



Back to the future



THE DISCOVERY NEAR STILBAAI IN THE WESTERN CAPE OF WHAT MAY BE THE WORLD'S EARLIEST ARTWORK IS AN EXAMPLE OF THE UNIQUE PALAEO-ANTHROPOLOGICAL TREASURE CHEST TO BE FOUND IN SOUTH AFRICA. BUT THE WORLD HERITAGE SITE AROUND STERK FONTEIN CONTAINS MUCH OLDER CLUES TO MANKIND'S ORIGINS, WRITES JAMIE CARR

The United Nations doesn't award the status of World Heritage Site lightly. To qualify, an area must be unique and of special scientific or cultural interest. Just outside Johannesburg there's an area containing 12 major fossil sites, the most well known of which is the Sterkfontein caves where, thanks to a happy coincidence of rock formations and hungry carnivores, fossil bones tell a story of some three million years of history. The area contains some of the world's finest clues to our human ancestors, yet the closest most locals have come to it is a meal at the Cradle Restaurant.

Nobody's suggesting it's not a great restaurant, but it demonstrates that the full potential of the area has far from been realised. Indeed, the firmest expression of interest a few years ago came from a consortium that decided the best way to demonstrate the wonders of mankind's evolution would be to smack up a casino in the area. The rolling hills would have echoed to the sound of slot machines

PHOTOGRAPHS: TINNUS MULLER, PIETER DU TOIT, DAGE

Why is the Sterkfontein World Heritage Site so special?

Beneath the dolomitic outcrops and rolling grasslands to the northwest of Krugersdorp are a series of underground caverns, the most famous of which is the Sterkfontein cave itself. But Sterkfontein, the world's longest-running

archaeological excavation and one of the richest palaeontological treasure troves on the planet (having already yielded almost 30 percent of the world's earliest hominid fossils), is not the only significant fossil site within the proclaimed 47 000-hectare area known as the Cradle of Humankind. There are 11 other major sites, which have collectively yielded several thousand fossil bones of early hominid species as well as three major tool cultures and a wide variety of animal fossils. This provides the context in which scientists have tried to piece together the complicated jigsaw puzzle of our ancient past.

The picture that's emerging from the fossils of the Cradle of Humankind confirm that Africa is indeed the birthplace of humanity. On this continent the evolutionary leap from ape-man to man-ape took place, and it was in Africa that our earliest human ancestors began mastering their environment, initially through the development of stone tools and then the ability to harness fire.

Much of the evolution of recognisable human behaviour and culture took place in what is today South Africa. A large portion of the scientific evidence for this lies on the doorstep of Johannesburg and Pretoria, which is what prompted the government to seek World Heritage Site status for the Sterkfontein area. This was granted in December 1998.

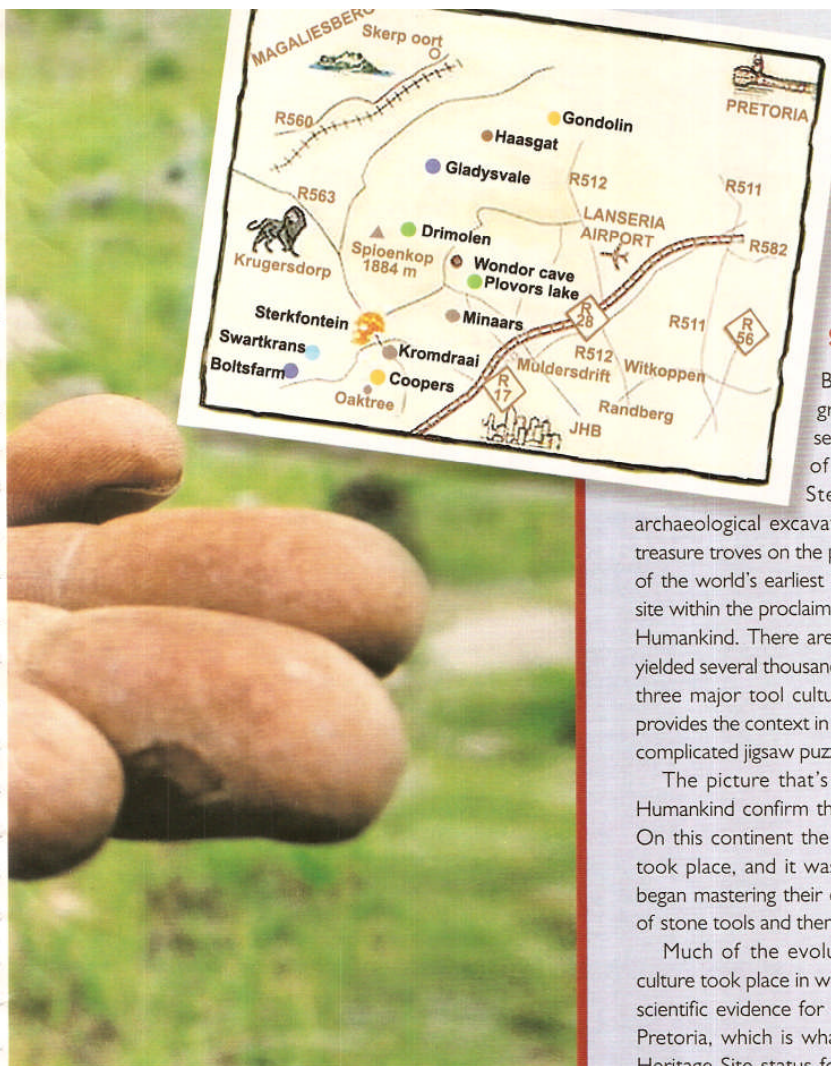
But turning the area into a major tourist attraction is far more of a challenge. Archaeo-tourism is a fine concept, but a dusty collection of old fossils is not enough to entice dollar-paying tourists. This is why a far-reaching master plan has been drawn up by the Gauteng government, which plans to build a visitors' centre for the Cradle of Humankind incorporating educational and entertainment facilities to showcase the experience of exploring human origins. It has also developed a broad range of guidelines to encourage archaeo-tourism without compromising the scientific integrity of the sites, and has attempted to draw academic institutions into providing their intellectual capital to the commercial tourism environment.

The growth of the Cradle of Humankind as a tourist destination is a long-term ambition fraught with challenges, but it has the potential to build partnerships between scientists and tour operators in exposing a unique part of South African culture to the outside world.

— Brett Hilton-Barber

• **Anyone interested in guided tours to the Sterkfontein World Heritage Site area should contact Mike Kirkinis of Passage to Africa on 082-440-9660 or e-mail him on africam@iafrica.com.**

Brett Hilton-Barber is the co-author with Lee Berger of the official field guide to the *Cradle of Humankind*, which will be published by Struik in August 2002.



guzzling cash rather than the quiet tapping of archaeologists unravelling the mystery of man's complex ancestry. Fortunately, Government saw sense, and the granting of World Heritage Site status should mean that the future of the area is safe from insensitive development.

Dr Lee Berger, who runs the Wits University Palaeoanthropology Unit for Research and Exploration and has spent the last ten years of his life on the project, has a few rather more subtle ideas of what development would be appropriate. Dr Berger – who has the Indiana Jones hat, and whose Land Rover is covered in so many strata of mud that you could probably work out a few evolutionary theories without leaving the car park – carries on the work of great palaeoanthropologists such as Dr Philip Tobias and Robert Broom. A morning spent wandering the hills of the Sterkfontein area with him is an incredible introduction to the origin of our species. Dr Berger explains how the caves were once occupied by sabre-toothed tigers and



Women at the rockface

Dr Lee Berger has spent the last ten years of his life on the project at Sterkfontein. At Cooper's Cave, one of the richest ever found for bone density, the excavation demonstrates how South Africa is moving out of its own Jurassic period in terms of labour practice. While historically the teams were all male, largely untrained and under constant white supervision, there's been a complete turnaround since Jabu Ndaba and Laz Kgasi set up their company Fossil Trackers. All 12 people involved in the dig are shareholders in the company, all have matric, and an emphasis on training has meant that everybody can handle every job required.

This is the first time in this field that African women have been involved in an equal role. Says Sarah Ndaba, who's in charge of the company's hiring and disciplinary committee, 'We're employing as many women as men, and next year we'll have our first woman site manager.'

other ravening beasts that liked nothing more than to snack on some tasty ancestor of ours. They'd drag him back to the cave for supper and, given the sabre-toothed tiger's famously sloppy attitude to refuse removal, the bones would pile up until they were covered with a cement-like substance called breccia, which preserved them perfectly.

The first site Dr Berger took us to was Cooper's Cave, a complex he describes as containing remains from about two million years ago. The work at Cooper's Cave is precise and driven by technology. Painstaking care is taken to excavate the site without ruining the treasures it contains, using trowels and brushes backed up by laser theodolites to record in three dimensions the exact location of everything found. The site is one of the richest ever found for bone density, with over 7 000 identifiable fossils catalogued since mid-2001.

But while Cooper's Cave looks to the

uninitiated like little more than a trench cut in the veld, Gladysvale, the second site we saw, is a proper cave. Since Dr Berger discovered the first ape-man fossils here in 1992, there's been a rash of new discoveries.

What makes Gladysvale unique, however, is that under a surface area of some 100 x 80 m, there are 55 metres of vertical deposit – in places there's more bone than rock. Yet, despite the excitement of what has already been learnt from Gladysvale, perhaps the most extraordinary thing is the amount that is still to be discovered. Dr Berger points out a hole in the floor at the edge of the cave, down which he drops a stone to demonstrate its depth. He estimates it at about 50 m – and it could be the entrance to a whole new world of discovery. Of course, it could come to nothing... but it could be stuffed with new relics (only partially dented by rock-dropping scientists) that will further our understanding of where we come from. ❖

Facts and figures

● How did the fossils found in the Sterkfontein area form?

Dr Berger describes how the dolomitic rock that dominates the area is squeezed between the geological formations of the Bushveld Complex and the Witwatersrand Complex, which are loaded with platinum and gold, respectively. The caves that dot the dolomitic formations were occupied by man-eating animals, and the bones left over from their dinners piled up until they were covered with a cement-like substance called breccia, which preserved them perfectly.

● What kind of animals were roaming the Sterkfontein caves area two million years ago?

'In that era and climate our ancestors would not have needed to live in caves, which would have been occupied by the predators that ate them,' says Dr Berger. It was a time of sabre-toothed tigers, of giraffes twice as tall as the chaps we have today, of giant forest hogs the size of horses – and of our crafty little ancestors scooting around trying not to end up on the menu.

● Why has Sterkfontein suddenly become so prominent?

Gladysvale in the Sterkfontein region was first mentioned by a butterfly collector in the 1930s, who claimed to have spotted a human jaw in the wall of the cave. But the jaw couldn't be found and, besides, the prevailing wisdom of the time was that the best finds would be in caves that had abundant fossilised remains of baboons, as had been the case at Taung. No hominid sites had been found in South Africa since 1948, and when Dr Berger started looking for them in the early 1990s, he opted for a new approach. He rejected the dominant theory of the day, and specifically started looking for sites that didn't have abundant baboon fossils. His discovery of the first ape-man fossils at Gladysvale in 1992 broke the ice, and since then there has been a rash of new sites and new discoveries. There are undoubtedly more treasures to be found in the area, but the work is of necessity slow and dependent on funding to allow more sites to be opened up.

● Why is the work being done at Gladysvale so valuable?

The cave walls at Gladysvale contain stratified rock, which will enable the science of dating discoveries to advance enormously. It should enable scientists to establish a dating framework that could be used at all other sites, and will give a comprehension of ecological change that has never been possible before.