

## NEW INTERPRETATION at TANTANOOLA CAVES CONSERVATION PARK

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Tantanoola Caves Conservation Park is a small park containing two caves; Tantanoola Cave which is developed as a show cave, and Lake Cave which is a restricted access cave. The park lies halfway between the towns of Mount Gambier and Millicent in the south east of South Australia on the Princes Highway, a major tourist route. Despite its seemingly ideal location, visitation has dropped from over 40,000 visitors in 1980 to fewer than 13,000 in 2007. A review at this time identified a number of opportunities to reverse this trend and the cave moved to a hosted style of presentation rather than a structured tour time table. There was little interpretation for visitors and a project was initiated to develop panels to interpret the cave, its contents and the landscape in which it sits. This has at last been completed and the new interpretation panels have recently been installed.

Work on this interpretation began in 2007, when a consultant, Kirsty Hawkes, was engaged to undertake the project. The brief for Kirsty asked for interpretation that would capture children's attention and imagination, and provide a high level of detail for visitors who wanted more information than could be provided in the hosted tour format. I especially wanted to explore good interpretation of helictites, probably the most difficult aspect of caves for site interpreters to explain. Kirsty sourced information from Dr Susan White, Ken Grimes, Dr Liz Reed and a host of resources we provided. Kirsty conceived the idea of a children's

self exploration adventure seeking answers to a quiz, with a wizard character at the centre of the concept. This concept bears more than a passing resemblance to the Harry Potter series. I suspect the volume of information that Kirsty was provided overwhelmed her, especially with the difficult concepts we were asking her to develop interpretation.

Unfortunately, we reached a point where the project funds were expended and we did not have completed information for interpretation panels, let alone the panels themselves. The Department took over the project internally and an interpretation officer worked on the information in head office. I then left the department and Deborah Carden took over as Manager at Naracoorte and Tantanoola Caves and finally brought the project to completion. With so many people involved over such a long period, and so many different ideas, there was a huge risk of producing something that did not work. I am sure it is not perfect, but on a visit to the cave, Andy Eavis, President of International Union of Speleology, gave it the "thumbs up."

The interpretation panels are designed to give visitors an introduction to what they can expect to see in Tantanoola Cave, and also assist them in understanding and interpreting for themselves after their visit. Early indications are they are achieving the original objectives.



*Tantanoola Caves host Lisa Boguta with the new interpretation panels at Tantanoola Caves.*

# WHAT THE HECK IS A HELICTITE?

Helictites defy gravity. The word 'helictite' comes from 'helix' as in spiral, but these formations can grow any which way. No-one knows for sure why helictites grow the way they do, but certain natural laws apply.

## Push!

The birth of a helictite occurs when calcite-rich water is pushed out of a pore in the cave wall or out from an existing speleothem. This process is known as hydrostatic pressure - the volume of water in one area increases so much that it is forced into another area. Carbon dioxide is lost as the water enters the cave, causing the calcite to re-solidify and form a thin rim round the pore. As water continues to push through the wall, a minuscule central canal is formed. Water now travels along this canal by capillary action.



## Power of attraction

Capillary action is the movement of water in tubes or through materials. It is the result of water being attracted to solid surfaces. Every day examples include rising damp in walls, water movement in soil and paper towels absorbing water. Helictite growth relies on capillary action as it allows water to move against gravity.

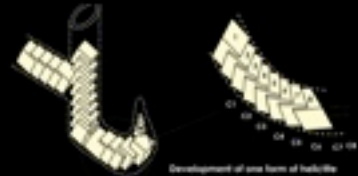


## Size matters

Size is much more crucial when it comes to the formation of a helictite rather than a stalactite. The straw of a fledgling stalactite is much bigger than the central canal of a helictite. A straw might be as big as a drinking straw, but the central canal of a helictite may be only the width of a pencil line. Capillary action increases as the width of the canal decreases. If the drip rate increases, gravity may become the dominant force and the helictite will start to behave like a stalactite.

## Crystal clear?

Like stalactites and stalagmites, helictites are made from calcite crystals. In some helictites, crystals may start to grow faster on one face than another, causing the helictite to change direction. The growth of a helictite can be influenced by air currents, impurities in the crystals, structure of the crystals, deposition of particles from the air, and osmosis.

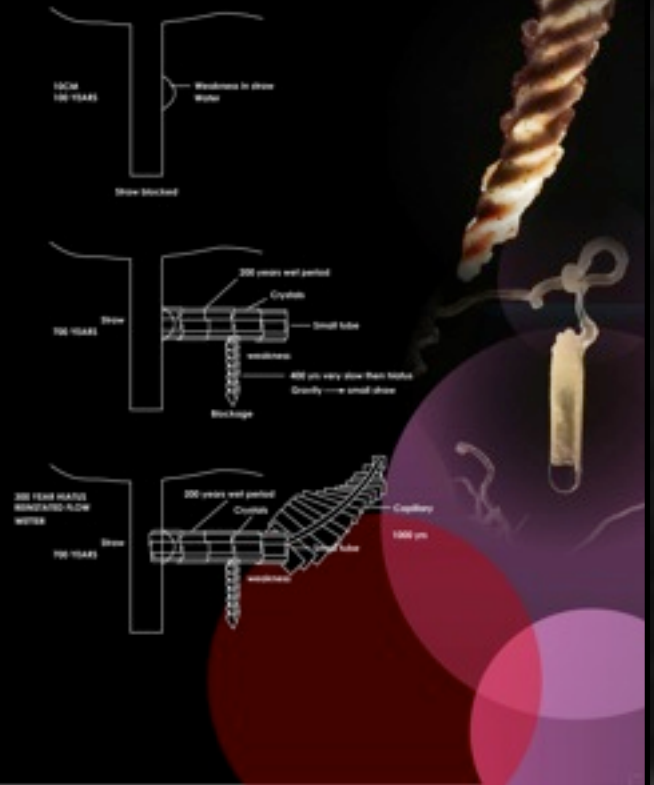


## The wizardry of Oz

Australia's climate of wet and dry periods encourages erratic growth in helictites. In dry periods, crystals clog the central canal and the helictite stops growing. When the wet weather returns and water starts to seep into the cave again, it has to find another outlet from the helictite. This irregular growth causes branching and other twisted shapes.

## Diary of a Tantanoola Helictite

Every helictite has formed according to a number of different and varied influences. Each tells a unique story. Imagine a hypothetical life for one of the Tantanoola helictites.



Panels interpreting helictites for visitors to Tantanoola Caves. Courtesy Department of Environment and Natural Resources