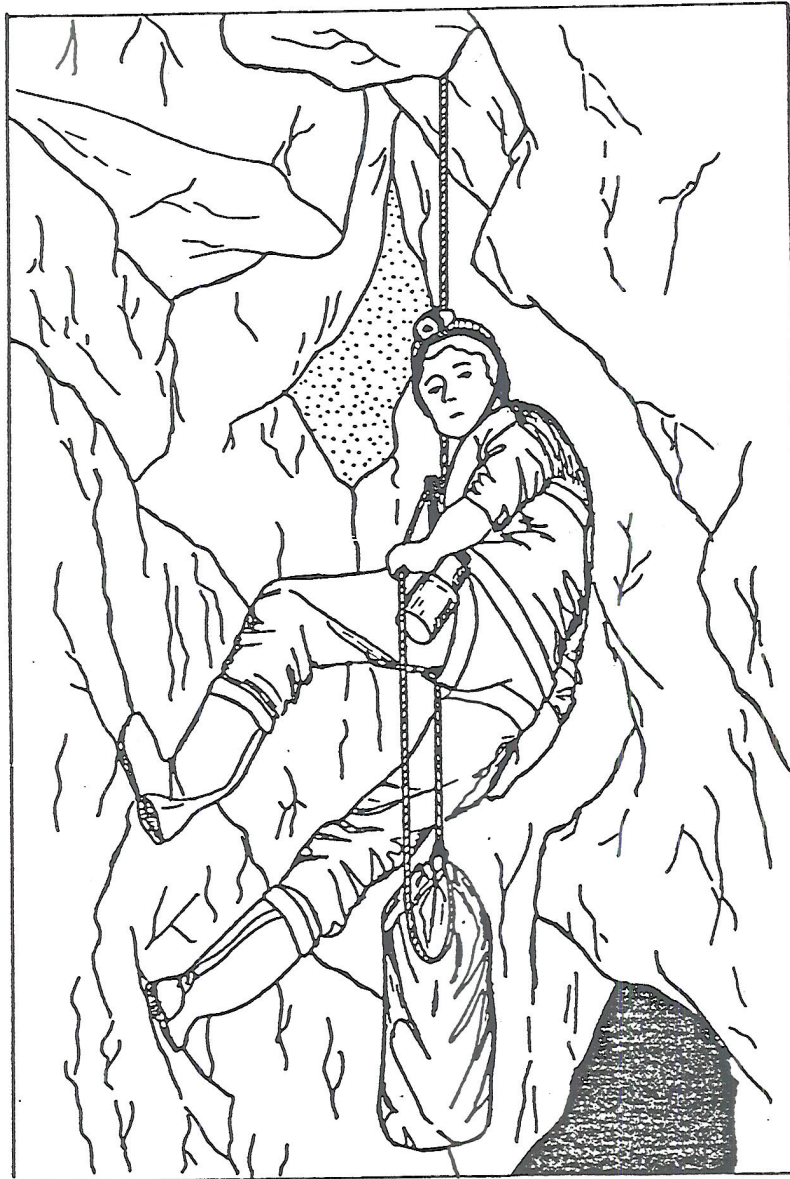


# IMPERIAL COLLEGE CAVING CLUB



## NEWSLETTER

No.1/Oct '83.

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I.C. CAVING CLUB COMMITTEE 1983/84

President: Clive Orrock  
Treasurer: Jenny Gilbert  
Secretary: Debbie Armstrong  
Tackle Officers: Steve Lane  
Mark Bown  
Transport Officer: Richard Rogers

WEEKLY MEETINGS are held on Wednesdays at 1.00 pm. in the Union Lower Lounge, Imperial College Union, Prince Consort Road, London, SW7 2BB, (Telephone: 01-589 5111).

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1983 AUTUMN TERM CAVING MEETS

<u>Dates</u>	<u>Area</u>	<u>Hut</u>	<u>Special Permits, etc.</u>
Oct. 14-16	Mendips	Belfry (B.E.C.)	Fresher's Trip
Oct. 21-23	Mendips	Belfry (B.E.C.)	Fresher's Trip
Nov. 4-6	Derbyshire	Orpheus C.C.	
Nov. 18-20	Yorkshire	Northern Pennine Club	
Dec. 2-4	S. Wales	Whitewalls (C.S.S.)	Agen Allwedd
Dec. 16-23	Yorkshire	Northern Pennine Club	Lancaster Hole/Link Pot

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PRESIDENT'S PIECE, CHAIRMAN'S CHAPTER (or whatever you want to call it!)  
by Clive Orrock

I've been asked to write something, but for the life of me I can't think what to say. However, since everyone else seems to have been industriously writing articles I feel I ought to get my oar in too, so you'll all just have to put up with my ramblings which will probably border on causing narcolepsy (bet you had to look that one up). Anyway before more ado let me welcome all those who've just joined the club. O.K., so everyone from the Rector downwards has said it - but I really mean it; welcome to I.C. and its superb caving club. Stick with us and I guarantee you'll have a good time.

The past few years have seen a steady increase in the enthusiasm and technical competence of the club. In 1982 we completed a successful expedition to Greece which was reported in the national caving press. This

summer has seen us tackling major caves in France and next summer should see us on expedition again, this time to the Peruvian Andes. Although a lot of the 'old lags' have inevitably graduated and left college this summer, there is the intake of keen novices to keep us going. In this respect college clubs are fortunate in having a steady intake of new blood each year. Nevertheless I hope the old gaffers will keep in contact - firstly 'cos you're all friends of mine and also so we don't lose the reservoir of expertise. Hopefully we can rebuild the club to the proud position it held in the early 1970's when it was a force to be reckoned with. To this end Debbie's Newsletter is an excellent means of keeping together. Please keep in contact all of you - drop us a line now and again - or better still come caving with us.

Just how active the club has been in the past came to light during the stores clearout. Alas a lot of the publications and surveys had been destroyed by repeated floods of dishwater from the Bot-Zoo Common Room above, and by the ravages of mice who have eaten their way through a lot of paper and a pair of someones (Chris Birkheads) socks. However, much has been saved including an edition of the 'Journal of London University Caving Clubs (1968)' - Chelsea College, University College, but mostly Imperial College Caving Club. Articles ranged from a survey of part of OFD II, through correspondence on the Berger Expedition, to a scientific article on the structure of helectites. In 1968, it appears caving was virtually at a standstill in Britain because of the onslaught of foot and mouth disease and so the club had been caving all summer in Vercors, France. Thus while, this summer, we valiantly struggled with dimly remembered 'O' level French to obtain copies of cave surveys and maps, the required info was residing in the stores. Surveys of many of the caves we did (plus others we didn't do) and an excellent topographical map of Vercors are now lodged in what is an extensive survey library in the stores. A bit late for this year - but there's always next year.

So to return to the original theme - welcome to the caving club and its brand new newsletter. To newcomers - I hope you have a good time at I.C. and to the honary members - keep us informed of your doings. Finally, happy caving to all.

P.S. Affiliation of the club to the British Cave Research Association will be approved at the next meeting of B.C.R.A. council. Thus we now receive 'Cave Science' as well as 'Caves and Caving'. The club membership number is C 161 if anyone has any correspondence with B.C.R.A.

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I.C.C.C. GOES TO FRANCE (an account of the Caving Club's summer trip to Vercors)

by Debbie Armstrong

Nine members of I.C. caving club (Debbie Armstrong, Mark Bown, Jim Briggs, Jenny Gilbert, Steve Gill, Steve Lane, Clive Orrock, Richard Rogers and Karl Skinner) visited the Vercors area of France for 3 weeks in July on a combined caving trip and end of year holiday.

We camped at the Municipal campsite in La Chapelle-en-Vercors for the first two weeks and then moved to a campsite near Autrans for the last week (to be nearer to the Berger area). Its worthwhile noting that the cost of the first campsite was very reasonable and no one objected to us washing filthy ropes, S.R.T. gear and oversuits in the campsite sinks and taking over the washing line for drying wetsuits, etc! Next door to the campsite we found a 'Maison de Speleologie' who lent us guide books to the caves of the area and allowed us to photocopy the relevant surveys which was very helpful.

The first assault was on Fumant and Ramats. Fumant proved to be a good practice S.R.T. trip with plenty of small pitches and lots of rebelayes. Ramats, however, was disappointing as the team (Jenny, two Steves, Mark and Richard) spent 3 hours sloggng through the forest (but if dropped off at the right place it is only 5 minutes from the road!) only to find the cave sumped after 200m due to heavy rainfall.

The second day saw the Ramats party going down Fumant and the others (Debbie, Jim, Clive and Karl) driving to the Grotte de la Luire to ask permission for a descent beyond the show cave entrance. The guides at the cave were obviously French 'speleos' and were quite happy to let us go down. Unfortunately as our French was pretty hopeless a lot of their advice was wasted and we ended up dragging a lot of unnecessary gear down. After entering via the show cave a series of fixed iron ladders (-180m) lead to the master cave. Time allowed only a limited exploration of this as we had to be out by 6.00 pm. when the show cave shut.

We decided to tackle the Grotte de Gourmier next which had a deep entrance lake. Unlike the French (who don't like getting their feet wet) we didn't have 'un bateau' and so Debbie ended up swimming across the lake (several times due to the rope getting tangled) to get a boat moored on the other side for ferrying the rest across. Even with a boat the crossing proved far from easy as I.C.C.C. certainly doesn't stand for Imperial College Canoe Club - judging by the way the boat went round in circles our star team won't win the University Boat Race! Oh well, it did provide the French



tourists with some amusement. An interesting high level traverse took us into the main cave which contained some beautiful gour pools and stal. formations near the entrance - lots of piccys were taken by our camera enthusiasts. The rest of the cave was a bit boring -  $2\frac{1}{2}$  km. of collapsed passage with boulder slope after boulder slope.

Next on the agenda was Tresou which proved to be a very sporting trip that combined lots of pitch work with some horizontal development, dodgy traverses and water (including an interesting 50m waterfall pitch).

After all this caving we decided it was time to have a rest day (or two) and indulge in the locals favourite passtime - namely eating and drinking. With the vino at 40p a bottle (including 10p deposit) who could refuse? Malcolm also arrived having managed to find his way to the campsite (despite Debbie's instructions).

The next few days were spent doing Pot de Loupe (S.R.T.), Malaterre (S.R.T.) and St. Vincent (more S.R.T.) - all reasonable trips with St. Vincents going below the 400m mark.

It was now time for another rest day and we took this opportunity to change campsites and pick Chris Birkhead up from Grenoble. The second campsite was not as good as the first mainly due to the prescence of large numbers of horse flies. Also the cows in the field next door took a liking to our gear hung on the fence to dry - especially Malc's shorts (which all goes to prove that French cows have no discrimination). Once installed we drove up to the Berger area to do some of the nearby caves - Fromagére (also known as d'Engins) and Jean Noire.

Jean Noire is best described as shitty, horrible and not worth the effort especially as it took 6 hours and a French caver to find it. Fromagére on the other hand proved to be well worthwhile. The first team down (Jim, Malc, Steve G. and Debbie) met a group of French cavers coming up the first pitch and with limited communications ascertained that they were leaving the cave rigged for further exploration and we could use their tackle. The first group made it to the sump by-pass via lots of pitches (including a broken 200m pitch) and tight passage way. Note the novel French rigging involving at least 5 bolts/10 metres (anything to keep their feet dry) plus a few deviations just to make it interesting. The appetites having been wetted saw several other groups making the descent with one party (Malc, Jim and Clive) succeeding in reaching the -535m mark on a 25 hour trip. Fromagére is known to extend to -900m so there is a lot left to be done!

While pushing Fromagére other trips were made down Trou Qui Souffle which also proved to be a good cave. With the three weeks drawing to an

end we all went out for a slap up meal and got drunk (again).

In conclusion, Vercors is an area that is relatively easy to get to, with good facilities (ie. relatively civilised) and is well worth a visit if you have some spare time one summer.

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### EASTWATER - A 'BANGING' TRIP TO THE NEW EXTENSION

by Chris Birkhead

Our return from Vercors saw Chris Birkhead, Steve Lane, Mark Bown and Debbie Armstrong visiting the B.E.C. (Bristol Exploration Club) on Mendip .....

I thought it had to be bad news that just as 'Quackers' finished telling me about the 2,000 feet of new passage found in Eastwater, Tim Large should amble over and start measuring the 'teams' dimensions. Then Tony Jarrat began enthusing over a draughting squeeze at the bottom of a 50 foot pitch in the extension - just a quick 'banging' trip and the main road to Wookey Hole would be open!

Thus my hopes of a nice steady trip down Longwood with Mark dashed, I found myself carrying a fertiliser bag containing various sacks and digging implements (horror!), standing in the entrance shakehole to Eastwater Cavern.

The plan was that Debbie and Chris C.(B.E.C.) would accompany Martin Grass on a photographic trip to 'capture' some of the pretties, mainly helictites, before they were destroyed by the passage of heavy-handed cavers. The second party, consisting of 'shine-a-light' Birkhead, 'brown mug' Lane and Mark 'anybody for a fight' Bown, were to accompany Tim Large and Tony Jarrat to the bottom of the new extension and set about destroying it with 4lbs of 'plastic'.

Eastwater is reasonably typical of a lot of Mendip caving ie. relatively dry, muddy and boring. I soon realised why it was three years since my last trip down there as I dragged my aching body along the 40° angled bedding plane which follows the entrance boulder ruckle.

Tim Large and J-Rat soon shot off with Martin and Chris Following, then Mark and I in hot pursuit, leaving Debbie and Steve to their own devices. When we eventually regrouped following Dolphin Pot it was discovered that Steve had dropped the ladder while trying to free a stuck Debs from the bedding plane! Martin was not too impressed as this meant the 50' pitch could not be descended and the banging trip would have to be aborted (shame!). The day was saved (?) however, when a pile of gear was discovered at the



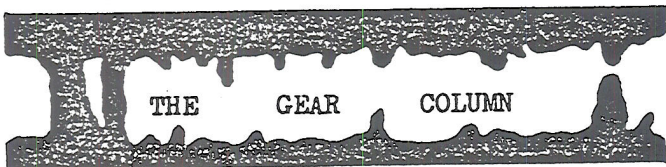
entrance to the tight passages of the extension. This was where I dropped my gear - assuming that the pile of ladders and rope was for the pitch. I was wrong as usual and ended up doing the nasty bits twice as I had to return to retrieve it!

Eventually got all the gear down and managed to transport two 'heads' of mud, (for packing the explosive), down the pitch stuffed in the front of my oversuit, " you look more like Debbie now ", quipped J-Rat as I climbed onto the ladder. Soon the detonators, 'plastic' and cable were united and from a safe distance we got our moneys worth of explosion (50p each!). The trip out was largely uneventful, apart from Steve being left in the dark when his carbide gave up the ghost - that'll teach him to clean it out after every trip!

All in all a reasonable 6 hours underground, but I must say that I always find these banging trips a bit of a pain, as I don't get the chance to wally about in my inimitable style, and see anything of the cave for myself. The feeling of 'having to get the job done' makes them more like work than fun.

Reference: Mendip Underground - A Caver's Guide, David Irwin and Tony Knibbs, Mendip Publishing, 1977.

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## UNDERGROUND CLOTHING

by Steve Lane

Debbie asked me to contribute to the newsletter so an article on gear seemed the best thing for me to do. This is aimed mainly at people new to the club so it probably won't hold much interest for established members, although if I get something wrong or stray into a controversial area no doubt someone will let me know! I'm hoping to write several articles covering different aspects of caving equipment and perhaps techniques. This time I'm going to discuss clothing.

There are two types of dress for caving:-

### 1. Wetsuits

For caves with sumps and ducks a wetsuit is used (or should be). The wetsuit should be a good fit but still have enough 'slack' to allow easy movement. Wetsuits can be one piece or a jacket and trouser combination



(most people opt for the two piece suit). Wetsuits are made from a neoprene foam material which traps static water next to the body keeping the wearer warm. For caving thicknesses of 4mm or 6mm are normally used. The neoprene usually has a nylon lining on one side and a rubber skin finish on the other, either smooth or with a mesh pattern (shark skin) - the latter is normally used in caving. Double lined material is also available which has a nylon lining on both sides. This is not as abrasion resistant and is used by water-sportsmen (because you can get them in lots of pretty colours to pose in). Wetsuit socks are best made from double lined material as they are warmer and it makes putting on boots easier. For diving sumps a hood and mask are a good idea.

Wetsuits can be bought ready made or in kit form. The kits are great fun to make but must be assembled properly or they tend to fall apart at desperate moments!

## 2. Dry Gear

The second type of attire is known as dry gear. This is used for dry caves (surprised?) or those that involve only minimal soaking. Dry gear is more comfortable than a wetsuit and can be divided into two sections - the oversuit and the undersuit.

The undersuit - up until recently all club members have used undersuits made from fibre-pile material with some being bought and others being made. The undersuit is a one piece 'combination' garment and should be as tight fitting as possible whilst still allowing unrestricted movement ie., being able to touch toes, raise legs, etc. Fibre-pile is very efficient and although it holds a lot of water it soon drains and warms up after a wetting.

Another type of undersuit is the Rexotherm (French origin). This is constructed of an elasticated, aluminized material designed to reflect body heat. The Rexotherm is well fitting and as it is elasticated movement is not restricted. Initial comments about its performance seem favourable - more information can be got from Mark who has just purchased one.

Another new idea for undersuits is chlorofibre thermal underwear (Damart). This has an extremely favourable write up in 'Techniques de la Speleologie Alpine' and as I have just invested in some I will let you know how good (or bad) it is when I have used it properly.

The oversuit - there are two different types of oversuit currently being used by the club - the polyurethane coated type and the poly vinyl chloride (P.V.C.) coated type, both being nylon based. The polyurethane suits are made in Britain by companies such as Caving Supplies and Inglesport. They are fairly hard wearing but the water-proofing can be somewhat suspect and they don't seem to be made to fit human beings, at least not me (say no

more!). The P.V.C. types are made in France by Petzl and Marbach. The Petzl suits are easily obtained in Britain but the Marbach suits are harder to come by. These suits have welded and sewn seams with good hoods that fit under the helmet. They are very waterproof and usually give a good fit.

### Boots

Boots seem to be a matter of personal taste. Good wellies, internal steel toe-capped rubber boots, external steel toe-capped leather boots and C.B.s (specially designed for caving - but not very durable) are all in use. Since caving boots wear out quickly it won't take long to try them all and decide which you prefer.

### Gloves

Most people wear gloves as they provide protection and they also stop water going up your sleeves when climbing wet pitches. One disadvantage is that they spoil 'feel' when free climbing. Industrial type gloves seem quite good but many people are happy with marigold washing-up gloves!

Having read all this the prospective caver may be a bit unsure as to which type of clothing would suit his initial requirements the best. The wetsuit is probably the best first investment as it is the most versatile - it can be worn in both wet and dry conditions, gives the best protection and is easiest to maintain. The main disadvantages being that wetsuits tend to be a bit restricting and will also lose heat rapidly if the wearer has to stand about for any length of time. But as a rough guide most of the people in the club started out with wetsuits and aquired dry gear later.

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## LIGHT-WEIGHT LUNACY

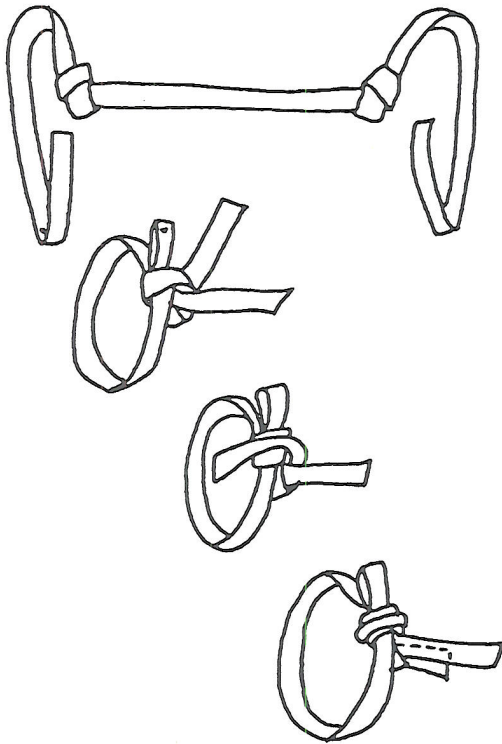
by Steve Gill

Being a bit of a light-weight fanatic I was pleased to find that the French have developed a super light-weight S.R.T. (Single Rope Technique) system for use on expeditions (did I hear someone mention Peru?).

The main weight (and bulk) saving is in the sit harness; instead of the ubiquitous Petzl Croll harness, they use a harness knotted out of 3m of 28mm tubular tape. (A harness knotted out of 52mm tape can (with care) be used for general caving and is as comfortable as the Croll). The directions for making the harness are shown in the diagram (overleaf). The harness is closed by a 10mm alloy delta maillon (100g lighter than its steel equivalent). A Petzl Croll chest ascender and pair of cowstails made from 9mm climbing rope are also placed in the delta maillon.



The Croll is held vertical by a loop of 28mm tape which is passed through the top hole of the Croll, round the back of the neck and closed by a small buckle.



The foot ascender used by the French is the standard Petzl as it is both lighter and less bulky than the handled version. The foot-loop consists of a single length of 6mm rope that has a small loop at one end and a loop large enough for both feet at the other. The French attach the top (foot) ascender to the long cowstail and attach the foot-loop to its Krab. However, greater safety and maximum versatility can be achieved by the use of a safety cord attached to the top ascender via a standard maillon (8mm alloy or larger).

For descending the French use a Petzl bobbin attached to the delta maillon using an oval steel karabiner. A really light-weight nut would use a small

figure of eight and an alloy krab, but I would use a Petzl stop and long 10mm alloy maillon.

The whole system comprises of:-

Tape sit harness	}	300 g
Tape chest harness		
Petzl Croll chest ascender		145
Non-handled Petzl jammer and foot-loop		280
10mm alloy delta maillon		60
Cow's tail (9mm climbing rope) and 2 alloy karabiners		270
Descender and alloy maillon		200
Safety cord and standard maillon (optional)		( 50 )
		<u>1255 or 1405 g</u>

This about half the weight of the standard French (or Whernside) S.R.T. system.

The French have also continued this theme of lightness to their rigging gear. Each member of the team carries 40 - 50m of 8mm static caving rope. For belays, instead of using bolts or pitons which are heavy, time consuming to place and require you to carry a hammer, the French have opted for a selection of chocks, tapes and deviation slings. A typical selection of



rigging gear carried by the French would therefore be:-

6 chocks

1 x 2m tape sling

1 x 18" rope protector

1 set deviation slings - 3 x 0.25m

( made of 6mm rope ) 2 x 0.50m

2 x 1.00m

1 x 2.00m

6 alloy snap krabs

The rope is secured by a double belay at the head of the pitch and is then kept from rubbing by the use of deviations. This not only speeds up the rigging, but it also allows the use of cord techniques for attaining a greater depth without any significant increase in weight.

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#### ALTERNATIVE CAVING LAMPS

by Chris Backhouse

The electric lamps used by I.C.C.C. contain two NI-CAD cells driving a tungsten light. When working the lamp consumes about 2.5Watts which produces a light output of approximately 15 lumens on main beam. If maintained, the lamps can be fairly reliable, but the batteries are bulky and heavy, requiring a battery belt (a special nuisance with some S.R.T. rigs); and of course the battery case and cable are forever in the wrong place in tight squeezes and ducks.

The ideal battery-lamp combination would perhaps be totally weightless, take up negligible room on your helmet and illuminate the entire cave like daylight: It is interesting to wonder how many more discoveries would be made, and how much more exciting a cave might be if only you could actually see more than a few yards, which is often the case at present. Often cave photographs produce a view more interesting than that seen by the caver because for a 1/100th of a second the cave is well illuminated by the flash.

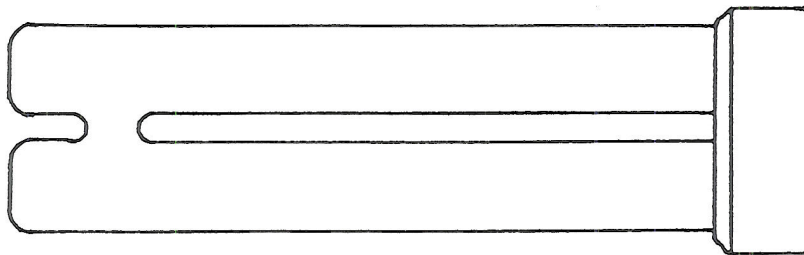
Conventional lead-acid and NI-CAD cells with tungsten lamps offer little hope of major improvements in electric lighting for cavers, improved batteries, such as the new FX2, may prove more reliable, fractionally lighter and smaller. Small plug-in batteries of limited duration may increase the convenience and flexibility of the lighting. However, to gain dramatic improvements fresh alternatives have to be looked at. The two possibilities which may realistically be considered both involve replacing the tungsten bulb. Of course, both have major inherent problems or they would have been

used already, but the potential advantages are quite startling:

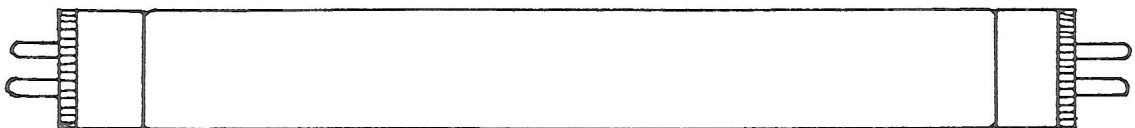
Tungsten Bulbs	Flourescent Tubes	Ultra-bright Light Emitting Diodes (LEDS) (Note 1)
0.1 - 1000 Watts 6 lumens/watt @2.5W Effective point source White/yellow colour Compact Easily battery powered £ 1+	4 - 15 Watts 50 lumens/watt @7W Diffused source White colour Large 30-50V A.C. required to drive tubes! Tubes £ 2 - 7	Maximum 0.1 Watts 500 lumens/watt @0.02W Effective point source Single colour: red, green, yellow Compact Easily battery powered: 3V+ more than £ 3 each!
(1) see Hewlett-Packard Optoelectronics Handbook, 1982.		

A flourescent tube lighting unit for cavers presents many difficulties. The smallest tubes available at present are designed to consume 4 - 7 Watts and are about 5 inches long (see diagram below - to scale). The power

PHILIPS PL7 NOMINAL 7 WATTS



PARLY FL4D NOMINAL 4 WATTS



consumption can successfully be dropped to approximately 2 - 3 Watts with some units tested but there is little hope at present of producing a lamp

of equivalent light output to conventional units with lower power. It would be possible, however, to build a lamp of equivalent power which provided a great deal more, although highly diffuse, light. It is necessary to drive the tube from a small electronic inverter circuit and the headset would probably be large and somewhat more fragile, but the biggest problem of all could turn out to be that if the tube is not to turn black as the battery fails, the circuit must be turned off!

LEDS could well provide the caving lamp of the future - if you could stand seeing everything in red, green or yellow! The technology of making extremely bright, efficient LEDS is advancing fast and they can now be bought for less than £5 each. The colour problem could well be the main hurdle to their future use, but they may form an excellent emergency source.

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#### DEBBIE'S TIT-BITS

This is the first of what I hope will become a regular once termly newsletter. I would be grateful for any (constructive) criticism about this issue so that future newsletters can be improved on.

The main aims of the newsletter is to reflect the interests and aims of the club as a whole and also be a means by which old members can keep in touch and hopefully keep caving with us. These aims are likely to be achieved if as many people as possible contribute articles - otherwise it will end up as a one-man show.

The next newsletter should be brought out just before the beginning of next term and I would want any articles by the Christmas holidays at the latest - so get writing!

If you have any snippets of information (or scandal!) for my Tit-Bits column they will be duly published. Finally, if you know of anyone else who you think would like to receive this newsletter please let me know.

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#### News of Members

The caving club would like to offer Chris Backhouse many congratulations and best wishes for the future on his recent marriage (27th August) to Julie Evans - the other club members who managed to attend the ceremony really enjoyed themselves (and didn't annoy the other guests too much!).

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'T' Shirt/Sweat Shirt Design

Any budding artists among you?

How about having a go at drawing an I.C.C.C. 'T' shirt/sweat shirt design. Also a frontspiece for the newsletter is needed.

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Bat Products

A new caving and climbing equipment shop called 'Bat Products' has recently opened in Wells. Steve L. and I visited the shop last time we were in the Mendips and were quite impressed with the selection of gear on offer - the prices were also competitive. A location map and price list is on the Store's notice board.

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For Sale

Red sleeping bag, reasonable condition, any offer considered!  
- see Steve Lane

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