaws, with teeth, of that reptile.” I must certainly say, I long to have the gratification of supplying his want. It seems very extraordinary that stray specimens of the vertebræ of this reptile should be the only bones we can obtain—so in this case there is a field for future discovery.

This creek runs out into swamps on the lower end of the Felton Run, but it does not appear very rich after it receives Emu Creek. A little below this junction a very good seam of coal shows itself. Emu Creek, which gives its name to a very rich agricultural district, gives signs of being rich in fossils; but I have not been able to bestow on this place the time I would wish—as my time is so limited, I can only give it a very superficial examination. The most of the specimens obtained here have been of the genus *Phascolomys*. The first specimens recorded of this genus are by Sir T. Mitchell, C.B. (1836), from the Breccia Caves, Wellington Valley; and Mr. Turner (1847),

from King's Creek, Darling Downs. There are a great many species of this genus ; it belongs to the family *Pascolomyidæ*, and is thus described by Krefft, in his Notes on the Mammals of Australia, in the *Sydney Mail*, November 8th, 1873 :—"This family comprises the wombats, which retain many of the Phalanger characters, but are chiefly distinguished by their peculiarly continuously-growing teeth. The incisors are two above and below, canines not developed, grinders five in each ramus above and below, the first being a premolar. The crown of very young wombat molars resembles that of *Diprotodons*, but this peculiarity is soon lost when the teeth get into use. Their insertion is in this manner, that both sides, when seen front in

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"front, would figure like this (), the upper ones turned outward, the lower ones inwards. The incisors above and below are formed like the first pair of the *Lygomaturus* teeth, whilst the lower ones resemble the *Diprotodon*—a curious fact, which points to one common progenitor."

From Eton Vale, I proceeded to Pilton, the property of the Hon. W. Wilson, M.L.C., which is situated on the heads of King's Creek, which also runs through that magnificent property of W. B. Tooth, Esq., Clifton, and empties itself into the Condamine River. This creek is generally considered one of the richest in fossils, and I think at a future date some very perfect specimens will be got, as at the upper part of the creek every flood exposes fresh beds. I proceeded over to the Back Creek, a tributary of King's Creek, where on the occasion of a previous visit I was able to get a perfect lower jaw of *Diprotodon*, which proved to be a most valuable addition, as it contained a tooth that had only been conjecturally restored by Professor Owen, and which (in his letter to Dr. Bennett) he says, "offers the best generic distinction from *Nototherium*." I was not enabled this trip to add much to my collection, as being late in visiting this locality, the sheep, watering at the creek, had again destroyed my chances.

Perhaps, from my remarks, many persons may be under the impression that specimens are only obtained in the banks of creeks. On the contrary, Dr. Bennett, in his "Notes on Queensland," mentions a case where they were found in a well 131 feet deep ; and Mr. Place, of St. Helen's, West Prairie, kindly brought me in some specimens (amongst which I readily recognised wombat teeth) that had been obtained in a well, sunk on his property, at a depth of 85 feet ; and I know of many other instances of the same at various depths. These discoveries of fossil mammals, and the late discovery of nuts and leaves at the Clifton Colliery, makes us wonder what this country was in former times. I am under the impression that these plains must have been vast lakes, gradually filled up by deposits from the ranges and upheavals by volcanic agency. In the case of the

discoveries made at Clifton Colliery, by Mr. Simpson, I think more notice should be taken of them than the usual notice given in the local papers, as I consider it is the duty of a scientific society to let nothing pass without description; and I am sure the donor cannot think his discovery is valued, if no further notice is taken of it.

To return to the consideration of the localities in which fossil remains are to be found, I think I can put the boundaries pretty well from Gowrie to Spring Creek, Clifton (none are recorded as being found in Dalrymple Creek, on the Warwick side of Spring Creek); thence to the Condamine River, and along its eastern bank as far as Chinchilla (where I have seen specimens embedded in the rock). These boundaries include Eton Vale, Clifton, Pilton, Gowrie, Yandilla, Cecil Plains, St. Ruth, Jimbour, and Warra Warra, Jimbour Station being the northern boundary; so the area to be searched is limited, and a small sum, judiciously expended after a heavy flood, may yield some very valuable specimens.

I think I have now treated as much on this subject as my limited experience will allow, being only an amateur; and if it had not been for my father (Dr. George Bennett, F.L.S., of Sydney) keeping me posted up in all the latest discoveries, I could not have attempted it at all. I am also indebted to him for making the study of these marsupials a pleasure to me, by his valuable notes on my specimens, which at first I only undertook as a duty; but with such encouragement it has grown into an ambition to further the advancement of these enquiries. To Professor Owen I am also indebted for sending me his papers on the fossil mammals of Australia, as they have been read before the Royal Society of England.

If the foregoing remarks will only induce some energy to be thrown into this particular branch of Science, my labors in this short paper will be well rewarded.



Bennett, George. 1877. "Notes of Rambles in search of Fossil Remains on the Darling Downs." *Transactions of the Philosophical Society of Queensland* 2, 3–10. <https://doi.org/10.5962/p.350476>.

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