

# ASF

# NEWSLETTER

Winter, 1976 No. 72



## THE AUSTRALIAN SPELEOLOGICAL QUARTERLY

Straw End in W.A. Photo by Lloyd Robinson

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AUSTRALIAN SPELEOLOGICAL FEDERATION

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### A WORD FROM THE PRESIDENT

The Editor has asked me to write an introduction to this edition of the newsletter. I wish to discuss two issues related to the themes of the major articles in this issue.

The first is our responsibility towards preserving caves from cavers themselves. This theme is developed in A. Davey's article but I think we have a long way to go as I doubt that there is a single caver who cannot recollect individual caves which have not been the subject of recent vandalism either deliberate or otherwise. We do not appear to have a specific framework for assessing new discoveries. VSA has tried with various success restricting access to two significant discoveries of beautiful caves. In the case of Scrubby Creek Cave, M-49, dead end side passages were discovered. These were surveyed, photographed and had paths marked together with notices on the second and last trip into them. This has proved successful. In the case of Exponential Pot, M-125, despite access restrictions and limitations on party size, damage is occurring mainly due to the problems of exploring an extensive dry cave with formation over floors which have had to be traversed in the course of exploration. We have not developed the right technical approach to this exploration such as the use of thongs, wet suit boots, rolls of plastic or other such approaches. These are just two examples of deliberate attempts to preserve new discoveries in their original state, one was successful, there are a great many qualifications in regard to the other. I have exemplified these to illustrate the level of conscious and deliberate policies we should be pursuing to ensure the integrity of our caves.

The other aspect I wish to raise is the area of Caves and Government covered by E. Hamilton-Smith in his Barbara Dew Memorial Lecture paper. Governments have been setting up intricate and complex middle level bureaucracies within the conservation area. These are placing great pressures on cavers for information but in many instances cavers are getting less than optimum feedback from such contact. I see this as a grave problem, as I am certain that insensitive decisions will be made regarding caves and karst areas if open avenues of discussion are not maintained. I have similar reservations about this same bureaucratic structure when it comes to conservation issues. The most effective forum and place for lobbying is at the political level and I do not believe we should be duped into thinking that middle level government agencies will make decisions which satisfy our objectives.

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### DEADLINE DATES FOR FUTURE ISSUES

Spring Issue Number 73 - September 30th. 1976  
Summer Issue Number 74 - December 30th. 1976  
Autumn Issue Number 75 - March 30th. 1977  
Winter Issue Number 76 - June 30th. 1977

### NEXT ISSUE

Wanted: Explorers for Papua New Guinea's Caves - by R. Michael Bourke. Special Feature.

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## NOTICES & NEWS

### AUSTRALIAN SPELEO ABSTRACTS

Australian Speleo Abstracts for 1974 are now on sale. ASA is your guide to Australian speleological literature with over 1,000 articles abstracted in its 96 pages. It is edited by Greg Middleton and published by the Sydney Speleological Society in association with the ASF Commission on Bibliography. ASA 1974 is on sale now for \$3.00 plus 50c postage. Back issues are also available - rates upon your request. An index to ASA 1970-72 is also now available for \$1.25.

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### ABORIGINAL SITE OLDEST ON TASMANIAN MAINLAND

Beginners Luck Cave (JF 79-82) in the Florentine Valley has recently become the oldest known archaeological site on the Tasmanian mainland. Charcoal from a deposit containing archaeological material was recently dated at 12,600 years. It shows that Tasmanian aborigines were present in inland Tasmania at least seasonally during the last Ice Age which came to an end about 10,000 years ago. Dating of bones of an extinct species of browsing kangaroo (*Sthenurus*) from another deposit in the same cave gave an age of 14,450 years. It may be that this animal was hunted to extinction by aboriginal Man. A paper on this site was presented at the Hobart ANZAAS Conference in May by Peter Murray and Albert Goede.

### 1976 LELET PLATEAU EXPEDITION

Unfortunately the details of the 1976 Lelet Plateau Expedition failed to reach me in time for inclusion in the Autumn edition. The proposed date was from 25/6/76 to 26/7/76. Therefore, by the time that you read this, the expedition will be nearly over. The aim of this expedition will be to continue systematic exploration and mapping of cave systems on the high parts of the plateau, explore the resurgence systems on the N.E. coast, and undertake geomorphological research. A previous expedition to the Lelet Plateau of New Ireland in 1975 (see ASF N/L No.68) spent a month in the area exploring and mapping at least 50 odd caves. Expedition leaders are Dave Gillieson and Tim Sprod.

### COMMENTS ON THE SOUTH-WEST ADVISORY COMMITTEE PRELIMINARY REPORT by Andrew Skinner\*

Most Tasmanians will be aware of the committee's findings but some notes have been prepared for the benefit of Mainland readers who may not have access to the report. The Tasmanian Government published its Draft Management Plan for the South-West National Park in March, 1975. The proposed park boundaries fell rather short of what many conservationists regard as essential for a viable South-West National Park. Although the plan proposed that Precipitous Bluff be included within the park, important areas such as Port Davey, the lower Gordon River, the Picton Valley and the Franklin River Basin were left out. Following considerable public criticism, the Tasmanian Labour Minister for National Parks and Wildlife, Mr. Batt, established a Special Advisory Committee pursuant to section 12 of the National Parks and Wildlife Act 1970. The Committee's terms of reference are summarised:

- (a) to examine the Draft Management Plan for the South-West National Park,
- (b) to examine representations made to the Minister on the plan,
- (c) to prepare a preliminary report indicating:
  - (i) the issues which require resolution,
  - (ii) how far the Committee considers it will be able to deal with these issues effectively and expeditiously;
  - (iii) whether in the case of any issues other procedures would be more appropriate and if so, what action it recommends,
  - (iv) whether any variation of the Committee's powers or terms of reference is necessary.
- (d) to advise on the suitability of the plan and whether in the light of the Committee's examination of it and the representations made on it, any alterations to the plan including the proposed boundaries are desirable.

The Committee was appointed on the 17/11/75 and called for submissions. The main points of the ASF submission are summarised:

- (a) the objects of management specified for the park are endorsed but the proposed boundaries are inadequate as only a small part of the region is proposed to be included. The extensions proposed by the Tasmanian Conservation Trust are supported.
- (b) Many karst areas would be unprotected by the proposed park.
- (c) The proposals for the inclusion of a tiny area at the entrance to Judds Cavern is totally inadequate.
- (d) No mention is made of Exit Cave in the Draft Management Plan.

# SPELEOLOGY AND GOVERNMENT

Elery Hamilton-Smith, A.U.A.

THE SIXTH BARBARA DEW MEMORIAL LECTURE, DELIVERED AT THE UNIVERSITY OF SYDNEY, 7th APRIL, 1976.

## INTRODUCTION

Barbara Dew was one of the earlier entrants to the "hobby" of speleology which arose in the late 1940's in this country. As such, she inevitably became involved in the early efforts of organised speleology to establish some credibility in the eyes of governmental land management authorities, and I recall her continuing concern with this issue. It therefore seemed to me appropriate that I might choose the present topic. Interestingly, there does not appear to have been any previous systematic attempt to examine the range of questions with which I intend to deal, although some specific facets of the relationship between organised speleology and government are often debated or commented upon.

It might be useful if I commence with a few comments on definitions.

"Mucking about in caves" (to paraphrase Rat in "Wind in the Willows") is, in this country, essentially a leisure-time interest undertaken for its own enjoyment by a large number of individuals. Some of these individuals have banded themselves together into formal associations, generally called speleological societies, and these in turn have collectively formed a federation. Other individuals may belong to different kinds of associations, in which caving is but one of a number of activities pursued and is not a central part of association objectives, e.g., the Scouts. Still others may shun any sort of organisational structure and pursue their caving interest in a purely individualised manner.

All that is well-known and obvious. However, I want to emphasize that:

- (a) Caving, at least in our society, is essentially a leisure-time activity.
- (b) Although many participants are "organised" into formal associations, a number are not.

From this, let me make the point that the second characteristic is shared with virtually all leisure-time activities. The degree of "non-organised" participation may range from extremely high, as in surfing, skate-boarding, trail-bike riding or beer-drinking, to extremely low as in pistol-shooting, gliding and parachute jumping.

Now, I will largely be talking about "organised speleology", which in Australia is represented by the Australian Speleological Federation, together with its members and other associated groups. However, my comments are made in full recognition of the existence of the "non-organised".

In referring to "government", I will be generalising, and using the term to indicate that series of processes and organisational arrangements which are generally recognised collectively as "government" - the legislature, judiciary and administration.

## SHOULD THERE BE ANY RELATIONSHIP BETWEEN SPELEOLOGY AND GOVERNMENT?

Again, perhaps this is so obvious as to not require comment - but it is the obvious first question before proceeding further.

The fact is that even though government in this country has generally demonstrated very little interest or responsibility in respect to leisure-time activities until recent years, it has right from 1788, accepted the responsibility of providing and managing public lands, many of which are primarily used for leisure-time purposes. (Hamilton-Smith and Robertson, in press.) Jenolan Caves were reserved for tourist purposes in 1861, some 18 years prior to the creation of Australia's first National Park at Tower Hill, Victoria. (Black and Breckwoldt, in press.)

The aesthetic appeal of many caves and their potential for income-earning tourism was amply demonstrated at Jenolan. Jenolan Caves became a stimulus for the cave search and development activity of the late 19th and early 20th centuries. Oliver Trickett was appointed by the New South Wales Government to search for other caves which might be similarly developed. Most other state governments and some individuals (e.g., John Olsen, who discovered Olsens Caves, near Rockhampton in 1882) joined in the search. Perhaps the most remarkable instance was at Naracoorte, South Australia, where William Reddan was granted funds to employ six men, including James Mason and George Burford, to help search for and develop new caves. (G. Burford and A. Needham, pers. comm.)

Continued Overleaf,

SPELEOLOGY AND GOVERNMENT Cont;

So, when speleology arose as a major interest in the late 1940's, many caves were located on reserves managed by Governmental authorities, and a relationship between speleologist and government was therefore inevitable.

A second kind of relationship is also inevitable. Many research institutions are governmental, and such is the nature of caves that they are a rich source of raw data for research. So, speleologists have found themselves in relationships of varying kinds with Museums, Institutes of Medical Research, and the like.

Having argued that a relationship of some kind is inevitable, let us now turn to examine some aspects of the relationship in detail.

## THE CHARACTER OF SPELEOLOGY

Any government divides its responsibilities into a series of compartments, and in Australia these compartments are recognised by the creation of ministries, each with its associated department (or departments) and statutory authorities. Any organisation which wishes to relate to government will inevitably find itself doing so primarily through one or more such Ministries.

Now, speleology might, from what I have already said, relate only with land management authorities and with research institutions, and avoid other linkages. However, one can still ask in what way it might present itself, e.g., to land management authorities, and the answer to this question will probably lead, in turn, to other linkages.

Basically, there seems to be three avenues open to speleology - as exploration and discovery; as recreation (sport?); and as a conservation interest. Let me firstly examine these one by one.

I think we have said too much about exploration and discovery, and as a result, sometimes been hoist by our own petard. Land management authorities are, in general, interested to know more about the resources for which they are responsible. They have therefore responded positively to our claim that we will map their caves, will fully investigate them, and even find wonderful new caves which are both beautiful and immense.

We have, in fact, often delivered the goods. But then we may be a little irked to find that we are expected to produce positive results on every trip. On the other side of the coin, management authorities are a little irked to find the intrepid explorers tramping (or sometimes trampling) through the same old caves, having a thoroughly enjoyable weekend, but obviously contributing nothing to further their knowledge. In other words, we have argued investigation, but have simply indulged in recreation.

Of course, it is hard to argue for recreation in Australia. Like many other Western countries, we are so steeped in the puritan ethic that pure enjoyment is always a little suspect unless it can be made to sound like either work or education!

Before looking further at the recreational view-point, let me point out the interesting anomaly that the United Kingdom (and even New Zealand) cavers have tended to align themselves with sporting and recreational authorities, while here in Australia we have made our relationship primarily with land management and conservation authorities.

I have heard a number of arguments about whether caving is a sport or a science, and a number of attempts to distinguish between "real speleology" on one hand and "sporting caving" on the other. I believe this is a completely false kind of argument, and one likely to have some pretty bad consequences.

Judson (1975) has expressed concern that caving in Britain is not getting its fair share of Sports Council Grant Aid. He implies that this is a "bad thing" and that caving itself, or rather its national organisation is at fault. Now, as much as I sympathize with much of what he is saying, I think he is really in the wrong ball game when looking towards the Sports Council.

Defining what is a "sport" is a surprisingly complex task. However, there is general community acceptance that in order to really matter a sport must have a strong competitive element so that it lends itself to the kind of exhibition which has replaced religion in Victoria, or so that it will be received into the canon of the International Olympic Federation. On this basis, there is no question that caving is a non-sport.

Pearson (1975) has recently carried out a very interesting analysis of the problems inherent in defining "sport", and he suggests that sport, as commonly understood by the general public, is characterised by a high degree of prescriptiveness (and routinisation), a high value on physical prowess, and a high value on competition.

(Pearson actually uses the term "athletics" for this kind of activity; his use of the term "sport" does not imply a high level of organisational complexity. However, although his usage may be semantically correct, it does not coincide with everyday conventions.)

Even on these sort of criteria, caving remains pretty much a non-sport. Its chance of getting accepted and recognised as a sport seems to me to be pretty remote, and its chance of competing effectively for a share of the Sports Council dollar (or pound) seems even more remote. Worse still, if

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caving ever did come to be accepted as a sport, it would probably acquire some of the characteristics of a sport!!

However, there is no question that caving is a leisure-time activity and hence can be considered, on virtually any definition, as recreation. As I have already pointed out, there is considerable ambivalence about recreation in our society, and I wonder whether the reluctance of Australian cavers to align themselves with governmental recreation authorities is due as much to this ambivalence as to good sense? I will return to this point shortly.

In Australia, caves are a relatively scarce resource. (Jennings, 1975) This factor has led Australian speleology to place a high premium upon conservation activities, although the frequent involvement of cavers in other conservation issues suggests scarcity of caves is not the primary factor motivating individuals towards action in this sphere.

As most people know, I would staunchly uphold the importance of conservation in speleology, but I must raise some questions. It seems that we sometimes argue conservation, not for the sake of a cave being kept for its value, but for the sake of ourselves who want to continue caving in it - and so contributing to its despoliation!

I suggest that if we are really serious about conservation, then we must exclude ourselves from entry to some caves, at least for recreational purposes and perhaps completely. At the other end of the scale, we must share some caves with any yobbo that wants to enter. In other words, we must look towards such management notions as classification and zoning with strict use controls.

Thus, we may face the risk of over-stating the conservationist argument, and of leading to inappropriate policies about cave entry. I also suggest that we cannot continue to maintain that organised speleology has, ipso facto, a right of entry which should be denied to the "non-organised" but again, I'll return to this point separately.

Now, you might draw your own conclusions about where speleology should stand in the light of these comments. The major elements in my own stance at present are:-

- (a) That speleology is basically and primarily recreation (but not a sport).
- (b) That one of its major extrinsic benefits lies in discovery, investigation and knowledge-building. Every individual caver can share in this process, and it should not be seen as separable from recreation. To separate the two will greatly retard the progress of discovery and knowledge-building. (See Webb, 1969, for some discussion on this point.)
- (c) That because caves are a scarce resource, speleology must continue to place a high value on conservation, but we must learn to fully understand the implications of sound natural resources management and to contribute to its development.

On this basis, you might think I am arguing that we should establish closer linkages with governmental recreation authorities. At this point in time, I would argue that we should not move in that direction, but we should respond wisely to initiatives coming from that direction. I will now try to explain my reasons for that argument.

Governmental recreation authorities are in their infancy in this country. (Hamilton-Smith & Robertson, op. cit.) This means that they -

- (a) Have an evangelistic streak in their thinking - because they are seeking to justify their newly-acquired status, they are seeking to demonstrate success, and success tends to be measured in numbers participating, or size of buildings, rather than of quality of programme. This is all too likely to lead to fostering interest in an activity without proper recognition of the likely environmental impact.
- (b) Lack of sensitivity to, and skills in environmental management for recreational purposes.

I therefore believe that to encourage public recreational agencies to foster an interest in caving would be unwise. Caves are, as I have said, a scarce resource, and development of sound environmental management of cave areas is a vital pre-condition to expansion of their recreational use.

Furthermore, when such agencies do enter into caving, I believe we must try to ensure that they do so wisely and on a small scale. I would not agree that we should try to stop them, but that we should convince them of the importance of moving only slowly and cautiously into a field with such a potential for environmental damage. If they do proceed in such a way, hopefully they will gradually develop the necessary level of competence to meet the increased demand in future years.

Thus, it concerns me to see the paper by Tomalin (1972) advocating caving as a school-based recreation. I am not making any judgement of Mr. Tomalin's own competence, but only expressing concern at his advocacy. I am comforted by his complaint that the Education Department did not officially recognise his activities!

In general, I think my viewpoint generally fits with the approach taken in Australian Speleology, although I would argue that we often undersell the recreational importance of speleology. Perhaps part of our problem is that many land management authorities do not clearly enough recognise their

SPELEOLOGY AND GOVERNMENT Cont;

responsibility for recreational access to lands under their control?

A number of specific issues might be examined now, but I will limit myself to discussing two which seem to have been of particular concern recently.

## WHO PAYS FOR WHAT?

One of the anomalies of Australian recreation is that there are few clear guidelines about fiscal policy. Some recreational pursuits are heavily subsidised by the tax-payer or rate-payer, while others are almost entirely funded by the participants.

As mentioned already, the ownership and management of public lands for recreation has long been accepted in this country (and most others) as a governmental responsibility and hence a charge on the tax-payer or rate-payer. So, speleology benefits already from this indirect contribution.

However, we have heard it argued that speleology might seek governmental grants to assist with its own administration. Personally, I believe we should not seek or accept such funds, and would advance a number of arguments -

- (a) There is no such thing as a government grant - there are only tax-payer grants. I seriously question whether any recreational activity pursued purely for its own sake should be a further demand on the tax-payer. I would argue that, if anything, we should be campaigning for the reduction or elimination of many such grants rather than seeking to add to their number and cost.
- (b) Anyone who has read "Parkinson's Law" will be aware of the extent to which the establishment of a bureaucracy (which happens once any organisation gets a funded administration) tends to not only be self-perpetuating, irrespective of the real work to be done, but to focus upon its own internal growth rather than its objectives.
- (c) We have seen the extent to which such grants are subject, even under the one administration, to stop-go changes and uncertainties. In this environment, organisations not only end up with spasmodic and short-term programmes, but tend to become pre-occupied with their own survival rather than with their objectives.
- (d) The development of governmental funding being given to voluntary associations not only renders such associations subject to uncertainty (Pifer, 1970) but leads many of them to lose their independence in setting of objectives. Thus, many are reduced to the status of merely being tools for the achievement of governmental objectives, and form a category of organisations now becoming known as "quasi-non-governmental organisations" - Quangos. In the case of speleology, where we become a party to conflict over land-use objectives (caves or quarries?) this would be a disaster.

These arguments do not exclude the acceptance of project funds, and I would certainly support our continuing acceptance of grants related to specific projects on mutually agreed terms.

Let me now turn to the vexing question of the increasing number of demands being made of speleologists for the supply of information to be used in land-use planning or environmental impact studies in cave areas. Some of us seem to spend a great deal of our time in preparation of submissions and reports of this kind, and although a vital element in our conservation programme, this does become a costly and time-consuming process.

Obviously, there will be many times when we must act on such requests at our own expense. We have learned that we can at least re-coup some expenses by selling copies of such submissions to our own membership (e.g., Mullumullang and Jenolan) but that fails to even approach the real costs.

I would argue that we must improve our own negotiating capacity, so that although we would not refuse to supply data, we are more often recompensed for our efforts. The acceptance of governmental responsibility for land management does legitimate expenditure of tax-payer's funds to obtain specialised data such as we can supply.

In my report to the 1974 conference of the Federation, I suggested that the Federation should really examine and take action on the organisational implications of this. It concerns me that it remains still in the "too hard" box.

## WHO GETS ACCESS TO WHAT?

Our perception of ourselves as explorers and investigators led us to argue that we have a right of entry which might be denied to others such as Scouts. I think there is now a greater acceptance of the recreational nature of caving, and hence, some greater acceptance of Scouts, other outdoor groups and even the individualist caver.

However, there are still problems here. Land management authorities, concerned to arrive at some criteria of competence, have often done so by using membership of the Federation as a pre-requisite for speleological access to certain areas. We can now see that this has not only led to a regrettable



SPELEOLOGY AND GOVERNMENT Cont;

resentment of the Federation, but has also resulted in intense user pressure on other areas, some of which may have been more environmentally sensitive than many caves in the managed areas.

There are, of course, good reasons for limitation of access to some caves and cave areas. These include danger, environmental vulnerability and aesthetic vulnerability. The efforts being made by the National Parks and Wildlife Services of both New South Wales (G. Worboys, pers. comm.) and Queensland (S. Curtis and P. Wilson, pers. comm.) to arrive at satisfactory systems of cave classification and access control, are moves in the right direction. Systems which rest purely upon a gross differentiation between the organised speleologist on one hand, and the person seeking generalised outdoor recreation on the other, are, in my opinion, hopelessly inadequate.

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PROTECTION OF TASMANIAN CAVE FAUNA

On the 27th April, several Tasmanian cave species were proclaimed as protected. A wildlife amendment regulation under the National Parks and Wildlife Act (1970) (Statutory Rule No.88 of 1976) added the species to the totally protected list. The species involved were:-

BETTERLES: Idacarus, Goedetrechus mendumae, Goedetrechus parallelus, Tasmanotrechus cockerilli;

CAVE CRICKETS: Micropathus, Cavernotettix, Parvotettix;

GLOW WORMS: Arachnocampa tasmaniensis;

HARVESTMEN: Monoxyomma, Lomanella;

PSEUDOSCORPIONS: Pseudotyranochthonius typhus, Pseudotyranochthonius tasmanicus;

There are several implications:

- (i) to collect cave fauna from State Reserves, the collector requires authority from the Minister administering the National Parks and Wildlife Act - this was needed before the amendment anyway.
- (ii) to collect cave fauna from Conservation Areas, the collector requires permission of the managing authority, usually the National Parks and Wildlife Service. (Again, this was needed before the amendment)
- (iii) to collect the fauna specified in the amendment from areas outside reserved land (e.g. Exit Cave), authority is needed from the Director of the National Parks and Wildlife Service. This is the main change and will allow control over unwise or unnecessary collecting.

Note: These are the first invertebrates to be placed on the protected list.

Application for written permits should be addressed to: - The Director, National Parks and Wildlife Service, P.O. Box 210, Sandy Bay, Tasmania. 7005.

Andrew Skinner.

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# CAVING AND KARST CONSERVATION

by ADRIAN DAVEY\*

Just how important is cave conservation to the average caver? One might well ask; especially if the continuing damage to caves by cavers is any indication. The conservation of caves (and karst) involves far more than stirring up opposition to mining companies or lobbying governments for reserves; we must face the unpleasant fact that one of the most potent agents in the progressive destruction of our karst heritage is the speleo himself.

Cavers must expect that their credibility will be suspect in a karst conservation controversy unless they can demonstrate that caving does not conflict with conservation of the resource. This is not the first time that these issues have been raised within A.S.F. - Hamilton-Smith (1968), Spate (1973), and Jennings (1975) have all referred to it - but the Federation still doesn't seem to have made much progress towards a defined consensus on caving and cave conservation policy.

A cave is part of a dynamic system - a system dependent on the process of solution. Change in a cave may be slow (and often imperceptible) but nevertheless it is a basic necessity if caves and speleothems are to form in the first place. The same goes for the surface features that are also characteristic of karst. The importance of the system concept in karst conservation is that change does not stop once a cave is formed - the system remains dynamic and will respond to interference. However, readjustment to interference is also relatively slow. By contrast, predominantly biological systems (such as forest or grassland) are capable of readjustment on a relatively shorter time scale. For example, we allow walkers into the wilderness zones of our National Parks in the expectation that the ecosystems will recover from the interference, rather than on the assumption that absolutely no disturbance will result. We are accustomed to biological systems readjusting to modification within the time scale of a human life span, and we have come to regard such interference as compatible with nature conservation.

Such conservation concepts may not be as readily applicable to karst. The slowness of karst systems might well encourage a preservationist approach to their conservation.

The problem in the case of karst is one of time scale, rather than readjustment. If there is no prospect of recovery in a life span or so, then we can hardly be achieving conservation of our karst heritage. And to go back to the wilderness example above, one wonders whether the underground wilderness concept (as discussed by the National Speleological Society 1967, Stitt and Bishop 1972, and others) can realistically be applied to the relatively slow geomorphic systems of karst, in the long term. The wilderness concept applied in the karst context may well be a valuable management device for limiting the impact of caving, but let us recognise that there will still be significant impact.

In the comments above, I have refrained from introducing a further element of complexity - that of the biological components of cave systems. Their importance can be very great indeed, and their protection and conservation even more difficult. For two different perspectives on this, refer to the discussions of Poulson and White (1969) and Harris (1975).

The question that must be asked is whether we know what we are doing when we introduce any modification to a cave system. This happens every time we inadvertently break a speleothem, or enlarge an entrance, or leave a footprint, or lower a sump, and so on. (And let us not continue with the deception that these things don't happen.)

It would be easy to draw the conclusion from all this that in order to avoid modification of caves there should be no caving at all. Such an approach is neither practical, nor helpful to continuing debate on the subject. The important thing is to put these modifications into perspective and to identify those that are to some extent acceptable, and those that are not. Above all, we must acknowledge that damage is a continuing reality and that its persistence is at least partly due to inaction on our part. Spate (1973) has already provided a stimulating discussion of cave users in this context, and the National Caving Association (UK) a few years ago undertook some analysis of cave damage by cavers, although in my opinion their survey failed to tackle the real issues (Wilmot, 1972).

Four basic categories of damage come to mind:

## 1). DELIBERATE VANDALISM

- \* graffiti (surface and underground)
- \* smashing of cave formations
- \* throwing of mud onto formation
- \* removal of speleothems
- \* damage to archaeological and fossil sites
- \* shooting and disturbance of bats

CAVING AND KARST CONSERVATION Cont;

## 2.) CARELESSNESS, LAZINESS, AND SHEER IRRESPONSIBILITY

- \* rubbish (e.g; batteries, flashbulbs, food scraps, wrappers, etc.)
- \* spent carbide
- \* smoking in caves (and littering with ash, matches and cigarette butts)
- \* disturbance of bats
- \* unnecessary duplication of pathways
- \* carrying mud onto clean areas, on boots and clothing
- \* breaking of speleothems (particularly straws)
- \* treading on formation, bones, archaeological material, etc.

## 3.) INADVERTENT AND ACCUMULATIVE DAMAGE

- \* progressive widening and/or wear of paths
- \* progressive buildup of mud along paths
- \* lint accumulation
- \* disturbance of sediment in water
- \* disturbance of bats

## 4.) DELIBERATE MODIFICATIONS MADE TO FURTHER SPELEOLOGICAL INVESTIGATIONS

- \* digging or blasting to open or enlarge entrances or passages
- \* installation of gates
- \* lowering of sumps
- \* installation of survey marks
- \* diversion of streamflow out of, or into, entrances
- \* pollution of air or water by flow tracing agents
- \* overcollection of biota

This is far from a complete list. Of the damage referred to above, we like to think that deliberate vandalism is the exclusive preserve of the uneducated non-speleo. Even if it is, we have an important responsibility to prevent it - by education, example, and protection. In the case of careless speleo practice, it should be said that such damage is completely preventable, despite its prevalence. To some extent at least, the damage listed under the third category may be inescapable if we allow caving at all in susceptible caves. Category four, the alteration of karst environments in the name of speleology, has always been something of a holy cow; heretic that I may be, I believe that it is at least as serious a problem as the preceding three.

It should be conceded that a great deal has already been achieved by speleos and their societies to avoid cave damage, and even to clean and restore damaged caves. However, even if Australia's karst heritage is one of its best recorded components as the result of the work of Australian speleologists (Committee of Inquiry into the National Estate, 1974) perhaps our record is not so impressive when it comes to conservation of the kind referred to here. There remains considerable room for improvement.

Further discussion is needed within A.S.F. aimed at reaching consensus on changes to caving practice and attitudes. I do not propose to suggest solutions here to all of these problems contributing to cave damage; but in the meantime a number of specific subjects should be raised in the hope of stimulating debate on some of the more important and difficult of the issues.

It is now fairly widely accepted in speleo societies (although not necessarily among all those who go caving) that all possible care should be taken underground to avoid breaking any formation, or carrying of mud onto clean areas. Fine sentiments, but we all know of many instances where there has still been steady deterioration - despite the official application of these policies - as the result of less than adequate care. De-trogging, the carrying of spare clean clothing, and adherence to a defined path, all require conscious effort; and far too many cavers just don't make enough effort. The efforts that are made don't seem to be sustained for very long, either. A further problem is that leadership of caving parties is not always adequate to implement established and agreed policy. Collectively we say one thing and do another. It should also be mentioned that often the means of controlling damage have been poorly planned or implemented - some of the marked paths and gates in caves, for example. There needs to be much greater attention paid by societies to education of members (and any other cavers) to adhere to responsible caving practices.

Digging is another perennial problem. How can the enlargement of an entrance or passage be justified? To do so is, after all, a modification of the cave system. Is a small insignificant dig giving access to a magnificent cave any more justifiable (from a balanced conservation point of view) than a large messy excavation leading nowhere? People will probably say that it depends on the circumstances - that it depends on the prospects for success of a dig, and an assessment of its likely effect on cave, landscape, and ecosystem. If that is the case, at the very least we should attempt to define guidelines by which a dig can be evaluated and specifying the circumstances under which the various techniques can be justified (if at all). The present acceptance of widespread disturbance - moving of rocks, breaking of formation, use of explosives, and so on - in the name of exploration must cease.

CAVING AND KARST CONSERVATION Cont;

Another issue that I believe deserves serious discussion is that of water tracing. The use of flow tracing agents is not without adverse effect, and there needs to be extremely careful planning and control of hydrological experiments to ensure that any side effects are minimised or avoided. Just as we indignantly insist that the proponents of a limestone quarry should come up with detailed substantiation and justification of their proposal, so we should require speleos desirous of tracing streams to demonstrate that their investigative pollutants are without adverse effect. There must be a compromise between the needs of the investigator and the sensitivity of karst systems.

In conclusion, it is appropriate to look back to the question asked at the outset, and to speculate on the attitude of cavers to conservation (of the kind discussed here, not the big head-on conflict issues). An examination of many of our more popular caves certainly indicates that we still have a serious problem; and if the current interest and activity in karst conservation is any guide, one must draw the conclusion that the mainstream of cavers probably don't care.

This problem will not be solved until we have a better defined consensus of our objectives, and of the limitations on caving that we are prepared to accept. Every speleo has a responsibility, both individually, and through his society, to contribute to nation-wide debate on these issues with the express object of limiting the impact of cavers on caves to sustainable levels. And we all share a responsibility to see that as many as possible of the cavers outside the direct influence of the Federation are involved as well. Perhaps a defined Conservation Code will be an answer; let there be healthy debate on the subject within societies and at the coming A.S.F. Canberra conference.

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"OPERATION FERRET" - A Brief Report by Laurie Moody.

Organisations concerned with Search & Rescue in caves, converged on the small township of Mole Creek on the weekend 1-2nd May. This long-awaited event was run in conjunction with the Tasmanian Police S & R Unit, St. John Ambulance, Tasmanian Climbing Club, National Parks & Wildlife, Northern Caverneers, Southern Caving Society and the Tasmanian Caverneering Club. One of the main functions of this exercise was to test the Police S & R winch, and the feasibility of the Neil Robinson stretcher and other equipment under cave conditions.

The cave selected was none other than Herberts Pot. I was personally under the opinion that this particular cave was of a dubious choice as far as caves go. It is renowned for being a very hard and difficult cave to negotiate. However, after seeing the end result perhaps it wasn't a bad choice after all.

After a brief discussion and the allocation of various tasks about 40 people went underground. The 26m entrance pitch was descended by two separate parties, while a third positioned the winch near the top of the pitch. The remaining parties experimented in the use of rubber drag mats and these proved to be quite adequate. Use of the 'Neil Robbie' proved reasonably successful but modifications are needed. Extrication of the 24 bods who reached the bottom of the pitch proved to be a long and slow process. After eight hours underground, we realized that a minimum number of people must be considered in future exercises where a pitch of any renown is concerned.

All in all, a very successful project. A de-briefing was held on the Sunday morning and many good ideas and suggestions were forthcoming. A more detailed report appears in Speleo Spiel No.112 P.6.

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# MAPPING OF EASTER CAVE, AU14 AUGUSTA, WESTERN AUSTRALIA.

by Kerry Williamson

## THE CAVE

Easter Cave is an extensive maze cave developed initially by corrosion of Coastal Limestone at water table level by slow moving waters. The coastal limestone (mainly aeolian) overlies an erosion and weathering surface developed on the Pre-Cambrian gneiss of the Leeuwin Naturaliste Block. Despite this origin the cave shows a major trend along a vague NE-SW axis, paralleling the strike of most of the limestone beds (Bain and Lowry, 1964). Minor leads follow the direction of dip, i.e. at right angles to the major trend. Thus we are faced with a maze scattered around a major trend. This major trend is the route followed by most parties travelling through the cave.

## HISTORY OF MAPPING

(For History of Exploration see Robinson, 1971, and Caffyn, 1973)

In 1964 Dave Lowry, closely following the exploration parties after the way was found through the First Duck, mapped to CRG 3 the major trend of the cave plus some of the extensions as far as the Second Duck. This map was published in Bain and Lowry 1964, which was handed out at the ASF Conference in Perth, January 1965. A map of the entrance series with surprisingly thorough wall detail and the initials 'R.T.' may date from this or an earlier period. Paul Caffyn (1972) mapped from Tiffanys (just before the Second Duck) to the end - a vague definable area in a rockpile maze. Various CRG 1 and 2 maps exist as a compilation with the Lowry Grade 3 map in the WASG Map Library.

Since 1972 and possibly earlier, there has been talk among W.A. speleos of mapping Easter Cave to a higher grade and in greater detail than the early post exploration maps. Except for Caffyn's work beyond the Second Duck, this remained as talk until 1975. In April 1975, Bob Shoosmith, Ken Lance and Amnon Doernberg commenced a miners dial traverse from the entrance through to the other side of the Gravel Grovel. In the period November 1975 to February 1976, a detail mapping seige, with up to three parties mapping in the cave at the one time, has resulted in almost all the known cave on the entrance side of the First Duck being mapped to ASF grade 55. The large complex section between the First and Second Ducks remains to be done.

## TACTICS

During the last four months, through plenty of trial and some error, a set of tactics have been evolved.

Because of the general shape of the whole maze it was decided that an accurate as possible back sighted miners dial traverse would be required along the main trend of the cave to act as a firm skeleton on which to hang the descriptive part of the survey. This would consist of Suunto optical hand held compass and tape traverses around and off the main skeletal traverse, i.e., into the numerous side passages and mazes and out and around the large chambers of the main trend - to map in the detail or flesh of the cave surrounding the skeleton. The skeletal traverse is being drawn up using the latitude and departure method (see Kunath 1970) where the position of each survey point is plotted as co-ordinates of a set of axes running NS and EW. A co-ordinates system is particularly useful when the size of the cave dictates using a series of sheets. The maze nature of the minor passages off the major trend produces a plethora of closures, which improve, i.e., brace the accuracy of the final product. Errors in closure are being distributed using a system which to quote Randall King (1976) uses "the algorithm which corrects all co-ordinates in direct proportion to the length of the previous leg in the survey."

Detail is being drawn in the cave at 1:200 using a protractor and a scale rule. This avoids the angular closure problem encountered in drawing detail in a large chamber by splaying in a circle. This procedure is also a help in digesting (to quote O'Reilly, P.M., 1970) "the woefully woefully disordered and haphazard - - - detail of nature as seen in a cave." by means of a straight line or two straight lines the position of which is pretty much as you have drawn them. It is of particular use in large straw and lake studded chambers and in mazes. The method has been used in low and in complete body immersion situations.

Mapping parties are producing a plan view of the cave. Sections will be left to later when we know where the cave goes in plan. Wet sections of the cave are being mapped by suitably wet-suited wet parties using wet strength paper pads. For a full days (8 hours - union rules) mapping, a full wet-suit would be necessary. In the many speleothem packed chambers great care must be taken to avoid damaging these very delicate calcite wonders. In some places, splays were not placed as the risk and headaches involved were not worth the increased accuracy. On a recent trip 34 metres of steel tape were gracefully raised across a large chamber with people at strategic points keeping the tape away from several fine straws. Survey points must also be chosen to avoid close overhead straws where the sightings must be taken from.

## FUTURE PLANS

These center around mapping and surveying the area between the First and Second Ducks which should

MAPPING OF EASTER CAVE Cont;

prove to be the crux of the field-work side of the project. We'll be looking into ways of getting trogs, or at least their clothing, through the First Duck in a dry condition, so they can map the dry sections beyond. Fortunately, the water level in the duck has dropped so it is now just a very wet crawl. It should remain this way until four months after the mid point of the coming winter wet season. Mapping of the Gondolin shall have to wait for a series of relatively dry winters.

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NOTICES & NEWS Cont;

The Special Advisory Committee preliminary report was made public on 10/6/76. Its main recommendations are summarised:

- (a) A Draft Zoning Plan should be prepared for South-West Tasmania (defined as the park proposed by the Australian Conservation Foundation).
- (b) A Zoning Committee should be set up to prepare the Zoning Plan. This Committee should consist of a nominee of the Minister for National Parks and Wildlife, a nominee of the Minister for Resources (read industrial development, H.E.C. and forestry) as well as an independent chairman.
- (c) Guidelines for the new plan are recommended.

Being totally biased towards booting all developers out of South-West Tasmania, I make the following comments on the report:

- (a) No moratorium on development in the South-West is recommended. Whilst the Zoning Committee is deliberating, the Forestry Commission will continue to build their logging roads and the H.E.C. will continue its "investigations" into possible hydro schemes.
- (b) The areas proposed to be added to the South-West National Park in the Draft Management Plan 1975, will presumably go to the Zoning Committee for arbitration. This means that Precipitous Bluff might yet be lost to the limestone miners, although its inclusion in the park had already been promised by the Government.
- (c) The Premier (Nielson) and the Minister (Bett) have both promised a public enquiry on the South-West. The only public involvement proposed by the Advisory Committee is that public comment should be invited when development proposals arise.
- (d) The Advisory Committee seems to have missed the whole point that the South-West is a wilderness area of international importance. The area's significance is related to its overall untouched nature. The Advisory Committee proposals, if implemented by the Government, would involve a Zoning Committee making decisions on a piecemeal basis, and allocating land for various purposes without regard to the overall importance of the area as a wilderness.

One thing is apparent from the report - there will be a lot more hot air before any land use decisions are made about the South-West. Meanwhile, the bulldozers rumble on . . .

\* Vice President, A.S.F. & President, T.C.C.

CAN YOU HELP?

In November 1975, Cliff Ollier found a large fossil bone lying on a sloping slab of limestone about 5 metres past Kellers Squeeze at the beginning of the Camp Pie Circuit in EXIT CAVE. The bone was identified by Peter Murray as part of an extinct browsing kangaroo, belonging to the genus Sthenurus. These animals stood up to 2.5 metres tall and were considerably larger and more massive than the Forester Kangaroo. It is well preserved and thought to come from a cave fill. It has a fresh fracture which indicates that it was recently broken. It is suspected that some caver found it sticking out of the cave sediment in this vicinity and broke it off. A quick search in the area has failed to find any more. If anyone can through any light on the matter, please contact the Editor or Albert Goede. It could be a very important find. Albert Goede, 8 Bath St; Battery Point, TAS. 7000

# WHO'S WHO....

## on the speleo scene?

### 21. lex brown

Lex didn't start caving until he graduated as a Civil Engineer from the University of Queensland in 1969 at the age of 21. He obtained a Masters degree in Urban Studies in 1975. Working on road traffic noise research and may get around to finishing a Ph. D. in a year or so, all at the Uni. of Q'ld. Lex also spent twelve months as a Glaciologist in Antarctica, Casey Base, in 1971. He is a past-president of UQSS and shares the post of vice-president of ASF at present. Has been a driving force behind UQSS's major conservation campaigns for the last 5 years ... i.e., Mt. Etna in particular and Texas. Has also been responsible for three Government research grants to investigate Etna, totalling \$13,600. Lex has caved in all Australian states except South Australia and has been on two caving expeditions to Papua/New Guinea. He was with the Ora expedition in 1972-73 and joint leader of NISE to the Lelet Plateau in 1975. He is married to a caver, Lesley, and has a 2½ year old son, Tuki, who is named after the god who lives in Ora Cave in Papua/New Guinea.

### 22. lloyd robinson

Lloyd is one of the 'originals' as far as Australian caving is concerned. He started serious caving in 1945 and is a member of ISS and SSS plus the NSWCRG and also of the Jenolan Caves Preservation Society. Lloyd is currently Convenor of the ASF Cave Safety Commission. Caving areas worked on include:- Bungonia, Jenolan, Big Hole, Wyanbene, Bendethera, Nullarbor, area east of Esperance (W.A.), Camooweal (1953), south-west of W.A., and a number of other areas. He has also undertaken 'tourist-type' trips to most caving areas of Tasmania and Victoria. Lloyd is interested in cave exploration and cave photography and has possibly one of the finest collection of caving photos in Australia. In 1958, he was a member of W.A. Newspapers expedition to the Dutch wreck "ZUYTDORP" on the W.A. west coast and was responsible for the examination of caves for possible wreck material. At present, he is engaged in the electrical field connected with coal mines. Lloyd is 48 years old, married with three children.

### 23. joe jennings

Joe was given both a natural history and an underground slant (squint?) when at the age of 11, he was brought within the splash of the 70ft waterfall in Weathercote Cave in Yorkshire. Deflected from Ph. D. research into the surface and underground geomorphology of Craven by his Cambridge tutor. Then Army service till 1946 and maintaining a family post-war, allowed only odd visits to caves, chiefly with his own students, till he came to the Australian National University at the start of 1953 in time to be a foundation member of CSS. Though a short spell as President of ASF in its early turbulent days warned him from the cares of speleological office, he has gradually found more and more time for karst and caves and doesn't intend stopping on his 60th birthday which will have occurred by the time you will have read this article.

### 24. derek peffer

Derek has been a member of MSS since 1972 and Secretary for the past three years. He is a Purchasing Officer by profession, and holds the degree of B. Comm. He is very actively involved in Cave Rescue, and is Secretary of the NSWCRG. Derek is keenly interested in cave photography and has produced some very high class shots of cave decoration and also action shots of cave exploration. Along with Ken Keck, he has produced an area map of Abercrombie Caves for the Dept. of Tourism, and has been closely associated in several successful discoveries and excavations undertaken by members of MSS. Derek is one of the most active members of this club and among its most capable cavers and trip leaders. One of his main areas of interest is Yarrangobilly where he is associated with the Yarrangobilly Research Group.

Editors Note: Next issue? Peter Radcliffe, Neil Montgomery, Mike Armstrong, John Benson & Mike Marx. I'm running out again, so how about me hearing from you soon!

# DOWN UNDER ALL OVER...

## NEWS FROM AROUND THE SOCIETIES.

- BMSC** : Greg Powell reports that a group of BMSC members spent a cold day in March li-loing down a section of the Wallangambie Ck. in the Blue Mountains. During the ride through the canyon, one li-lo was holed and this resulted in the fact that the unfortunate rider had to ride double with another member. Under Lionel Baker, an exploratory trip was held to investigate the limestone on the upper Hallanders River in the Tuglow area. Though no new caves were found, an enjoyable bushwalk resulted in a very picturesque area, although the ascent back to the vehicles on Mt. Budthingaroo was quite exhausting. Under the guidance of Mr. Ian Wood, who was on loan to us from an un-named society, the BMSC held a rewarding weekend at Abercrombie, banding bats. An abseiling day was held at Mt. Pontal near Penrith while another was held in the Warragamba Dam vicinity. A cold weekend was held at Cliefden where PF 100 flash bulbs were used in the main cavern producing some magnificent results on film. SRT techniques were tried out at Bungonia in the Drum and Odessey Caves. Neither of these two caves were bottomed due to the presence of CO<sub>2</sub>. Under the direction of Tony Ellis, the club is investigating coloured metal markers to be left in caves as a record of new discoveries or of work being done.
- CCC** : L. Pearson reports that the rainfall pattern of the past 'wet' season was such that 'limited' caving could be undertaken at Chillagoe at most times in the past six months. Roads were seldom impassable for more than a week at a time and the club was able to take advantage of most of the 'long weekends' in the December-June period. Activity centred around the complete recording of the location of all known caves in the Chillagoe area. Paul Wilson and Ralph Page were employed full time by the NPWS (Qld.) and members assisted in the search for the many 'lost' caves. Excellent area maps have been prepared using aerial photography coupled with ground survey work. The caves concerned were visited, brief descriptions made and a full report is currently being prepared. In the near future CCC hopes to present this in some form of publication. With the conclusion of his contract with the NPWS (Qld.), our club will be losing Paul Wilson and his wife, Hazel. Unfortunately, the north cannot provide work in the field of electronics design, so it looks like some southern club will gain by his presence. Exploration and survey work has continued apace in the Queenslander, Suicide, Carpentaria, Donna and Shaggy Dog areas. More new caves and extensions were found and several detailed maps prepared. A short recon. into the wilderness of the Palmer River area from the eastern side brought us within sight of the Mitchell-Palmer Tower Karst. Unfortunately the rough terrain and high fuel consumption forced a retreat after some 95kms, but information collected will be of value to a future expedition into this near virgin area. CCC again has a representative in the current speleological expedition to the Lelet Plateau, New Ireland. This time it is Ralph Page, who intends to be away until August. The club has also been invited to participate in the Centenary celebrations for Cairns this year and will prepare a float on Chillagoe for the Centenary Cavalcade. We are also pleased to announce that our first publication has been printed. It takes the form of an occasional paper and will be published from time to time under the banner of 'Tower Karst'. As a matter of interest, the electrification of the Donna Cave at Chillagoe has been completed by NPWS (Qld.). The job has taken two years and is very tastefully done, highlighting the beauty of this tourist show cave. The guided tour is free and takes almost two hours.
- HCG** : Jenny Hopkins has informed us that HCG hope to have another journal out by August. They are also working on several projects which include the campaigning against the distribution of rubbish in the dolines outside of the Bungonia reserve and also work within the reserve. Work is also being carried out at Jaunter and Mudgee.
- MUSIG** : Colin Killick reports that caves are being tagged on the western side of Bungonia Gorge (below the accursed mining operation) and as far as he knows, tagging has reached number B 133. This tag was affixed on 27/9/75. If more caves have been tagged since then Colin is unaware of it. A quick survey was made of this cave with Brunton Compass and tape measure and is available from MUSIG HQ (78 Balaclava Rd; Eastwood). The cave, named New Years Cave is hardly worth the climb down the gorge and 160 metres up the other side to visit. Those caves he has examined on the western side of the gorge seem to be far inferior to those regularly visited but a more thorough inspection would possibly yield pleasing results. If anyone can help with further information on caves in this particular area, Colin would be pleased to hear from you. (Colin has also supplied me with an article on Mullamullang Cave, N 37, WA. Due to a lack of space in this issue, I will have to leave it for the next issue. Ed.)
- SCS** : Information received reports that a number of major discoveries have been made in Herberts Pot, Mole Creek. "Holy Hell Passage" contains calcite and gypsum helictites which exceed in quality anything hitherto discovered in such concentration in any other Tasmanian cave. The estimated length of Herberts Pot is now just under six kilometres. Mt. Ronald Cross was visited at Easter



- SCS Cont; : but the results were disappointing. However, Leigh Gleeson asserts that the area still has significant potential. SCS have asked that more care be taken by users of the Wet Caves Camp-site and rubbish be removed by same.
- SSS : The Sydney Speleological Society has been very active over the past few months with trips to a large variety of caving areas. Although the total number of trips has fallen slightly, a great deal of interesting work has been forthcoming. As well as all the regular caving areas being visited, a few new names have appeared on trip lists - Tolwong Mine, Stuart Town, Combyne and a spat of trips to Bendethra. Two areas of concentration have been Bungonia and Wombeyan. At Bungonia, Julia James has been furthering her work in Odyssey Cave with good results, while at Wombeyan an enormous amount of work has been done in preparation for the Wombeyan Book. However, there is still a great deal of work to be done yet. Now here's a novel idea - Stuart McCann has organised a footie match between SUSS and SSS, and as a follow-up, he has proposed a golf match at Bungonia (might be the most active caving weekend on record - trying to retrieve your ball after each hole). Congratulations are extended from SSS to Tom Hayllor on the completion of his record making walk around Australia. Tom said he wanted to see the country and prove to himself that he could do it. Well, 11 months, 12,000 km and 17 pairs of sandshoes later, he's done it. This month's issue of the Journal contains a very interesting article by Dr. Vlad Martyn on the medical aspects of cave search and rescue. It gives some "good to know" pointers on first aid, use of stretchers and general care of the victim. A recent trip to China by Joe Jennings has revealed some fascinating information about the enormous potential of caving in this mystery country. Our thanks to Joe for the very informative article. A letter received last month from an interested gentleman contained information regarding "Log Cave" discovered at Colong in 1926. The cave was never found again after heavy flooding in Caves Creek, apparently buried the cave. Perhaps some lucky caver can unearth yet another mystery at Colong in the near future. Over the past few months a large number of new maps have been received from society members. These are mostly of the Yarrangobilly, Wombeyan and Timor Caves areas. Report from Keith Partridge.
- SUSS : Bruce Welch reports that members of SUSS participated in the joint SUSS/SSS Easter Tassie trip which 'did' Kubla Khan, and bottomed Tassy Pot, Cauldron Pot, and did the Khazad-dum-Dwarrow-delf exchange and succeeded in pushing KD - see next issue ASF N/L. No.73. The three week SUSS trip to Tassie in May was a little more leisurely, the only "new" work here was the investigation of a previously unrecorded pot which, although the entrance pitch was 44m, contained only a few small muddy chambers. Two members of SUSS are also training for the New Guinea Expedition. Trips to Jenolan have been few - those that have gone were mainly for the purpose of taking photographs for the forthcoming publication. However, on the June long weekend, more digging in Spider Cave (J174) resulted in another breakthrough into a further 70m plus of large passage. This new section contains exquisite helictite and aragonite formations as well as other excellent speleothems.
- TCC : Andrew Skinner reports that TCC have been fairly quiet but several interesting finds have been made. JF88-89 in the Florentine Valley was explored and surveyed for over 300m. Two vertical caves at Junee have also been found, situated at altitudes comparable to Khazad-dum. Both have consumed six ladders and are still going strong. The potential is good, especially if a connection to a nearby swallet can be made. The caves were located by Maydena Branch members, John Parker, Steve and Anne Annan. Exit Cave was visited with VSA, preparatory to the installation of further conservation measures. A successful Search and Rescue exercise was also held (see report Page 10). Carbon dating has also proved that aboriginal occupation was present in JF79-82 (Beginners Luck Cave) some 12,600 years ago. This is now the earliest recorded aboriginal site on the Tasmanian mainland. Maria Island was also visited but no new caves were found and it is unlikely that any more exist.
- VSA : Lloyd Mill reports that the most important thing that has been happening at Buchan lately is the wealth of new discoveries in Dukes Cave. It is now connected to Federal Cave and a very secure gate is located demurely inside the cave & hence not despoiling the entrance. The last trip discovered many hundreds of metres of vast, richly decorated virgin passage plus hordes of tempting holes still to be looked at. An attempt was made to dive the main stream which failed due to lack of visibility. There have also been numerous other Buchan trips. Adrian Davey has been surveying & exploring out in the New Guinea Ridge area. Various beginners trips have been held lately. Nick White and Lloyd Mill took a party of Matric geology students down to Buchan to show them rocks & caves which they appeared to enjoy. Homeliagh, VSA's new palatial residence in Buchan is progressing admirably & now boasts such amenities as a gas stove and oven. The inaugural barbeque held on May 1st was highly enjoyable & the success of the venture seems assured. **BAT RIDGES:** This is an area of Quaternary Calcareous Dunes west of Portland & is similar to Naracoorte. A large trip was held there over Easter. A number of new caves were found, explored and numbered. One of these has some of the best decoration seen in the area. Also a number of entrances were located and await exploration. One party spent the whole trip surveying River Cave whose length now exceeds 1km & is still going. A weekend trip was held later on which continued the survey. Future events include more work in Dukes, Exponential Pot, Bat Ridges, Western District Lava Caves and the VSA-CEGSA dinner.

Owing to lack of space, I extend my apologies to VSA for "trimming" their contribution a little and even more so to WASG (Kerry Williamson) who is a regular contributor. A double dose of WASG activities is priority for next issue. Editor.