



# The Cascade Caver

Official Publication of the  
CASCADE GROTTO N. S. S.

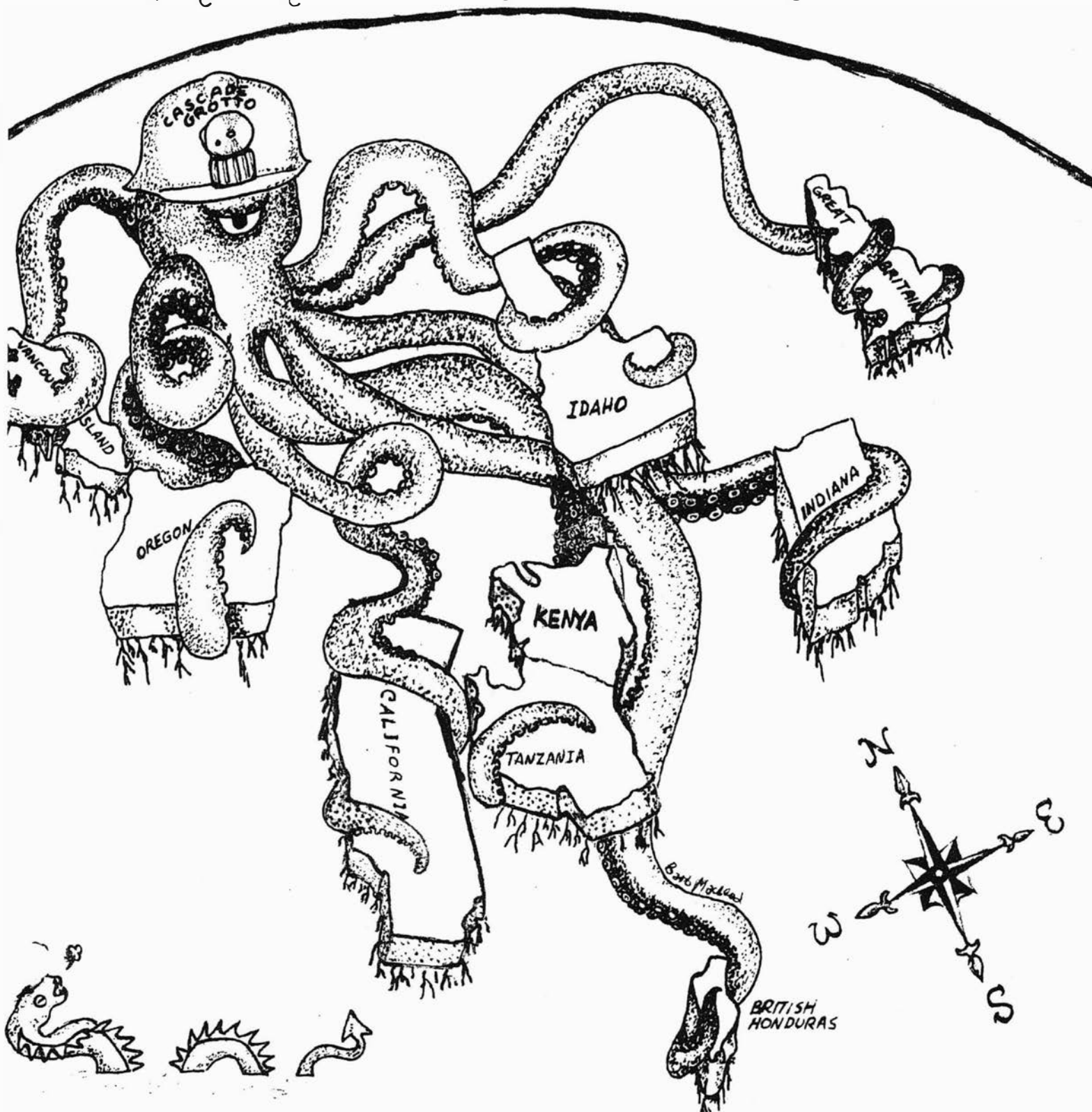


Volume 13, no. 3

Editor: Gurt Black

March 1974

"The Cascade Caver: Official Organ of World Control Underground"



## Coming Events

- March 3. Fifth in a series of rope practices in the Tacoma area. For information on future sessions: in Seattle call Tom Cunningham, 946-2410. Tacoma call Stan Pugh, SK9-6211.
- March 10. Concrete area. Call Jan Roberts, PR8-8503.
- March 18. Regular grotto meeting, irregular place; Camp Long, West Seattle. Directions and map on following pages. The meeting will start at 8:00 PM, and at 10:00 will move to a local pizza parlor. You are encouraged to come early, (try climbing on Sherman Rock) and to enjoy the speleo-camaraderie of the after meeting, meeting.
- March 23. International Glaciospeleological Survey Banquet. Program will feature movies, a slide show, and discussions on the present state of Northwest Glaciospeleology. Guests Welcome! For reservations call Charles Anderson, 935-0136.
- March 25 - 31. Potential trip to Vancouver Island. Call Black, 564-0988
- March 30 - 31. Definite trip to Vancouver Island. Call Brown, 762-7614
- April 12 - 14. Papoose Cave. Call Mischke, 542-2425.
- April 15. Regular grotto meeting, also currently scheduled for Camp Long, 8:00 PM.
- April 27. Cave Ridge - Cascade Cave. Call Brown 762-7614.
- May 11. Big Four glacier caves. Call Jan Roberts.
- May 25 - 27. Papoose Cave, Memorial Day Mini-Convention, & Second International Papoose Culvert Crawl. Seattle, call Brown. Tacoma, call Alex Sproul, 964-2505.
- July 4 - 7. Cave Ridge ice cream feed, and helicopter lottery. Call Black.
- August 12 - 16. NSS 1974 Convention, Decorah, Iowa. Chartered Bus from Portland - contact Charles Larson, 573-1782, for information.
- Labor Day weekend: NW Regional Convention, Craters of the Moon, Id.

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### New Grotto Member:

Chris Barnett, 1406 N.W. Horn, Pendleton, Ore. 97810.

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Phil Whitfield reports that the Alberta Speleological Society has pushed Arctomys Cave on the Alberta-British Columbia border to a depth of 1714 feet; North America's deepest cave north of Mexico.

## Last Months Meeting:

### Recent Field Trips

No cave trip reports were given at the February meeting. (Although there were many ill-tempered comments about the equally nasty weather of that month.)

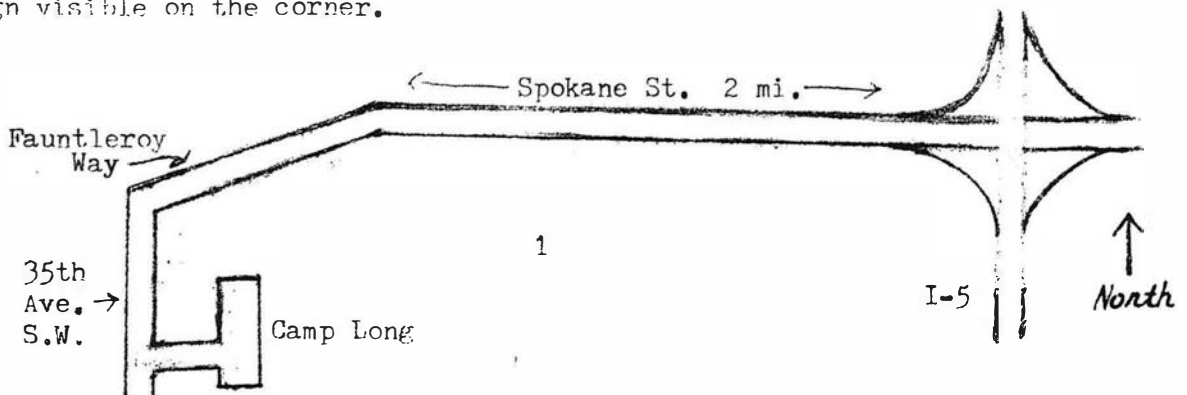
Washington's Birthday weekend three Cascade Grotto members made it down to the Western Regional Educational Seminar in Portland, Oregon. Stan Pugh, Alex Sproul, and Curt Black there found a group of about 40 dedicated cavers from as far away as Los Angeles. Although the organizers had hoped for a larger turnout, the size of the group (and the rain) made for a closely knit, and very congenial gathering. Gerald Zimmer in particular, and the Oregon Grotto as a whole did a fantastic job of providing shelter, activities, and a good time for everyone involved.

An educational seminar, as explained by David McClurg, program chairman, is essentially hoped to tie the region together (not an easy job in a region which stretches from Mexico to S.W. Washington). Toward this goal the program presented us with an opportunity to learn what was going on in the Western region, (Malheur Cave, Oregon Cave project, and a report on the Caves of the Wallowa Mts.) featured an exchange of technical information, (vertical sessions, and a session on "Cave Photography" by Charlie Larson) and included discussions on items of general interest. (Conservation, and public relation problems, and policies, and "Pros-and-cons of cave lists")

Altogether it was a very rewarding weekend, with perhaps the nicest part being the opportunity to meet the faces, and personalities behind the names we see in the Western Regional publications. (Our thanks to the Oregon Grotto members who scrounged up enough gas to get us to Seattle with an extra 45 minutes before the CG meeting started Monday evening.)

Much of the February meeting was devoted to a discussion, and examination of certain grotto policies. Foremost among these was a sadly circular, but still highly informative airing of members views of the present state, purpose, and potential of the *Cascade Caver* as a grotto publication. Another topic of discussion centered on the grotto itself; it's future, goals, and how these goals should be realized. If there be any doubt as to whether the discussion served any purpose, I offer into evidence this publication, and the following.

How to get to the next meeting: Exit I-5 at the Spokane St. off-ramp. Keep left on Spokane St. Viaduct; travel west approximately 2 mi. Continue on Fauntleroy Way (Ave.) to 35th Ave S.W. Turn left onto 35th Ave. S.W., and travel  $\frac{1}{10}$  mi. to S.W. Dawson St. Turn left onto S.W. Dawson. "Camp Long" sign visible on the corner.



## Features

Report of the Alaskan Cave Areas Task Force,  
NCS Conservation Committee

By *Julius Rockwell, Anchorage*  
October 14, 1973

In April 1972 Hedges requested that I look into the possibility of reviewing the Alaska cave situation with the idea of providing data for influencing land withdrawals.

I accepted with some trepidation as anything in Alaska generally becomes an emotional issue mainly because so little data is available. However, my ability to get around could have been an asset to the NSS. I work for the BLM in their Pipeline Division, and had already seen a number of attractive openings on mountain sides.

In July 1972 I met Jim Hedges in D.C. and he said that he would get me BLM support. When I returned, and recovered from a brief illness (brought on apparently by the smog in the east), I found that (1) my assistant was leaving and would not be replaced, (2) all travel had been eliminated, and (3) our funds had been cut to 1/3. This did not happen as a result of Hedges' action, but it did curtail my activities somewhat.

This summer I was visited by Bowers and was inspired by his pictures, and interest in cave theory. I also learned what had been going on in the caving community and in caves, and, for the first time, understood the drive for cave conservation.

Since my regular job is to assure that a large construction project is completed without damaging the environment, I must do all that I can to remain professionally objective, and emotionally uninvolved with either side -- "those for progress" and "the environmentalists". It is not easy as they both distort what facts do exist, though there are many here that prefer the middle ground. In the whole conservation issue in Alaska, and it is incredibly important, I have yet to see where a cave will be endangered. The remote possibility does exist that a cave will be inadvertently destroyed, but the probability is very low indeed.

If the concern for caves should come up at a hearing in the face of (1) tearing up the landscape with all terrain vehicles, (2) littering up the countryside with empty oil drums, (3) preventing miners from mining, (4) oil men from prospecting, or (5) natives the right to "their land", -- all, because there just might be a cave in there somewhere, we would be laughed out. What caves?

I have heard that the longest cave (in rock) in Alaska is 400 feet long. To date I have been in 12 caves and the longest of these was 70 feet. Now, glacier caves appear to be a renewable resource, and nearly every glacier, or large snow slide has some. But I am rather concerned that the equating of the degradation of the lovely, spacious, and extensive caves in the east and midwest, to the hypothetical caves in Alaska can do Alaska caving more harm than good. I have yet to see evidence of cave wear, or vandalism. There are just not that many cavers up here and the ones that are here are not very active. What we need to do here is to get on with the scientific work. After we have gathered an adequate amount of data we can then determine what, if anything, needs to be done to protect the caves that do exist.

Caving here is discouraged by what I call decoys. These are caves that appear quite attractive from an aircraft, river, or road several miles away, but which after an arduous trek, turn out to be three to six feet deep. Also, getting to caves is much more difficult than one might imagine from their experience with unmapped roads. Here there are so few roads that all are mapped. It is not just a matter of getting into a four-wheel drive truck equipped with pontoons. This country is just one big swamp underlain with ice that never melts (permafrost). Helicopters are available for \$200 per hour of running time, but must refuel about every two hours. Existing maps are poor, and the mile to the inch variety are not available for many areas.

As a further illustration of the inaccessibility of caves to the average caver, Hallinan and I, on a highly organized trip took a week to go caving in the Galvraith Lake portion of the Atugun Valley. Normally a four-hour trip, it took our helicopter two days to reach the camp because of uncooperative weather, and helicopter malfunctions. The next day the chopper dropped us off in a cave-infested valley. After two futile attempts to get into caves we climbed about 900 vertical feet up an unstable talus slope to the base of a cliff where we found three caves two of which we were able to enter. (I must interrupt this dissertation on the difficulty of getting into Alaskan caves to say that for a speleologist it was all very much worth the effort, as the speleogenesis appeared to be different for each of the three caves visited.) That evening we walked a half a mile up the stream by the camp to another cave by the water's edge. It went back and up fifty feet, and was big enough to sit up in. It had not been visited for at least two years, apparently, although the camp had been in active use during this period, and the cave had been discovered, and reported to me, by a scientist working there. This was our only day of caving. Three new caves -- not bad, but quite an effort for an out of stater who did not know his way around.

From the above it would appear that the caves would be in no danger even when the highway is built. They are not that interesting to the average person and even to most cavers who, by the time they would have gotten this far, would have chased out so many little pits that their enthusiasm would have been distracted to other aspects of senic grandure.

However, these caves are pretty interesting, and shouldnot be ignored. They raise so many questions. When did they form? Can any be found that extend below the permafrost? Are the many small caves the result of frost action, or are they indicative of deeper openings long since burried? What riddles of antiquity lie burried in their dirt floors, and what answers lie in their depths? Artifacts thought to be 28,000 years old have been found near Old Crow just several hundered miles to the east. We will not know the answers to these and other questions as yet unasked, till we have made, and documented many more observations. This must be done collectively.

The problem in Alaska is not cave conservation, but cave discovery, discription, and understanding. Halliday once suggested, "Alaska Speleological Survey", or if one was worried about acronyms, "Alaska Cave Survey". Prehaps he was right. We need individuals that will (1) establish and maintain an Alaska cave file which will include information on Alaska Caves, rumors of caves, and shallow shelter caves that have already been checked out, (2) a clearing house in Alaska that could direct visiting cavers to rumored caves in parts of Alaska they will be visiting, (3) establish and maintain a bibliographic card and reprint file on articles on Alaska caves, (4) an editor publisher for the Alaska Caver, and, finally, an annual or biennial symposium, possibly in connection with the Alaska Science Congress, to deal with such subjects as speleogenesis in premanatly frozen ground, animal use of caves in the Arctic night, ect.

## "Karstology" of the Gruesome Chapel Valley

From "The Speleobopper's Guide"

(This is offered as "at least a start" on a series which will examine speleogenesis in limestone, lava, and ice. -- ed.)

It becomes necessary at this point to define the term "cave" (or cavern). It is my opinion that a cave, being a cavity, does not exist; this being evidenced by the fact that a cave is nothing more than the absence of stone. The above statement may seem paradoxical, but as explanation I offer the fact that a cave must be surrounded by stone, but its very existence depends upon the stone not existing in a particular locality.

Caves are found in an endless variety of shapes and vary greatly in size. The idea of predicting the physical limits of a cave is one of my greatest endeavors. These are my conclusions:

- 1) A cave having no openings to the outside cannot be measured since it cannot be entered. A cave such as this is completely encased in stone and has definite limits; although these limits cannot be determined.
- 2) A cave having one or more openings to the surface of the ground can be entered and physical measurements undertaken. However, owing to the fact that the cave is not completely enclosed in stone, it does not have definite limits, or measurable limits, and any endeavor to take measurements would be the sheerest folly and utterly useless.

### Cavern Development

In my opinion the Invasion Theory of Cavern Development cannot be valid. That theory suggests cavern development stems from igneous intrusions which were subsequently weathered into cave clay when tremendous geo-compressional forces applied by cataclysmic earthquakes disrupted their unstable crystal structure during an early period in the earth's development. Since the cataclysmic theory of landform development has been disproven, and is no longer generally accepted (except by a few turkeys in the East) The invasion Theory cannot hold true.

In my opinion caves are developed initially by limestone-ingesting bacteria that are normally found above ground, dormant yet basking in the infrared rays of the sun. These specialized species are adversely affected by ultraviolet radiation and during periods of intense sunspot activity are forced to seek shelter in the earth.

That some sunspot periods have been quite lengthy is evidenced by the larger cavern systems of the world, such as Holloch, and the Flint Ridge/Mammoth system (not to mention the Rubbish/Tin Can system of Wa.). Evidence for the existence, and undertaking of these species can be seen, I suggest, in the existence of a rare substance generally known as Moonmilk. This is a colloidal suspension of carbonated calcium that is found in caves and is always related to ordinary-appearing bacteria. It is a well known and established fact that moonmilk is the excrement of these bacteria. The rarity of Moonmilk at the present time signifies a lull in sunspot activity.

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#### Crawlway Comment:

"There may be a destiny that controls our ends, but our middles are of our own chewing."

From a VAH newsletter

Caves and Karst of Zanzibar: an initial reconnaissance  
by Dr. William R. Halliday

On february 21, 1974, I had a quick look at part of the island of Zanzibar, visiting Mangapwani Cave by taxi from the Zanzibar airport. Subsequently I got a look at the entire island from the air, en route from Dar es Salaam to Mombasa, turned up several references to caves on the island, and talked to a couple of people in the town of Zanzibar itself, both in the tourist business, and supposedly familiar with the island. One said that Mangapwani was the only cave on the island; the other indicated that the island had many caves and the Tanzania Friendship Tourist Bureau, (apparently a government monopoly) could arrange visits to at least some of the others.

Besides well-known Mangapwani Cave, which even appeared on two postage stamps about a decade ago, reference books refer to a "stalactite cave" near "Mile 36", west of Makunduchi near the southeast corner of the island. One specified that it is "3 minutes by car up a rough track through the bush on the right", and that guides may be obtained at the nearby village of Kufile (at "Mile 35"). One also mentions "an interesting cave, the alleged abode of spirits, in which fish may be caught at low tide" a short distance south of the village of Chwaka. I also noted the apparent entrance of several littoral, or solution caves in low coral cliffs north of the Mangapwani Beach.

At least from 20,000 feet up, and from the road I followed along the west side of the island, karstic features are few. Coconut palms, bananas, mangoes, cassava, and native vegetation obscure most of the surface (the famous clove plantations are on other parts of the island). The two observed entrances of Mangapwani Caves are isolated collapse features. En route to the cave, however, I noticed a stream valley heading a few hundred feet from the sea; on Okinawa such features often indicate a resurgence cave. At least one guidebook mentions two rivers sinking. What I saw of the island appears to be emerged, poorly consolidated Plio-Pleistocene coral with low relief. the country rock exposed in the walls of Mangapwani Cave is of remarkable porosity.

Mangapwani Cave is said to have been used as a holding pen for slavers' cargo before slave auctions in Zanzibar, some hundred or more years ago. It has two entrances. One is large, and overhangs about 20 feet; it is now the site of cement steps which are in frequent use since the cave is the water source for Zanzibari living nearby - and also the daily quota of tourists. The part of the cave I visited consists of a single spacious passage mostly about 30 feet wide, with stoopways at two points. Near the bottom of the steps is a pool about 2 feet deep and 5 by 10 feet wide. Pot shards of varying crudity surround it, but tin buckets are in present-day use.

The main roomlike-passage extends about 200 feet roughly southwest to a larger pool with a small amount of dripstone, rimestone, and some subaqueous macroglobular coralloids. Just beyond is a steep breakdown slope topped by a small orifice through which slaves were presumably prodded for storage; it could easily be closed by a single large rock. Many land snail shells of at least two varieties were seen here, some four to five inches long. Millipedes and unidentified small insects were in evidence, and a few bats and their droppings.

The first pool mentioned is almost at the back of the entrance room. Because I was disturbing a large colony of bats, I went only about 200



feet beyond, beneath two duckunders, into another, larger room. Along the way were local patches of straw stalactites, and other dripsoré, and flowstone. Tree roots are seen throughout the cave, but not in great profusion. Most of the cave is bare of speleothems, exposing the porosity of the country rock. It is hot and humid throughout, and even slow, deliberate movements cause profuse sweating.

Because of the tense political situation which has prevailed ever since Zanzibar's independence, it would be well to check with diplomatic sources in Dar es Salaam before planning to visit the island, and to write the Tanzanian Friendship Tourist Bureau well in advance (P.O. Box 216, Zanzibar, Tanzania). Possession of lots of things we consider entirely ordinary, including many books, and even the stamps mentioned above, is severely punished, and although a fine new hotel (Hoteli Ya Buauni, P.O.Box 670) encourages tourism, recent episodes on the island suggest that visitors should be very careful to comply with local law, regulations, and "suggestions" alike.

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### *Reccomendable Reading*

*Karst.* J. N. Jennings. M.I.T. Press, 1971. Introduction to Systematic Geomorphology, vol. 7.

A review by William B. White,  
Penn. State University

Regions of the countryside underlain by carbonates, gypsum, and other soluble rocks develop a characteristic suite of surface, and subsurface landforms collectively known as "karst." Karst research in the United States has always been a rather minor effort, but the new significance attached to environmental geomorphology in the past several years has shown that karst terrains above all others present a unique set of environmental problems. Highways collapse into sinkholes, building foundations subside, dams leak, water supplies are polluted, and the development of groundwater resources is hampered by the peculiar hydrology of mature karst. In spite of the great reawakening of interest in carbonate hydrology, and geomorphology, there has been no where an interested student could turn for a summary of the present state of knowledge. However, this situation is rapidly being corrected, and to the writer's knowledge there are a half a dozen books on karst somewhere in the pipeline.

Jennings has written a textbook for topical reading at the senior or graduate level. It is the seventh of the series of volumes on landform studies. Modern geomorphology emphasizes processes: rivers, winds, waves, snow, and ice, and chemical attack by solution. Karst landscapes result from strong chemical attack by surface, soil, and groundwater on rocks of specific lithologies with strong guidance by structural elements. Solutional sculpturing of the landscape differs from other geomorphic processes in that in addition to a characteristic set of landforms -- sinkholes, dry valleys, bold residual hills, and a variety of small etching and sculpturing of the bedrock surface -- there is also a corresponding set of underground structures: caves of many shapes and descriptions, underground streams, and deep vertical shafts. They are all here: the description of the landforms, the processes



that formed them (although the book is a bit thin on chemistry, considering that karstification is mainly a chemical process), the role of structure, the role of climate, and the way in which karst areas have evolved through time. Jennings is widely traveled, and his examples flit lightly from Australia to the Adriatic, to the U.S., to Britain, and back to Australia, all within the same paragraph. The book is a delight to read, and should serve its purpose as an introductory text very well.

*Science*, vol. 176

(I fully agree; a very enjoyable book dealing with many things we in Washington haven't the opportunity to commonly see. It took me from the level of "haystack hills" to "hemispheroid conekarst". -- ed.)

# An Exploring Mind Maps Cave Secrets

BY WALTER EVANS

We know too little about the earth's surface, and what lies under the sea to be smug about the state of exploration, the national president of the Explorers' Club said here yesterday.

"We're proud of the accomplishment of putting a man on the moon," Russell Gurnee of Closter, N.J., said. "But there are incidents that make us realize just how little we know about this planet.

For instance, when an atomic bomb was dropped off Spain in 600 feet of water it might as well have been on the moon for the difficulty we had in retrieving it."

Gurnee was in Seattle

for last night's banquet of the Northwest Regional Explorers' Club, the ninth such affiliation chartered by the national organization.

An engineer who has a heating and air-conditioning firm, Gurnee is a noted speleologist (cave explorer) who has co-authored "Visiting American Caves" and "Cave Life." His newest work, "Discovery at the Rio Camuy" tells the story of his 14 years of work on a cave that he discovered in western Puerto Rico.

"The cave has been purchased by the Puerto Rican government," Gurnee said, "and probably will be a national or territorial park.

The Post-Intelligencer

Thurs., Feb. 7, 1974

place no one has been before.

"My contribution to speleology has been primarily in mapping and cartography. It's very challenging, very different from ordinary mapmaking because you work in three dimensions."

Although he likes to explore places no one has been before, Gurnee's work where another culture had been led to a revolution in thinking about Central American Indians' ceremonials.

"A study in 1900 had concluded that Central American Indians did not use caves for ceremonies. Archeologists accepted this. As an amateur, it looked to me as if there were ceremonial sites in the caves I had explored in Guatemala."

That led to an expedition with scientists in 11 different disciplines. They discovered that Mayan Indians did indeed use caves for ceremonials and a television documentary, "Riddle of a Mayan Cave," resulted.

"If it is developed it will be one of the most remarkable caves in the Western Hemisphere. It has rooms big enough to hold the Olympic Hotel.

"One of the rooms is 650 feet long, 300 feet wide and 250 feet high. We've charted seven miles of an underground river 50 feet wide that runs through the cave.

"Periodically the river floods as much as 30 feet up the walls of the cave."

As he speaks about the Rio Camuy, Gurnee's interest is evident to a listener. He explains his interest in that and other caves simply:

"It's the sense of the unknown. There's a frontier there under the ground, a

## *Caves of Kilimanjaro*

by William R. Halliday

While buying maps at the Tourist Information Center next to the Hilton in Nairobi, I was intrigued to see an unnamed cave on the north side of Kilimanjaro at about the 9800 foot level, on the amboseli quadrangle. I was unable to obtain any information on it, and apparently it has not yet been checked out by any member of the Cave Exploration Group of East Africa. I had a good look at this area from several directions while traveling from Amboseli to Tsavo West National Park via Oloitokokok, and that part of the mountain appears to consist of comparatively gently sloping flows which may well be pahoehoe. Good cave hunting!

From Jim Simons, president of the CECEA, and also from a non-caving school-teacher from Arusha I learned of a well-known shelter cave on the south side or southeast side of the mountain, visible from the saddle, and named by the Wawambe people "The House of God". It is said to be about 10 feet high, 40 feet long, and 40 feet deep, and not to have been visited until Europeans scaled the mountain by a nearby route. There are many small cinder cones on the lower north, and northwest slopes of the great mountain, but I was not able to learn whether pahoehoe flows are also present here. Nor was I able to obtain information as to whether there are any glacier and/or geothermal caves at the summit; if so, a challenge indeed!

### **"WHERE THE RAIN NEVER FALLS"**

Over 40 minutes of cave songs from the 1972 NSS ballad contest on a 33 RPM stereo record. Profits to go to the NSS office fund.

Record cost .....	\$3.50 postpaid
Cassette cost .....	\$4.50 postpaid

Checks payable to the NSS Cave Ballad Contest. Bill Zarwell, 1040 N. 47th St., Milwaukee, Wis. 53208.

Time is short for an editorial, but I did want to say that the interest shown at the last meeting was just fantastic. With that kind of participation by the members of the grotto the benefits to the grotto, to the members, and to Northwest Caving as a whole are unlimited. Keep it up! (NOTE: Camp Long will be open for socializing from 7:30 on. The business meeting WILL START AT 8:00 P.M.!)

*Curt Black*

*The Cascade Caver*  
3530 Greenwood Ave. W.  
Tacoma, Wa. 98466