

Train of training curvey charge and and

Scale 1:20,000

Reduced and simplified from 1:2,000 map by Speleological Society of Korea, courtesy Larry Peterson

- (1) collapse inks apparently segmenting system
- (2) main entrance, leading into main part of system and also into unmapped segment estimated to be about 1,800 m long
- (3) apparent lower end of cave; 380 m to next cave.



Figure 1-1: Ignimbrite blister cave. Photo by Dr. Anthony Sutcliffe.

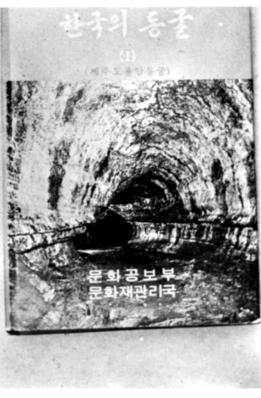


Figure 1-3: Korean Caves: Manjang Cave (Red Dragon Cave) on Cheju Island, published by Korean Ministry of Information and Cultural Preservation.

## Moderator's Remarks by William R. Halliday Symposium Chairman

Welcome to the International Symposium on Vulcanospeleology and its Extraterrestrial Applications -- to our knowledge the first such meeting ever held, and certainly long overdue.

Because of the large number of papers submitted, participants are hereby notified that I intend to be ruthless in maintaining our schedule so that at least a little time will be available for discussion of each paper.

As will be seen as we proceed, there are some minor changes from the preliminary program. Perhaps the most important of these are the title and content of Alan Hatheway's paper. Frank Howarth and Alan Swanson have consulted and decided to reverse the order of their papers.

I bring you the greetings of a few would-be participants unable to attend, and others interested in the symposium but overwhelmed by obstacles of time, distance, and obligations. Jim Papadakis is in the middle of the busiest part of the tourist season of his Crystal Ice Caves, and has sent us a multimedia presentation in absentia. Alan Howard telephoned yesterday expressing regrets at being swamped by the Apollo program and that his paper must be read in abstract only. This will be done by Will White of Pennsylvania State University, Chairman of the N.S.S. Section on Geology. Bernie Joyce sends trans-Pacific greetings from "Down Under;" his paper will be read by W.R. (Ted) Livingston, state geologist of Washington. Stuart Peck is engaged in field work in British Honduras; his will be read by a fellow temporary Canadian biologist, Russell Harmon. Transatlantic greetings are expressed by Messr.s Wood and Mills; their notable report will be read by Eugene Kiver, Professor of Geology at Eastern Washington State College. Anne Atkinson personally brings the compliments of her fellow Australian vulcanospeleologist, Neville Stevens, and will present their joint paper. And northwestern vulcanospeleologist Charles Larson, who as convention chairman thought for a while he was going to get away with delegating all the work to others, will present Alan Hatheway's provocative paper.

I am specifically authorized to express the compliments of the Grupo Vulcanoespeleologico of the Tenerife Mountain Club, with headquarters at La Guancha, Tenerife, which I recently visited. Its members were delighted to learn of the growing world-wide interest in their favorite topic.

Astronaut, former N.S.S. member, and calcareospeleologist Karl Henize sends his regrets, mentioning that vulcanospeleology is a part of the current training of American astronauts. Also expressing regret are John Guest and Anthony Sutcliffe of London, both of who have major articles scheduled in a forthcoming vulcanospeleological issue of Studies in Speleology, the notable international publication of the Pengelly association in England. I commend this publication highly to anyone unfamiliar with it. Anthony sends this slide of a type of volcanic cave unknown in the western hemisphere, showing one of a number of numerous ignimbrite blister caves in the Mount Fantale region of Ethiopia (Fig. 1-1). \*

Even without considerations of its extraterrestrial applications, vulcanospeleology suddenly has come into its own. This has occurred so rapidly that communications have lagged badly, which is why we are here today.

This symposium obviously will not even solve some of the most superficial unanswered questions, like the location of the world's longest lava tube cave -- the Canary Islands, Cheju Island, Korea, where Manjang Cave (Fig. 1-2) has been the subject of a recent book (Fig. 1-3), Hawaii, Skamania County, Washington, or elsewhere. Answers to that and many more important questions will evolve only in the course of systematic field work. But at least we can begin here. Already from the convention guidebook (Halliday, 1972), it is evident that the terms''lava tube'' and ''lava cave'' are not synonymous. I would suggest that any skeptics in the audience take a look at the map of Dead Horse Cave (Fig. 1-4). Much needed is standardization of nomenclature for example defining such basic terms as ''lava tube'', ''lava tube system'', and ''megasystem''.

Today we seek common ground long overdue.

<sup>\*</sup> After the symposium was completed, Mr. J.W. Simons, president of the Cave Exploration Group of East Africa expressed keen regret that a communications gap in their organization had prevented their submission of a major paper on the noteworthy lava tube caves of Mount Suswa. A preliminary report on these caves appeared in Volume 1, no. 1 of Studies in Speleology.

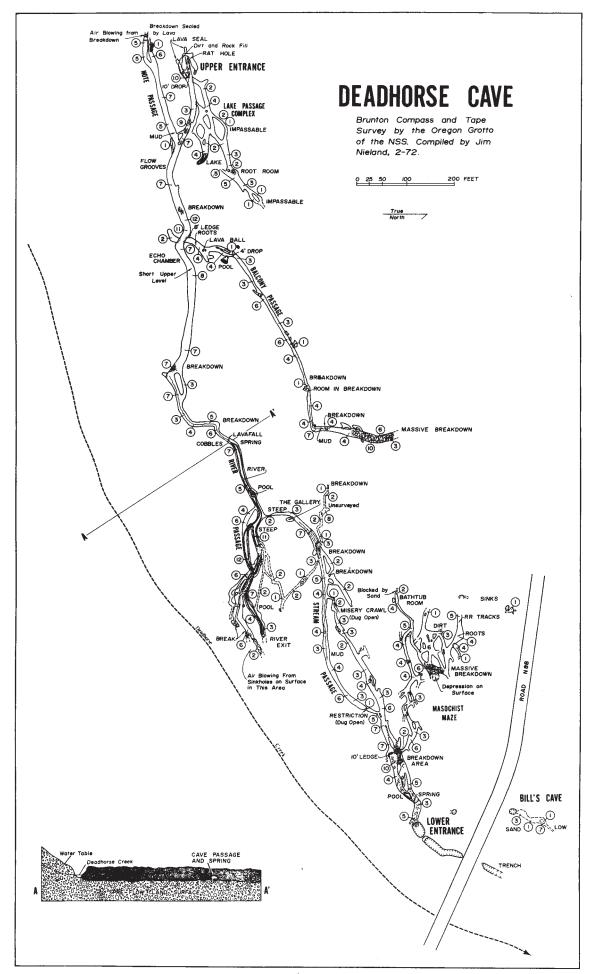


Figure 1-4