

On the Wambeyan Caves,

By DR. JAMES COX.

[Read 9th July, 1862.]

It is not so easy in Australia as in Europe, to plan at short notice a tour suitable for the brief periods of relaxation we are able to rescue from the pressure of Sydney work. So, when I was the other day casting about for some expedition in which to spend a week's holiday with satisfaction, I found myself rather puzzled to hit on any new line of country, having already explored most of our own vicinity. My friend, the Rev. Mr. Hassall, jun., relieved me of my difficulty by suggesting a visit to the "Wambeyan Caves;" but so ignorant was I—and I do not find that I am an exception—of their whereabouts, or their qualities, that I had to ask what part of the colony they were in. The answer I received was, that they were a day's ride from Berrima. Others were soon induced to join our expedition, but many refused because they had not heard them spoken of, and because I could not inform them how long our visit would take. As I can now, however, answer that question, I should advise any man who has a week to spare, and loves this kind of pleasure, to visit the Wambeyan Caves.

On Wednesday, 12th March, at twelve o'clock, eleven of us started from Bendooly, Mr. Cordeaux's residence, four miles on this side of Berrima, on horseback, leading two packhorses with the necessary amount of provisions.

From the back premises of Bendooly we went away due west, and made for Wanganderry, a sheep station of Mr. Cordeaux's, about twelve miles distant. We reached this about two o'clock; thence we made for Bullio, a second station of Cordeaux's, still going west. From Bullio we made for Bowman's Hill, the descent to the Wollondilly River, which we crossed about six o'clock, and camped on the Horse Flat about half a mile down the river bank: in all about twenty miles from Berrima. The country passed through to this point is for the

most part extremely monotonous, the only thing striking my attention as peculiar, being the great variety of *Epacris*, and a peculiar shrub, called there the bitter willow (*Daviesia*); although this is as intensely bitter as quassia, the cattle are very fond of it; but unfortunately, in districts where it is eaten, so strong a bitter is communicated to the milk and butter that they are unfit for use. By diverging to the right, before reaching Bowman's Hill, to the edge of the cliffs, a grand panorama can be obtained of the valley of Burragorang and Coolong.

I should advise any one taking this trip in future to follow our example and camp on the Horse Flat, as it is well adapted for it; and in the morning, you are more prepared to meet the great difficulty—the ascent of the Telegang mountain.

At daylight we started for the caves, a distance of ten miles. The road is difficult to find, but fortunately we had an excellent guide in our friend Mr. Henry Oxley. Ascending the river for about half a mile, you cross it, ride along the opposite bank for another quarter of a mile, and again cross it to a small creek. Still steering west, you ascend the creek for a few hundred yards, which brings you to the foot of the Telegang mountain.

This magnificent hill is about a mile and a quarter up, and its characters represent the whole surrounding country, which for miles round, as far as the eye can reach, is composed of a succession of such hills on a minor scale. The hill itself is essentially trap (not in large masses on the surface, but lying in the form of small loose broken pieces), very steep and pointed, thinly wooded with gum, box, and stringy bark, and richly grassed with a soft tufty grass resembling the kangaroo grass, which seems excellent for grazing, as at the top of every little pinch is a cattle camp. We ascended the crest of the hill, but I should advise any one intending to ascend it to do so gradually round the right side, as the footing for the horses is much more secure. The view from the top of the various windings of the Wollondilly in the distance is very magnificent. Here also is to be seen a peculiar species of *Casuarina* (native oak). The sexes of the trees are separated—the female bears a fine cone-looking seed vessel, but the male flower resembles the common acorn.

Following the path which takes to the right, you again steer

west, and about a mile from the top of the hill good water is to be found.

Ascending this creek for about a mile, the path turns sharply to the left, on to the crest of the ridge. Special attention should be paid to this point, as from not observing it on our return, but continuing straight on, some of us were benighted, and found ourselves in difficulties. The path from this turn is plain for about three miles, when another creek is made, which bears well away to the left, leading you to an old sheep station, called Telegang station. Continuing a westerly course across the cleared patch of land, you take the path which leads from the angle formed by the right bank of the watercourse on which the station is situated and the line of cleared ground, bearing well to the right for about three miles; the character of the country and vegetation then altogether alters, almost by a line of demarcation: you have, in fact, reached a limestone country, thinly covered with low stunted box and cooraman. An exquisitely clear stream of water is reached, with a bed of white marble pebbles, which is the Wambeyan Creek. About half a mile further a rocky barricade, some two hundred feet high, obstructs your further progress. The stream of water runs into a large archway, which is the mouth of the Wambeyan Caves. The Wambeyan Creek, after a course of about two miles further, falls into Marrs Forest Creek which falls into the Guinecor Creek, a branch of the Wollondilly. The limestone rocks in this district do not occur as a few thick beds of limestone with subordinate layers of calcareous shale, but in one bold reef-like mass of some hundreds of feet thick, separated in places by a few layers of impure limestone, and deeply intersected by perpendicular divisional planes through which the water percolates to form the caverns. The running stream, as above mentioned, if followed to this solid barrier of rocks, runs into an archway, which is the real mouth of the caves, and through it you enter the first of a succession of caverns. This special one is called the "Wambeyan Church." I presume from its arched cathedral-like roof; and from an absurd looking rock, accurately resembling a "parson in his pulpit," with his book, bibs, and scarf—the remains of an enormous stalagmite. This cavern attracts special attention, as

it is fortunately lighted from both ends—the opposite end having fallen in and opened the end of the cave, from one of those peculiar funnel-shaped holes seen in most limestone countries and very common here. The height of this cave is, I believe, about one hundred and twenty feet; and it is about 400 feet long. The floor, on the left side of which the stream of water continues its course, is covered with large broken masses of stone; which I believe have rolled in from the far end, in some places covered with a green *conferva*, in others with a pink kind of lichen. The roof, which is also tinged with this peculiar lichen, I believe only since daylight has been so fully admitted, has suspended from it long delicate stalactites, varying in form and beauty, some of immense length, and the walls are studded with fluted columns, between which are also hung delicate pieces resembling tapestry and fringe.

Between these columns are seen the openings of smaller caverns, the haunts and homes of the Wallaby and the Bat. The stream of water, when it enters the cave, is fully six feet wide, but if followed to the right hand corner of the distant end it is found to have dwindled away to a stream not six inches wide, and now enters a dark gallery. In following out this gallery it is necessary to use lights, and to prepare yourself for a wet and slippery scramble, as deep pools of water now and then stop your progress. I should advise any one wishing to see these caves to advantage to take with them a good supply of wax candles, a couple of dozen of blue lights, and a pole to feel your way among the pools of water, which, however, in a dark subterranean passage always appear more formidable than they really are.

The first thing to attract your attention is the intense cold; and secondly, if well lighted, the magnificent effect of the lights on the snow-white crystalline marble; and thirdly, the difficulty of finding the right way, for on all sides of this main gallery, galleries of less size turn off, some of which have the appearance of being the main course. However, if you advance in a straight direction with the first cave for about 100 yards, the beauties of the place increase, and here we had first displayed to us the effects of our blue lights on the pure white crystalline stalactities which hung round on all sides. This passage then bends to the

right, and about another 100 yards on becomes much expanded when to the left is seen another large opening, of which we will speak again.

Here all appearance of the stream ceased, but pools of water were occasionally met with. It became evident, however, that we were in the main channel of the creek, and that during floods this passage was full of water, from the bunches of rubbish perched high up on the ledges of the marble rocks. Our course now for the next hundred yards was easy and dry (all traces of water having disappeared), until we again found daylight. We had in fact reached the opposite side of the rocky barrier across the creek, for undoubtedly it was the main creek we had again reached, commencing from a marble arch in the bluff rocks, but differing in there not being the sign of a drop of water, which from its marks we could see to have been there during floods, nor as far as we could see down this creek, which had very steep banks, could we perceive where the running stream made its escape. To the right of this exit several very interesting channels lead off, suspended from the side of one of which is, what is called the sounding-board, a remarkable thin sheet of marble, and from it Mr. Oxley brought forth sounds of sweet melody, which reverberated on all sides.

To all appearance this was the end of the cave. But what had become of the water?

Looking down the creek, from the mouth at this end, about a hundred yards up the bank to the left, is seen a native fig tree, at the base of which is a small unattractive-looking opening, the only known entrance from the surface, but I doubt if it is the only means of entering what are termed the "Fig Tree Caves." At this mouth we found some fine specimens of the dog-tooth spar.

On entering here lights became necessary at once, as the footing is very dangerous, deep crevices occurring on all sides, till the cavern suddenly expands to an unknown extent. After feeling our way carefully to the left, and having got on a firm footing, a blue light revealed to us its magnificence. The grandeur of the natural sculpture is here very great, and the thickness and length of the stalactites and stalagmites wonderful, but they are not so purely white as those before seen. The floor

of this cave is in some places almost knee-deep with a dark brown-coloured, light, dry amorphous powder, which at the time I took to be dry pulverised dung of wallabies, as they were seen in great numbers ; but, on examining a small sample that I brought back with me, I found it contained almost no vegetable matter. The ledge of rocks on which we stood suddenly ended in an abrupt precipice, at the bottom of which we conjectured the water ran, but on lowering a light no trace of it was seen. Branching off to the right, this precipice became less steep, and a few of us descended, though with difficulty, as we now undoubtedly heard sounds like falling water ; but, after wandering and scrambling about for some time, we could discover no more than a number of vast dry caverns. Having ascended again, we took more to the right ; after having explored several beautiful galleries leading off, the sounds of distant falling water still becoming more distinct.

As you proceed to the right, the footing is both dangerous and difficult, while the floor seems made of masses of rock which have slipped from the mouth we entered by, and filling up what must have been once a large and deep cavern. Here also the noise of water was distinct, and a few of us determined, if possible, to descend and see it—an undertaking which proved to be one of great difficulty and danger, owing to the loose and slippery state of the rocks, the uncertainty of the right way, and the deep and narrow crevices we had to descend. After descending a shaft some fifty feet, the rocks lost the dirty brown appearance they had above, and began to get white and crystalline, as in the tunnel before described ; in fact, it was evident we had entered a tunnel of a minor kind, still running in a westerly direction, which at last ended in a shaft so narrow that we were obliged to descend it on our hands and knees.

Having reached the bottom, we were, however, rewarded by finding the object of our search—a broad running stream—in the midst of summer as cold as ice—about 200 feet below the surface of the ground, and having for its bed a solid block of white marble. This channel was, as a general rule, about ten feet high, running in a downward and westerly direction. Attempts were made to follow the stream up and down, but the water became in places so deep that it was impossible to do so.

Having ascended again with the object of ascertaining where this stream made its exit, we descended the dry Wambeyan Creek for about a mile and a-half. At about this distance the banks became very high, and to our delight we discovered the water spouting out of what looked like a solid bluff of rock, in two different places, about one hundred yards apart, and pouring the water again into the Wambeyan Creek through narrow fissures.

From the top of the cliffs a good view can be had of the surrounding country, and the different forms of vegetation map out with accuracy the extent of the limestone, which is very limited.

I must now return to the tunnel leading from the left of the main tunnel from the "Church." You are obliged to climb some rocks to enter it, and having entered and followed it up for about thirty yards, it becomes very contracted, and ends in a hole just large enough to allow a man to drag his body through. You now enter by far the finest part of these caves, consisting of a series of small chambers, all connected by archways, which seem as if they had been excavated out of a mass of solid white marble—the floor being remarkably crystalline and pure, as if it had been formed by pouring over the surface the material of the surrounding rocks, in a fluid state, which had then been allowed to crystallise; and, in reality, it is in this way that it has been formed. The water, impregnated with carbonic acid, dissolves the rocks, forming with them a soluble bi-carbonate of lime which, on being again exposed to the atmosphere, allows one atom of the carbonic acid to escape, leaving a deposit of the insoluble carbonate on the spot. It is on the same principle that all stalactites and stalagmites are formed.

These chambers have been called the "Organ Gallery," from the great length and regularity of the stalactites and stalagmites which, in many cases, have met and form one continuation, giving the appearance of the pipes of an organ. So thick are they in some places, that it is impossible to get between them, and so sharp in others that you require to avoid them with care. As you proceed to the right, one chamber after another, each seeming more beautiful than the preceding, succeeds; the splendour and magnificence of which, in my opinion, can only be appreciated by a personal visit. You are at last prevented from proceeding to

the left by coming to the brink of a deep precipice, which we were unable to descend. I am inclined to think that this is the continuation of the watercourse we were unable to follow up, for although we could not hear the sound of water running, still, on throwing down stones it was evident by the splash that there was a deep pool of water. It may, however, be a succession of other caves.

On following out these chambers to the right we were conducted to a cavern of enormous extent, far larger than the "Church," and from a small opening in a distant corner daylight was seen. We had a magnificent view of this cavern by means of the blue lights, and from what I saw from the distance, I was inclined to believe that this cavern we were looking into was the cave we had visited from the Fig-tree opening, and that, in fact, we were standing beneath the precipice which obstructed our course to the left.

One peculiarity in this cave is, that the floor of it in some parts is so deeply covered with the peculiar dark powder before mentioned, as literally to prevent your being able to wade through it.

On the Fibre Plants of New South Wales,

By CHARLES MOORE, ESQ.

[Read 5th October, 1864.]

THE character of the vegetation of this Colony, in many respects so remarkable, is, as regards its economic value, but little understood. From it neither commerce, science, nor the arts have as yet been benefited to any appreciable extent. With the exception of a few trees, the timber of which is used for building and fencing purposes, scarcely any importance has been attached to any qualities of our indigenous plants, many of which I feel convinced contain valuable properties which only require to be made known. It was generally expected that the vegetable products sent from this Colony to the Paris and London Great



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