

ENGLEBRECHT'S CAVE, Mount Gambier, South Australia

– Ian D. Lewis *



The entrance to Englebrecht's Cave.

STORIES OF ENGLEBRECHT'S CAVE

I've been cave diving for forty years now. After I grew up in Mt Gambier as a kid, I went caving all over the district from the age of twelve in 1966 under expert guidance – first from Ken Heyne and then with Fred Aslin – who got me extremely interested in mapping caves and learning their history.

And that's what I've been doing ever since, involved in gathering stories and history about the caves and understanding their geology. I'm currently finishing a PhD thesis on the geology of the caves at Naracoorte and their relationship to the *Kanawinka Fault*, so caves are a lifelong interest.

Plenty of cavers and divers have been involved over those decades in research projects, contributing to our knowledge of caves and sinkholes across the Mount Gambier region. But not many of us know the stories behind each of the caves, so I'm now steadily writing stories and explanations of various sites to make sure that their background continues to be told, and also to ensure that newer generations of cavers and divers who've never heard of half of us from earlier years can share in the enjoyment of that research. So due primarily to Kent's nagging (aka 'positive persistence'), here is my story of Englebrecht's Cave – which is both a show cave and a significant cave diving site in the middle of the City of Mt Gambier. Each cave or sinkhole has its story, but first you need to know a

bit about the region's history to put these cave stories in perspective.

SETTLEMENT AROUND SINKHOLES

The Mt Gambier and Mt Schank volcanoes were sighted from offshore by Lieutenant James Grant in 1800 as he sailed past mapping this coast in his ship *The Lady Nelson*. A full-scale replica of this ship (which you can walk through) is at the Mt Gambier Tourist Information Centre. Lieutenant Grant also discovered Portland Bay and Cape Otway on the same expedition. He was the first ever white-man to enter Port Phillip Bay (as far we know).

The Lady Nelson did not land after sighting Mt Gambier. It was another thirty-six years before the Henty Brothers sighted the mountains from the *Kanawinka Fault* ridgeline just east of Dartmoor, while looking for pasture land to the west. It is thought they had knowledge of, or a copy of, Grant's coastline map with the two named Mountains. Their first visit in 1836 discovered the amazing Blue Lake and they built a stockyard in the Browne's Lake basin (which interestingly was dry at the time) next to the Valley Lake. They explored around the mountain and discovered *The Cave Gardens*, quite probably *Umpherston's Sinkhole* and perhaps Englebrecht's Cave. Within a couple of years Evelyn Sturt, the brother of Charles Sturt the explorer and a rich landholder in Adelaide, had the Hentys booted out when he worked out the location of the Victorian border. He took over a pastoral lease for the whole Mt Gambier area including all the caves and their water. Later he got even richer when the town was surveyed and subdivided. His mansion is near Tenison College on the western slopes of the Mountain.

Mt Gambier is known as the 'City around a Cave'. There are a couple of early sketches showing steps down into *The Cave Gardens* for people to get water, as there was a clear lake there at one stage (though I actually think they are actually sketches of Englebrecht's entrance). Later, alongside the entrances of all three caves, locals dug 1-metre diameter well shafts directly over the then-existing lakes to draw water by windlass. You can see the wells alongside the entrances at *Umpherston's Sinkhole* and Englebrecht's Cave and under perspex on the north-west edge of *The Cave Gardens* – in each cave you can also see the well shafts from underneath. Why is this significant? Because there are no signs of lakes anywhere directly beneath these shafts today and they have not been above the water table in the time since scuba diving commenced. They were dug at a time of exceedingly high water levels in the 1890s. The story of the fluctuation of water levels in the region is far more than just the recent decline and it will have to wait for another article – but it's fascinating.

STORIES THAT ENGLEBRECHT'S CAVE CAN TELL

Englebrecht's Cave which has had a chequered history since settlement and has gone through various stages of diving discoveries. It has a geological significance that divers are unaware about; nor indeed are the general public. I'll talk about the history first as the background sets the scene for much of what has happened over the years.

There are a number of sources for historical information about Englebrecht's Cave. Peter Horne authored the *Englebrecht's Cave Mapping Project 1986* for the Cave Divers Association of Australia's (CDAA) *Research Report Number 4*, one of dozens of quite outstanding detailed cave and sinkhole reports he has contributed to the sport and science of cave diving over several decades.

In 1980 Peter Stace and I featured a two-page spread on Englebrecht's Cave history in our book *Cave Diving in Australia*, which only showed a map of the Eastern Side as the western underwater tunnel was not even known then (to others)! Another excellent source is the information available in the great display at the Englebrecht's Cave Kiosk run by Brenton and Kemelee Lynch-Rhodes – we wish them all the very best of success with taking on the Concession.

I'll quote a bit from our *Cave Diving in Australia* book (p142) which is in part taken from an old newspaper article:

'In 1864 a group of 4 men and one ten-year-old boy named Charles Grosser, led by Dr Wehl of Mt Gambier [whom Wehl St is named after] entered a cave entrance on North Terrace [the old name for Jubilee Highway West]. With them into the cave they carried a canoe built of hardwood and sealed with pitch to undertake a hazardous exploration of the subterranean waterways. In an article written in 1933, the 10-year-old boy, now Mr C. Grosser aged 79 years old recounted ...

'I can clearly remember how the current caught the canoe and carried us along as soon as we got into the stream. We must have gone 200 yards [metres], travelling directly towards the Blue Lake. The stream took several turns, and the current was so strong we had great difficulty in getting back.'

This is particularly interesting. As all divers know, there is no flowing water in Mt Gambier caves and hasn't been since diving started in the 1960s. Is it possible however that 100 years before, when the water table was the highest it has ever been since European settlement begun, that water flowed in some caves? For the last forty years those of us researching caves and groundwater have dismissed this account, wondering if a ten-year-old in the dark with candles in a canoe had imagined much of it, particularly in later years.

But consider – if anyone had said to cave divers in 1970 that the water table would drop nearly five metres in only forty years, we would have laughed at them. This suggests that water variability across the Mt Gambier region may be considerably greater than we think we know, and nowadays many historians on all manner of subjects are acknowledging the relevance of oral histories. So did the young Charles Grosser see something in the earlier cave hydrology that we can't imagine nowadays? Quite possibly.

The scalloping and solution features all over the walls and roof of the *Eastern Chamber* are far more ancient than a century ago but do indicate phases of prehistoric water flow. And the old Charles was right – the *Eastern Chamber* heads directly towards the Blue Lake. It also heads for *The Cave Gardens* (about two kilometers away) which has a (grotty) pool heading back directly towards Englebrecht's Cave.



The Eastern Passage - Englebrecht's Cave.

POLLUTION AND DISCOVERIES

I first visited Englebrecht's Cave as a teenager in 1967. The entrance was full of wire and rusting rubbish – we had to clamber through all the wire and crawl down the eastern passage through broken glass squeezing against the roof all the way to the lake. There were no lights, paths or platforms in existence. The western side chamber was so buried in wire rolls, etc, that no-one even knew it was there at that time! No-one remembers now, but at that time straight over the road on the north side of the highway was the *Scott's Transport* truck yard (where there is now a supermarket, petrol station and about three workshops). That meant that when the stock trucks were hosed out all the crap went straight across the road and down the slope into Englebrecht's entrance along with oil, diesel and other runoff.

There is also a storm water pipe still sticking out of the northern entrance wall. There's no real blame here – no-one in the community was aware of the interconnectedness of the groundwater system then and it wasn't until the early 1970s that pollution detection programs began to connect the dots. Everyone knows it now, but nobody knew it then! Cave diver research programs have contributed

solidly to this understanding. 'Scotty' eventually moved west of the city for more yard space and to help eliminate the pollution problem.

After the Lions Club cleaned out the cave, CDAA divers got into the water and began finding things. To quote Peter Horne's report (p3):

'Around the same time that this cleanup was commencing, cave divers Peter Stace, Phil Prust and Ron and Robyn Allum decided to assess the site again – the first visit by divers in fifteen years – whereupon they promptly discovered the Eastern Side's large air chamber. Later in May 1979, Ron squeezed through what was a very tight, silty and unstable tunnel in the small pool on the Western Side, where he discovered that the passage opened up...through a restriction and explored the 100-metre long submerged passage which headed off to the north-west.'

For some time after that, everyone thought that the passage simply came to an end in a rock blockoff.



A cave diver in Englebrecht's Cave.

A SERIOUS SIDE TO EXPLORATION DIVES

Then in 1979 I did a dive with Terry Reardon (now chief 'Bat Man' for the South Australian Museum). Because I'd been a dry caver as a teenager mapping every last little passageway, I went right to the rockface at the end of the tunnel, because 'you never know!' Imagine my amazement when my air bubbles disappeared straight up above me and into a new lake! Terry and I explored the inner chamber and a short way into the other underwater extensions there but while walking back to the exit lake to dive out, I trod on one of those thin flat rock slabs that are pretty crumbly in there. It broke under my weight and I smashed my head on a boulder, cut my head and nearly passed out.

Terry came over to help me but I was really groggy so we sat there for a while. Then we both realised that nobody on the entire planet knew where we were ... there was no-one up top, and no cave diver knew that the end of the first tunnel went straight up into a large unknown chamber. We considered leaving me there while Terry went out but my head cleared a bit so we both dived out very slowly – I was not too flash. But we got out OK because of our

good buddy training. These were the days of single tank diving too – cave divers, think of that when you go through to the inner chamber next time! This incident got the CDAA thinking seriously about surface notification and backup divers etc which became common practice. Bloody serious, when I think back on it now.

WHAT YOU ARE ACTUALLY DIVING THROUGH – SOME SPECIAL GEOLOGY

When you walk down to the *Eastern Chamber* platform, look up at the walls and roof. They are actually far more interesting than the mud and the water! You see a rift going upwards, then scalloping and curved solution blades and rippling on the walls plus a number of horizontal 'notch levels' or wall channels extending right along the southern wall. Then of course there is the low flat tunnel that you dive through to the next chamber. Standing on the platform, you are seeing at least three different separate geological phases that have occurred in that room.

The first one is the rift. Geologists and Geomorphologists call it a 'Joint' – a line of weakness in the limestone where it's been split and later opened up by water. There are thousands of these splits all over the South East, forming many slender caves like Morgan's Cave, Gums Road Cave and Vine's Fissure over towards Tantanoola. Underwater in Englebrecht's *East*, you come across more of these joints if you turn right at the tie-off rock (point D on the map) instead of heading through to the inner East chamber. When water seeps down from above it widens these joints and they bell out a bit like the Englebrecht's *East* platform chamber does. The second geological phase occurred over long time periods when lake levels rose and fell in the rift.

When I saw it in 1967, the lake was about six metres higher than now, and would have completely drowned the ramp and some of the lower steps. But this has also occurred many times before over thousands of years and has left a geo-history of the scallops and wall notches showing where water stayed at one level for some time. Water attacks the limestone most strongly at lake level where it is most acidic due to air contact, so it dissolves the scallops and grooves in the side-walls. This process also accounts for the third geological phase when at some time the water dropped to the level of the low flat connector passage that the divers dive through (point D). That broad flattener is there because water stayed at that particular level for a far longer time than any other depth, long enough for it to dissolve away the entire flat passage. This then naturally intersected the next lot of vertical joints which are the inner chamber system.

To see these three phases by standing on the platform is wonderful geological science and a picture of maybe 200,000 years of geo-history – possibly far older even than that. Why can't you see these features in the *Western Chamber*? – because all of its walls have been collapsing rock-by-rock over that time, burying the wall-scalloping evidence.

The only thing that still remains in the *Western Chamber* there is phase three – the long flat western tunnel (see B). But it has no flat side extensions leading to parallel joint passages on either side...yet! It may only take one diver to move the right rock and off we go. Remember how easy it was to find the *Western Chamber*, by just poking my nose an extra metre!?

People also ask the guides if Englebrecht's Cave is volcanic? That is because most people don't really know the difference between various types of rocks – in this case limestone and basalt. It's not volcanic, but I have to say it is possible that the joints in the Englebrecht system may have been multiplied or widened by the huge forces exerted on the whole limestone area where the city is now. These forces occurred when the lava and steam forced its way through the limestone close by and the volcano blew up multiple times, forming the four big craters and the incredible Blue Lake when the groundwater flooded the giant hole left in the limestone. A reasonable scientific estimate for this event was around 23,000 years ago. From our geological work in other caves around the district, I expect that Englebrecht's Cave is more probably 100-200,000 years old and these phases within it have occurred throughout that time.

So Englebrecht's has plenty of stories to tell. I could fill this whole ACKMA Journal with more on just this cave and the issues it raises, but Kent won't let me! I reckon Englebrecht's is a fantastically interesting place to be in and it's one of my favourite caves, despite all those bloody steps!

* Life Member, CDAA (and ACKMA member). A version of this article recently appeared in the CDAA Newsletter *Guidelines*.

EDITOR'S NOTE: For the record, significant events in Englebrecht's Cave History are as follows:

- **1862:** First described by Father Julian Tenison Woods in his book *Geological Observations of the South East of South Australia*.
- **1964:** Four young men nearly lost their lives when their canoe carried them into the depths of the cave.
- **~1860-1950:** Waste dumped in the cave.
- **1885:** Dr Wehl's old Flour Mill purchased by Carl Engelbrecht, a German emigrant, who converted it into a whiskey distillery.
- **1964:** City Council started investigations for tourist potential of the cave.
- **1979:** Cave 'cleaning and beautification process' started by the local Lions Club.
- **1982:** Cave cleaning completed, cave handed back to the council.
- **1986:** Cave opened for the public (15 November). Run by volunteers of the 'Lifeline' organization as a fund-raising avenue.
- **2004:** Lifeline ceased as cave operator, and various concessionaries follow.
- **2010:** Current concessionaries, Brenton and Kemelee Lynch-Rhodes assume management (1 July).

