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SPELEOGRAFFITI.

The Newsletter of the

NATIONAL UNIVERSITY CAVING CLUB.

S P E L E O G R A F F I T I.

VOLUME 9 NUMBER 4. AUGUST 1972.

The Newsletter of the National
University Caving Club.

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Graphics: J.Brush, J.Furlonger, K.Palmer.

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Editorial.

It has come to notice of the members of this club that the littering and defacing of caves has increased considerably over the past year. This has been observed particularly at Wyanbene cave, which has been visited regularly overthis period for surveying being carried out. Even between trips an increase in the amount of litter especially carbide dumpings, chocolate wrappings and discarded batteries, has become noticeable. Fungus growths are much more common originating in food which has been dropped. One example is a baked beans tin with the remains of a meal and some paper stuffed inside, which was blatently left sitting out in the open, in the area between the stream passage and the wet crawl, and in which fungus had begun to grow. Signatures are also starting to appear.

Deformation of cave formation is becoming an increasingly popular pastime of vandalous tourists. The helectite formations in Wyanbene are becoming broken and marked, not to mention the ruination of the once enchanting crystal grotto of Punchbowl cave at Wee Jasper.

Littering near the cave entrance is another offence which has become worse over the past year (Don't worry about the change in type size), one would think people would care more about these areas, but they obvicusly don't.

It is to hoped that Speleos have had nothing to do with the above desecration, and that something can be done to prevent it getting any worse in the future.

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A R T I C L E S A R E N E E D E D .

More articles are needed for later issues this year.

Anything will be accepted, though not neccessarily printed!

Cartoon Ideas are running low, as are ideas for articles.

Errors in Compass Bearings.

Of the many possible errors when carrying out a survey using a prismatic compass, one of the most common is that of failing to level the compass along a line perpendicular to the line of sight of the bearing. There is no error caused by the compass not being level along this line if the target is along a horizontal line from the compass. Should the bearing not be horizontal, however, an error is induced which is proportional to the vertical bearing of the target. The relationship between these factors is given by;

$$\sin a = \tan b \cdot \tan c$$

where: a = compass error (caused by levelling error) in degrees.
b = angle of the compass base from the horizontal, perpendicular to the line of sight.
c = vertical bearing of target.

The magnitude of the errors produced may be seen from the table below;

b	c = 10°	30°	45°	60°
0°	0	0	0	0
½°	0°05'	0°18'	0°30'	0°52'
1°	0°11'	0°35'	1°00'	1°45'
2°	0°22'	1°09'	2°00'	3°28'
3°	0°32'	1°45'	3°00'	5°13'
4°	0°42'	2°18'	4°00'	6°57'
5°	0°53'	2°54'	5°01'	8°43'

To avoid errors of this type, the Esdaile Prismatic Compass for which modifications have been described earlier (Palmer,K., Speleograffiti 9, 2 pp.23-25) has been further modified by the addition of a second levelling bubble on the compass body in such a position that the compass may be levelled along a line perpendicular to the line of sight.

People who use prismatic compasses in any surveys presently underway might like to mentally note this source of error and try to avoid it as far as possible in future.

John Furlonger.

PROBLEMS IN THE GROWTH OF SPELEOTHEMS

Maurice W. Bell

Part 2: General Descriptions and Processes

Introduction:

The following is the first paragraph of an article published in Copenhagen in 1655 by Olao Worm. Written originally in Latin, it is the first occasion on which the word "stalactite" wasused.

> "For the class of small stones called Bergbrab in Norwegian, we propose the name stalactite, a stone usually ash coloured, tending toward yellow, which assumes various shapes according to its origin, its mode of deposition and the structure to which it adheres. It is formed by deposition from water which has rock-forming properties because it carries within itself finely divided mineral matter. As the water flows either through channels in the earth, or drips down from above, or precipitates on the banks of a stream, it correspondingly produces various shapes. Dripping down from high cracks, it adheres where it can in the shape of a cone, and in this manner it congeals into the same shape as water flowing from the crack in the cold of winter would ordinarily freeze. It may be found in various places in Denmark, Norway, Germany, Iceland, Italy; and it has various shapes and characteristics".

Olao Worm's article offers a description of formations and processes which even today is only enlarged upon in many of the references.

The first major breakthrough came when Lavoisier demonstrated in 1771 that mineral deposits are formed by the deposition of material from solution.

Although stalactites vary widely in size, a lower limit exists, defined by the diameter of a drop of water. The tips of conical stalactites are not sharply pointed but rather taper downward until their diameter is approximately 5 millimeters, at which point the smooth cone is truncated and provides a seat for the drops. (Moore, 1962).

Two independent processes operate during the formation of an ordinary conical stalactite, each operating on different structural parts:

1. The precipitation of $CaCO_3$ in the drop of water which forms an unfilled central cylinder commonly called a "straw".

2. The surface flow of depositing water over the outer surface, in a thin film. (See Figure 1.)

Commonly only one of these processes occurs and results in a spectrum of forms existing from "straws" to immense "columns" and "stalactites".

If cross-sections are cut from large stalactites, an obvious pattern or crystal arrangement will be observed, similar to that described by variuos authors. This arrangement is summarised in Figure 1. This figure shows an embryo or central straw formed from the regular growth of calcite crystals growing along their c-axis. The outer part consists again of calcite crystals. However These are oriented with their c-axis at 90° to the core and radiating from it.

The shape of stalactites is strongly influenced by flooding of the cave. This provides a medium saturated with respect to calcium carbonate in contact with the formation which will induce crystal-face overgrowths, giving rise to regular shaped formations. An example of this is a hexagonal stalactite from Rushmore Cave, South Dakota, described by W.A. and A.M. Bassett. They describe a stalactite with a relict, now filled, internal straw with an outside overgrowth and attribute this to flooding of the cave. They also note the chevron pattern typical of straws and stalactite walls (mainly on monocrystalline stalactites) which may be explained as being due to the rhombohedral cleavage, conforming often to the broken end.

Just how does a new layer of crystals originate and grow? Innumerable randomly oriented microscopic crystals are laid down at the propagation of a new layer. Many of them will be inhibited by impurities on their surfaces, but many will begin to grow. If the fastest growth direction is along the c-axis of calcite, then those crystals with their c-axes parallel to each other will disrupt any other orientation. Consequently, crystals whose long axes are perpendicular to the growth surface tend to grow faster and longer, while crystals with some other orientation tend to be smothered.

Finally, radiocarbon dating, actual cave measurements and the study of annual growth increments show that the rate of elongation, though, variable, averages about a quarter of a millimeter per year.

In summary, water dripping from the tip of a stalactite

.../64.

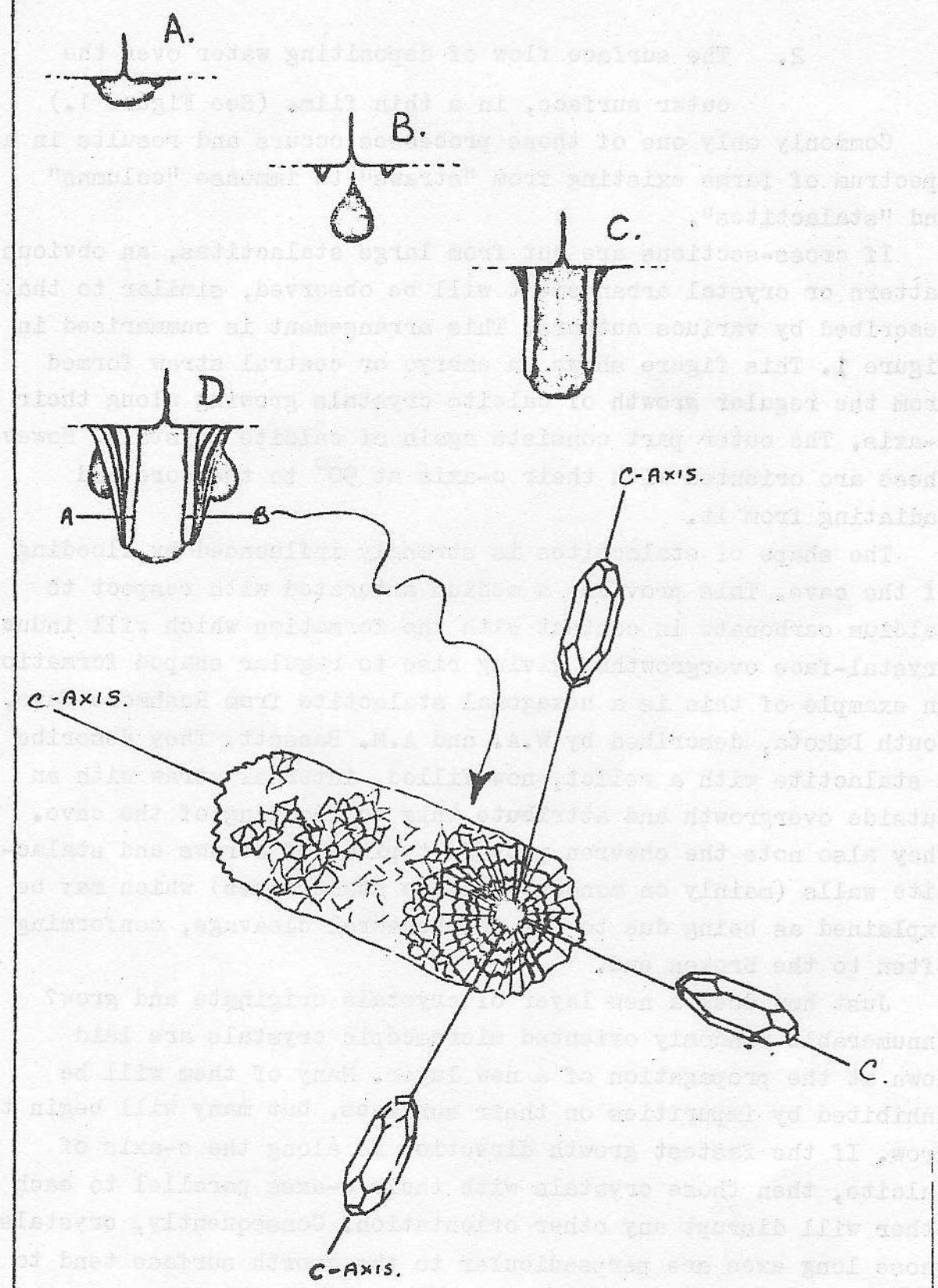

Fig.1

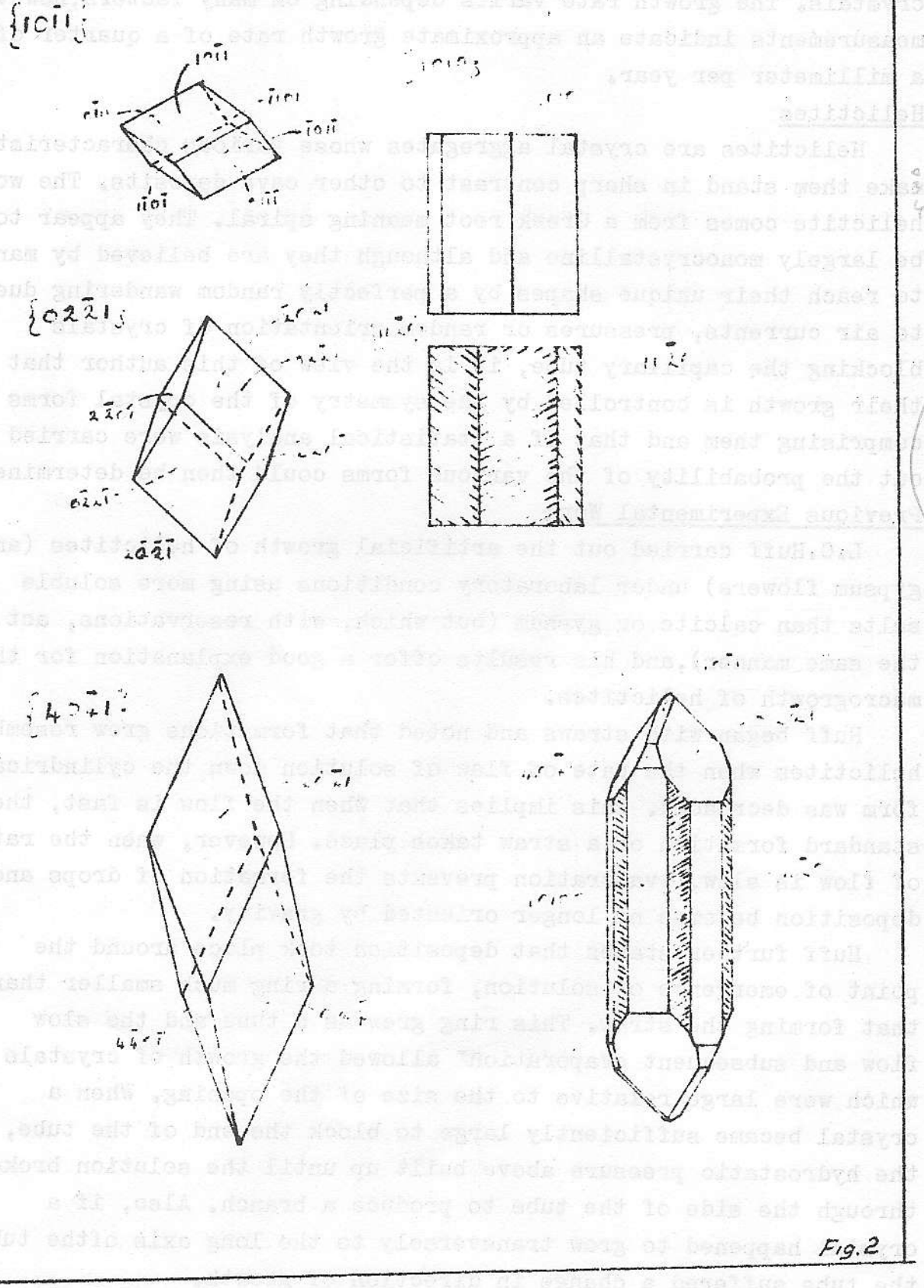

Fig. 2

deposits a central cylinder with vertical crystal orientation; water flowing down the sides of a stalactite deposits radiating crystals. The growth rate varies depending on many factors;however measurements indicate an approximate growth rate of a quarter of a millimeter per year.

Helictites

Helictites are crystal aggregates whose various characteristics make them stand in sharp contrast to other cave deposits. The word helictite comes from a Greek root meaning spiral. They appear to be largely monocrystalline and although they are believed by many to reach their unique shapes by a perfectly random wandering due to air currents, pressures or random orientation of crystals blocking the capillary tube, it is the view of this author that their growth is controlled by the symmetry of the crystal forms comprising them and that if a statistical analysis were carried out the probability of the various forms could then be determined.

Previous Experimental Work

L.C.Huff carried out the artificial growth of helictites (and gypsum flowers) under laboratory conditions using more soluble salts than calcite or gypsum (but which, with reservations, act in the same manner),and his results offer a good explanation for the macrogrowth of helictites.

Huff began with straws and noted that formations grew resembling helictites when the rate of flow of solution down the cylindrical form was decreased. This implies that when the flow is fast, the standard formation of a straw takes place. However, when the rate of flow is slow, evaporation prevents the formation of drops and deposition becomes no longer oriented by gravity.

Huff further states that deposition took place around the point of emergence of solution, forming a ring much smaller than that forming the straw. This ring grew as a tube and the slow flow and subsequent evaporation* allowed the growth of crystals which were large relative to the size of the opening. When a crystal became sufficiently large to block the end of the tube, the hydrostatic pressure above built up until the solution broke through the side of the tube to produce a branch. Also, if a crystal happened to grow transversely to the long axis ofthe tube, the tube suffered a change in direction of growth.

* The idea of evaporation in the cave environment has been discussed earlier. (Speleograffiti, 9,3,pp.43-4) As cave humidity is usually 90%+, evaporation is virtually insignificant there.

The above work offers a good explanation of the processes at work, however it does not include crystal symmetry as a relevant factor. Huff noted the formation of symmetrical structures resembling a "Mobius Strip". These must be difficult to explain by a random orientation of crystals.

The most notable point from Huff's experiments is the marked change from straw type growth to helictite type growth when the rate of supply of solution was decreased. This indicates the important role of rate of flow in their formation.

Huff also confirmed that helictites grow from their tips rather than from their bases. Before this point became a demonstrable fact, many intriguing ideas were presented, including growth controlled by fungal hypha and growth along spider webs. This last has been recently noted in an abandoned mine in Britain where the cobweb has offered a path for a solution to flow along and thereby become encrusted with calcium carbonate. The resulting structure is, however, quite unique. (Warwick, 1955).

An excellent description and explanation of helictites was given by Merrill (1894):

> "They occur sometimes singly, but more commonly in groups, or clusters of several, ranging in sizes from 3 to 10mm. in diameter. Closer inspection reveals the fact that while in most cases tubular, the tube itself is of almost microscopic proportions, being as a rule less than half a millimeter in diameter. So small is it, in fact, that capillarity, not gravity, is the controlling principle in giving direction to the lime-carrying solution. A small spicule of calcite crystallizing on the extremity is as likely to point any other direction as downward; the direction of the next drop is controlled in part by the first, where the same process is repeated. Or on the assumption that the stalactite increases in length by constant additions to the tube, on all sides, it is easy to imagine that the deposit takes place, for a time more rapidly on one side than on the other, perhaps partially closing the orifice or giving it a different direction. The essential fact is, however, that it is to capillarity, and not to gravity, that is due the peculiar vermicular forms. Why, at the outset, the stalactite should begin to form through many small capillary tubes rather than through one larger, as is ordinarily the case, I will not pretend to say. It is to be noted, however,

that in Wyandotte, the roof-forming limestones are nearly horizontal, while in Luray and many other caves they are highly tilted. This results in a more even percolation of the water in the first instance, the roof being more homogeneous. It is possible, therefore, that the water gathers in drops of smaller size, and very likely in smaller amounts. I have no other than hypothetical data for this last assumption, however."

The ideas expressed by Merrill have been disregarded by many people between 1894 and today, however it is with these ideas that I largely agree.

Huff was able to discount all other theories of helictite growth (air currents, impurities, cobwebs, calcite twinning, etc.) and agrres with Merrill that chance orientation of crystals at the end of the tube will determine the growth direction. I find that I must also subscribe to this view, with the proviso that the "proto-crystal" will determine the direction.

Merrill's explanation requires the presence of a capillary tube through the helictite. Dolley (1886) also notes the presence of these and I myself have noted them in almost all formations examined. The lack of them in a few formations may be explained by therecrystallisation of the calcium carbonate.

Huff proved that for pure water at a temperature of 15°C and a tube diameter of ½ millimeter, the capillary rise will be about 6 centimetres. However, many helictites greatly exceed this limit, for example Snake-dance helictite in the Caverns of Sonora until recently was over 76 centimeters long, nearly 13 times the limit.

It is therefore evident that although capillarity is important in the growth of helictites, hydrostatic head is more important. Further description of the mechanics of this may be found in the literature. (Huff).

Summary

Helictites grow at the free end and not at the attached end. Helictites are tubes that assume their crooked slope as a result of the symmetrical orientation of crystals at the growing end. Helictites are produced instead of stalactites when there is a hydrostatic head pushing solution through a capillary tube at an extremely slow rate.

References-see next page.

References

BASSETT,W.A. and BASSETT,A.M.; Hexagonal Stalactite from Rushmore Cave, South Dakota. N.S.S.Bulletin, 24, 2, pp.88-93. July, 1962.

BENDER,H., Helictite formation by surface transport. Supplement to Nargun, May, 1969, pp.1-3, Translated from Die Höhle 20,1, 1969.

BISHOP,A.C.; An outline of Crystal Morphology. Hutchinson, Scientific and Technical, London, Ch.10.

DOLLEY,C.S.; On the Helictites of Luray Cave. Proc. Acad. Nat. Sc., 1886, pp. 351-2.

GEZE,B.; Les Cristallisations Exentriques de la Grotte de Moulis. Com. Nat. de la Recherche Scientifique, Paris.

GLORY,A.; Stalactites Exentriques. La Nature, No.2988, 1 Nov.,1936.

GLORY,A.; Stalactites Exentriques. Spelunca 7, pp.93-102.

HENDERSON,E.P.; Some Unusaul Formations in Skyline Caverns, Va. Bull. Nat. Spel. Soc., 11, pp.31-34. 1949.

HOLDEN,R.; Helictites in Virginia. Bull. Geol. Soc. Am., 49, p.1886. 1938.

HUFF,L.; Artificial Helictites and Gypsum Flowers. Jour. Geol., 48, pp. 641-59. 1940.

MERRILL,G.P.; On the Formation of Stalactites and Gypsum Encrustations in Caves. Proc. U.S. Nat. Mus., XVII, pp.77-81. 1894.

MOORE,G.W.; The Growth of Stalactites. N.S.S. Bull., 24,2, pp.95-105. July, 1962.

MURRAY,J.; The Deposition of Calcite and Aragonite in Caves. Jour. Geol., 62, pp.481-92. 1954.

PRINZ,W.; Les Cristallisations des Grottes de Belgique. 1908.

WARWICK,G.T.; Spider's Webs and Helictites. C.R.G.,G.B. Newslet., 10, 2-3.

Simple Modification to Oldham Cap-Lamp Switch,

by K.Palmer

Those speleos familiar with Oldham Cap-lamps, (pre- 1970) will be well aware of the difficulties associated with switching on and off in a muddy environment. The task is virtually impossible if the caver is wearing gloves coated in mud or has mud on the switch. The modification* outlined here enables switching in difficult conditions to be accomplished, and has been successfully applied to two of the club's lamps, (see diagrams, Fig.1)

1) Slot the original switch, through the plastic, and approximately 1mm into the steel shaft, using a hacksaw.

2) Cut a piece of aluminium sheet into an oval shape, approximately 15mm long and 7mm across.

3) Fit the aluminium into the slot and coat with araldite. (It is advisable to partly cure the araldite to prevent it from running when applied. ('Plastibond' works better. -Editor.).

Some tips on the maintainance of Oldham Cap-lamps.

1) Slot the head of the screw which holds on the top of the accumulator, this aleviates the need for a special tool, a screw-driver may be used.

2) Coat the contacts and seal the top of the accumulator with "vaseline".

3) Before charging clean out any mud from the vents with a piece of fine wire.

* From an original idea of J.Brush's,(1971). -Editor.

WWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWW

Rough red - on the decline?

What is wrong with NUCC cavers this year! At our recent wine and cheese evening, attended by about twenty persons, we went through 1 glass (broken and eaten by J.Brush, the man with guts of steel), 5 cwt of assorted cheeses and biscuits, 1 large can of pineapple juice, 2 flagons of orange juice but only 2 flagons of white wine and only one flagon of red. What's the world coming to, more fruit juice than grog consumed on such an occasion. Needless to say there were several cases of diarrhoea the next morning.

Marj Coggan - social commentator.

SWITCH MODIFICATIONS.

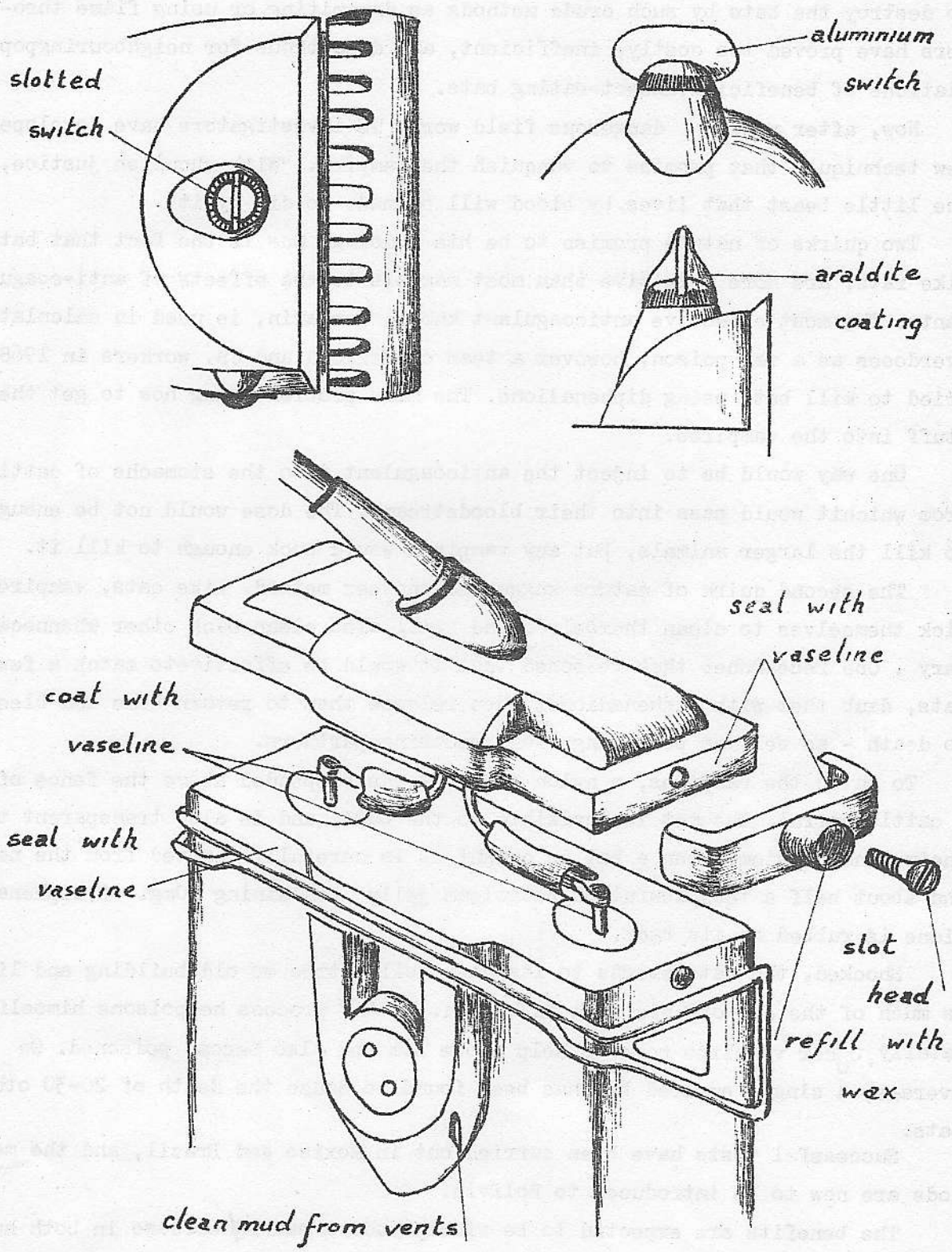

Fig 1.

K. Palmer.

LAST LICKS.

In Mexico south to Argentina the common vampire makes it economically impractical to raise cattle or horses over large areas.This is due to the fact that the bat carries the deadliest of infectious diseases...Rabies. Efforts to destroy the bats by such crude methods as dynamiting or using flame throwers have proved too costly, inefficient, and disastrous for neighbouringpopulations of beneficial,insect-eating bats.

Now, after years dangerous field work, US investigators have developed new techniques that promise to vanquish the vampire. "With ghoulish justice, the little beast that lives by blood will be made to die by it".

Two quirks of nature promise to be his undoing. One is the fact that bats, like rats, are more sensitive than most mammals to the effects of anti-coagulants. The most effective anticoagulant known, warfarin, is used in calculated overdoses as a rat poison, however a team of Mexican and US. workers in 1968 tried to kill bats using diphenadione. The main problem being how to get the stuff into the vampires.

One way would be to inject the anticoagulant into the stomachs of cattle, from whichit would pass into their bloodstreams. The dose would not be enough to kill the larger animals, but any vampires would suck enough to kill it.

The second quirk of nature suggested another method. Like cats, vampires lick themselves to clean themselves,and will also clean each other whennecessary . One researcher thus reasoned that it would be effectiveto catch a few bats, daub them with diphenadione, then release them to return home and bleed to death - as well as poisoning their grooming partners.

To catch the vampires, a nylon mist net was suspended above the fence of a cattle corral. The net is invisible to the bats, and is also transparent to their sonar system. When a bat is caught it is carefully removed from the net and about half a teaspoonful of petroleum jelly containing 50mg. of diphenadione is rubbed on its back.

Shocked, the bat returns to its cave,hollow tree or old building and licks as much of the goo off his back as he can. In the process he poisons himself fatally. Other vampires come to help groom him and also become poisoned. On average, a single smeared bat has been found to cause the death of 20-30 other bats.

Successful tests have been carried out in Mexico and Brazil, and the methods are now to be introduced to Bolivia.

The benefits are expected to be widespread: a marked decrease in both human and animal rabies and other infectious diseases carried by the bats; an increase in the weight of beef cattle, and a comparable increase in milk production. their is no chance of the bat becoming extinct,according to experts it will return to the jungle and live as it did before the coming of the Spanish, sucking wild animals instead of cattle and horses.

J.Brush.

..... Adapted from "TIME", July 24th 1972. p.54-55.

TWELVE YEARS IN THE HEART OF A MOUNTAIN.

This article is composed mainly of quotes from the above named book by Pierre Chevalier.

"I used to think that the interior of a range of hills was a compact mass; like the inside of a well baked brick. But it's not you know, at least not in a limestone area .It's an amazing system of abysses and galleries, a honeycomb of winding passages, some choked with rubble, some inundated by waterfalls. There may be storey upon storey of rock chambers and vast halls, with maybe no way in, no way out, all beyond some little tube-like corridor no more than a foot in diameter."..

On seeing one of his footprints made a few years previously he says

...."did you know Casteret, in one of his caves, came across a human footprint made 25 thousand years ago?"....

Casteret must have been there to see the footprint made,surely, to know its age.

Comparing climbing to caving..

..."surely this under-the-plateau stuff is only glorified rock climbing. It is like swapping a racing car for a nice, cosy rubber tyred invalid carriage"...

On methods of water tracing:

"There are various ways of "following" water which disappears into impassable channels ; paper boats of bright and varying colours may be launched, or water may be dyed with strong dyes at different points. The finding, later on. of a tossing boat or technicolour flood solves many problems of communications or direction ".

On the dangers of suffocation;

"But I am less afraid of suffocation in there(small tubes), than I would be in a stuffy room containing four pipe smokers having a prolonged game of bridge!".

On sleep and waterfalls:

"IN his eagerness he replaced sleep by brief naps on the rock and hammered away under waterfalls as calmly as you or I would brave 30sec of rain".

On mapping:

..."every portion of gallery and meandering passage was mapped roughly inhis wet and muddy note book.Later he would draw an accurate plan in his hotel room. Every step was counted, and measurements were taken with out stretched arms:one body span of Fernand's was known to equal so many feet".

And finally, on nomenclature:

..."they had to ascend gigantic shafts or wells; and to each they gave an appropriate name such as'Balcony Shaft' or '3 Sisters'(this one i honour of three sisters who cooked for them)"...

All almost worth"renouncing Speleology" for, "In favour of sweet-pea growing orthe quiet life of a melon farmer".....

TRIP REPORTS SECTION.

WYANBENE. 22nd JULY

Party: Pete and Rosy Nicholson, Wayne Allen, Chris Collins, Mick Ellis, Eugene Collins(L).

After meeting at the car park we left for Wyanbene at the unearthly hour of 8:46 am for an uneventfull trip out to the cave(except for Mick trying to monopolise the BP pump at Captain's Flat and Pete trying his skill at sump busting at the creeks.

On arrival at the site a fire was set for our return and a light lunch was partaken of. It was during this break that the inner emotions of a certain caver (anonymous, better known as Mick) became obvious and I quote "Hey Boogie would you like a roll!!!!! ?" I need not comment on the obvious comments that followed.

Come 12 o'clock we headed underground. First stop was the blow hole where the "Hold it,pose,"- wind , click -- "bugger, I forgot to .....!!" saga began. Next stop was Cleopatra's Bath, where photographs of naked egyptian beauties where taken. (Be at the next Meeting!!!) .Also the ladder which dissappeared from the blowhole area was found here apparently fo help the notsostronghearted negotiate the difficult chimney-cum-scramble.

Next M.E. (for the 3rd time in Wyanbene) lost yet another glove— which was duly found (in his pocket!!!!) together with another unclaimed pair. Helectite was next to be subjected to the "Hold that pose etc" followed by many (cencored) exclamations. These same echoes resounded in the wet stretch when some fool decided to hold everyone up in the wettest section while he liesurely fotographed the said scene.

Again we pressed on to Aitcheson's squeeze where that dickhead of a photographer caused another hold up by crawling halfway down- doing his thing- then backpedling out again.On again to the slippery mud slope where the usual contest of ascending the slope without hands was held. Down into Caesar's and onto Diahorhea pit where M.E. bravely volonteered to be first into the quagmire and again the cameras. After 3 or 4 attempts he managed to attain the top of the bump just after the pit and rig a ladder for the rest of us (SLACK!!!)

As C.C. descended the follwing pitch an interesting exclamation floated up. " ARRRGGH, I've got it caught between the ladder and the wall !!.". After an emergency operation to remove the offending object we moved on to Andersons Wall where Mick again chimneyed and set up the ladder. C.C. , W.A. and myself ascended but Rosy decided not to ascend so Pete elected to stay and keep her company whilst the rest of us continued to the lake. Dissappointing,perhaps , for them as neither has seen the lake, but better that than having to carry a body through those squeezes and water. (No offence Rosy)

After seeing the lake and returning to Pete and Rosy we proceede back to Blowhole where C.C.,WA., M.E., Pete and Rosy moved out to light the fire, while C.C. and yours truly wound up the ladder and rope.

WYANBENE (cont.)

Apparently on reaching the surface Mick and Wayne thought they had surfaced in Vietnam. Below them shotgun and rifle fire echoed to their ears frightening shi....vers out of them.

Whenthey reached the cars they found a rescue group from Canberra were camped there and had undergone a dangerous mission of seek and destoy a harmless possum. A touch of irony perhaps, in that "life savers" should indulge in such wanton taking of life.

Chris and myself eventually surfaced about 8:00pm and descended to that lovely warm fire, changed, "pointed perce" , ate, and in all became much more comfortable.

At 9:00 pm we left for home with what we hoped was a decent set of Wyanbene slides

Eugene Collins.

NB Since the above trip, the films have been developed with poor results - so it appears that the trip will have to be repeated in the future.

!**********!

WEE JASPER. 23/7/72.

Party. J.Brush, A.Harding, N.Lake, C.Lake, D.Hughes, J.Clark, G.Southwell, Max and Friend.

The aim of this trip was to continue the dig in Dogleg. Contrary to what was thought previously, the breakthrough was not made on the last trip, and it took another few hours digging to get through into the Opera House.

The credit for the breakthrough must go to Dave Hughes, who unknowingly went in head-first (instead of the other way round) and caused a collapse. This opened up the passage, but unfortunately half buried Dave in the process. At this stage Dave decided to go home, mumbling something about *#"*InG sand.

The Opera House wall was found to have a rope hanging down it, unfortunately, due to its low breaking strain (562.7 g.) it could not be relied upon to get us up the wall. The wall was eventually scaled(with some difficulty) and a ladder thrown down.

The second water trap was found to be dry(muddy), this being due to a small dam which diverted the water from the third water trap down Andy's Hole.

Choosing a bucket from the vast array of equipment at the sump a futile attempt was made to lower the water level, this was followed by an even more futile attempt to syphon it using a 3" fire hose.

Other equipment we did not have time to try out included lgarden hose, 1 1½" irrigation pipe, 1 2" irrigation pipe, 1 funnel, 1 telephone wire, 1 manilla rope, numerous small pieces of tubing, 1 plastic comb, the 3 candles however were found to work after years of submergence.

Some quite good formation was seen, including some long, wide shawls,

once white, but onto which some twit has thrown mud balls, which, over the years they have been there, have effectively stained the formation.

After about 6 hours under, we returned to the Opera House, derigged the pitch then climbed down and made our way to the surface(with the dig already causing problems as it fills up with sand again) where we found most of the usual WJ hoards had already left for home, takingwith them just about everything except their rubbish.

John Brush.

AVAVAVAVAVAVAVAVAVAVAVAVAVAVAVAVAVAVA

WEE JASPER. 29/7/72.

Party: K.Palmer, J.Furlonger, G.Keppie and J.Brush.

Now that the dig in Dogleg has been completed, Ken decided to come out and have a look at the cave, but what a day he picked; cold and wet.

We got underground as quickly as possible to avoid the rain, only to get wet in the water crawl.

The dig required only minor enlarging and thus arrived at the Opera House fairly quickly. Here, even more difficulty(than last week) was experienced in climbing the wall.

The aim of this trip was to survey the final chamber in the eastern branch, and the section between the second and third water traps, however a marked lack of enthusiasm soon killed this idea.

Once again the sight of so much idle equipment was too much to bear, and so the sump was bucketed again, lowering the level about 1", this was followed by futile syphoning attempts using the fire hose (it broke), and the irrigation pipe (it leaked). Soon after Ken and arth decided to leave and met Al Harding on the way. They had been in Punchbowl and decided to come into Dogleg when they saw our car.

On the way out some difficulty was experienced in climbing down the wall after the ladder had been taken down. The sand trap was also very tight, and will require digging out again very soon.

Headed home around sunset, stopping off at Greasy's on the way, for a feed.

NB. Roger Curtis (CSS) has since informed us that the Railway Tunnel is now flooded, thus the dig is completely submerged, and thus the sand has probably all fallen back into the hole.

.....anyone for a dig next Summer.

JOHN BRUSH.

JENOLAN 18th-20th August,1972.

Present: K.Palmer, N.McAllister, J.Furlonger, R.&J.Wilson, A.Harding, N.Lake, F.Bergerson.

The big three, (Niel, Ken & yours truly), departed Canberra on Friday morning at about 6.30a.m. and after some faulty navigation at Goulburn found our way into the Taralga road which was soon to revert to slush and provided Ken with some exciting moments as the wagon wagged its tail in anticipation of the miles ahead. The journey to Mammoth Flat was ujeventful and was soothed by the heavy sounds which K.P. provided with his cassette recorder intricately wired To the dashboard. Camp was pitched and the sixty foot entrance pitch of Mammoth negotiated successfully (though with considerable effort by K.P. due to difficulties with the mechanical prussiker), followed by a brief search for the way into the Southern section in Conglomerate Chamber. Eager for some constructive caving, the search was abandoned and the party made its way into the northern section with the aim of reaching the vicinity of the infinite crawl. Passing through Horse-shoe chamber into the Railway tunnel, the route through the boulder choke in Skull and Crossbones was established after a bout of lethargy from Ken and critical evaluation from Niel. The biggest thrill of the day came when we had to chimney along a narrow meandering fissure appropriately known as the 'snakes gut'. A little further on the inimitable K.P. announced 'dead-end' and the fissure had to be tackled once more, this time with more difficulty. On examining the book on Mammoth later ,it was found that the announced dead-end was in fact an average grade squeeze which ledto minor features like Ice-pick lake, Naked Lady chamber and many hundreds of feet of passage -good work Kenneth. Retracing our steps Ken redeemed himself by locating the passage to central river and after some enjoyable slogging we became bamboozled as to the way through thr middle bit of the rockpile. After an initial evaluation of lethargy levels aided by Niel volunteering either Ken or myself to examine the least likely grotty holes it was decided to return to the surface and devour tea, a task which suited this rugged binch. Some ugly scenes followed between tea and the arrival of A.H. and N.L. witht he partaking of liquid refreshments to kill time. J.F. and company arrived

in a ball of dust about 10 a.m. Saturday morning and after exchanging pleasantries the whole party headed off to find Wiburds Lake up the gorge.After some fruitless searches a couple of bods from U.N.S.W.S.S. came to the rescue and gave us a guided tour into the initial stages of the cave, thereupon they departed to establish a long lost connection with the lower river level. Some good grovelling was to follow with K.P. again experiencing trouble. It appears this time that he had trouble keeping the thick glutinous mud off his face, strange that. The party emerged a little disappointed with the lack of formation in the cave, however this was compensated for by the exploration of Serpentine cave with its 400 feet of narrow meanders and a classic little right-angle squeeze with a small narrow pool necessitating a dip. That night the N.U.C.C. contingent converged on the lounge of Caves House in the village followed by the numerous Sydney caving enthusiasts who had also made the trip from Mammoth Flat for what proved to be an enjoyable general meeting of the Jenolan Historical Society.

The limestone cliff down from the Koala Park Reserve provided the venue for some abseiling on Sunday morning after which all departed for Canberra, arriving without incident apart from A.H. taking advantage of the offer of my spare tyre and chalking up his second flat tyre for the weekend.

Frank Bergerson.

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THERMAL CAVE, WEE JASPER.

It has come to my notice that in the last couple of newsletters there have been attempts, successful or otherwise, to have a look at Thermal Cave near the Tourist Camp. Whilst the desire to do so is understandable, I feel it is in the best interests of the club and its members to point out that entry to the cave is against the wishes of the landowner,on whose property the cave is situated.As an approach to the landowner was unsuccessful in an attempt to gain entry to the cave back in February this year. He told us the CSIRO had asked these people to deny access to persons wishing to visit the cave as bats were using it as a breeding cave, and thus presented an opportunity to study the bats, provided they were not disturbed.

Thus I feel people should be restricted from the cave unless they have a special interest in the study, and then should only enter under supervision.

FRANK BERGERSEN.

1972 COMMITTEE.

PRESIDENT.	John Brush.	149 Mugga Way, Redhill. 2603.	Ph. 956610.
VICE-PRESIDENT.	John Furlonger.	Bruce Hall. R. E16.	Ph. 494240 W.
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EQUIPMENT OFFICER:	Dave Hughes.	225 Beasley st. Mawson.	Ph.862942.

COMMITTEE MEMBERS:

Marj Coggan	Garran Hall.
Sue Gibbings	" "
Glen Murphy	Burton Hall.

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The vast NUCC Library is now housed in Eugene Collins' room in John XXIII College.

C.O.M.I.N.G...T.R.I.P.S

Sat.2nd Sept. Mt. Fairy Cave ...Surveying. J. Furlonger.

Sat.9th.Sept. Big Hole and Possibly Cheitmore.
J.Furlonger.

Sat. 23rd.Sept. Wyanbene. Comtinuation of survey.
J.Brush.

Long Weekend29,30,1.Sept./Oct. Wyanbene and Big Hole for those that miss out on the other trip. Should just about finish the survey.
J.Furlonger.

NUCC will then die for the exam period, but there could possibly be one or two more trips on on Oct., so keep an open ear.