THE TECH TROGLODYTE

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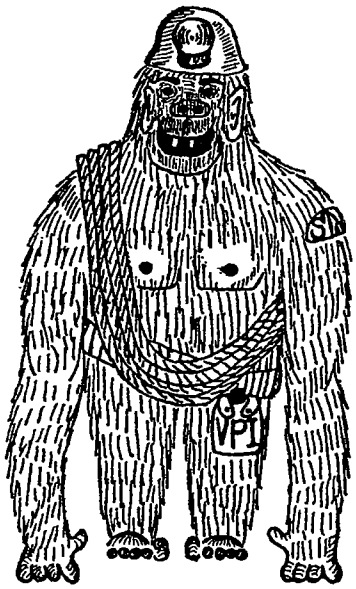

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VPI GROTTO OF THE NATIONAL SPELEOLOGICAL SOCIETY
SPRING-1968

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EDITOR'S COLUMN

Ever since I started caving, I've been a little pessimistic about girl cavers. This is probably due to the fact that I began caving with several other fellows from my high school, and we just never took any girls caving. The first time I saw a girl caver, my mind was boggled, I'd never heard of such a thing. After I got to VPI, I managed to accept the fact that some girls do go caving, but most of these were occasional-trip people from the Radford College Geography Club who had no business in a cave. Taking these girls to Tawney's or Link's was OK if nothing else was going on, but to consider taking a girl on a survey trip, or a long exploring trip, forget it!

Then, late in 1965 and early '66, Anne Braithwaite started hanging around and going caving. She was the first real girl caver I'd known. Anne could work a Brunton, didn't mind water, and, up to a point, enjoyed long trips. After Annie became Mrs. R.E. Whittemore, it was obvious that we had our first real female caver since Bonnie Marland. For about a year, Annie was the only girl caver in the club, for at that time, out of 6000 students at VPI, 400 were girls. And those 400 were just too busy to go caving.

Fall of 1966 saw a radical change, 600 girls came to VPI and, disastrously, several began coming to Cave Club meetings. Well, wasn't this exciting. These girls were really putting a monkey wrench in the works. The meetings calmed down a bit, language was cleaned up, if only temporarily, and some hard-core cavers were taking GIRLS on trips.

Fall 1967, saw the female enrollment rise once again and, when I returned to Virginia and the Cave Club in November, there was a noticable change in the meetings. More dresses, many more dates (who ever took a date to a Cave Club meeting a couple of years ago?) and a larger number of girls on cave trips. In fact, sometimes they band together and take ALL-GIRL trips.

So it looked as though in place of all the "petty-politics of the past, we were now cluttered up with petty-coats".* But through all this, I still maintained that goof-off trips with girls were fine, but I'd never take them on a mapping trip, or a long, rough trip.

I returned to school in January of this year, and was conned the first weekend (in a blizzard at that) into going to Clover Hollow (which I consider a strenous cave) with some girls. And I discovered that girls can be girls and good cavers too! Since then I've had the opportunity to cave with most of the girls in the club, and objectively speaking, they're all pretty good. I found that they don't start crying when they get into deep water, in fact, they stand in it and splash each other, and they don't freeze up on some

*Jack Stellmack-Grand Guru of the NSS

difficult, hairy move; they just move. And mud, hell, I figured they'd all start to moan about their clothes and hair when they got dirty. But no, the girls love it, the more the merrier (mud, that is). (They do complain about their hard-hats getting dirty though, it covers up all the flowers.)

And they do add a little sparkle to cave trips. How can you help but laugh when a girl pulls out a pack of Kleenex to clean her glasses when she's knee-deep in mud. Or, after setting up camp, she pulls out a box of Ghramcrackers and a bottle of wine for supper.

They do add some problems to overnight trips though, such as no gas stations close by, and irate cave-owner's wives who just know there's all sorts of sinnin' going on. But, on the whole, the girls are real additions to the Club, so I retract my prejudice against girl cavers. And I know that the Club will ##### (oops) benefit from the female contingent. Welcome women.

Here endith the epistle.

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THE CALCULUS OF CAVING

An integral part of the great sport of spelunking which too many cavers seem to forget, or intentionally overlook, is that of knowing ones limits and being able to differentiate between which caves he is capable of exploring and those for which he is not equipped either physically, mentally, or mechanically. This does not mean he cannot become so equipped, but it does imply that every caver, before embarking on a subterranean journey, should take time for introspection.

All of us know, or have known people who include themselves on trips which are too difficult or too long for their present capabilities. This is especially true in the case of a student grotto which has a great reservoir of inexperienced personnel to whom caving is a once or twice a year activity. These persons will show up occassionally at grotto meetings, sometimes for lack of something else to do, and seeing how casually a dangerous trip is recounted, decide therefore that it is within their limits and get into trouble when they attempt the same trip. What they fail to realize is that caving, like any other sport, comes naturally to some but takes practice. In the same respect, the ability to become a good caver can never be achieved by others. The person with asthma should avoid long or strenuous trips as dictated by the severity of his illness. An attack deep underground can turn a routine excursion into a rescue operation. Similar applications can be made to other such disorders.

Although modern safety practices, rope work, and vertical techniques often permit it, the conscientious overweight person should realize his position in a caving party and should try to cut down on his excess or replace it with muscle. If not willing to make this "sacrifice" he should restrict himself to slow or short trips with those who don't mind the delay. The fat (why avoid the word any longer) caver is a hindrance on long or vertical trips as he tires quickly and more easily. This fatigue may sap him of the strength needed on a long climb or prusik. Since expeditions of this nature usually consist of a small group, help is not always readily available and the trip is ruined for the other participants as well as being embarrassing for the exhausted party. No one can be a mountain goat with a twenty pound posterior counterweight and nothing gets stuck in a crawlway quite as well as a spare tire. Plan accordingly.

Mentally equipped, this refers to many aspects of spelunking: A knowledge of ropes and splicing for rope work, how to rappel, how to belay, where and what is safe to tie in to, how to safely climb a cable ladder, and how to prusik or use jumars etc. in vertical work. Many new cavers enter into the sport under the impression that the only way to ascend a rope is hand-over-hand. It was attempted in Hellhole, West Virginia, but...
Knowing how many brake bars or turns on a rappel spool are needed

for a particular type of rope and pit can mean the difference between a smooth drop and rope burns assuming that precautions have been taken (belays or chest safeties) against complete loss of control. In some cases even standard safety precautions must give way. On some drops, especially long free ones, a belay rope becomes so entangled that a climber or rappeler cannot move in either direction. Horizontal caves can also be the nemesis of the ill equipped. Last year two novices were found deep in a popular horizontal cave near school. They had become lost even though one had been in the cave four times before. Three others had gone off in different directions looking for the way out. Knowledge of the cave and any difficulties which might be encountered therein is a prerequisite in the mental equipment of the trip leader. Expanding ones limits in these directions is most easily accomplished through experience but this should be gained in organized, grotto or private, training sessions and not at the expense of fellow cavers.

Finally, mechanical equipment has been cited as a limit to be realized. This can be summed up in one, direct, statement: Don't go to a cave for which you do not have the proper gear. Last fall a 180 foot drop was rigged with, what turned out to be, 150 feet of a rope. If a knot had not been tied in the bottom end there is a possibility that the person who discovered the deficiency would not have been able to tell the rest about it. Then there is always the story of the boy who rappeled into Schoolhouse on a clothesline.

Responsibility for deciding who is within the physical, mental, and mechanical limits ultimately rests on the shoulders of the trip leader or organizer but there are those who rarely say no to anyone. These are frequently the same ones who should not venture the undertaking in the first place, yet are building up a group of the limited which has the potential to cause serious rescue problems.

This article is aimed mainly at the new caver and trainee but it is hoped that it will open the eyes of well established members of caving organizations who have not given serious thought to this matter. Here at VPI, especially, where no one has ever been denied admittance into the grotto, the Cave Club membership card does not certify safe passage through any cavern, but implies that the bearer has a basic knowledge of caving techniques, has a certain amount of experience, and is, hopefully, aware of his limits.

In conclusion, the caver who realizes and admits his shortcomings and makes a conscientious effort to overcome them will win the respect of his fellow cavers. He will be invited on more trips than one who would invite himself to tag awkwardly along on an excursion of which he is not yet capable at the expense of the enjoyment of other participants. This is not to say that the

inherently poor spelunker should be excluded from the organization but, indeed, through the exercising of logic disguised as common sense he can make a place for himself in the grotto and cave club structure. Conversely, the grotto has the responsibility of channeling his efforts along the proper subterranean paths so that the final derivative is safe and enjoyable caving for all members.

Tom Roehr- Editor

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VIRGINIA'S BIG CAVES

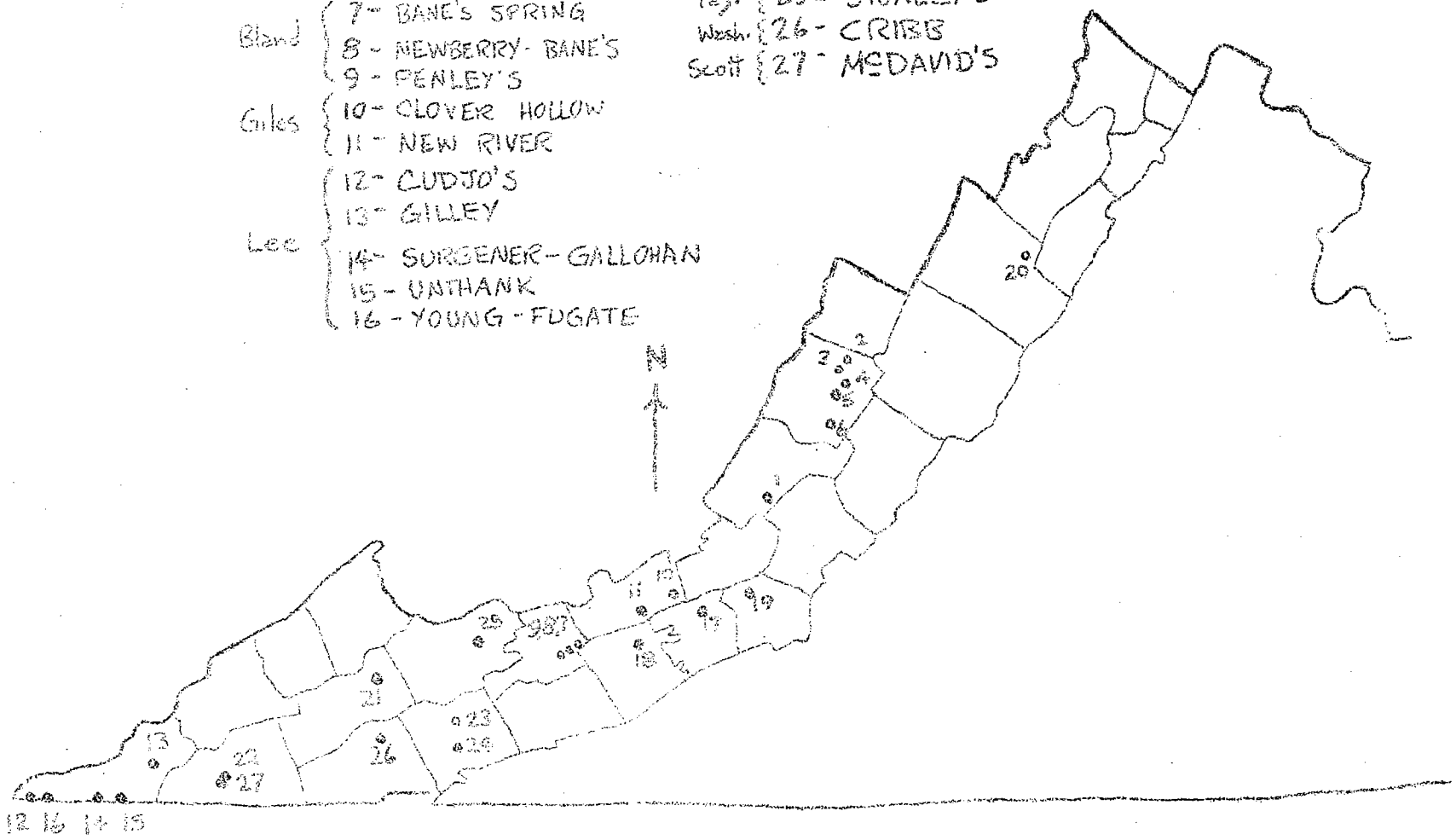
Three years ago the Winter '65 TECH TROGLODYTE carried an article on caves over one mile long in Virginia. The list contained thirteen caves known at the time to have atleast one mile of passage. Since then the list has more than doubled itself. It is interesting to note that by far the majority of caves added to the list since it was first published were known to exist then but have been extended by exploration associated with mapping. Table #1 is a revised list of Virginia caves known to be of atleast one mile or more in length with the stratigraphic horizon in which each occurs.

Compiling this list has aroused an interest in the occurrence of large cave systems in Virginia and has prompted some inquiry into factors conducive to their development. Although not conclusive, these results have been published here as they may provide food for thought to the casual VPI spelunker.

To begin with, there are two factors which must exist in an area before large caves can be found there. In addition to conditions which develop the cave system there must also be conditions which preserve it. It is possible to have such efficient development conditions that an entire exposure of cavernous rock will be chemically eroded away. This condition prevails along the eastern edge of the Valley and Ridge Province where the Shady dolomite overlies the Erwin quartzite. Runoff descending along the relatively impervious quartzite encounters the outcrop face of the soluable Shady and leaches it out to great depths. Whatever caves once existed there have long since become clay fills or valleys. (See Fig.1) So we see that development is only half of the picture. The system must also be protected from the ravages of time.

Let us first consider some of the possible factors which seem to contribute to the development of large caves. (These factors are based on mere observations, and, as the astute reader will undoubtedly descern from subsequent discussion, may be entirely

Alleg. { 1 - PAXTON'S
Bath { 2 - BREATHING
3 - BUTLER
4 - CLARK'S
5 - CROSSROADS
6 - PORTER'S
Bland { 7 - BANE'S SPRING
8 - NEWBERRY - BANE'S
9 - PEALEY'S
Giles { 10 - CLOVER HOLLOW
11 - NEW RIVER
Lee { 12 - CUDJO'S
13 - GILLEY
14 - SURGENER - GALLOHAN
15 - UNTHANK
16 - YOUNG - FUGATE
Mont. { 17 - SLUSSER'S CHAPEL
Pul. { 18 - JAMES
Roa. { 19 - MILLER'S COVE
Rock. { 20 - ENDLESS
Russ. { 21 - JESSIE
Scott { 22 - FLANNERY
Smyth { 23 - BUCHANAN SALTPETER
24 - INTERSTATE 81
Taz. { 25 - STONLEY'S
Wash. { 26 - CRIBB
Scott { 27 - McDAVID'S



1.	Butler's	Bath	71,200	Helderburg and Cayuga Group
2.	Gilley's	Lee	23,500	Copper Ridge & Chepultepec
3.	Breathing	Bath	22,100	Helderburg & Cayuga Group
4.	Paxton,s	Ally.	17,000	
5.	Newberry-B.	Bland	14,000	Chatham Hill
6.	Miller's C.	Roan.	13,200	Upper Knox Group
7.	Unthank's	Lee	11,000	Martin Ck. (Lenoir) & Hurricane Br.
8.	New River	Giles	10,500	Honaker
9.	Crossroads	Bath	10,000	Helderberg Ls. & Ridgeley Ss.
10.	Clark's	Bath	10,000	Helderberg Ls. & Ridgeley Ss.
11.	Surgener-G.	Lee	10,000	Hurricane Bridge
12.	Bane's Spg.	Bland	9,000	Chatham Hill
13.	[illegible]	Bath	8,500	Helderberg-[illegible]
14.	Jessie's	Russ.	(8,000)	Honaker
15.	Jones	Pul.	7,200	Elbrook
16.	Stonley's	Taz.	7,000	Middle Ordovician
17.	Buchanan S.	Smyth	6,700	Effna limestone
18.	Endless	Rock.	6,500	New market & Whistle Creek
19.	Penley's	Bland	(6,000)	Chatham Hill
20.	Cribb	Wash.	5,820	Tonoloway
21	Slusser's C.	Mont.	5,400	Elbrook
22.	Clover H.	Giles	5,280	Pearisburg?
23.	Young-F.	Lee	5,280	Middle Ordovician
24.	Flannery's	Scott	5,280	Rye Cove
25.	Cudd's	Lee	5,280	Newman
26.	McDavid's	Scott	5,280	Rye Cove
27.	Interstate 81	Smyth	5,280	Middle Ordovician

invalid). They are:

1. Flat-lying strata
2. Massive, pure carbonates
3. Development in synclinal troughs
4. Proper hydrologic conditions

We shall now examine each of the proposed factors. In considering flat-lying (or otherwise undisturbed) strata, a quick glance across the state line into West Virginia offers many good examples. Greenbrier Caverns, McClungs, Greenville Saltpeter, Friar's Hole, and many other large systems are developed in very low dip limestone. In strata such as this, the cave passages are free to develop in whatever direction the local hydrology dictates. (See Fig.2) In dipping limestone, stratigraphic barriers of shale, snadstone, or chert limit development of the system to the strike line. (See Fig.3)

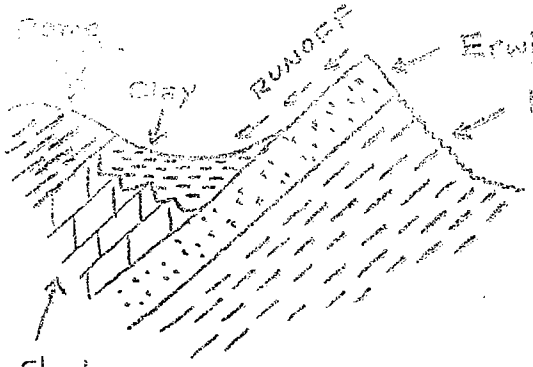
Massive pure carbonates seem to aid in cavern formation because they offer no internal resistance to drainage. This, however is usually not a critical condition. In steeply dipping strata caves are less choosy about what kind of limestone they form in. The size of the passage is apt to be smaller however.

If a cave is developed in a synclinal trough it is likely to be large. Ground water descends down the limbs to the flat-lying axis where it flows along the trough to an exit somewhere. Oh, yes, there must be an exit. Good examples of this are Butler's in Bath County and Flannery's in Scott County. (See Fig.4)

The need for an exit at one end of the synclinal trough points up the fourth condition. As the astute reader probably noticed in the original list, the first three factors are quite subjective. They all deal with facts which can be readily determined. Condition four, however, is never quite so obvious but without it the first three will never make a cave regardless of how nearly ideal they are. In order for a large cave system to develop, there must be (or must have existed in the past) a condition such that enough water has flowed underground for a long enough time and distance for the cave to form. The other three conditions cited merely add frosting to the cake.

But how does one determine whether or not the hydrologic conditions are right? Large volumes of water sinking into or resurging from limestone may offer a clue. Maps showing a sinkhole plain above incised drainage may help, provided the karst is not too mature.

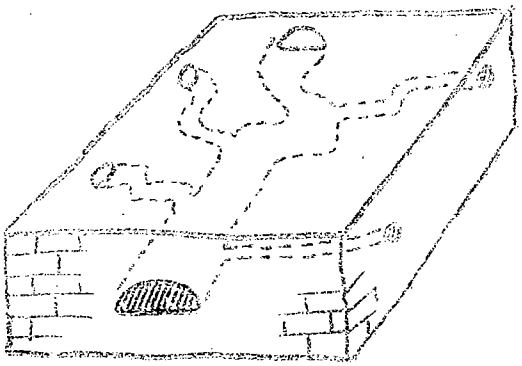
This brings us to the second set of conditions mentioned at the outset-- those such that once a system is developed, it will be preserved. Some of these factors are:



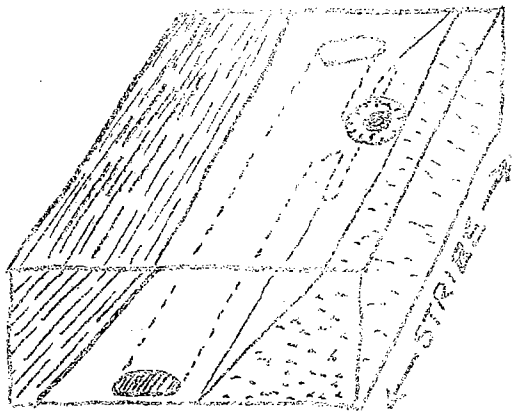
(Fig. 1)

Middle Cambrian Systems

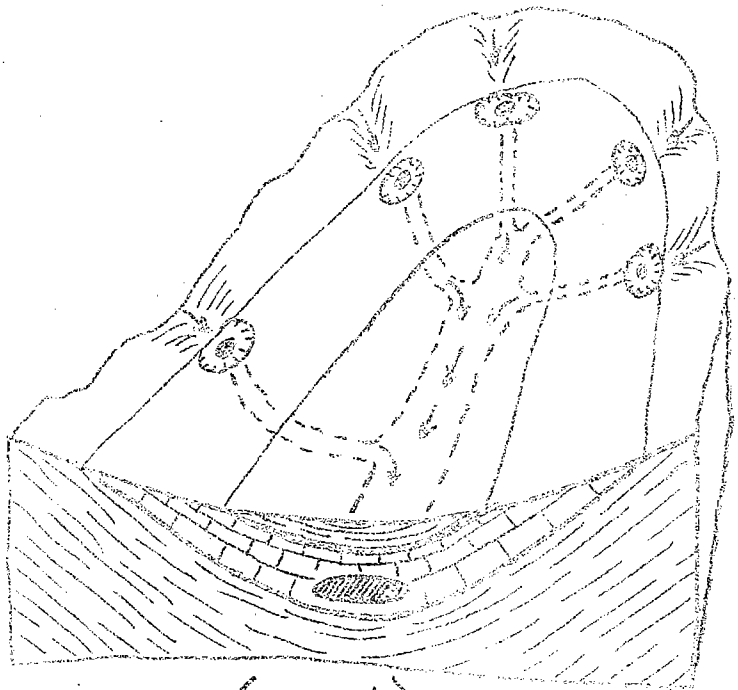
Va. & Tenn.	Md. & Penn.
Rome Shale	Waynesboro Fm.
Shady Dolomite	Tomstown Fm.
Erwin Quartzite	Antietam Fm.
Hampton Shale	Harpers Fm.



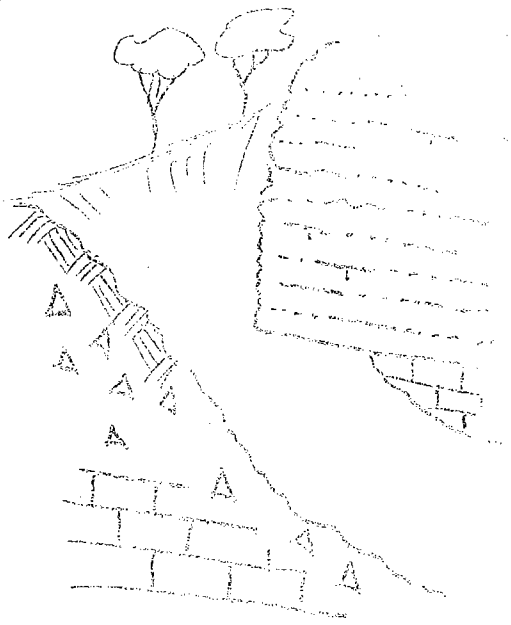
(Fig. 2)



(Fig. 3)



(Fig. 4)



(Fig. 5)

1. Immature karst
2. Proximity to a drainage divide
3. Protective caprock
4. Flat-lying strata
5. Proper hydrologic conditions

The most common destroyer of the cave is erosion. Immature karst is not really a factor but rather an indicator that erosion has not yet had time to destroy the caves. Proximity to a drainage divide usually means that an area has not been as vigorously attacked by erosion as the same beds of limestone further down stream. In Sinking Creek Valley, Craig County, Virginia, a drainage divide lies across the valley between Sinking Creek Mountain and John's Creek Mountain. Large caves in the area seem to cluster around this divide (Rufe Caldwells, Newcastle Murder Hole, etc.) Further down the valley there is a dearth of caves until the stream cuts over into another valley. In Tazewell County, Stonley's Cave almost straddles the divide between the Tennessee Valley and the Ohie Valley. In Mongomery County, Slusser's Chapel Cave carries water under the apparent surface divide from the Ohio Valley into the Roanoke Valley. On the other hand, most of us are familiar with the hundreds of small "rat holes" to be found in limestone bluffs overlooking large streams.

In Virginia cave country, we are basically dealing with five drainage basins. The Potomac basin drains northeast into the Chesapeake Bay. The Roanoke and James Rivers drain directly eastward. The New River flows northwest to join the Ohio, and the Tennessee flows southwest to join the Mississippi. These basins, in order from steepest to most shallow gradient, are tabulated below:

	TO	VIA
Roanoke	Atlantic	
James	Atlantic	
Potomac	Atlantic	Chesapeake Bay
Tennessee (Clinch-Holston-Powell)	Gulf	Mississippi
New	Gulf	Ohio-Mississippi

One's first impression would be that the New River Valley would have the largest caves, as its shallow gradient would not erode as rapidly. As can be seen from the map, the New River and Tennessee Valleys do have well over half of the major caves. Those in the James River Valley tend to cluster at its headwaters in Bath County or Roanoke County. The Roanoke Valley, on the other hand, has only one major cave. We must realize, of course, that the Roanoke Valley covers only a small fraction of the total area, and most of it is in shale; however, even in the limey areas, the caves are nothing spectacular.

A protective caprock, provided it has not prevented the development of a cave, serves well to stop erosion from destroying the cave. In Burke's Garden, Tazewell County, we can see the remains of what used to be a large system----Cassell Farm Cave. Within a few acres there is over a mile of passage still underground, but it has been carved into two separate sections by erosion. Anyone who has walked up to Clark's Cave, on the other hand, is quite familiar with the impervious shale caprock which overlies the cave. Likewise, visitors to the Newberry-Bane's System are quite familiar with the red--colored shaley escarpments standing above the entrances in the area. (See Fig.5 Caprock effects may be more far-reaching than this, however. Aerial photographs of the Newberry's vacinity show a local prominence on the ridge of Big Walker Mtn. just above the caves. For some reason, the sandstone which caps the ridge has resisted erosion and stands above the rest of it at High Rock Fire Tower. Spurs below this prominence are larger and extend further into the valley to the north. Penley's, Newberry-Bane's, and Bane's Spring all lie under these spurs. Perhaps Dragon's Tooth has a similar effect on Miller's Cove Cave.

Closely associated with protective caprock is flat-lying strata. We mentioned this factor in our discussion of cavern development, but we are not being redundant. The reason goes back to an old household saying---you may remember reading it on a plaque above the stove in grandma's kitchen-- it goes like this: "The topographic potency of any given strata varies inversely with its angle of inclination." Profound? It simply means that if you stand a layer of rock on end, it will wear away quicker than if you let it lie flat. The beds out at Miller's Cove dip 45 degrees in places. It needs a layer of hard sandstone to protect it. On the other hand, James Cave may need only a gritty layer of dolomite to stay around longer.

Now let's drag out this business of proper hydrologic conditions again. Actually, the pattern a local drainage system takes has a lot to do with whether or not the caves in the area will be attacked by erosion. Mill Creek, for example, uses Slusser's Chapel Cave as a trunk channel through a low ridge rather than cutting a gorge. Walker Creek flows along a trench it has cut, causing its tributaries to follow an underground route instead of cutting into the scenery. New River, which Walker Creek feeds into, is also an entrenched stream.

The casual VPI spelunker, who has borne with me thus far, may perhaps be growing discouraged at all this "yes-but-well-maybe" stuff because, being a practical person, his only interest in reading this article is so that he may gain some scrap of additional insight which will help him discover a large system of his own. Hang on. The redemption is coming.

We have continually sung the praises of good hydrologic conditions as a factor of large cave development. Casual Spelunker doesn't want a factor, he wants an indicator. Well, there is one infallable indicator that all conditions are perfect for large cavern development, one which even the most casual spelunker can easily recognize. Even Phil Moritz would recognize it! Brace yourselves; here it is: If there is already a known mile-long cave

in the area, then the conditions must be right. Profound? Let's face it, nothing knows better what conditions are most conducive to cavern development than the cave itself. Look at Bath County- five systems all clustered together. In Bland County, three systems less than a mile apart. How does this help Casual Spelunker find more systems?

1) He knows the area must have potential.
2) Other casual spelunkers in the area tend to exhaust their energies on the known large cave(s).

Remember how, earlier, we noted with interest that most of the big caves added to Table 1 in the last 3 years were known to exist then, but their true size was not discovered at that time? Many hours of casual VPI spelunking were spent in Newberry-Bane's Cave, then, in one fell swoop, the two well-known adjacent caves were found to be much larger than what they were originally suspected to be.

Now, to make this article truly valuable to VPI cavers, I will stick my neck out and attempt to predict where four large systems remain to be discovered.

1) Somewhere near Wytheville.
2) Somewhere in a zone occupied by Stonley's Cave and Jessie's Cave.
3) In Sinking Creek Valley.
4) Between Cribb Cave and Hayter's Gap.

The Wytheville locality is a far-out predict[illegible] I would have laughed at the idea two years ago. But since then, the discovery of three systems has indicated that the area may be quite auspicious. Slusser's Chapel Cave, James Cave, and Interstate 81 Cave all lie within a stone's throw of the Pulaski Fault. Slusser's C. and James Cave are both in the same formation; Elbrook Dolomite. A major drainage divide crosses this belt just west of Wytheville. Perhaps one of the reported but not explored caves is awaiting discovery. Nonetheless, the largest known cave in Wythe County, Pickett's Cave, has only 1500 feet on known passage; but then Cribb Cave and Slusser's were both thought to be 2000 feet long and were already the largest known caves in their respective counties until VPI cavers began to map them.

The Stonley's-Jessie's area covers quite a bit of territory, some of which was checked out this past March. Three caves with over 1000 feet of passage were discovered, but there are still some areas to be investigated.

On this Sinking Creek locality, I'm cheating a bit. There is a cave in the area, known as Two-Mile Cave, supposed to be two miles long. The owner gets his drinking water from the cave, so it is closed for all practical purposes. Considering the conditions, however, if the cave is ever explored, I'll be willing to wager that it is at least a half a mile long.

The Cribb Cave locality is particularly interesting. Cribb is the only reported cave in that whole valley; not another cave is known for 10 miles in either direction; not even a rathole. In March, another cave known as Perkin's Cave was located in the area and at least 1000 feet of passage explored. This is somewhat of an indication that there is more to be found in that area.

Here we have an accumulation of data, an attempt to understand and correlate; and a whistle-in-the-dark at predictions. Before I close, however, let me place a value judgement on these predictions. Let us say 50 percent. But even if we don't enjoy two successes out of four, these areas have received only scanty attentions and need to be investigated anyhow. Happy hunting.

R.E. Whittemore

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HOW TO TAKE A BATH COUNTY CAVE

Troy Glaudight here with another subterranean adventure. This time Harry Travers, Rhimston Poole, and I decided on an overnight trip to Bath County. Two trainees, Floe Stone and Max Piton accompanied us and, since this was their first ca[illegible] experience, were inclined to ask many questions in order to tap our great reservoir of speleo-knowledge. Max was especially interested in seeing an anticline although he really hadn't any idea what one was.

Arriving at Aqua Campground for the night, I took time to mention that Lockridge's Aqua Cave, sometimes referred to as Refrigerator Spring, was just up the ravine a ways. We were also in the area of some other large caverns such as Clark's, Crossroads, Butler, and Breathing Cave. Floe commented that they seemed to have everything but Kitchen Sink. I ignored her the rest of the trip.

Meanwhile, Max had found the entrance to Aqua and wanted to know if it was anticline. Resurgence, yes; anticline, no. We explored it anyway.

The next morning over breakfast we concluded to tour Breathing Cave. At the belly crawl I halted the group so that they could experience the alternating flow of air from whence the cave derives its name. Harry went on to explain that this phenomenon is caused by what is known to geologists as an alluvial fan. Max expressed interest in seeing this in hopes that it might be connected, in some way, to an anticline, so we proceeded into the depths.

The trip went along smoothly through the Camp Room, Sand Alley, and the parallel passages. Floe and Max appeared to be exceptional trainees negotiating the crawls and squeezes without complaint.

It is strange to note that many girls have a latent fondness of getting muddy and Floe indulged herself while the rest of us couldn't help it. I knew that she was going to make a good caver. I was not so sure of Max, though, for he kept ducking and dodging as we walked down the seventy foot high Cathedral Passage. Since there were no bats around to cause such action, I asked him what was wrong. He said that he kept imagining he saw rocks falling from the ceiling. Rhimston, a psychology major, at once realized that Max was suffering from a speleosyndrome more commonly referred to as mental breakdown.

His fears calmed somewhat, Max resumed his quest for an anticline. Arriving at the stream, he felt that his search was at an end as he triumphantly pointed to a formation of brown, erroded rock. Deciding that it was time for another geology lesson, I paused to explain that this formation was not anticline, but was, in fact, chert. The convoluted pattern in it is caused as water washed over it and slowly wears it down. In effect it could be called a wash and wear chert.

The Serpentine Way and finally the First Siphon were conquered by our intreped group so we started out. Before we left the stream passage, I stopped to dump in a small container of Listerine. "Don't you mean flourescene", asked Harry. No, Listerine, for you see, Breathing Cave has bat-breath. That was too [illegible] for him and all he could do was throw up in disgust-his hands. Crawling through cave passages while patting yourself on the back is difficult but I managed.

We spent a little time in the historic section looking for the famed Nasal Passage which leads to a sinuous cavity of Breathing Cave and finally left. After breaking camp we returned to Tech through Covington and Clifton Forge. As we drove through Rainbow Gorge I pointed to that long, arching outcrop and stated," We've finally come to the anticline, Max."

* * *

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INCIDENT IN CASS

There seems to be a reviving interest in cave rescue. The NSS has a lational Rescue Coordinator and most regions have a rescue network of one kind or another. It's been acouple of years since Billy Gus Karras came and went and I guess we've recovered from him. Membership in the NSS is climbing rapidly but many people not associated with us go caving and get into trouble. Before I go any further, I'd like to say that the following rescue has been narrated in several other publications. These articles have been either newspaper accounts or written by a member of the party who was not present during the rescue. This then is a first hand account and is, Hopefully, Not distorted in any way.

About 4:30 pm, Sunday, March 17, Phil Lucas, chairman of the Shenandoah Valley Grotto, called me at home and asked if I could go to Cass Cave and help pull a person out. He'd been inthe cave for abott thirty six hours and was not injured. There already were several people from the National Radio Astronomy Observatory at Green Bank at the cave but they needed manpower to get this fellow up the 180 foot drop. I had been in Cass three Marchs before and was expecting the water to be up and the cause of the trouble. Myself, Phil, Ed Bauer, Rick Hicklin, Rodger Wood. Tom Robertson, and Dave Wood, all of SVG, arrived at Cass around 8 pm. We met Mike Balister from the Observatory and learned that the water was not too deep; also that the drop was rigged with a cable ladder.

At the Belay Loft we met two kids from Cass Who had lowered a duffle bag containing a sleeping bag, stove, food and a walkie-talkie. We hauled the ladder up along with the belay line (a rather scarred item that should have been condemned long ago) and duffle bag. We rigged the drop with a 250 foot piece of Sampson and I rappeled down with the radio, a dry sweater, and a parachute harness.

John Payne from Green Bank met me at the bottom and we went to where he and Ray Enyeart of the Pittsburg Explorers Club had been waiting. Ray had been in the cave for thirty six hours and John for 14. Both were cold and hungry and the candy bars I gave them disappeared like magic. After giving Ray the sweater, trying to talk to Phil over the radio (I didn't stutter, the dumb thing wouldn't work), and apopogizing to John for not bringing him a cold beer, we got Ray into the harness, tooted twice on the whistle, and Ray was hauled up. The rig came down, John climbed in and disappeared. Iwent up last and really enjoyed ascending the drop without expending any energy. We left the cave four hours after entering. Not too bad for a rescue.

On the way down to the cars, Ed explained to Ray about the Cave Rescue Communications Network and the sequence of events that led to his rescue. Ed had a little difficulty in explaining because Ray had never heard of the National Speleological Society.

I don't know what made these people go into Cass when they were not equipped for the cave and not capable of that type of cave. Evidently they did not ask anybody about the cave or they wouldn't have rigged it with a ladder. I don't know about the rest of the group, but Ray had never heard of prusiking.

I guess people get overconfident and will tackle a cave that they have no business in and sometimes get into trouble. If they would stop and THINK and ask somebody who is familiar with the cave and knows what the problems are, things wouls be better off all around.

Tom Vigour

* * *

OVERHEARD AT THE SPELEO-SEMINAR

The Speleo-seminar* has long been an institution af caving organizations throughout the world and the VPI Grotto wishes to be no exception. Steeped in tradition, the Friday night get-together has become the Mecca where Cave Club members journey to relax after the strict formal disciplines of the grotto meeting. Trip plans for the weekend are solidified, melodic voices pierce the innocent night air to the strumming of guitar or banjo, and the major topics of the day are thrown up for discussion. Truly it is at such gatherings that the caver becomes "himself".

"Where the fire tower used to be?"- an old member

"But the Short Stop is open till 11:00."- C.D. Lee

"Twenty-five cents worth of regular."- Jack O'Meara (for instance)

"I guess you'll have to push, Eileen."- Roehr

"Wear warm clothes and eat a good breakfast."- Mother

"I'm goin' for sure."- Steve Hall "Sly what?"

"I'm a bird in a tree, see my limbs."- Bruce Byrd

"If you ever see a Mrs. Aldridge walking down the streets of Blacksburg..."
- Eileen Aldridge

"Chocolate milk, What else?"- Bob Lewis

*from the troglodytic word for orgy

"I'm going caving after I get married."- Terry Pick

"Let's throw Pigpen in the pool."- Kayes

"I'm in love." (Ed. note- finally)- Doug Yeatts

"Hit the bowl and win a prize."- Ed Day and Cletus Lee

"Awr-r-r ee, awr-r-r ee!"- Whitt

"Fat city!"- Vig

"Charlotte!!!"- unanimous

"Want a back-rub?"- Anne

"My fingers are getting sore."- Jack Keat

"There's an eclipse tonight if anybody's interested. Hey, there's an eclipse tonight if... "- Bill Park

"Well now, wasn't that exciting!"- Danny Wright

* * *

B.O.G. AT B'BURG

On April 20, 1968 the NSS Board of Governors held their semi-annual meeting hosted, more than adequately, by the VPI Grotto on the Blacksburg campus of Virginia Tech. The business covered ranged from formal announcement of the 1969 convention site (no comment) to taking Boy Scouts caving, to Don Cournoyer's proposal of a dues increase.

Most of the Board members arrived Friday evening and were treated to a VPI grotto mountain top speleo-seminar which they all seemed to enjoy.

Following Saturday supper another speleoseminar was held at the home of Dr. David A. West, our faculty advisor. Dr. West entertained everybody by talking to Russ Gurnee who had to look up to him (Doc is 6'9"). Many people attended the party and many new friendships were made. All of us enjoyed the opportunity of talking to Board members and other Society officers present. Julia Day gave this editor some useful hints on publishing news letters and informed us of quadrangle maps available from the USGS in exchange for our publication. The party was a smashing success despite a visit by Blacksburg rednecks who deflated many tires, and John Cooper's ego.

My Sunday was made for me by watching Holsinger and Stellmack struggle up off my dorm-room floor at 7 am in order to attend a WVACS meeting in Lewisburg.

I think that everybody involved with the Board meeting had a great time and we look forward to hosting another one sometime or another.

Tom Vigour

One warning- Jack Stellmack snores like a Honda Super-90 winding out in low so think twice before putting him up when he comes calling.

* * *

CAMALOT

Since the November, 1965 issue of the NSS NEWS hit the mails, prusiking has become obsolete. In this issue there came to the general caver's eye a new ascender within the range of every muddy wallet and capable of out performing "the knots" in almost every respect. If you have not already guessed the name of this revolutionary mechanism, it is called the "climbing cam". Presumably invented by Robert E. Henshaw and David F. Morehouse of the Iowa Grotto, the cam opperates on a principle similar to the Jumar in having an offset cam which tightens on the rope as downward pressure is applied, but here the similarity stops.

Basically the cam consists of a piece of 1/8 inch aluminum or steel plate bent into a U shape through which the rope slides. The plate should be formed around a 1/2 inch metal rod so that it will accomodate any rope up to that diameter. Larger sizes could also plausibly be made if it is anticipated that water swollen 1/2 inch rope may at some time be used. The rope is kept in the trough by the cam which pivots on a pin piercing both sides of the U. Downward pressure on the outer part of the cam causes it to press the rope tightly against the plate thus holding the climber in position. The cam itself is fashioned out of 1/2 inch aluminum or steel stock. Its contact surface can be smooth, knurled, or have teeth and may be flat or have a rounded groove cut with a rat-tail file giving a larger friction area and less single point rope wear.

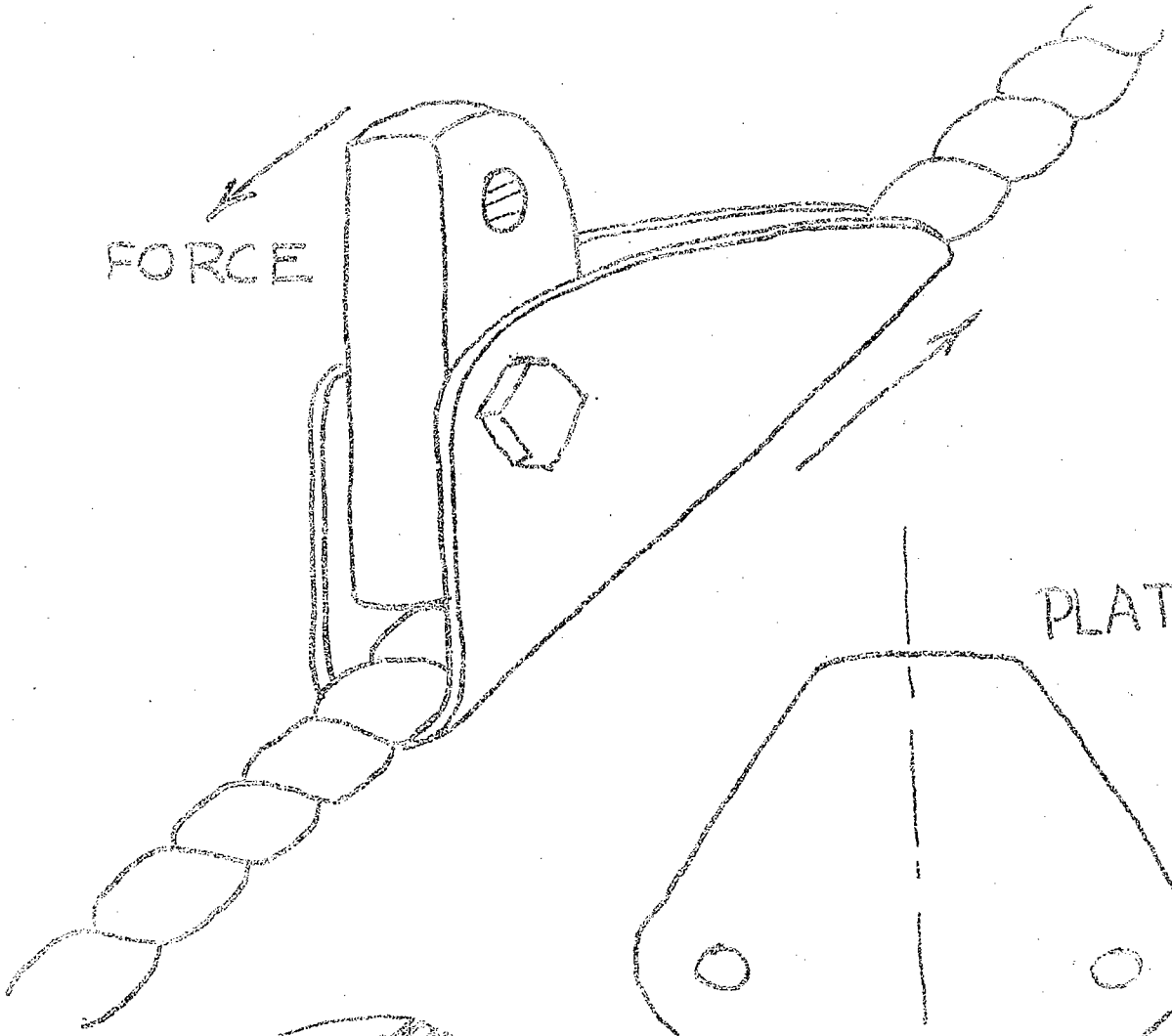
I have found that the best way of securing the pin is by drilling a hole through the end and inserting a cotter clip. This not only allows the pin to pivot, which is not possible with a threaded pin, but the clip can be used over and over again and not foul with mud as the conventional cotter pin does.

Although fairly easy to improvise, detailed instructions for building the cam are given in the November 1965 NSS NEWS. A set of three cams can be assembled for about three dollars with hammer, hacksaw, drill, and file.

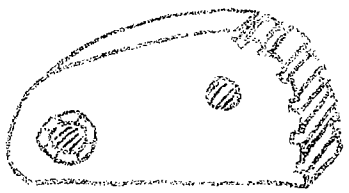
Unlike prusiks and other mechanical ascenders which require the hands to raise them, the climbing cam can be completely manipulated by the feet leaving the hands free to light a cigaret, hold a book, or pet bats as you go by. The best way that I have found is to tie a cam onto the instep side of each boot with one inch nylon webbing for comfort. The method of climbing will be discussed later on. The positive holding power of the cam is one of its main assets. The cams which I use have small teeth (lateral hacksaw blade grooves spaced 1/8 inch apart) which cause very little, if any, wear on the rope and have given me traction on wet, muddy, and ice covered ropes. I have even heard of an instance where a person climbed a metal rod using cams. Despite the amount of grip when weight is applied, the mere removal of that weight is enough to unlock the cam so that it can be advanced. The increasing radius of the cam itself nearly prohibits downward slipping but it is possible to "cam" down the rope if the need arrises.

Versatility is another great advantage of the cam. Not only can it be tied to the foot but also may be attached to slings and be used in place of prusik or related knots, be equipped with a spring and used like Jumars, or be used as a chest safety while rappeling. One outstanding quality of the cam which I have found is its use as a safety on the first man up a ladder or chimney where a rope has previously been rigged but is not long enough for a pulley belay from below. Attached to the chest harness or seat sling, the cam rides smoothly up the rope almost unnoticed by the climber until he needs it for a rest or belay.

Climbing with the cam can be as varied as one wants. I, myself, prefer a three cam rig- one attached to each foot and one as a chest safety clipped also into a seat sling for comfort when resting. Ascent is accomplished by raising one foot, setting the cam by an out and down foot movement and bringing the other cam up to the first- then repeating. The chest cam rides up like a pulley holding the upper part of the body to the rope. Plausibly an entire climb could be made without using the arms but when they are used to hold the body in a more upright position, the legs don't have to fight the excess friction caused by the bend in the rope at the point of the chest cam. Another method which I frequently use, especially on long climbs, is to set the chest cam, bring both feet up at the same time, then stand up; thus inch-worming up the rope. Hanging from the chest cam gives the legs a chance to rest for a second or two. With very little practice I have been able to ascend twenty feet per minute on drops up to 120 feet.



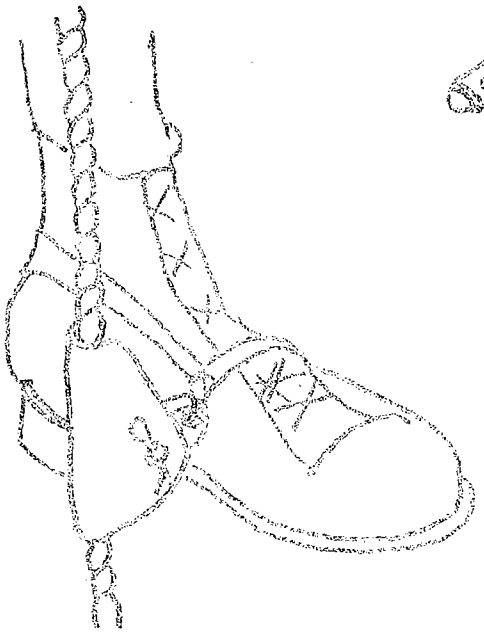
DRILL HOLES AFTER BEND IS MADE.



THE CAM

PIN

COTTER CLIP



THE CLIMBING CAM

Breakovers pose no problems. On a sharp breakover your body is above it before the cams even get there so one can easily grab on to the rope above. The 1/8 inch thick cam slides fairly easily up a rope on long smooth breakovers unlike bulky knots which are sure to jam between the rope and the rock. A simple bending of the knee brings the foot cams out of contact with the breakover while at the same time the arms are free to push the body out from the rock should the chest cam not slide.

So far I have found only two faults. Getting into a cam rig takes atleast as long as setting up a three knot prusik rig and it is hard to get started without someone holding the rope below you. The latter is a common fault of most mechanical ascenders but once twenty feet off the ground, this is no longer a problem.

Tom Roehr

* * *

RABIES VACCINE FOR CAVERS

Recently a friend was scratched by a bat in flight, and for a while was quite concerned about the possibility of rabies infection. This led me to think about my own chances of contracting the disease; since I deliver mail, and often walk to work, I meet more than my share of unfriendly dogs. Also, caving and hiking in Southwest Virginia might expose me to the disease. Twenty per cent of the victums of all animal bites or scratches develop rabies (2), and onemay have the misfortune to be included in that twenty per cent. Rabid animals should be held for a period of ten days to make sure of the disease. If not possible to catch the animal alive, the series of shots should be begun at once. Rabies is a disease to be carefully treated.

Davis, writing for the Bat Research News, suggests that perhaps everyone should take preventive vaccine for rabies (3). He quotes the Weekly Morbidity and Mortality Report of the Communicable Disease Center of the U.S. Public Health Service of 15 May 1965 as reporting a cumulative total of 1946 rabid animals reported throughout the U.S. (3). It has been reported that bats tend to become carriers of the rabies virus, not only the Desmodus, ("vampire bat"), but several from our own area, including Myotis, Pepistrellus, and Eptesicus (4).

The brown bats, (Eptesicus f. and Myotus l.), which we have in this area, are found to cultivate the virus through the hibernation process, a "reservoring mechanism" that tends to preserve the virus in the body of a bitten or scrathced individual with full potency (4). It has been reported that individuals can contract the disease via inhalation of the virus in the air of bat caves (3). Burrows comments

that bats present a siginficant source of rabies virus (4). All of this presents a definite problem to the caver.

There are a couple of things that a caver can do about rabies. One is ignoring the threat, and the other is taking prophylactic (ed. note. ?) treatment. With this in mind, I started looking into the treatment of the disease, and found a "new: duck embryo vaccine that was availabke, and decided to take it. The duck embryo vaccine has been around for eleven years, and seems to be quite effective.

There has been much said for and against the use of preventive rabies vaccine. Wayne H. Davis reports that the staff of the Southwest Rabies Investigation Station of University Park, N.M., uses preventive vaccine with yearly boosters (2). The Eli Lily Company, makers of the vaccine which I used, reccomends;

> Vaccination with duck-embryo vaccine before exposure occurs may be desirable for certain high-risk individuals. These include veterinarians, deliverymen, meter readers, spelunkers, laboratory personnel working with rabies virus, and perhaps others.

It took a while to get hold of the vaccine. I was told by a doctor and two druggists, (one of whom referred me to a feed store to get the vaccine for my animals), that preventive vaccine was not to be had. Thus, I was in the position of both prescribing the treatment, and directing dosage and administration, after I convinced the doctor that the vaccine was available for people as well as dogs. After hearing many horror stories of bad effects of the rabies vaccine, ("they take this big needle and jab you right in the stomach, every day, about a month. . ."), I was a little worried. The treatment consists of just three shots a week apart (1), and then one more six months later with annual boosters(2). My course of treatment involved getting the doctor to administer the vaccine, obtaining the vaccine, and then getting the shots.

I discussed the treatment with one of the doctors on the staff of the college infirmary in his private office, and offered to take them as a private patient. He allowed me to take them at the infirmary, and thus saved me a bill. My only cost was the vaccine charge. I went to the local drug store, convinced the druggest that there <u>was</u> such an item available, and had four packages of vaccine the next day, at a cost of two dollars a dose. Next stop was the infirmary, where I filed the vaccine in the refrigerator, and took a half dose.

The vaccine is administered in 1-ml. doses, mixed at time of administration, (powered vaccine and distilled water), and then given subcutaneously in the arm. The initial dose was given in .05-ml. units to see what reaction would ensue, and after each dose of the series I was held in the waiting room for a short while to see if anything would happen. This was something new for the doctor, and he was taking great care that he see everything involved. I became an

experimental patient, and had a different person give each dose. Only one dose caused stiffness, and that was caused by injecting some of the vaccine into the muscle. I had no problems, reactions, or complaints, other than I had too much trouble getting the vaccine in the first place.

The rabies vaccine which I took is listed as Rabies Vaccine, U.S.P., (Duck Embryo) Dried Killed Virus (1). This means that the vaccine is made of the rabies virus grown in the embryo of ducks, and then killed and processed. The vaccine is superior in some ways to the old form of the vaccine which was cultivated in brain tissue, and which was likely to cause adverse reactions when used in treatment of exposed patients (1).

> There are two schedules which may be used in this treatment: The first procedure consists of four subcutaneous injections of one milliliter each. The first three injections are given one week apart, and the fourth is given five to six months after the third. The second procedure consists of a series of three injections of one milliliter each. The first two are given one month apart, and the third is administered seven months later (1).

It must be noted that the preventative vaccine does not insure complete protection, but then nothing can do so, short of life in a sealed environment. The recipient of the preventive vaccine may require only a booster shot if he has had mild exposure to rabies. Mild exposure is defined as a lick on abraded skin or a single bite from an infected domestic animal not on the head, neck, face, or arm. A severe bite is a single bite on the head neck, face, or arm or multiple bites or one from a wild animal (1). Depending on severity of exposure, the full series of post-exposure injections for rabies prevention may be either fourteen daily doses of vaccine administered subcutaneously in the abdomen, or it may require two injections for the first seven days of the treatment , making a total of twenty-one doses.(1). Whether or not one has had the preventive treatment for rabies, he should immediately wash any bite with soap and thorough scrubbing and see a doctor immediately.

Robert Barlow

References:

(1) Eli Lilly and Company, Rabies Vaccine, U.S.P.(Duck Embryo) Dried Killed Virus, Indianapolis, Indiana, 24 March, 1967.

(2) Wayne H. Davis, Bat Research News, Vol.VI, no.4, pp.34-36

(3) Davis, B.R.N., Vol. VI, no. 3, pp.24-25

(4) William Burrows, M.D., Textbook of Microbiology, W.B. Saunders Company, Philadelphia, 1966, p. 1085.

FIRST TRIP

Crouched at the edge of the pit,
Fingers gripping dust,
Peering down on the second party
He waits
Tensely
In the face of the calm of the others.

Carbide flames streak
Yellow brushmarks on wall
and floor.
Dripping water and
Audible silence are drowned by
Loud conversation between the groups.

Brittle clatter of falling rungs
Recalls him to memory of the endless
Wait for those below, seeing again
Slow crawls and climbs
Through which he again must go.

Sure hands rig and test the
Thin wire of the swaying ladder. The
Shadowy spider painted
Blackly on the wall releases its
Thin web of rope and it whispers
Dryly across the thin rungs.

Fascinated, he sees sure
Hands pass the line
Around
The body of a man who
Pulls at the knot and,
Adjusting the gloves upon his hands
Steps to the wall.

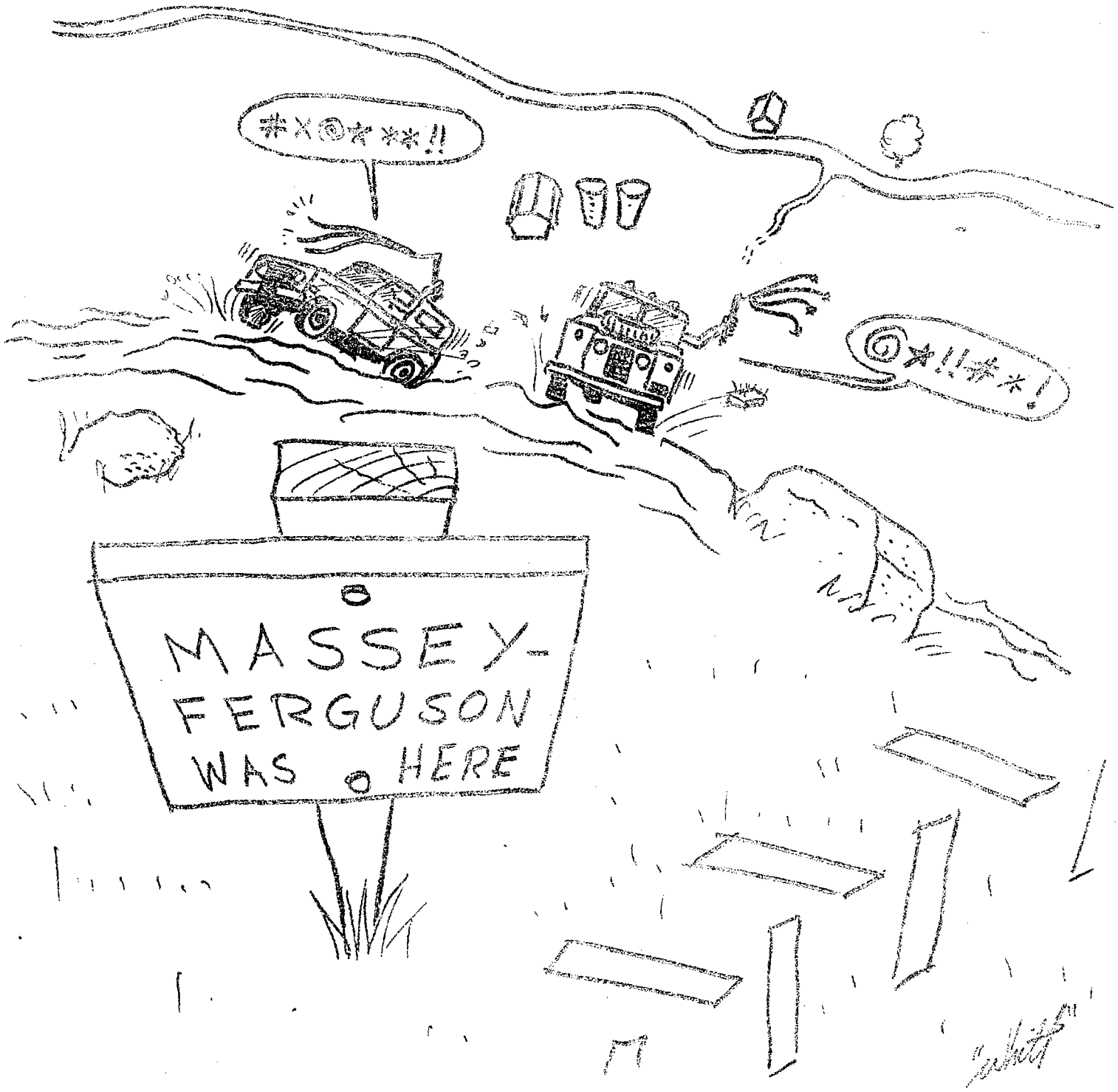
Sharp shouts of
Signal pass from top
to
Bottom: On belay!
Belay on! Climbing!
Climb! He sees
Metal scrape rock as
The ladder pulls tight with weight.

He scans enviously the
  Calm face of the man
                Moving
With sure hands the taut rope
    About his body and
Becomes lost in reverie.

Crawls and stooping demand
    No thought and only
The chill of the new spring night
     Recalls him to the hidden lust
Of Achievement: "Will I be able...?"

Barlow

* * *


*X@** **!!
@*!!**!
MASSEY-
FERGUSON
WAS HERE

TRIP REPORTS

The trip report has become an integral part of almost every publication put out by a caving organization. Before a person can realize full membership in the VPI Grotto he must submit an article, preferably suitable for printing, to the TECH TROGLODYTE staff. Many trainees fulfill this obligation through the writing of a trip report, several of which follow. The subscriber to this journal may notice the large amount of repetition in the caves chosen for these reports. This is due to the fact that most of the caves mentioned are the "old standards" to which most prospective members travel at one time or another. The editors seek to include specific trip reports not only for variety of caves when possible, but also to portray the human element which is a necessary contributor to every trip.

The TECH TROGLODYTE now proudly presents another thrilling episode in its never ending struggle against literary excellence. Return with us now as dirty deeds of fellow cavers are recounted "as they actually happened" by the true participants in the real life dramas

The Editors

* * *

JESSIE'S

"A caver is a dirty bum,
He runs in caves all day.
For skin he has a hardened scum,
And his heart is made of clay."
(S. Kark)

I wish to dedicate this trip report to all those fools who, unlike me, are too smart to go caving. They have never felt the cool mud oozing down their chests nor tasted the seven year guano. They think a crawl a baby walk and a lead a good singer! They have never climbed a waterfall nor been bitten by a rabid bat. Instead they walk around above ground always knowing where they're at. To them may I say, "May the bat of paradise drop a flea in your hair cream!" and to those of you who have tasted the sweet nectar of caving..."Go to hell!"..and "Bon appetit!"

Besides my trip to Banes where I was attacked by a lusty cricket, I suppose my most interesting trip was to Jessie's. Ed Morgan tied us up, loaded us into his car, and, with shouts of delight, whisked us off to Jessie's Cave. At the cave entrance he untied us and Dave McCloy bit him in the leg. After we assured him that Dave wasn't rabid, we loaded ourselves with gear and entered the cave. We changed in the entrance room despite Bob Lewis' wierd behavior. Then we pushed through the cave and began mapping where we had left off. I got out of most of the work by running around flashing my camera at the others. Ed

Morgan posed for a few shots but I hardly think that they'll make SPORTS ILLUSTRATED. After some "fun" climbing we came to a deep fissure that Ed had explored before. We chimneyed down mapping all the way. At the bottom a stream passage pushed into the darkness. We followed the stream until we came to a section of quite large rooms. From here on the cave was all running and appeared to be virgin. While rest kept mapping, Dave McCloy and I walked through the big rooms completely thrilled. In what appeared to be the last big room were three leads. One was behind a huge formation and this we checked. Directly behind the big formation were the most intricate rimstone dams that either of us had ever seen. The crawl got a bit tight in places and even filled with water in others but beyond we could hear the rumbling of a huge waterfall that pulled us on.

After a while the passage appeared to get a bit bigger and by now the waterfall was a roar. Beyond the passage was about three feet high and had a swift current of water running through it. Here we decided to go back. We never made it to the falls but shall try damn hard next time.

The big rooms had quite a few leads heading off in all directions, some with drafts. We all agreed that we'd come back some day soon. After we reached the entrance room and changed we packed into Ed's car. We were very drousy and the only thing that kept us awake was the fact that Ed kept drifting into the left lane. He was so tired!

Although it was hard, I did fall asleep. When I awoke for an instant we weren't moving and all I could hear was a stream. I went back to sleep. Ed had stopped to get a few hours rest. The next time I awoke we were very near Blacksburg. It took me a few days to get back my natural curly energy and soon I was as negative as ever.

Steve Kark

* * *

EILEEN OVER BACKWARDS

The original plan was to go to Miller's Cave but when a Land Rover gets stuck, the gods are trying to tell you something. So we decided to invade Newberry's. Tom picked a likely swamp to park the Rover and suddenly Vigour recognized the only other vehicle in sight. It belonged to Sara Correy--yes folks, Sara Correy-- a legend in her own time. We followed the tracks through the snow up the hill all the while trying to figure out a reasonable explanation for the strange tracks. When we got to the entrance and saw the snow saucer we said, "Aha!" What a clever way to carry rope to a cave! (No, we didn't connect it at all with the funny tracks. If we were bright enough to see the connection there, we wouldn't have been going caving in the

winter in the @#$%&* snow and mud and cold.) Before I go any further I suppose I should point out that the trip was led by Tom Vigour, Tom Roehr, and Jim Dawson. The rest of the party consisted of me, Eileen Aldridge. Since Sara was in shouting distance of the entrance, we got permission to rappel into the cave on the rope that she had used since it was already tied in. We met her just a short way in front of the Straddle Pit. She was trying to find a familiar rock to tie in with. (By the way, some guy named Ted from Cincinnatti was with her.) We hopped over the Straddle Pit and zipped down the twelve foot drop after thinking ahead and tying a thirty foot cable ladder for the return trip. Now for the best part-- the 180! Sara had 210 feet of half inch Samson. Good ol' Sara. She had an interesting rig, a handy-dandy little rappeling spool. (It was about as "handy-dandy" as any piece of lead pipe can be with big corkscrews on either end.) About here I'd like to take a short break and editorialize. "White Lightning" is a misnomer. It did make for a slow, scenic, worry free rappel. I had both hands free to write on the wall, destroy formations, knit, or whatever I felt like. I could regulate the speed by how fast I stuffed rope through my double brake-bar rig. I had plenty of time to look for candles and appreciate the rappel at the same time. On the whole, however, I was dissatisfied with the overall impression of "White Lightning", so Tom Roehr and I decided to climb the Devil's Staircase and do the 180 with a single brake bar. Meanwhile Vig rolled his own and chatted with Moose. The second time with a single was much more enjoyable. I was falling of my own weight just a few feet fron the top all the way to the bottom. It was great!

We ran to the Vault Room, looked at the Triple Wells, and headed back to the bottom on the 180. From there it was back up the Devil's Staircase. After doing that twice in one day I'm never going to speak to another piece of breakdown. "Richie's Delight"--isn't that the spot that we crawled through that was big as a bread box? In Matthew 19:24, it says that, "It is easier for a camel to go through the eye of a needle than for a rich man to enter into the kindom of God." I don't know about you, but I think that I could come up with a better analogy than the Biblical writers. At least, one we could all identify with. From the top of the Devil's Staircase we backrappeled forty-five feet to the top of the 180. We climbed the cable ladder, hopped back across the Straddle Pit, and found ourselves at the bottom of the seventy foot entrance drop. Vig climbed out first using a climbing cam as a belay. He then belayed me while I chimneyed out with Roehr and Moose climbing out right behind me. The best thing about the trip was the fact that we went down 307 feet (532 if you did the 180 and the back rappel twice) and we didn't have to prussik one inch!

After we changed in the Rover (it was a little easier for some of us--all we had to do was pull off coveralls) we proceeded to the Dublin Truck Stop which is actually the Ranch House Restaurant, but don't ask.

Now that all is said and done, my only remark is--"Everything's fat!"

LONGHAIR CAVING

Saturday, February 17, 1968, shall go down in the Cave Club annals as an historic occasion. On that cold, windy day five members of the fairer sex (four Cave Club members and one humble trainee) went caving. Without the aid of male strength, leadership, and reassurance, Arabia Benitez, Eileen Aldridge, Tina Noble, Anne Whittemore, and myself, braved Starne's Cave.

After traveling two hours on Terry Pick's instructions(?) we finally made it to the cave where Arabia, an experienced seventeen hour old member of the club, rigged the huge fifteen foot dangerous drop with a Swiss seat about seven feet long. We went down into the entrance where we prepared our lamps for the journey. I had borrowed Tom Vigour's hardhat (which was terribly filthy) and he, like the gentleman he is, put chunks of black gravel into the lamp saying that it was carbide. Needless to say, my light would not work so we dumped more carbide into it ontop of the black gravel. I finally realized that something was wrong when I had to recarbide a little while later.

We left for the twenty foot ladder drop and had no trouble getting down except that Anne's overalls suffered a little wear and tear (mostly tear). Our first stop was Lane Stadium to cool our precious cargo of wine (kosher of kourse) then we went to look at the formations where Anne played a mean stalactite, took pictures, and looked at the sixty foot waterfall drop.

After walking a while more we went back to Lane and opened our wine which was merrily passed around to the corruption of Eileen and Tina. After about a half hour of drinking and being merry we headed back for the entrance.

We detoured a couple of times where Arabia suckered me into checking about a 200 foot crawl. I went because Anne and Arabia told me how good it would be if they could say that I had checked out a possible lead to the upper passage, when I came up for membership. With thoughts of glory I went in about a hundred feet where my lamp went out (it seems to do so every time I get into a tight place). However, keeping my cool which I received in the bad air passage of Warm River when Vig's and my lights went out, I backed out and recarbided. I then went all the way in with my mind imagining all these beautiful thoughts of having a passage named after me etc.; only to find out that it was a dead end (I still don't think it is).

We headed back again and checked another false lead and finally went up the ladder for a total of 12.5 WOMAN hours. Once out of the cave we met the owner who was surprised to find an all girl caving trip. He wants to know if anyone is interested in buying the cave and about thirty acres of land around it.

Submitfully respected- Sharon Priest

ARIZONA CAVING

On arriving in Arizona I consulted a few issues of the UAAC NEWSLETTER and found a few cavers living less than two miles from my home in Sierra Vista. The person that I later went caving with was Jim Cobb of the UAAC Grotto. When I asked him about the possibility of a caving trip he suggested that we go to Onyx Cave. In his estimation Onyx is the best cave in Arizona.

After waiting out the worst Arizona storm in sixty-six years we finally found a day on which we felt safe at trying to get to the cave. The cave is situated near Madera Canyon about thirty-five miles from Sierra Vista. It was, without a doubt, the hardest time I ever had getting to a cave. After driving down a closed dirt road for six miles fording occasional washouts, we came to where the road fords a stream thqt is usually dry. With the large snow storm just over the stream was rushing and the ford and parts of the road around it no longer existed. Jim parked the car and we proceeded walking down the stream looking for a place to cross it. After crossing the stream we had to walk about another mile keeping out of the way of the wild pigs that were running around.

After a while we had to cross the stream again. This time we decided not to waste time looking for a place to walk across it and proceeded to rig a Tarzan type swing of Goldline from a tree overhanging the stream. After I rigged the rope Jim went across and I tossed him the equipment. Now it was my turn. I made it across but not without getting wet to my waist. From here we climbed a hill to the unique entrance to Onyx Cave.

The natural entrance to the cave which was about three feet square had been gated by filling with concrete except for a hole about a foot square. At one time there had been a swinging iron door which could be locked but eager cavers had since blown it off and only the concrete remains.

Onyx Cave had a little bit of everything. It has a fifteen foot entrance pit and another pit later on called "The Gorge". Its largest drop is a 150 foot dead end pit which we didn't bother with. Using a 150 foot and 200 foot Goldline we rigged both sides of both pits and used them as climbing aids. Double rope rigs were used everywhere so that the rope could be removed and used later on in the cave.

Ropework in Onyx includes a necessary ability to lasso formations. This was my first encounter with this type of rigging since most of our rigging in Virginia is of a fixed, single rope style. On the way out of the cave a double double rope was used to traverse the gorge.

Onyx Cave has many beautiful formations. The most striking and the most beautiful formations that I have ever seen were the walls full of helectites, some over six inches long. The cave was literally

covered with white helectites filling large wall areas and almost every crack with their twisted forms.

Jim and I didn't see the whole cave since both of us were rather wet, but Jim says that the back of the cave has large formations over ten feet in diameter.

Michael Frieders

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THAT CLOVER HOLLOW FEELING

On January 13, 1968, Mike Kayes, Don Laffoon, Sharon Priest, Tom Vigour, Terry Pick, and myself, Arabia Benitez, decided to go caving. It was one of those last minute "Let's go" trips. We were all gathered at Owens commenting on the snow storm raging outside and enjoying the warmth of being indoors. Tom Vigour was emphatically saying that only a fool would go caving on such a day yet, a few diehards were wanting to go. Terry kept deciding and undeciding to go caving and then someone mentioned Clover Hollow-- that was the catalyst! Phil decided to go because it was the crazy thing to do, then Mike and Don decided to join the trip in order to promote National Library week and all the while Vig sat back shaking his head telling us what fools we were and how we were going to freeze. But the insanity was contagious and even Tom couldn't resist. Little did Sharon, who was faithfully attending class, know or expect that she'd be going caving in a blizzard-- she'd soon find out.

Everyone scrambled off to get their gear which included novel additions to the library and off we went into the white and drifting snow. We stopped off at Radford Brothers for some candy bars. We got to the cave without too much trouble except that Mike managed to lead us half way up the wrong mountain. We tried to get the cars nearer to the entrance of the cave but the snow and the wooden bridge wouldn't permit it.

At the entrance we rigged in a cable ladder and the rappeling rope. Once in the cave we fueled our lamps and ate some candy bars and started caving. At the flowstone we rigged a rope and brought it over the 15 foot drop also that we could rappel that drop too, Tom gave a couple of bats artificial respiration--I hope they survived! At the Canyon Room the drop was rigged double and down Mike and Tom whizzed to Tom's mighty AAAA-EEEEEEEEE-MAAAAA. It was a fun rappel for all.

Phil, Sharon, and Terry went into the Thistle Tube anf made alot of noise coming out. We then went and completed our appointment in the Library with time out for a reading break.

On the way back we went through Mud River. Everybody prussiked out of the Canyon Room and then Tom, Sharon, Terry and I headed for the entrance leaving Mike, Don, and Phil to collect the ropes. When we reached the Haystack Tom went on ahead so that we wouldn't freeze waiting our turns to go up. Terry, Sharon, and I soon heard voices so under the haystack we went to investigate. As it turned out, a few fellow cavers had come by to see if we needed rescuing, which we didn't. (It was nice of them anyway.) We cable-laddered up and were all out of the cave at about 2:00 A.M. after having spent an enjoyable nine hours in Clover Hollow. We celebrated our safe trip later by downing a bottle of pink champagne.

* * *

CLOVER HOLLOW REVISITED

On Saturday, January 20, 1968, Steve Hall, Doug Perkins, Russ Peterson, and myself took a trip to Clover Hollow Cave about fifteen miles west of Blacksburg. We couldn't get Doug's Volkswagen up the snow covered road to the cave so we parked it on the side of the main road and hiked up, Steve Hall as usual didn't wear his cave clothes so we had to wait for him to change in a little shack that was used as a school bus stop.

Shortly we came to the sink hole entrance of the cave. Snow melt was pouring into one side of the entrance in a medium sized stream but we rigged the drop rope well away from it. We rigged a cable ladder for the return ascent and rappeled the seventy foot entrance on a doubled rope with single brake bar. At the bottom we pulled the rope in after us and proceeded to explore the cave.

We soon came to a narrow V shaped slit in the rock that really looked like a tihgt squeeze. Steve tried going through it and could barely get by as small as he was. The rest of us finally managed to get on the other side by crawling through a narrow passage that ran under the V slit.

We then came to a twelve foot deep crack in the rock that was hairy getting across to say the least. After rigging a handline over a flowstone bank, we were at the tie-in place for the Grand Canyon Room. At the tie-in point the ceiling is 150 feet overhead and the floor of the room is 100 feet below. With a waterfall dropping off near the tie-in, this room is really an impressive sight. We rigged in and made the rappel to the bottom. Once down we made our first stop at the Library Room. Anyone who has been to Clover Hollow will agree that the Library has some of the best formations anywhere. (Ha!)

The next few hours were spent in a fruitless search for the bottom of the Andrews Room. Once we got to a point at the top of the room and another time we were at a point half way up but we could never actually get to the bottom. During the course of events we managed to make the wonderful crawl through the Mud River twice. Finally with everyone bone tired and out of drinking water we decided to climb out of the Canyon Room and start toward the surface.

Russ, Steve, and Doug all had climbing cams while I was blessed with a brand new set of prusiks. I started up the rope first and naturally, as is my usual case, ran into trouble. About seventy feet off of the floor my prusiks started slipping. After a hairy ten minute interval where I moved the amazing distance of five feet, I finally got the knots working right again but not before I dropped my right hand glove to the floor. As a result, I got to the top of the drop with some pretty grimy looking rope burns on my fingers.

Steve Hall came up next and had trouble with his cams slipping. Once up he discovered that the teeth were nearly worn off of his two cams. Doug and Russ made the ascent with no trouble and were ready to start back to the entrance.

After retracing the obstacle course we went through coming into the cave, we were finally back at the entrance room. Now the only thing that stood between us and the surface was that seventy foot ladder climb--Owl my achin' arms! Nobody wanted to stand very long in the cold spray from the waterfall coming from the surface though and we were all up the ladder in record time. We got back to the cars in the general vicinity of 3:00 A.M. Sunday morning having stayed a total of twelve hours in the cave.

Bruce Byrd

* * *

CASS

Beside the fact that we were eight hours late in getting to the cave, things went rather well. After digging our clothes out of the three cars, we quickly tested the ropes and headed for the entrance of Cass. Bob (Spook) Swensson did the honors of guiding us (Mike Kayes, Don Laffoon, Phil Moritz, Gary Moss, Tom Roehr, and Chris White) atleast until the drop.

The entrance of Cass was apparently formed by the collapse of both ends of a small room. A stream enters the cave and leads the way down the first 750 feet of walking passage. There being several inches of snow on the ground and the temperature above freezing, this small stream was quite full and very cold. Not knowing what lay ahead we all took pains to keep out boots and packs dry.

Up to the crawlway the stream passage maintains a rather uniform height of seven or eight feet and a width of six to ten feet. About a hundred feet before the crawlway is a thousand foot side passage which branches off to the left. Being rather hurried we elected to explore it at some other time, perhaps as we exited.

Finally the crawlway which CAVES OF WEST VIRGINIA lists as usually only slightly wet. We had apparently come at the time of exception to the quote. Water roared over a waterfall, into a small but deep pool, and swirled into the belly crawl. At this point we came to the decision that an awful lot of equipment wasn't needed so we left it there. Onward we crawled, squirmed, and gurgled for 150 feet to emerge in a a canyon passage which emptied into the big room. The stream proceeded to plunge over the side in a rather awesome spectacle hinting of more to come.

Spook directed us upward about fifty feet from the falls (known quite aptly as Suicide Falls- octopus Laffoon trying, so it seemed, to prove it). Following the upward passage for about 200 feet we came to the rigging point. Here the passage is about six feet high and you stand on nothing more solid than a breakdown plug. Tieing onto a large rock and looping the rope around a stalagmite we prepared to make our descent. Mike volunteered to go first and got down without incident. Each of us followed and were on the bottom within an hour. The falls was so full as to efficiently drown out all conversation until we were several hundred feet down the passage.

However the passage itself made up for all lost words. During the few seconds that the magnesium ribbons lit up the room you could see the ceiling 180 feet above, the spectacular falls that in 130 feet hits the wall just once, and the enormous room that we were in. One piece of breakdown on the floor was the size of a small house.

Further down the passage Mike and Don began playing human fly the rest of us turned to the right as the passage became smaller but still quite imposing. We stopped here to browse through the cave log. The ceiling height now became low and we had to duck. In compensation, however, this area is decorated with hundreds of formations of every type and color. It took a real effort to get through the passage without breaking something.

Soon another well known obstacle confronted us- the Cat Crawl. This wonderful little crawl forces one onto his belly and then proceeds to soak him thoroughly. At the same time one acquires an ample coating of very gooey mud. Oh, the joys of caving were expounded at great length as we passed through the Cat Crawl.

beyond the crawl the passage continues for some 5,000 feet. Several deep pools and large dome pits are found along the passage. About two thousand feet beyond the Cat Crawl the upper passage

ends and one climbs down into the lower stream passage. This passage ends in a series of deep pools which finally blocked our further progress. At this point one is directly beneath but some forty feet lower than the big room.

Retracing our steps made us wonder if the cave had grown since we last passed through. The Cat Crawl passed, we rejoined Mike and Don and proceeded to the bottom of the drop. After a makeshift lunch from rather squashed cans (see what happens when you free fall a can 180 feet), Tom started up. Some four hours later I, the last of six, began climbing. Never be the last if you can help it-you spin. Mike and I hauled up the packs and proceeded out arriving at the entrance about five in the morning and some fifteen hours after entering.

Tom and Mike headed right for Washington while the rest of us headed up to the PSC Fieldhouse slowed only by a thick fog, pouring rain, and a lack of gas in Phil's car.

Chris White

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B.C. CAVERNS BY "STEELMAN"

To cut through the usual pre-cave verbosity, we entered B.C. Caverns late in the morning after a very eventful drive from Blacksburg. I need say only that the Rocket was in rare form.

The Entrance is a small fissure about two feet long and seven inches wide. After wriggling in and soon emerging at the famous Entrance Room, we picked our way down the Stream Passage. After about 2359 feet the stream finally ducked under a rock and disappeared. As most of you who have been here remember, this signals the beginning of A Crawlway. A Crawlway, with it's cave coral floor and walls, was a real relief for our aching bodies after the tortuous Stream Passage. Especially since everyone knew that only seventy-three feet away was the Trunk Channel. Soon all in our party emerged from A Crawlway and sat down at one side of the Trunk Channel for a cigarette. It was at this point that I showed the rest of the party the pads which protected my knobby knees from the lacerations and abrasions which they were now nursing.

Soon we were off on the second leg of our trip. I wanted to go downstream almost to The Syphon, turn off at The Sewer Passage and check some leads in The Formation Section. Little did I know what we would get into on this trip! Golly, golly.

* * *

Q. How is the Cave Club different form a VPI fraternity?
A. Your friends didn't cost $100.00.

At The Formation Section, so named because of its absolute lack of formations, we paused and admired the simple beauty of walls unencumbered by dripstone. My gaze was suddenly interrupted by a small stalagmite over in a corner which had previously escaped my attention. Outraged by this anomalous destruction of the room's symmetry, I promptly covered it with a carbide dump, announcing to the trainee present that this would serve as his conservation trip. After all, we had single-handedly preserved both the name and the perfection of The Formation Section.

The first lead I wanted to check was off to our left, just beyond The Rock Organ-a piece of breakdown named for its resemblance to an electric piano. The exploration of this lead proved to take up all the time we had allotted ourselves for exploration on this trip. Unfortunately, the section was not virgin, for there was one set of foo prints leading in; however there were none leading out, so I guess one could say the lead was "almost" virgin. The passage soon opened up into a wide flat stream channel with a sandy floor and a fair sized [illegible] stream winding on down. We soon encountered a beautiful formation on the wall. It looked exactly like an extremely large human gall bladder fashioned in stone. However, since there is already one Rock Organ in the cave, we decided to leave it nameless to avoid confusion.

After we passed The Nameless, the passage changed character. Soon we were climbing over breakdown and hopping from rock to rock, always led on by that tantalizing set of foot prints. Further on, on sandy floor again, a mountain of breakdown loomed over us. The breakdown was composed of rocks about the size of basketballs and completely filled the passage, which was about thirty feet by thirty feet at this point.

I sat down and ate a Charlie Maus Varigated Life Wafer while the others made a preliminary search for a way over or around the breakdown. It was then that I noticed the name "Arne Saknussum" written on the wall. I guess that was the guy in here ahead of us, whoever he may be. The others reported that they couldn't find a way past the breakdown. Then, almost simultaneously, we all noticed the now familiar set of footprints leading straight into the breakdown. After a quick poll we decided to call this The Terminal Breakdown and get the hell out. We took off on a "quick exit" type of trip-past The Nameless, up The Fair Sized Stream, out of The Lead, over The Rock Organ, through The Formation Section, out The Sewer Passage, up The Trunk Channel, through A Crawlway, over, under, around, and through The Stream Passage, into The Entrance Room and, finally, out The Entrance. Pant, pant.

So ended the trip in which The One Way Street was entered-named because of the expression, "Life is a one way street." I have found out since that trip that the owner has found it necessary to relocate his outhouse. Unfortunately he decided the most logical location would be right over that twenty-four by seven inch fissure in his yard-the entrance to B.C. Caverns. Oh well, at least that justifies the full name of the cave--Buntcha Crapp Caverns.