



NEWSLETTER

Cave Exploration Group

South Australia

C/O SOUTH AUSTRALIAN MUSEUM NORTH TERRACE ADELAIDE

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EDITORIAL

It is pleasing to have to say that it was necessary to omit both the cover photograph and the abstracts and reviews due to the number of contributions to this newsletter and the length of some of those contributions. I probably hold a unique position amongst the editors of speleo-newsletters in Australia in that I have more than enough material for each issue of the newsletter. I would like to thank you all for your response to this newsletter.

Secondly, I should like to apologize for some comments that I made in the last issue of the newsletter. I feel I was taking advantage of my position and that it was not in the best interests of the Group to write it. I hope you will accept the excuse that I was somewhat bereaved at the time.

On a much brighter note, it is also pleasing to see the Conservation Subcommittee showing signs of getting off the ground after a slow start with the absence of Rod Wells. However, the effort is largely due to Grant Gartrell and a couple of others. I hope a few others will join the team. Take a look at Earl's Cave sometime if you need convincing. Pollution has become a very prevalent thing in our society and it is necessary that we all take action if any form of conservation is to be a success. It should become one of the main aims of the Cave Exploration Group and other similar bodies.

Despite the slight fall-off in numbers on trips this year, exploration and new discoveries have been particularly outstanding and are worthy of mention. Firstly, after some years of work Sellicks Hill Cave has finally given (see elsewhere in this newsletter) and a breeze heralds a cave measured in the thousands of feet awaiting exploration. Also the newly discovered Sand-Funnel Cave at Naracoorte has been extended by a good twelve hundred feet. What's more, the cave shows possibilities for further extension. Then of course there is Victoria Cave • • • Perhaps this is enough on exploration.

A considerable amount of organization has also gone into Search & Rescue this year and it is pleasing to see that subcommittee functioning so well. Two successful S&R trips have been held so far and the field day at Reynella showed record response.

All in all, despite some upheavals and disputes, one could say that this year has been far from unsuccessful and shows great promise of things to come. It is not too early, however, to think ahead to the coming year. In a little over four months you will be required to choose a new committee to manage the Group's business. Give this careful thought for it is essential to the smooth running of the Group that you abide by the Committee's decisions and support it throughout its term of office.

TREVOR H. MADDOCK.

GROUP NEWS

The quarter since the last newsletter has been an eventful one with much happening that is worthy of note. Some rearrangement and two new additions have appeared on the elected committee as well as a new Tourist Bureau representative and the number is now complete for the first time since the beginning of the year. Peter Chappell has moved from the position of Vice-President to fill the vacant position of President and Pat Lake has filled the position of Treasurer. Grant Gartrell was voted into the position of Vice-President vacated by Peter Chappell and Peter Warren, Acting Curator of National Pleasure Resorts has been assigned to the role of SAGTBR on the CEGSA Committee.

The list of Honorary Associate Members has grown to five following the recent election of Dr. W. G. Inglis, Director of the South Australian Museum to our Society. Dr. Inglis, originally from Scotland, has been of assistance to our Group on several occasions since he replaced Dr. Crowcroft as Director of the Museum. Close relationship between his and our bodies will be of mutual benefit to both parties and we welcome Dr. Inglis to our Group, hoping we have a both long and fruitful relationship in years to come.

It is also a pleasure to announce that Mr. Fred W. Aslin, one of the senior members of our Group was unanimously elected Honorary Life Member of CEGSA. It can honestly be said that no person has been more worthy of this honour than Fred and it is regretful that it was not bestowed upon him sooner. Since the early days of the Group Fred has been a vigilant and persistent worker and on many occasions has slaved many hours under difficult conditions for unspectacular achievements but all adding to our knowledge of South Australian speleology. He has collected for the South Australian Museum for a number of years and has been instrumental in assisting the CSIRO Bat-banding Scheme in the South-East of our State as well as across the border into Victoria. It has been through his efforts that much of what is presently known about bats was able to be disseminated.

With Grant Gartrell some time ago, Fred helped to compile a report on water pollution in the South-East of the State and this has remained one of his foremost concerns. It was he who initiated this present burst of enthusiasm towards this specific field within the Group.

Apart from the biological and conservation fields Fred has been more than active in the surveying and mapping side of our activities as well. To mention just a few of the larger ones, he is at present completing maps of Snake Hill Cave and Mount Burr Cave, two mammoth projects in themselves. Congratulations to Fred, no-one deserves Honorary Membership more than he.

As mentioned in the editorial, the Conservation Sub-committee intends pursuing investigations into the pollution of underground water-supplies in the South-East. This requires careful and laborious collecting of samples in special containers and the help of many will be necessary if this is to be a successful project.

The results of these investigations will be compiled into a paper for submission to the Minister of Conservation and the Environment and so all work must be methodically carried out and meticulously handled and presented. This is something we can all play a part in if we are sincerely interested and concerned about our environment and our country. Those of you that are interested in helping in some way please contact Grant Gartrell or another member of the Conservation Sub-committee.

BATS IN CAVES

Have you seen bats in caves during your travels, whether down the South-East, along the Murray, in the Flinders Ranges, on the Nullarbor Plain or in any other locality? This may be an everyday occurrence and their existence may be well known, it may not. Sightings you make could be of great interest and scientific value. To aid in recording data on the distribution of bats in Australian caves the CSIRO Division of Wildlife Survey has made available survey cards so that speleological societies may record sightings of bats in caves and so help in recording the distribution of bats. These cards are available for any of you on request and it is urged that trip leaders obtain some of these when visiting some of these areas, especially the Flinders Ranges as little is known of this area. Some stocks of cards are kept in the Naracoorte hut but if you wish some before visiting other areas please contact the editor of this newsletter or ask a member of the Committee to forward the information. Remember, any sightings are of value in finding out more about these animals and the knowledge is lost if not recorded.

WHAT HAS HAPPENED TO THE A.S.F. NEWSLETTERS? It is interesting to note that after John Dunkley's comments about not hearing a peep from CEGSA for some time it has been months since the last ASF Newsletter showed up in Adelaide - three months late. If the ASF still plans to put out four-newsletters a year I guess we can expect three in the next months. Where are you, Dunkley? The last newsletter was good. When can we expect more?

THIS IS JUST A NOTE TO REMIND CEGSA MEMBERS THAT WE STILL HAVE PUBLICATIONS TO SELL. CAVES OF THE COASTAL AREAS OF SOUTH AUSTRALIA HAS GONE. I'D LIKE TO BE ABLE TO WRITE THE SAME THING ABOUT MULLAMULLANG EXPEDITIONS. GIVE SANGSTER SOMETHING TO DO BESIDES PLAYING WITH HIS LIBRARY CARDS. SURELY EVERY MEMBER HASN'T GOT A COPY YET - AND WHY NOT? DON'T FORGET THE TRANSCRIPT OF PROCEEDINGS OF THE SEVENTH BIENNIAL ASF CONFERENCE EITHER. HAVE A LOOK AT IT. IT REALLY IS INTERESTING!

PHOTOGRAPHIC COMPETITION 1971

IT'S ON again!!

COME TO the Annual Sinner,

SEE GOOD slides you didn't take,

ENTER SLIDES you did take.

FOUR SECTIONS:

- i. Best Cave Slide (Scenic)
- ii. Best Caving Slide (Action)
- iii. Best Personality Slide (not P. Chappell)
- iv. Best Black & White print of anything related to caving (Points given for ridiculousness)

Entries Limited to TWO slides/prints per person per section.

Entries not limited to South Australia.

Prizes awarded at the Annual Dinner, Uraidla Hotel, 4th December 1971.

LAST DAY OF ENTRY General Meeting 24th November 1971.

Entries to Ed Sangster (H) 967749 (w) 570441

EXTRACT OF LETTER FROM PETER ROBBIE IN NEW GUINEA

From what I thought to be an area void of caves this part of Bougainville is turning out to be very interesting. I have a small band of followers, and every fortnight we hike about four miles across a two thousand foot hill to a deep limestone gorge cut by a river. In the side is located a cave that we are at present mapping and collecting specimens from. We have mapped over two thousand feet of passage, half of which follows a river. We are stopped at the moment by a twenty foot waterfall crashing down into our passage, and we will have to obtain some pitons so that we can climb up. The cave is quite a maze with one stream flowing over another and it appears that the cave goes under the river to reappear half a mile down stream on the other bank. We intend to do some water tracing to check this out, but are holding out for a while until things quiet down at nearby Borimai village.

About four weeks ago some people from one of the mining camps visited the cave while we were in it, and when we came out four hours later we found they had gone through our ruck sacks and stolen our food and a map we had made of the cave to that date. Outside they had made a mess leaving beer cans and paper all around. We cleaned up the mess and departed.

Two weeks later we went back only to find a notice had been put up at the top of the hill to say that the cave was closed to us.

Letter continued on Page 17...

TRIP REPORT SELICKS HILL CAVE SUNDAY 4/7/71.

Party: G. Gartrell (L), P. Bolland, S. Bolland, Miss J. Wilson, B. Dunn, D. Hawke, P. Chappell, J. Beresny, E. Sangster, R. Allanson.

SELLICKS HILL CAVE is one of several cavities intersected by the Highways Dept in the construction of the new Sellicks Hill Road. This cave occurs in steeply dipping Cambrian(?) limestone which outcrops several miles to the north, to the south it also contains the Carrickalinga Cave.

The entrance to the cave is in a bench on a cutting alongside the road and some thirty feet above the road surface. The cave is protected by a steel gate installed by the Highways Dept. CEGSA has the keys.

Enlargement of the entrance was originally necessary for access and numerous constrictions and rock chokes have since been removed by digging, with an effort spurred on by a tell-tail breeze. Somewhat over a year ago removal of rocks from the then floor of the cave increased its depth dramatically by over twenty feet and quadrupled its people holding capacity. Shoring and concreting work was carried out to secure one large boulder which threatened to block a key section of the cave, and it was left to sort itself out.

The purpose of this trip was to observe the cave after a year's rest, and to continue digging. Being so close to a recent cutting possible shattering or movement of rock within the cave to ease stresses could be expected. None has been observed after the year, however, and the cave appears to be quite stable. The gate was found to be in good order, although the lock was stiff. It was oiled and freed up. Excavation still following the breeze has extended the cave downwards six feet with a further ten feet visible. The dig is quite promising, although a little confined, and progress should be steady if not spectacular. Measured vertical depth of the cave is now approximately sixty feet, so that the breeze comes from at least thirty feet below the road. The cave has a potential depth of many hundreds of feet.

A follow-up trip is planned soon to complete concreting work within the cave and continue digging.

G. Gartrell.

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Notes on the following trip (2/8/71) to Sellicks Hill are also found in this newsletter.

T.H.M.

'KHAZAD-DŪM' (JF4) AUSTRALIA'S DEEPEST CAVE

by Norman Poulter

Introduction

It is not clearly known exactly when the actual entrance to Khazad-Dūm was discovered, but like most caves in Tasmania, it was probably first viewed by timber-cutters in the late 1800's. On the other hand, the efflux of Khazad-Dūm, better known as the Junee Resurgence or Junee Cave has been known ever since the area was first settled in the mid-1800's, and the tough locals no doubt made use of its specious surroundings as a picnic/swimming area.

The Junee Resurgence is located about five road miles from the timber town of Maydena which in turn is approximately fifty-five miles west of Hobart. The Resurgence is on common ground. Two miles away, deep inside the Mount Field National Park and 1200 feet above the Resurgence, lies the entrance to Khazad-Dūm. Access to the entrance of this frightening hole is gained from the territory of the Australian Newsprint Mill whose lodgings borders the Park for many miles and contains other caves such as Welcome Stranger, Tassie Pot (2nd deepest cave) and Hairygoat Hole. The cave, of Gordon Limestone, is at this moment officially listed as 950 feet deep, and if it goes down to the full depth of 1200 feet, it will become the deepest cave in the Southern Hemisphere, currently held by New Zealand at 1130 feet.

Early exploration prior to the ASF Field Trips Jan 1 - 10, 1971

The Tasmanian Caverneering Club, Australia's oldest caving society who this September celebrate their 25th. anniversary, of course have known of the Resurgence for many years and have spent just as many years looking for the cave or caves that supply the Resurgence with the enormous amount of water that it endlessly disgorges, at the average rate of 30 cusecs, or 30 cu. ft/sec. or to break it down further, 186 galls/sec at a given point.

T.C.C. first came across JF4 as it is known about three or four years ago but did not persist with it as it was thought that it would connect with a cave located a short distance down the creek bed, numbered JF5. The stream (small flow in comparison to the Resurgence) flowed into JF4 greatly inhibiting access and making deeper penetration highly dangerous. JF5, on the other hand was dry - for a while, at least! Interest waned with the JF4-5 complex in preference to less demanding caves in the area. The success of the Southern Caving Society in November 1970 with the 800 feet deep Tassie Pot some miles away renewed investigation with the complex and was then prepared for sustained exploration during the course of the ASF Conference Field Trips to be held in the vicinity during January 1-10, 1971.

A low level track following the semi-dry creek bed was marked and partly cleared from one of the ANM's timber roads. This track of about a mile in length wound away through dense, unyielding horizontal scrub, fallen trees of inches to many feet in diameter which cavers either ducked under or crawled or slithered over. Some logs were that rotten with water that a boot would exit through it when weight was applied. Least of all troubles with this torturous track was the mud.

The JF5 entrance was still considered to be the only way to descend this cave so Loxin bolts were positioned in places deemed necessary so that the descent could safely be made to the 100 ft plus mark. All work was then terminated to await the onslaught of the ASF Conference.

ASF Field Trip 1, Dec.31 - Jan.5 1971

Due to the attraction of the Junee-Florentine area and the numerous restrictions enforced by the ANM, exploration of the vicinity was split into two parties. Group 1, of which I was a member, was in the area from Dec. 31 to Jan.5. Group 2 were due to arrive from Hastings, further south on the evening of the fifth and on the sixth, Group 1 would withdraw to the Hastings - Ida Bay area.

The section of the Florentines in which Khazad-Dūm lies was not visited in earnest until January 4 when the main body converged on the area. Some were to tackle JF4, others JF5, while others set off to penetrate as yet untouched sections around other large caves such as Hairygoat and Cauldron Pot to name just a few. It is now thought that these caves, along with others, connect with Khazad- Dūm.

I, along with one of the Tasmanians, joined forces with three Victorians to try and get into a high level passage spotted about 12 ft above the stream inside JF4. A sapling was cut to use as a scaling pole. The first step was taken in what has become the continuing story of the descent of Khazad-Dūm. Strange as it may seem, the descent starts by climbing up. Much time was spent in anchoring the pole safely. The pole in position, one by one the Victorians ascended the ladder which was up against a very unstable wall with large boulders loosely cemented together with dirt. The Tasmanian, Wes Carpenter and I waited with the ladder. Wes was on the lifeline and I on one of the pole tethers as we heard of the spasmodic breakthroughs, the most significant of which was the sighting of the base of the ladder in JF5. Time had proved that JF4 was the right way down. The party in JF5 on seeing lights below the base of their ladder started to withdraw, glad to get out of its dangerous environment.

Exploration in JF4 continued to about -200 ft where the Victorians were stopped by an estimated 120 ft drop into what even by conservative estimates was a big chamber. Later on Wes and I were able to get into the passage for a look while the Victorians started a preliminary survey back towards the entrance. While this survey was being carried out Wes and I withdrew to the homestead two miles away carrying surplus equipment that we could manage. A scare was created a short time later when a person was misplaced. A preliminary search was started and he was subsequently located attached to another party. Little did we know that an even larger search would get under way the next day and centre on a party led by myself.

The next dawn was unusually hot for a change and, as this was the last dawn of our stay in this area, not many people were enthusiastic about tackling a cave of unknown ruggedness. However, under the prodding of another NSW caver and I, we eventually scraped up a Tasmanian (SCS) and a girl from Queensland to act as a packhorse. By mid-morning we had acquired 250 ft of ladder and more than 300 ft of rope. We were transported to the head of the track and were supposed to be there to be picked up by seven that night, about two hours before darkness.

Due to the large amount of weight distributed between the small party more time than anticipated was used in getting to the cave and penetrating the first hundred vertical feet. The access track was now worse than a quagmire. At the hundred foot level the Queensland girl was left at her own request. Fortunately she did not have a watch with her so she was not to know she stayed there more than five hours.

At the top of the main pitch the ladder was rigged to a rock wedged in a fissure. The lifeline was rigged to the same rock. 160 ft of ladder was lowered over the edge and gave no indication of touching bottom. Lights could not reach the bottom due to the depth and the body steam. The sound of rocks hitting bottom was muffled by the action of a large waterfall within the chamber.

The Tasmanian became lifeliner and, as I was most experienced on ladders (and not because most of the ladder belonged to me), I was elected to go down first.

Over the edge it became evident that the chamber extended above the level of the access passage. I laddered down an estimated 100 ft (later corrected to 92 ft) free drop and landed on a suspended rockpile still seventy feet above the true floor. I was in a fissure chamber more than two hundred feet high and long. The width deviated from zero to forty feet wide and for good measure a 100 ft waterfall was thrown in. A sobering sight nearby and above was a huge boulder wedged between the walls of the fissure at three points about the size of an adult hand. My estimate of this boulder was three hundred cu. ft. The boulder was later more accurately placed at in excess of 2000cu. ft or more than 400,000 pounds.

If this boulder ever fell from its position it would rearrange the cave from the entrance to the -350 ft level, due to the unstable nature of the rockpiles in this section.

After lowering the rest of the ladder down the side of the rockpile the NSW caver joined me on the rockpile for a more detailed investigation. The rockpile, as stated, was suspended above the floor - on one side. It was the side facing the waterfall. On the other side it was possible to scramble down the rockpile to the far end of the chamber. As time was running short we decided to ladder to the base of the waterfall, which was accomplished in short order despite its difficulty. The stream passage was followed to its termination of another 100 ft waterfall and would not permit a ladder to be rigged beside it due to the narrow aperture of the edge. Arriving back at the 1st waterfall a passage was followed under the rockpile, terminating at an estimated 80 ft drop (the actual depth was 95 ft). This would be the obvious continuation for the exploration of the cave.

It was now obvious that we were not going to be back at the road by 7 pm. We decided to adjourn to the top of the rockpile. While the lower 60 ft of ladder was hauled to the top of the pitch the other extremity of the cave was explored. Some holes were noted that led into the lower chamber some forty feet higher than the drop mentioned previously, but by far the most significant discovery was a dry disused stream passage running for more than one hundred feet before terminating at a twenty-five foot drop. The direction of this passage indicated to me that it would give much easier access to the stream than the other two ladder drops.

Exploration complete we started to get the hell out of there. Coming up the main drop last, I topped the pitch just after seven o'clock. At this stage we figured we were going to be back at the road just a little bit late. Much time was spent derigging the pitch, packing the gear, and retreating, picking up the Queenslander on the way. The entrance was reached at about 9 pm. Due to our unfamiliarity with the area we came adrift from the track many times. Darkness and exhaustion didn't help.

Meanwhile, the people back at base became a bit anxious sometime after nine o'clock with the arrival of Group 2 from Hastings. At approximately 11 pm when we had still not shown at the head-of-the-track, a full-scale search stirred into action from within the two groups, complete with radios. They penetrated about 100 yards into the bush when we emerged to greet them. I wasn't exactly popular for quite a while. That is until they found out what we had achieved in so short a time.

Discovery By Group 2, Jan 6 - 12

After the withdrawal of Group 1 from the area, Group 2, led by Albert Goede, President of TCC, quickly set about improving the track to JF4. A high level track was marked following a ridge adjacent to the cave. Although this route was a significant improvement over the low level track, it was by no means satisfactory as progress was constantly inhibited by many large diameter logs strewn in agonising disarray. Heavily laden cavers were forced to climb over, under or around these obstructions. Some logs were rotten in true rain-forest tradition by giving the appearance of being quite sound until trodden upon, at which stage a fowl smelling sludge would be deposited over the unfortunate caver as his or her boot cut completely through the log.

Group 2, during their stay lowered the depth of JF4 to more than 500 ft before lack of time and equipment forced their attentions elsewhere. The cave was surveyed to a depth of 300

ft and given the official name, 'Khazad-Dūm' from the fantasy book, 'Lord of the Rings'

A funny outcome of the Group's exploration of the cave came when they went looking for the passage that I said was at the far end of the chamber. For some reason they did not find it although it stuck out like a signpost. They apparently stopped looking only twenty feet from the entrance to the passage when they found the holes I had indicated would lead to the lower chamber but above the third ladder drop. Again, for some unknown reason, they mistakenly assumed that this was the passage I was talking about and wondered how I could see only twenty-five feet into it when the drop was obviously nearer to a hundred feet! Faithfully, one hundred feet of ladder was lowered into one of the holes and Andrew Spate (VSA) descended. I shudder to think what he thought of my supposed twenty-five feet when he found himself swinging on the end of the ladder, while still some fifty feet above the floor.

While all this was going on a narrow serpentine passage was discovered near the entrance, giving a dry passage to the cave. This entrance is now used by one person who anchors the ascent ladder in the entrance chamber for the gear and personnel and thereby eliminating the hazardous scaling pole.

Post Conference Operations

The potential of the cave was now realised and excitement throughout Tasmania's caving clubs heightened as the date of the first major depth attempt of January 23 -24 drew near. The attempt was to be made by nine cavers drawn from Tasmania's two clubs - TCC and SCS. Due to the ability of my vehicle to induce seasickness on its passengers one of the participants had to drop out of the attempt.

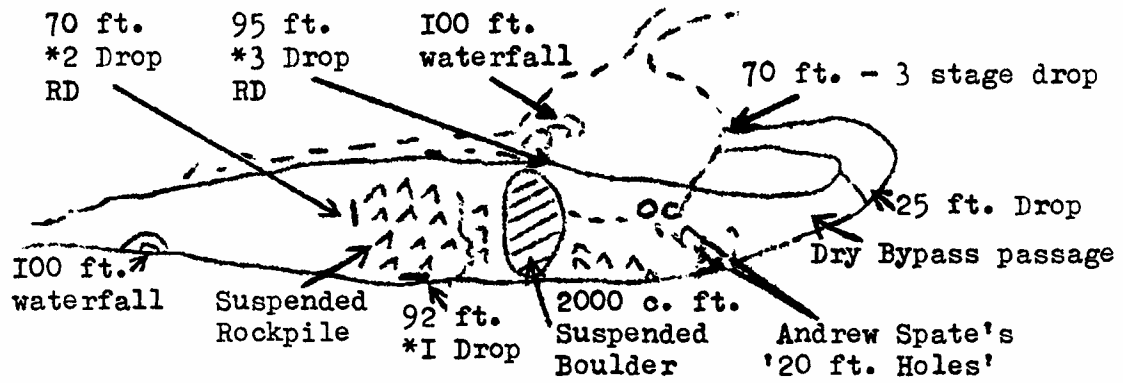
Before proceeding with the description of this attempt I feel that it is about time the upper two hundred feet of the cave be described.

The entrance to JF4 is sited half in the creek-bed and half in the creek-wall. The creek is such that it flows straight into the entrance of the cave. A mere trickle escapes to continually make the remaining section downhill muddy. A small but impressive waterfall a short distance upstream of the entrance foretells the environment that exists throughout the cave. The entrance chamber is roundish in shape once the entrance rockpile has been passed, and the chamber abounds with glow-worms. The stream flows across the entrance chamber at a constant temperature of 11 degrees centigrade.

The ascent pitch is only 15 ft, but against very unstable wall material. The limestone boulders, some quite large are loosely cemented together with, of all things, dust! A small passage leads away from this pitch to the first descent of about sixteen feet. After gear has been lowered down this the hard stuff presents itself in the form of a narrow flowstone fissure descending at an angle of about sixty degrees for a distance of fifty feet. The passing of equipment along this section is quite difficult. The weightiest items, being of course ladders, are carried in specially constructed heavy-duty canvas bags capable of containing 90 - 120 ft of ladder. Ropes are also carried in these bags.

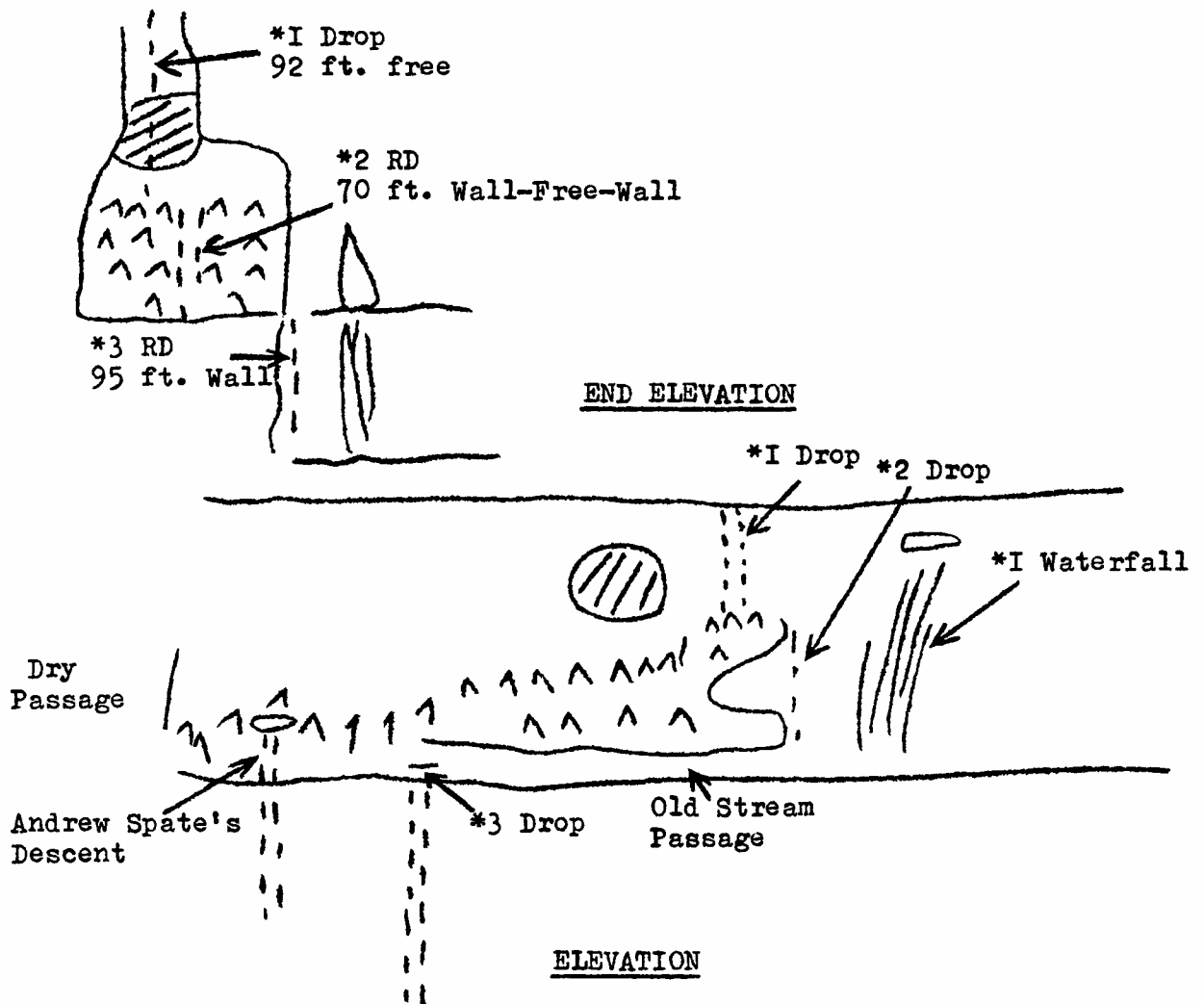
This section negotiated to a small platform directly above a twenty drop, over which gear is again lowered. Human access to the base of the drop is by way of a small chimney tunnel-way. Leading off from the chamber at the base of the drop is a twenty-five foot flattener ranging between ten and twenty inches high. A fast method was devised for passing equipment through this obstruction which is usually quite muddy. One person crawls through trailing a rope. Once through the bags are tied to the rope wagon-train fashion, and hauled through. While this is being carried out everyone hopes and prays that none of the bags get caught.

Continuing on from the flattener is a passage of medium dimensions containing some straw formations. This passage terminates in a small rock-pile chamber, from which the ladder drop of JF5 can be viewed.



THE MAIN PITCH CHAMBER (PLAN)

(Explanation:
 RD = Redundant)



A narrow fissure has to be traversed to gain access to the main pitch chamber. The fissure is not to be considered dangerous unless manhandling equipment, then there is an acute possibility of loosing either footholds or equipment. So far this has not happened.

After all the gear and personal have passed through the fissure the first major drop is encountered, this into the chamber I have already described earlier.

The eight cavers involved in this first attempt were split into three parties, two three-man attack teams and one two-man survey team to continue the survey from the ladder as far as they could.

The ladder was lowered over the drop and two people descended to start rigging a ladder from the rockpile to the base of the chamber. In this way two people could be laddering in the same chamber at the same time. Equipment was also handled in this manner and then ferried to the top of the third drop where an expanding bolt was installed, to which the ladder was attached by means of a karabiner. When the six and their gear descended this drop time was called for lunch and the sorting of gear. As I had been the first or second to descend these ladders I was unaware that the last one on each occasion had done so without a lifeline. This was to prove a problem later.

After lunch the teams were sorted out. I found myself in the second team and we started off by stepping into a stream at nine degrees centigrade. If one was careful, and I was, it was possible to keep one's feet dry till one reached the five hundred foot mark. The stream meanders along ranging from a few inches in depth to pools of up to knee-deep which appear quite suddenly. Things went well up to the point where the first of the small waterfalls was encountered. This one had the ladder rigged beside the twelve foot waterfall and did not prove difficult to negotiate although the temperature of the water made things uncomfortable.

Pressing on from here the stream led on to the second and more hazardous waterfall. This particular fall gave more trouble than any other part of the cave explored so far. The first thing we saw was the sole of somebody's boot making us wonder how he had managed to continue over the sharp rocks in the passage, not to mention the water temperature.

The ladder was rigged right through the waterfall and never having climbed through a waterfall and not wishing to start now, I started to look around for a dry anchor site. By climbing up onto a ledge it was possible to rig a ladder on an overhanging flake well clear of the water but making it difficult to get on and off the ladder. However, dryness won out and I descended, crossed the small chamber and waited under what I thought was an overhang for the others to follow. The only thing I received was a twenty pound rock dislodged somehow from above. It bounced off the wall above me and landed squarely on my foot. The pain was quite severe.

After the screams had subsided the anxious caver who had dislodged the rock almost fell down the ladder in his haste to see what had happened, for the rock had thrown me off balance and I was lying further back under the overhang vainly trying to reach my foot to see if any bones were broken. Communication was virtually impossible over the roar of the waterfall.

No bones broken and using the cold stream to reduce the swelling, the problem now was to get back up the ladder and start a somewhat painful withdrawal. The chill of the water helped immensely. The trip from 680 ft to 500 was made in short order with the aid of one of the team. The third member continued on to join up with the advance party.

The two of us waited in a windy backwater for more than three hours, waiting for the return of the descent party. During that time we were passed by the survey team who managed to survey down to the region of the first waterfall. The remaining descent team negotiated several more waterfalls of varying difficulty to finally run out of gear at -860 ft and an estimated hundred foot waterfall. The depth was gained from an aneroid altimeter borrowed from some department of the Tasmanian University.

When all the parties had joined up once more the business of the un-lifeline ladders which totalled two hundred and fifty-seven feet had to be tackled. Who was going up first and a major debate took place at the base of each ladder as exhaustion, tiredness and cold set in. The one who had lost the sole of one boot, three months out of hospital after a serious motor accident, proved to be the fittest, motivated no doubt by being soaked head to foot by waterfalls and wanting to get out to start a fire.

It was at the final awe inspiring ninety-two foot pitch that the Khazad-Dûm Express came into existence. As each person ascended he was handed one end of the rope and told to pull like blazes when the 'UP ROPE' was given. This went on without the knowledge of those below. I was last up and so had seven people on the lifeline. I took one step up, said, 'Up Rope' and my next step was three feet later. I think I touched the ladder a dozen times between there and the top. It was the only enjoyable part of the trip!

From that point it took some two hours to get everybody out to a beautiful fire at 4.30 am Sunday morning after spending eighteen or so hours underground. We stayed by the fire until daylight allowed us to negotiate the track back to the roadside. Khazad-Dûm awaited our next battle with it.

The next major descent attempt to break the newly set record was set for the Labour Day weekend of Feb. 27-28, March 1. Prior to that date, however, a small trip was led to explore the newly discovered Serpentine Passage which started at the very entrance to the cave, joined the main passage then wandered away. The passage was fairly narrow throughout, contained many small waterfall pitches with a few large ones sprinkled in and was eventually proved to reconnect with the main passage of Khazad-Dûm at about the 500 ft level.

2nd. Depth Attempt Feb 27-28, March 1 - 1971.

From the lessons learnt during the first attempt, this one was going to have the luxury of a support team and a lifeline on the *1 pitch, the first two little ones being discounted. The plan was to transfer the equipment to the base of the third pitch on Saturday and withdraw leaving the attack till Sunday-Monday. That was the plan - but it didn't last long. The attack team did not have much to do except rig three pitches, the idea being to conserve strength. One of the team and I decided to swipe some gear and follow the side passage I had found on my first visit into the main chamber on January, and, as yet, unexplored. A hundred and twenty feet of rope was required to anchor the twenty-five feet of ladder for the first drop.

The passage was still part of the main fissure of the chamber and wound round several corners before terminating in an estimated fifty foot drop. The steam could be heard quite distinctly so we knew we had proved a connection. It only remained to see if the drop could be negotiated to make it a successful bypass.

Tying off eighty feet of waist-loop and parachute cord. I abseiled down a seventy foot, three-stage near-vertical drop to make a landing twenty feet above the stream height and one hundred and fifty feet down stream from the base of the third ladder. A successful and easy bypass was thus achieved.

By this time the ladder-rigging party had arrived at the top of the ninety-five foot drop and were surprised to see a light staring up at them. To avoid doing a bit of work I beat the hell out of there. No-one including myself has yet been able to figure out how I managed to climb the drop on just a rope. Since all the gear was at the top of the now redundant third drop it was lowered and then the second and third ladder drops were thankfully abandoned. The bypass drops were properly rigged for the first time and is now the main route to the lower section of the cave.

All this completed, everyone withdrew. At this stage I started advocating that all ladder drops in the cave be bolted to cut down on the excessive amount of rope that had to be carried and to remove as many ladders as possible from the water falls. As this meant a lot of hard work, I didn't have many people in agreement with this suggestion although some did admit that it was just a little bit ridiculous to have 120 feet of rope tethering 25 feet of ladder and maybe some of the waterfalls un-lifeline'd by necessity of expediency, were a bit dangerous.

SUNDAY

The 2-3 man attack teams re-entered the cave just before noon on Sunday Feb. 28th and started down to collect the gear. After the usual sorting out we headed off, with myself in the forward party. All went well until the second waterfall was reached and rigged, naturally through the water and un-lifeline'd. Never having climbed down a waterfall before I was full of apprehension but down I went. Half way down, the combined force of the water, difficulty of breathing, weight and noise of water cashing all over me and down the loose fitting borrowed wet-suit caused me to panic and come adrift from the ladder, landing in a painful heap in the rockpool below, staring at the rock that landed on my foot. There were no bones broken but that didn't help me walk any easier as I hobbled further downstream. To turn back would have meant calling the trip off due to not enough people to carry the 500 feet of ladder and the remainder of 1000 feet of rope.

Sometime later we all arrived at the 860 foot level. To get down the next drop necessitated the installation of an expanding eyebolt. It takes about one hour for 2-3 people to drill the hole for the Loxin expanding joint into which is screwed an eyebolt. While this was being done a dry chamber was located nearby, large enough to house about ten people and equipment. In one wall was a hole and blackness beyond. There was an estimated 150 feet of dry pitch below. Another bolt would have to be installed before an attempt to descend. By this time, however, the bolt for the other drop was made ready. The drop was only 70 feet instead of the estimated 100 feet. Four of us descended into the chamber below, dampened by the spray from the waterfall.

Once at the bottom, the stream descended a few feet to yet another waterfall of unknown depth. The ladder was attached to the base of the other one and the hardiest of our group elected to descend the worst waterfall yet. He descended about 30 feet before yelling to be hauled up at the point of drowning. He had set a new depth record of 950 feet without touching the bottom of the drop. The unplumbed dry drop was now the only hope of bottoming the cave and would have to be left until next time as we did not have the time available to install the necessary bolt and push it.

We ascended, de-rigged the pitch, adjourned to the dry chamber and had tea at 8pm, already one hour overdue. Albert Goede would now be sitting at the top of the main drop to lifeline us. He was to sit there until 1am Monday morning before we were to show. After tea, the return trip began and was uneventful until we reached the second waterfall. Due to the damage to my leg, I was insisting on a lifeline at all drops.

The plan was therefore two would go up, lower a rope for me to pass up the gear and then it would become the lifeline for me. At this waterfall a strategic rung was submerged at the very top of the fall necessitating a person to bypass it in preference to the next one. All this to be done while having the full force of the water breaking over your shoulders. The leading man went up, only just making the top; the second man went up, grabbed the necessary rung and stopped, lacking the strength to haul himself over the brink. Then he lost his grip and sprawled across the width of the fall, at one stage having only one foot still on the ladder. The leading man came to his rescue and at one stage it looked to me as though both would fall. Fortunately they didn't and with an almighty heave from the lead man they fell back over the top. After the gear had gone up it was my turn. I climbed well until I made a grab for that strategic rung. My reach was about one inch too short and my legs lacked the necessary power to push my body against the weight of the water and give me the required reach.

While this struggle was going on, water entered two plastic bags in the day pack on my back and drowned my camera. Twice I tried to shout instructions to let me down so that I could jettison the pack and 120 foot of rope that I was carrying and twice I was rewarded with a stomach full of water. Then with one heave from the two on the rope I was over the top. After that incident, a few more people started thinking about bolts and waterfalls. Exhaustion was rapidly getting worse and the ladder bags became harder to manipulate. The main pitch chamber was reached at 1am on Monday March 1st. It still took 8½ hours to withdraw all personnel from the cave. Without the support party of about four, several more hours would have been spent on that section. Overall time spent by the attack team in the attempt was 21½ hours. Far too long for such a sustained effort. The water temperature at the 920 foot level was 8 degrees C with the surrounding atmosphere not any warmer.

Gear was stuffed back into packs, transported back to the cars and then to the base hut. A hearty meal was enjoyed by all before the pullout for Hobart. The average time spent by the attack team without sleep was 31 hours.

POST MORTEMES

After this trip several post mortems on the cave were hashed out, from which several conclusions were drawn:

1. A high quality, obstruction free track should be constructed.
2. To reduce quantity of rope needed, speed up ladder rigging and derigging on a safer footing - all ladder drops to be bolted at waterfalls where possible made dry ie. anchored adjacent to the waterfalls and not through them.
3. A campsite area constructed within 100 yards of the cave entrance capable of holding any and all support groups, complete with stocks of adequate firewood.
4. A multi-station telephone line installed at the campsite with stations at the top and bottom of the main pitch and down to the 800 ft level. The function of the line at the base of the main pitch would be:-
 - a) to let the belay back at the campsite, know of the party's arrival,
 - b) for communication from ladder base to the top when the noise of the waterfall prevents direct communication.

RESULTS

Of the post-mortems, the bolting of the ladder drops came under notice first. The first bolting trip was done on April 1st, when three bolt's were installed. On June 19th two more bolts were installed on the two entrance pitches. Another such trip was set down for August 14th and 15th. The bolting had progressed to the stream passage when I left Tasmania and no doubt the August trip tackled the waterfalls, which would include the troublesome one.

The business of track cutting was tackled next. The bush, scrub or undergrowth of Tasmania is a fearful thing to behold. It goes by the name of horizontal scrub and is just that. On a track-cutting trip in the Weld River area a few weeks previously, three people using a machete, axe and bush saw averaged 100 feet per hour. On June 19th the Khazad-Dūm Highway came into being with the use of two chain-saws, axes and machetes. Work started at 7a.m. and finished about 4p.m. the same afternoon. The large diameter logs - the main obstruction - were 90% removed. Those left had steps cut in them for easy stepping over. The track also had to be made navigable in darkness as the old ones had been used frequently at night and many parties had come adrift from them. The new highway now overcomes this problem to a great extent.

The campsite adjacent to the Khazad-Dūm entrance was started on July 4th when one campsite and a small stock-pile of firewood was constructed. This same day two bolts were removed from the redundant JF5 cave. More work was due to be carried out on the campsite on the week-end of August 14th - 15th.

More than 4,000 ft of telephone wire has been acquired and investigation underway for a robust telephone suitable for severe cave conditions.

There was a trip set down for August 21 - 22 to carry out water tracing between Khazad-Dūm and the Junee Resurgence utilising about 20 lb of fluorescein. June 19 also saw an aneroid altimeter traverse run from the Resurgence to Khazad-Dūm and back again to gain depth potential. This experiment resulted in a height of 1,220 ft-plus or minus 20 ft.

Future

That is the end of the short history of Khazad-Dūm and now what of the future? The fate of JF4 should be known at Christmas when the next major depth or bottoming attempt gets under way. The estimated 150 ft dry drop at the 860 ft level now holds the key to the cave for these reasons:-

- (1) This next drop will take the explored cave to over 1,000 ft in depth, leaving only 200 vertical feet to go before the level of the Resurgence is reached.
- (2) The horizontal distance between the entrance of JF4 to the 860 ft level is ½ mile, leaving 1½ miles between that level and the Resurgence. What is in between?
- (3) The average outflow of the Resurgence is 30 cu. secs. Nowhere near that amount enters JF4 and is increased only marginally by the inflow of the Serpentine Passage at the 500 ft level.

This then is the magnetic draw of Khazad-Dūm. What is at the bottom of this obstruction? Will it be a gigantic sump? A long, undeviating river passage? Or will it be a mind-boggling labyrinth of passages, for Khazad-Dūm could quite easily be a Master Cave. There are several large caves and innumerable smaller ones in the immediate vicinity, mostly not fully explored but heading in the general direction of JF4.

The next major question is how is this next attempt going to be mounted. The first attempt in Jan. proved that the brute force was out of place. The second bash in February proved the value of a support team and advantage of a split attack team, as well as the futility of an all out go. This cave demands the cream of the caving fraternity and unfortunately Tasmania is nearly all milk. At this stage Tasmania would be scratching to find a dozen caver's among its ranks capable of sustaining the rigors of JF4 this coming Christmas. Much as I would like the Tasmanians to crack this cave under their own power, I will not be surprised if there should be an Australian Expedition into this cave, similar to the Mullamullang Expedition of 1966, staged during Christmas 1973.

Khazad-Dūm can only be bottomed by the carefully planned support of the attack party or parties. There are many theories as to how this can be achieved. The theory that I support is the 3-wave assault teams, consisting of 4 - 6 members in each team. Team (1) would rig all pitches down to 860 ft and withdraw. Team (2) would bolt the 150 ft drop, descend, preliminary explore the immediate vicinity and withdraw. Team (3) would then carry on the exploration. On total withdrawal, all teams would be responsible for the equipment withdrawal to the main pitch where reasonably experienced cavers could be utilised for its ultimate removal. Needless to say, this method - like most of the others, utilise the use of non-existent personnel.

Since Christmas, Khazad-Dūm has commanded a lot of attention. Until it is bottomed, fully explored and surveyed, it will command a lot more. And what will become of its history when this is achieved? The amount of time, energy, film and material that will have been spent on the many attempts should dictate a better fate. Its fate should be among the archives of Australian Speleological Publications, such as Mullamullang 1966 and Mt. Etna, but under the caption "The Descent of Khazad-Dūm".

LETTER FROM PETER ROBBIE continued from page 5

Brian Dodd, a member of our party and also a patrol officer who can speak Pidgin, went up to the village to talk to them. We were invited into the meeting hut and a bell was rung by one of the village elders summoning the villagers to the hut. After half an hour the hut was filled by men women and children. We were told that the notice was put up because they thought we were stealing their food supply, i.e. the bats. Brian explained that we were only looking at them and were collecting insects for the university and museum. He then had to explain what a museum was. They couldn't understand why people would want inedible insects but they agreed to let us go in provided that we took one of their chaps with us.

We went back to where we had been stopped the previous trip by a vertical shaft, and dropping a ladder down we found it to be forty feet. Here we came across a river and looking into a shallow pool we spotted a large crayfish that was almost transparent. You could see all its workings! Before we had a chance to collect it, however, the native grabbed it and that was that. When we got outside he lit a fire and cooked it. So much for collecting. So even up here we have our problems.

Regards to Everyone,
Signed Peter Robbie.

S&R TRIP TO NARACOORTE ON AUGUST 28, 29.

The aim of this weekend was to broaden our knowledge of devices suitable for removing patients from caves and to train ourselves in some of the techniques involved. The party spent most of Saturday morning constructing and erecting a tripod over the southern entrance to Cathedral Cave. This was then used in experimenting with a number of lifting methods and the observation that a method involving a single rope attached to slings on the stretcher plus a safety rope is the best and safest method of removing a stretcher from a cave, was made. Some time was spent in cleaning out some glass and litter from the floor of the cave.

The scene was then shifted to Tomato Stick Cave and a pair of sheer legs erected over the larger hole at the Tomato end. Numerous people were lowered in and hauled out of the cave with the aid of this device. Much of the litter was also removed from this entrance. Some people brushed up on their abseiling knowledge, resulting in one, who shall remain nameless, being suspended with his head over the lip of the hole and another falling a little faster than he expected for the first ten feet. We also managed to fit a quick trip through to Stick and back in that day's activities.

On Sunday we again headed for Tomato Stick and rigged up a tripod over the smaller hole. Various purchases were experimented with and, this time, a live patient. This was much to the delight of visitors to the Reserve who gathered around to watch the activities.

In all, a rather free and easy weekend, but one where much experimentation occurred and a little knowledge was gained.

David Hawke.

Room, alas, is not available for further reports on Sellicks Hill in this issue of the Newsletter. You'll just have to wait another three months. However, it is worthy of note that a break-through has finally come. Flying rocks have stopped entry temporarily but there is a breeze which could promise three thousand feet of passage.....

MAMMALS OF SOUTH AUSTRALIA (SUMMARY)

By Peter F. Aitken, South Australian Museum.

The lecture from which this summary was taken was presented to the General Meeting of the Cave Exploration Group of South Australia held on the 22nd of September 1971. The lecture was generally designed towards conservation of our native mammals and some of the problems involved. Mr. Aitken is the Curator of Mammals at the South Australian Museum and is presently working on the distribution of many of South Australia's mammals.

The lecture was introduced, stating that examples of 105 presently recognised species of Australian native mammals have been recorded as definite inhabitants of South Australia. Three species, the Hairy-nosed Wombat, the Toolache Wallaby and the Dusky Hopping-mouse, can be considered as typically South Australian in distribution.

It was noted that, since the advent of European settlement in 1836, increasing human occupation, intensive pastoral development and widespread exploitation in the north have contributed to the apparent extermination of some mammal species and to a marked reduction in both areas of distribution and densities of individuals in others. Factors which have had a major effect in the overall decline were noted in detail. Direct killing, introduction of exotic carnivores and wholesale destruction and alteration of natural habitat were cited.

Distribution and abundance of both terrestrial and amphibious mammals were noted and some recent rediscoveries mentioned. The difficulty of assessment was stressed and the value of careful and constant recording pointed out.

Mr. Aitken pointed out factors which needed to be considered when forming reserves and sanctuaries to protect the native fauna. When preserving a particular area to ensure the continued protection of a specific species it is first necessary to thoroughly examine the tentative area to make sure that the species in question does inhabit that exact area in considerable enough abundance to warrant the formation of the said reserve. Cases where this has not been done in the past have shown the folly of such actions.

If the reserve is being taken for the protection of a number of diverse species then there are several physiographic factors which must first be considered. The natural habitat of the species concerned must be considered. Some species, such as swamp rats will only live in creek and swamp areas, while others prefer intermediate growth and still others prefer climax growth. Some animals may prefer more than one of these conditions depending on season. While creek and swamp areas are relatively stable, grassland will eventually form intermediate growth forest which in turn will eventually go to climax forest. To ensure all these conditions remain it is necessary to keep a strict control on the reserve and simulate certain physiographic areas through controlled burning and also to control population densities of the species being protected.

This covers the basis of the lecture on native mammals and their conservation. If any member wishes a more detailed coverage of this topic it is available by writing to the Group Secretary, Dr. Anthony Lake. Room prohibited-a more detailed coverage in this newsletter.

T.H.M

In view of the criticism levelled at John Dunkley earlier in this newsletter, the Editor feels an apology is due. As I finish off this newsletter on a stinking hot afternoon two days before it is due, next to me lies the second issue of the A S F. Newsletter for this year. Each one is an improvement on the last, what's more. But don't forget, John, you are still one behind.

NOTICE OF MOTION FOR ALTERATION OF THE CONSTITUTION

The following motion has been proposed by T.H. Maddock. If a seconder is found the motion will be put at the November General Meeting of CEGSA on 24/11/71.

"That Section 5, sub-section (b) of the Constitution be altered to the following:

"The President, Vice-President, Secretary, Treasurer, Quartermaster, Records Officer, Membership Officer, and Publications Officer shall be elected at the Annual General Meeting and shall hold office from the A.G.M. at which their election is announced until the A.G.M. of the following year, or until their successors are appointed."

If this alteration is accepted it will also call for a cancellation of Section 4, sub-section (b) of the Constitution which reads:

"At the first meeting of the Committee, it shall appoint from its members the office bearers, Treasurer, Quartermaster, Records Officer, Membership Officer and Publications Officer."

The purpose for the proposal of the above alteration is so that members may stand and be elected for specific positions rather than the generalized 'Committee Member' as has been the way in the past. In this way, a person who wishes to stand for one specific position on the Committee may be free to select and will not end up with a position that he or she does not want. Also it makes it possible for those voting at the election to choose the person they consider most suitable for a specific job. Perhaps someone is particularly suited to one position but most unsuited to another. The alteration proposed makes one more free to select the right man for the right job.

There is no explanation needed for why Section 4, sub-section (b) must become obsolete and invalid if the proposal is accepted. - T.H.M.

NULLARBOR TRIP IS ON DEC 26 TO JAN 18 APPROX

Finally, after nearly four years, a trip to the Nullarbor has been planned around CAVE DIVING, UNDERGROUND EXPLORATION AND SURVEYING. Briefly, the trip is planned to cover the two main lake caves, namely Weebubbie and Cocklebidy, with a view to compiling accurate records of what really happens beyond the realm of dry trogs. The trip has enough divers but dry cavers and a vehicle or two are needed. Anyone who is interested will have to be prepared to act as sherpas, lugging diving gear with the divers but for the dry caver a 5-6 day stay in Mullamullang is planned. In addition, other deep caves like Murra-el-elevyn will be visited. Could anyone interested contact IAN LEWIS, 12 McLACHLAN AVE, NTH GLENELG. Ph. 956582.

THE CEGSA ANNUAL DINNER

The CEGSA Annual Dinner will be held this year on Saturday, December 4th at the Uraidla Hotel. A four-course dinner is available with a choice of three or four dishes in each course. Sherry will be served at seven o'clock directly proceeding the meal. All other drinks will not be included in the price. The price of the dinner is \$3.50.

This evening has, in the past, proved to be the highlight of the Group's social activities and has been a most entertaining evening for all who attended. Presentation of the Spirit of caving and the Leather Medals for the year plus other ridiculous events highlight the activities of the night. This year's photographic competition shows early sign of being the best yet so don't be disappointed. Fill out the preliminary application form on the back of this notice and forward it to the Secretary as soon as possible.

COMING TRIPS, Nov. – Jan. 1972.

November

10	Committee Meeting	8 Thornber St. Unley
13 – 14	Curramulka	P. Chappell, trip leader
24	General Meeting	Museum Lecture Rooms
27 – 28	Naracoorte	P. Chappell, trip leader

December

4	Annual Dinner - see details elsewhere in newsletter.	
8	Committee Meeting	14 Arcoona Ave, Rostrevor
11 - 12	Naracoorte	E. Sangster, trip leader
26 – 18 Jan	Nullarbor (Cave Diving)	I. Lewis, trip leader.

January

12	Committee Meeting	14 Garth St. Woodville
22-23	Curramulka	P. Chappell, trip leader
26	General Meeting	Museum Lecture Rooms

CONTACT LIST

<u>Dr. Anthony Lake</u>	8 Thornber St, Unley, Phone 716288
<u>Mr. Peter Chappell</u>	46 Ormonde Ave, Clearview. 625092
<u>Mr. Trevor Maddock</u>	14 Arcoona Ave, Rostrevor 373067
Mr. Ed. Sangster	111 Esplanade, Brighton 967749
<u>Mr. Ian Lewis</u>	12 McLachlan Ave, Glenelg Nth 956582
<u>Mr. Peter Tunbridge</u>	14 Garth St, Woodville 453800

ANNUAL DINNER PRELIMINARY APPLICATION FORM

Courses four, Starts Seven. Sherry served before Dinner.

Other drinks not included in price. Cost \$3.50

Are you interested in coming?

Please record tentative* bookings for me.

Name

Address

Phone No. I have included a cheque for

Signed

* please cross out tentative if you include check.