

# EXPERIENCING THE CAVE ENVIRONMENT: NEW WINDOWS FOR THE VISITOR

– Elery Hamilton-Smith

Professor Elery Hamilton-Smith, in his robes as a Doctor of Applied Science, with his wife Angela



## ABSTRACT

There is an awful predictability about the way in which we present caves to the general public, or even to potential cavers. It is generally environmentally insensitive and disrespectful of people.

We continue practices, such as inappropriate infrastructure and appalling “guiding”, simply because things have always been done that way. It is time for a total re-think of the way in which we present caves: visually, environmentally and socially. This paper will present a number of suggestions for change and examples of improved practice.

## INTRODUCTION

Pathways in caves often comprise massive concrete structures, poured in situ. It seems to be assumed that this is the only way to provide access. In fact, it is often ugly and intrusive; it causes significant changes in microclimate and may even eliminate

some fauna; it destroys the integrity of the floor (often the most valuable part of the cave); it usually sets up electrolytic corrosion of the calcite upon which it rests; and it is inflexible, making change and improvement extremely difficult. Yet leading exponents of this approach often hold themselves up as a model of cave development and thus unthinkingly extend their destructiveness more widely.

Given the value of cave floors, there is no really satisfactory substitute for elevated walkways. These may be of pre-cast concrete (although only Jeita Cave in Lebanon provides a satisfactory example), ceramic tiles, recycled plastic or perhaps some other.

The only satisfactory timber for this purpose appears to be the remarkable Belian of Southeast Asia (but note that unscrupulous traders will sell other totally different and inadequate timbers under that name).

Then, given an elevated walkway, it provides the ideal location for a services conduit (which should always carry electric power supply, water supply, a vacuum hose, optic fibre or other communication lines and still leave space for technology not yet invented), transformers, monitoring equipment and the like.

Then, of course, “guides” and “interpretation” are seen as essential. I wish we could magically eliminate those two words as a starting point for getting rid of the flawed assumptions that underlie both of them.

Experience in some of the great cultures of Asia has convinced me that we do not need “guides”, but that we should do visitors the respect of proper welcoming and hosting by staff. Similarly we should stop insulting visitors by imposing them our assumptions about what should be offered as “interpretation” and rather proceed by discussing their own experiences and perceptions, helping to build their love of and interest in the environment (more below).

We all too often forget that caves have fascinated humans as long as humans have existed (and probably even earlier in our evolutionary history). We now recognise the compelling evidence that the Neanderthal saw caves as a sacred place.

The use of caves for religious purposes and for meditation provides widespread living examples. Our own innate sense of spirituality (providing it has not already been destroyed by our so-called civilization), and given the opportunity, responds positively to the cave environment.

## **PRINCIPLES OF INFRASTRUCTURAL DEVELOPMENT**

Having introduced above the widespread problems of infrastructural arrangements let me suggest a set of principles that should set the scene for rethinking its role and character.

Most charters for heritage management insist that any infrastructural change must be as unobtrusive as possible, and if anything enhance rather than detract from the quality of experience. Even further, it must be executed in a way which allows its removal if desired and which in such an event, can be removed in a way that leaves no evidence of its existence. This, in itself, shows the fallacy of the thousands of tons of concrete poured into tourist caves.

A further fundamental issue and principle in respect to caves is the recognition that the floor is often one of the most valuable parts of a cave. It is often claimed, "Caves are the Books in the Library of the History of the Earth".

If we genuinely accept this position, even if we cannot always read the books, then the floor provides some of the most important pages in the books. It includes the palaeo-climatic log, an inventory of past vegetation and even some of the fauna, and a log of some of the major events in history.

The next element in making caves accessible is illumination. The tradition has been to flood caves with light, so that everything could be seen, but of course, this tends to eliminate the sense of mystery. It also changed the relative humidity, dried out delicate speleothems, and caused *Lamproflora*, which was not only ugly, but often etched the rock on which it was located. Generally, it was also assumed that the one system of lighting must provide for clear illumination of both the pathway and cave features.

Today many lighting designers assume that the pathway should be adequately lit on a separate circuit with automatic backup which will operate in the event of a power failure. Further, there should be minimum spillover to the rest of the cave. An independent system can then illuminate those elements that warrant display, each with lighting design appropriate to the nature of the feature.

The end result may well provide a series of vignettes, almost like the paintings in an art gallery but this should not be assumed as the desirable pattern to follow – some caves demand a very different effect. Again, perhaps it is worth emphasizing that this lighting should not be allowed spill over to the pathway.

The new technologies allow us to use a diversity of low voltage and low temperature light sources, thus minimizing the negative impacts. Given that many staff have not mastered the proper use of that abstruse technology known as a switch, all feature lights should have an automatic switch-off after an

appropriate time delay. Other bits of useful technology include remote control switching, dimmer switches, proximity activated switching and sound activated switching. In brief technology offers an incredible range of lighting effects and while this means that we can do almost whatever we wish, it makes it clear that generally, lighting cannot be left to electricians but demands competent and practical designers.

## **THE HUMAN ELEMENT**

Again, in my introduction, I emphasized the importance of welcoming and hosting visitors. We must eliminate the inherent cattle-herding tendencies of cave "guiding" as currently practiced.

Let me take Ha Long Bay as an example. When a group of visitors arrive, a host who finds their preferred language meets them. If there is no one on hand who is fluent in that language, they can usually provide someone who speaks a related language and so can at least establish a reasonable degree of communication. On one of my visits, I checked and found the 17 staff on duty has a total of 23 different languages between them.

This is a wonderful demonstration of the comparative arrogance of our English-language tourism industries! Once that step was over, their host would further welcome them, find out a bit about their interests, answer any questions and give a very brief introduction to the site. Then, they would say "Now, you can go through the cave by yourselves and at your own pace or I could walk through with you. Which would you prefer?" It was usually also explained that if they walked through on their own, they could always ask questions then or later.

Even if the host accompanied them, they did not herd the visitors or talk at them. They simply walked and talked with the visitors, responding to their questions or comments, joining in their discussions.

At Shilin in China, the Yi people behaved very much in this way, although they did not have the great multi-lingual skills of Vietnam – but they did speak the most perfect English I have ever heard in China (or Australia). The wonderful quality of their hosting could be directly contrasted with the commercial "guides" who accompanied bus tours and were cattle herders of the worst kind, showing little interest in or capacity to relate to visitors.

Another possibility is the so-called self-guiding tour – I must say I prefer to think of self-timing – why on earth would anybody want to inflict guiding upon themselves? Akiyoshi-Do in Japan has an excellent program where the visitor movement all flows in one direction, while the hosting staff move through the cave in the opposite direction, or are stationed for long periods at key points in the tour such as the great Golden Pillar. I also found Jeita especially wonderful as so many visitors sat on the edge of the pathway just gazing at and absorbing the beauty or simply meditating.

Boardwalk over the lake in the final chamber –  
Aktun Chen Cave, Yucatan, Mexico



Something else I have always enjoyed is the sites where once people have been through a cave, they are invited to sit down in a garden, have refreshments, and talk with hosting staff. I have found this to be particularly pleasant in New Zealand (cookies and coffee in the owner's front garden); Thailand, Vietnam, Myanmar (all with superb food) and at Aktun Chen in Mexico (amongst spider monkeys and Occellated Turkeys).

Fun and joking may be part of the hosting, and "guides" probably use it largely to relieve the tedium of their own experience. But above all else, I am convinced music can do far more to enhance the beauty of an experience far more than anything that might be said.

I recall the young man whose tour was always accompanied by his own playing of a didgeridoo, the young woman who played flute solos taken from J.S. Bach, a harpist, another who had trained as an operatic mezzo-soprano singing selected arias, and a Tuija farmer in China with a wonderfully rich baritone voice signing the folk songs of the mountains. But the best hosts will be people will be those who can sense and respond to the interests and moods of the visitors.

### **FINALLY, A COUPLE OF EXAMPLES**

The Naracoorte Caves World Heritage Area is now recognised as being at the forefront of tourism in Australia, but at the same time, it has one of the finest of the WH sites of the world from the perspectives of research quality, both natural and cultural heritage conservation, restoration and presentation. I can only deal here with the latter of these.

The initial recognition was based upon the quality of the fossil site, but it is now a wonderful multi-dimensional experience. As one drives into the park, there are massive steel replicas of the skeletons of the extinct mega-fauna fossils found on site. Then as we leave the car park., we walk past a life-size model of one of these – the *Diprotodon*. Tickets for tours are available from the Wonambi fossil centre. Posters around the walls highlight some of the major tours which are available.

Interestingly, there are probably many different visitor experiences available and each of them is different in setting and character from any of the others. Special events occur regularly and include both educational programs on the natural heritage of the site and cultural programs that build upon its history and aesthetic qualities. They include not only a considerable diversity of underground experiences in a variety of caves, but the Bat Observation Centre and the Wonambi Fossil Centre.

A sandpit is developed as a fossil deposit, so children can dig for fossils and discuss their findings with the on-site paleontologist. Walking paths introduce them to the surface landscape and vegetation; a splendid garden both enhances the aesthetics of the site and continues a cultural tradition established by the first park manager, great pioneer explorer and innovative genius of the park who presided over the site in the later 19th century.

The primary fossil deposit is now only one of many; it is a core site and one of the most popular visitor tours. Visitors are able to sit and look down over the original excavation, see a reconstructed skeleton of a *Sthenurus* kangaroo, and discuss the fossil story with one of the tour hosts.

One of the presentation problems we saw was that although visitors saw the excavation in process, saw reconstructed skeletons, and many illustrations or story boards, the found it difficult to genuinely understand what the extinct animals would have looked like. So, today, the Wonambi fossil centre contains a replica of a Pleistocene wetland with the adjacent hillsides. It is populated with moving, growling and snarling reconstructions of the major species found in the deposit.

The replicas are all life size, and have been jointly developed by a team including a paleontologist, an anatomist and a sculptor. They are regularly reviewed and amended if necessary in the light of new knowledge. Each one is "driven" by a computer-based mechanism that produces and synchronizes both movement and sound.

The other major display centre shows the life of the Bent-wing bat population of the cave immediately below in real time by using infra-red cameras and a series of television screens. The electronics are about to be replaced with a single giant double-sided screen and DVD recording for archival and research records. The beneficial roles of bats, particularly as a balance against insect populations are always emphasized. In summer, bat-flight viewings are hosted regularly.

### **CONCLUSION**

Finally, let me stress that my examples are only that – they are not recipes for indiscriminate application. Each situation needs its own best provision, and this demands creative and critical thinking. Often solutions used elsewhere can be adopted at least in part, because their effectiveness has been proven.

