

SOUTH AUSTRALIAN GEOLOGY— No. 3

THE CAVES AT MOSQUITO PLAINS.

By the Rev. Julian E. Woods.

Of all the natural curiosities a country can possess, none tend so much to render it famous as the existence of large caves. There is such an air of mystery in the idea of long subterraneous passages and gloomy passages shut out from light and life; so little is known of their origin, and they are generally accompanied with such beautiful embellishments of nature, that one is never tired of seeing them or of hearing the description of those that cannot be visited. Thus everyone has heard of the Adelburg caves, with the renowned pure white stalactite, which, hanging from the roof like an immense snowy curtain, is so translucent as to show torches placed on the inner side. Everyone has heard of the caves in the Peak of Derbyshire, where visitors are carried in a boat by a subterraneous river, along a passage scarcely two feet high, before they can inspect the inner portion. Everyone has also heard of the Guacharo caverns in South America, tenanted by the thousands of owls, whose screeching makes the place like a den infernal. Fewer perhaps are aware of the existence of the caves in New South Wales, so graphically described by Sir T. Mitchell, and fewer still know of those in Tasmania. But wherever such natural curiosities are known they do not fail to give great importance to the place, making it as noted as if it possessed a burning volcano or a geyser spring. I am not aware that any attempt has been made to describe the caves we possess in South Australia. Some occasional tourist may have notified in a stray newspaper paragraph the fact that such things existed; but, as far as giving an account of their rich and varied beauties, as far as relating the extraordinary natural curiosities that are to be met with in them, nothing at all has been done. And yet, in point of magnitude, in point of splendour, and in a scientific view, they do not yield in importance to any of the wonderful phenomena enumerated above. I propose to give an account of them, which, to do them justice, must be rather lengthy, and to bring the description even within reasonable limits many things that are of great scientific importance I must omit. If after this my narration is long the presumed interest of the subject must be my apology.

About 25 miles north of Penola, on the sheep run of Mr. Robertson, in the midst of a swampy, sandy country, plentifully covered with stringybark, a series of caves are found whose internal beauty is at a strange variance with the wildness of the scenery around. There is nothing outwardly to show that any great subterraneous excavation might be expected. The entrance to them is merely a round hole, situated on the top

of a sandy hill, and were it not for the existence of certain temporary huts and other unmistakable signs of the former frequent visits of excursionists, one might be inclined to pass the place without noticing anything peculiar. On going to the edge of the hole a small sloping path is observed, which leads under a shelf of rock, and on descending this for a depth of about 25 feet, then it is you get the first glimpse of the magnificence enshrined below. The observer finds himself at the entrance of a large oblong square chamber, low, but perfectly lighted by an aperture at the opposite end and all around, above and below, the eye is bewildered by a profusion of ornaments and decoration of nature's own devising. It is like an immense Gothic cathedral, and the numbers of half finished stalagmites which rise from the ground like kneeling or prostrate forms, seem worshippers in that silent and solemn place. The walls are pretty equal in outline, generally unbroken nearly to the floor, and then for the most part they shelve in as far as the eye can reach, leaving a wedge-shaped aperture nearly all round. This seems devised by nature to add to the embellishment of the place, for in the space thus left droppings of limestone have formed the most fanciful tracery, where pillars of every shape wind into small groups like garlands of flowers, or stand out like the portico of a Grecian temple, the supports becoming smaller and smaller till they join like a mass of carved marble. At the further end there is an immense stalactite which appears like a support to the whole roof. This shuts from view the aperture in the roof behind it, so that the light steals in with a subdued radiance which mellows and softens the aspect of the whole chamber. The pillar is about 10 feet in diameter, and being formed of the dripping of limestone from above in successive layers, seems as though it owed its elaborate appearance to the hand of art; not the least beautiful part of it being that it is tinted by almost every variety of colour, one side being a delicate azure, with passages of blue and green and pink intermingled; and again it is snowy white, finally merging into a golden yellow. It stands upon a raised platform of stalagmite, which extends some way down the chamber, about three feet high, at the end of which is the pillar. This platform has been a mass of small stalagmites, but are now joined together by successive droppings, which has covered them over in a manner not unlike the spreading of a linen cloth. At the south end (the entrance) the cave looks as if prolonged behind each side of the narrow opening. But this is not the case. There is merely the same continuance of columns like those found all round, somewhat larger indeed, and joined together so closely as to make the spaces look like the pointed arches of a medieval crypt. The whole length of the cavern, as nearly as I could ascertain, is about 190 feet; the width about 45 feet; and the height 16. The floor is deeper towards the middle, so that the latter measurement varies. Its length would be much greater, and it would run into the next cave, but that it is blocked up by the large stalactite I have described above. On going round this, and observing still on every side the stalactitic pillars, the opening which lets in the light to the north end is seen. There was evidently no aperture here formerly, as a pile of broken limestone shows the roof to have fallen in, and by the manner in which the moss has rounded the sharp fragmentary outlines, by the way the heap is covered by creeping plants, it declares itself to have happened a long time since. This inlet is larger than the one at

the entrance. The second cave that now meets the view is different in many particulars from the former.

It is smaller, and so thickly studded with stalactites as to render a clear glance through it impossible. These are not like those of the former cavern, differing inasmuch as they are all very white, and mostly broader at the top than at the base, giving them the appearance of groined arches. Some are thin, and look, from the manner the limestone has been deposited, as if they were gracefully festooned in honour of some festival; some are mere delicate shafts, and every now and then some large unfinished stalagmite appears in the form of a veiled statue, mysteriously enshrouded in heavy white drapery. When this chamber has been nearly traversed, on looking back it is surprising what a different aspect it bears. One would think a dense avenue of statuary before some palace had been passed — so solemn, so quiet, and yet so life-like are the curious wreathed and twisted columns with their numerous groupings and strange varieties of form. At the end of this cave (it is not half the length of the first) there is another aperture open to the light, caused also by the falling in of the rock which once arched it over. It is a large circular hole, whose sides are precipitous, with a smaller pile of broken stone in the middle, as in the one last mentioned. It was here that many years ago some natives destroyed 300 sheep, by throwing them from above on, the hard rock below. This was about the time they were committing many outrages, including the murder of Mr. Brown. How the settlers revenged themselves is shown by something further in the cave, which will be noticed just now. This opening is the last through which light gains admission to the vaults, and the entrance to the last cave is on one side in a line with that just quitted. This one is so thickly studded with stalactites and these, sometimes, so very wide at the base, that from the outside it seems like a carefully arranged scene, which the interminable variety of form or magic effect of light and shade might easily be thought intended to represent a fairy palace. On proceeding a little way the ground becomes painfully uneven. You have to climb over boulders whose summits almost reach the roof, or you have to descend into what might almost be called pits, the more rough and uneven because of their natural ornaments. Very soon the cavern becomes as dark as night, so that no further exploration can be made without candles, and even with these the utmost caution is necessary, as there are pits, caverns, and holes in all directions, some of them leading to other small subterranean passages. There is one in particular, which is a great fissure, extending nearly from side to side. It is very deep. The sides are smooth and slippery, and as light is thrown into its gloomy depths, the sides are seen to be divided in some places into columns and pillars, making even that dark place elaborate with natural architecture. Further into the cave the roof becomes lower and lower, still surmounted with the ghostly white stalactites, and at last the passage onward is so small that one must stoop very low in order to proceed.

It is not without a shudder that one goes through this passage. Far away from the light of day, this groping along a small vault makes one dread to be bent down between stone walls unable to stand straight or breathe freely. The passage widens,

however, when the last chamber is reached. There are few stalactites here, but the number of boulders increases, so that to explore the place is to climb and scramble from rock to rock. At the upper end there is an immense mass of stone, by scaling which the cave is seen to go no further. A painful stillness reigns in this cavern, which becomes positively unbearable after remaining a little time. Humboldt, in his account of the Caves of Guacharo, complains that the noise of the birds dwelling there gives an awful addition to the horror of those underground vaults, but any noise would be less dreary than the dead silence which reigns here. Whether it is that the air is hot and close, or whether the depth compresses the atmosphere beyond its usual density, I cannot say, but certainly the quiet presses painfully upon the sense of hearing, and the closeness gives a feeling of smothering which add to the horror of a place deep in the earth and far from the light of heaven. At the side of one of the boulders (on the right hand side in entering) in a crevice between it and the wall, where nature seems to have made a natural couch, there lays the natural curiosity which I have alluded to just now. There, in the position of one asleep, with the head resting on the hand and the other limbs reclining, is the dried and shrivelled corpse of a native, but slightly decayed and almost petrified by the droppings of the limestone. It has been known to be there for many years without decomposition, though the fingers and feet become each year more encrusted with stalactite. The history of his coming there is a sad one. The blacks, in addition to the destruction of the sheep spoken of above, committed murder and so many acts of violence that the settlers resolved to be avenged. They assembled, and set out with the significant motto, 'Let not your right hand know what your left hand doth.' The natives resisted desperately. Some were shot in every part of the country. One wandering near these caves was seen and brought to the ground by a rifle ball. Badly wounded, he managed to crawl away unobserved; and thinking that he would be sought for as long as life was in him, crept down into the lowest and darkest recess of the cavern, where he rightly judged few would venture to follow. There he lay down and died. Time went on. Not a tear was shed over him as he lay there uncoffined, but drops of water fell upon him from the rock above; and when, a long time after, his remains were discovered, the limestone had encased him in a stony shroud, which to this day preserves his remains from decay. The limestone alone will not, however, explain the absence of eremacausis. The peculiarity of the atmosphere has something to do with it. I noticed near the entrance of the last cavity the body of a sheep, which had evidently fallen from above while the animal was too incautiously browsing on the tempting overhanging foliage. It had been there some time, yet the flesh seemed as if but lately killed. The chemical property of the air does not materially differ from that above, and no satisfactory reason appears why the chemical constituents should not, once the vital stimulus has ceased, react upon themselves in this case as in every other. The same thing, however, is observed in many vaults, and probably the uniformity of temperature bears a part in the phenomenon of which the renowned Kings of Cologne and the mummies of the Italian cemeteries are instances.

On leaving this last and lonely chamber to return to the light, a narrow opening, richly wreathed with limestone, is observable on the right hand going out.

Proceeding a little way down, a large vaulted chamber is reached, so perfectly dark and obscure that even torches can do but faint justice to its beauty. Here above all other portions of the caves has nature been prodigal of the fantastic ornament with which the whole place abounds. There are pillars so finely formed and covered with such delicate trellis work; there are droppings of lime making such scrollwork that the eye is bewildered with the extent and variety of the adornment. It is like a palace of ice with frozen cascades and fountains all around. At one side there is a stalactite like a huge candle that has guttered down at the side; at another there is a group of pillars which were originally like a series of hour-glasses set one upon another from the roof to the ground, and the parts bulging out are connected by droppings like icicles, making them appear most elaborately carved. In addition to this there is above and below - so that the roof glistens and the ground crackles as you walk - a multitude of small stalactites, which cover the whole scene with frostings that sparkle like gems in the torchlight. This is the last of the subterranean beauties; and on emerging towards the opening the fresh air and more luminous aspect comes gratefully upon the senses. Amazed and stupefied as you may be with the beauties left behind, one feels, as the eyes become dazzled by the approaching light, that the greatest beauties of the earth lose half their charms when shut out from the heavenly radiance of the sky.

I have now to allude to some organic remains and other curiosities found in the caverns; but before doing so must prefix a few remarks which will serve to elucidate what I have to relate. Everyone has doubtless heard that in England, in Germany, and in various other parts of Europe, caves have been discovered, which from the number of bones collected in them were thought to have been formerly the dens of wild animals. A closer inspection, however, showed that the hypothesis was not exactly applicable to every case, for though some caves contained bones of only one or two species, such as might have been expected in dens, others were found where the mass of bones was so miscellaneous as to destroy the idea of a den, because they were not gnawed or bore no signs of having been dragged there as food for a carnivorous animal, and they belonged to beasts whose distinct habits would prevent them congregating together. The recurrence of so unaccountable a phenomenon led to general enquiry, and it was found that every cave of any antiquity contained bones, always partly buried under the droppings of limestone or stalagmite, and in many instances belonging to animals which would neither choose a cavern as a place of resort, or be liable from their size or other peculiarities to fall victims to the predatory habits of others. Thus in the Oreston caves, near Plymouth, the bones found belonged, several to hyenas, tigers, wolves, foxes, horses, oxen, and deer, besides the bones and teeth of a rhinoceros. The bones of the oxen, horses, and deer most predominated. Again, in Kirkdale, in Yorkshire, a cave was found with osseous deposits, which were proved to have been those of hyenas distinct from any at present existing. In the latter case, whatever other bones were observed, bore traces of having been crushed or gnawed, which showed the cave to have been formerly a den; but in the former instance no facts would justify such a conclusion. In the Wellington Valley, N.S.W., and in Tasmania, large caves exist, and as it was

concluded they would form no exception to the general rule, bones were searched for and found. They were mostly those of a kangaroo and other marsupials, bearing no trace of having been brought there by any beast of prey. In New Zealand, whatever bones were found were principally those of a large bird, a type of which exists at present, though much smaller, the apteryx. In Germany, in Italy, and in many other places wherever bones were searched for, they were found more or less abundantly, in every case similar to animals at present existing, but of a much smaller size. This latter point is of much importance, and may be stated as having become almost a law in geology, as it is applicable to almost every instance known that the animals immediately preceding those at present existing on earth were identical in every particular with the present, only very much larger. Knowing these facts, and also knowing that our caverns were as ancient, according to appearance, as any mentioned above, there is nothing surprising in finding osseous deposits in them also. Long before I had visited these caves, my attention was called to what was stated to be a small pile of bones, which were found one day by the accidental breaking of the stalagmite with which they were covered over. On examining the spot indicated, I found they were in the raised platform at the foot of the large stalactite in the first cave, alluded to above. This platform is about fourteen feet long by eight broad, and I have no hesitation in saying that excepting the thin layer of stalagmite on the top, it consists nearly entirely of bones. Nor is this all. During the whole length of all the caves, wherever the floor is sufficiently level to enable one to perceive it, there is a constant reappearance of the broken bones wherever the limestone pavement is broken through. How deep the deposit goes I do not know, but in the platform just named I was able to scrape away almost to the depth of two feet, and found the deposit as thick as ever. The extraordinary manner in which they are agglutinated together is also worthy of remark. They are not formed in any regular position, such as would be imagined had their owners lived and died where their remains now lay. Heads, jawbones, teeth, ribs, and femurs, are all jumbled and concreted together, without reference to parts. The quantity of small animals it must have taken to form a deep deposit of their bones - perhaps two feet deep, ten wide, and of indeterminate length - must have been something prodigious, for they are compressed into the smallest possible space, and must have decomposed from exposure. How they came there, a question which has puzzled all geologists, I will allude to by and by. We have first to examine to what animals they belonged.

The bones which most predominate are evidently those of some animal belonging to the class rodentia. The skulls, teeth, and bones of these abound, perhaps, in the proportion of three to one of any other description; and though numerous, it was with considerable difficulty I could find one entire skull. It may be described as a low, flat head, with the incisors of the upper jaw coming abruptly out at a curve from the bony palate, the orbits large, with the molars on each side pointing outwards. The incisors of the lower jaw do not meet those of the upper when both are in situ, and there is a considerable hollow between the three molars and the lower part of the incisors. There are sixteen teeth in all - four, incisors, and on either side of both upper and lower jaw three molars. In this case, as, indeed, in all the rodentia, there is a

great distance between the incisors and the back teeth; but as it appeared to me greater in the skulls I am now considering. At first I was rather at a loss to make out the exact species to which the remains formally belonged. The size (about one and a quarter inch long, and three quarter inch wide), made me inclined to refer them to the jerboa, described by Sir T. Mitchell, as occurring on the Murrumbidgee, but I looked in vain for the long tibia which should be in the neighbourhood of the skull of such an animal. Besides, the teeth were only three, and though it is suspected that the fourth tooth disappears from the adult jerboa, their structure was against such a conclusion. In the latter animal, the enamelled edge makes a sort of sinuous or waved edge around the whole tooth but out in the ones under consideration there were three distinct septa in the enamel of the grinding surface on the first tooth (the anterior and largest) and two in the two others.

After some consideration, I have come to the conclusion that these skulls could only have belonged to an animal of the mouse tribe, about three times larger than any of our murine species. Many will smile at this, and think of the fable, 'Parturiunt montes nascitur ridiculus mus;' but I can assure them that the trouble of classifying these teeth was not less than if they had been as big as those of an elephant, especially where the small size was calculated to throw one out of one's reckoning. This little discovery, small as it is, makes another illustration of the truth of the law above stated, viz., that wherever bones are found in caves, they are always those of animals at present existing, but of a much larger size. The other bones I can merely undertake to describe in the short space of this article. The first and most common, next to those above, are long jaw-bones, with four molars, three false molars, one canine, and three incisors on each side; the condyle a flat well-defined hinge, and the coronoid process sloping back at a very obtuse angle, so as not to be raised much above the plane of the jaw. These features would seem to imply an animal with a long, low, flat head, of predatory habits, bearing some analogy to the long-nosed bandicoot (*paramles naserta*) The second species is the jaws of an animal not unlike the *myrmecobius*, with two more false molars than the native cat, and the condyle very imperfectly developed. I must mention that the angular process or inflection of the size of the jaw was most perfect in this instance, making it extremely doubtful whether the animal was of the marsupial order. The jaw-bones were about 18 inches long. The next was an animal possessing canine teeth, which bore an extraordinary disproportion to the others. There were, in addition, on each side five molars, one false molar and three incisors. The condyle, coronoid, and angular process much resembled those next mentioned animal probably both insectivorous and carnivorous from the form of the teeth. Next were the bones of an animal as near as possible resembling our native cat (the spotted opossum of the early settlers), though not identical. I could find no perfect adult specimen of the lower jaw. Then came the jaws of what must have been a large description of bat. The bones in this instance were in excellent preservation, and though the teeth were of the utmost delicacy, the sharp raised crown was as perfectly preserved as though the animal were only dead the day previous. They were scarcely three quarters of an inch long, and the only difficulty I had in referring them to some of the *vespertilio* bat family was the

difference in the condyle and coronoid. A more experienced comparative anatomist than myself would perhaps easily find parallel instances.

I will not now enter into a description of the other bones. It would take ages to classify them all, even were the difficulty less than it is, so I must content myself with stating that I could find no remains of a large animal, and it must have taken millions of individuals to raise the deposit that is formed. I may add, however, that the types of the animals, if at all existing, would be much smaller. The kangaroo bones found in the Wellington Valley caves are at least three times the size of any now living, and the same may be said of the opossum.

Now as to the way these bones came to be so congregated. Had the mouse bones been smaller and near some Phoenician colony, we might suppose them to be relics of pagan religious worship, for these people used to sacrifice mice in caves and make a tumulus of the bones. Such a theory would hardly do here. We must premise first that the animals did not live and die where they are found, for their remains are not associated with what we must expect had they lived there, neither are their bones found in the state they would be in under such circumstances. Besides, the depth is too great and the place too extensive for any animal to live in as a place of shelter. Some geologists are of opinion that most caves were formerly in the position of an underground current or river (not uncommon in limestone), which would naturally carry down organic remain; but I can assert almost positively that there is no visible place for either the egress or ingress of water in these caves unless by the roof, so that theory will not meet the present case, so far as I have as yet seen.

Some again suppose the animals to have fallen from above; but though this would account for bones near the holes, it would not give a reason for a deep deposit extending the whole length of the passage. Some others agree that the bones could only have collected during an extensive inundation, which would cause them to accumulate either by driving large numbers of animals into them by the restless agitation of the waters above. With this latter theory I agree, as the most consistent with observed facts. I have remarked before that the caverns are on rising ground (another argument against a river). Now suppose an inundation gradually covering the plains below: all living creatures would take refuge on the hill. Let the waters still rise until a multitude of all the things that creep the earth are huddled on to the hillocks all around. Place a cave on the top: how rapidly would they take refuge therein, and, as the swollen waters poured slowly into their last resource, what multitudes would leave their skeletons to mark the work of destruction, besides the floating bodies that would be carried down by the current or swept in by the wayward action of the fluid. This theory appears to me to be the most acceptable, and let us look for one instant at the curious corroboration it gives to another record of the world's existence.

We have seen that wherever caves exist, bones are found. Add to this, that whether occurring in Italy, Germany, England, South America, or Australia, they are all



proved to be of the same, and most recent, geological epoch; the creation differing only from ours by the size of the creatures. Do not these phenomena, occurring everywhere, and proved to owe their origin to a flood which must have occurred at the same time in different places, point in unmistakable terms to a universal deluge? I am far from wishing to force mere diluvial action to give an evidence which will not bear inspection in every case; but it has always struck me that the bone deposits afford striking evidence in corroboration of the Mosaic record which has been overlooked by geologists, more especially as according to that record the creation of gigantic creatures appears to have died out then. Now geologists are of opinion that the Divine record is amply borne out by their science (fortunately for the science it is so), and if there were any, happily few at any time, who thought the contrary, they are now beginning to relinquish the paradox of truth being opposed to truth, and to acknowledge that all discrepancies have arisen from an imperfect knowledge of true facts.

How we are to account for the existence of the caves themselves is a question not difficult to answer. The whole of the district from Mount Gambier to the Tatiara is composed of fossiliferous limestone. It is formed of light coral and coralline strata, which, though much disintegrated at deposition, would in the course of time sodden down by its own weight. Of course it was all under the sea at one time, and as it slowly was raised from thence, each portion would be successively covered by shallow water exposed to the action of coast waves. This would break the corals and shells of the uppermost strata into fragments at first, and afterwards to an impalpable paste, which would harden into a very compact rock when dry, differing entirely from the loose, underlying shelly deposit. In the course of time, when the rock was quite raised from the sea, the most loose of the shelly parts would settle down, leaving a space under the hard concreted upper strata, thus giving rise to caves. There are many caves in the district in which the hard roof never falls in and reveals their extent, and are only known to exist from the hollow sound, percussion on the surface gives, or by the boring of a well accidentally displaying them.

In confirmation of my views as to their origin, I may mention that wherever the formation occurs there is always about three feet of hard, cherty limestone covering it. Secondly, caves are very common in the district, and strictly I have seen the same thing in operation at Guichen Bay, where the loose, shelly rock has been hardened by the mere action of the waves into a thick deposit above the proper formation, which remains loose. Now as to the stalactites. Water will hold a certain quantity of carbonic acid in solution, and then will dissolve a certain quantity of lime. Water falling on grassy ground derives a quantity of carbonic acid from the plants, and this filtering through and evaporating, would leave the lime it had dissolved on the inner side as a little nodule gradually enlarging by increasing deposition. Wherever the quantity of lime dissolved was small and pure, and the evaporation slow, crystallization would take place, which is the case in nearly all the stalactites in these caves. There is another cave hard by the ones I have described, which I have not visited. It is very difficult of access, visitors having to be lowered into it by rope.

The details I must reserve to a future time. I must mention that, with the exception of the ridge on which the caves are, there has been little or no upheaval, and no higher ground from which any stream might be derived for a long distance. The country around is singularly level and flat, destitute of anything like a large creek, or even of surface water in a dry season. Devoid of rivers and hills, the aspect is far from pleasant for those whose tastes are with the poet who said — 'Rura mihi et rigni placeant in vallibus amnes'— VIRG. Truly geology displays as much the wonders of the Creator as its sister, science, astronomy. These silent caves, never for ages past enlivened by the busy hum of life, scarcely echoing to the footsteps which explore their hidden beauties, have within themselves a wondrous record of this planet's changes. Geologists have been accused of requiring too much time for the operation of the mutations they have helped to disclose, but look upon this architecture— this glorious tracery of nature, remembering that it has been formed atom by atom, and line by line, consider how long it must have taken a mere drop of water to take down from above the marvellous columns which adorn this palace of stone, and ask will years, even counted by hundreds, cover the period it includes. *Coeli enarrant gloriam Dei* — Man, in his busy speculations among the stars, has told of wondrous things. He has pointed out orbs whose distance from us he has discovered, but his numbers have an unmeaning sound, which his own mind cannot reach. He has traced dim clouds to universes whose existence may have finished since the radiance which now shines upon him proceeded from them. All his discoveries enlarge our small ideas of the immensity of Omnipotence. And does not geology do the same? Beneath the soil, carpeted by various flowers, which herald forth the beauty of a world to come, are secrets which are only known to man in part. But these revelations, small as they are, stretch far beyond his comprehension. He learns that the dust he treads upon was once alive, that the rock on which he takes his stand has lived and died, has been a thing of life and is now a stone, and this is a time which reaches so far back as only to be understood by Him who was from eternity. He sees that a cavity (but an atom in the world) has by the small dropping of water created itself into a palace, and then as it stood a silent witness to the earth's history, has become a cemetery of a creation swept away in one of its changes. But this is not all, nor even a part. It requires now a laborious man to learn all which little by little has been revealed to those who have looked into the past history of creation, and man pausing in his vain endeavour to stretch his mind to the capacity of that which has no bounds, is obliged to rest himself from the thought of the infinite, and to confess that whether he searches in earth, or sky, or sea, he is everywhere met by the vision of the illimitable.

Penola, February 24, 1858.