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Eleanor's memory

By [Reg Little](#)

The death of an elephant has not only moved a team of Oxford zoologists but transformed the way the scientific world thinks of this giant of the African plains



The death of Eleanor has had a profound effect at Oxford University's Department of Zoology. The scientists who came to know her still speak of her name in reverential tones. For this remarkable matriarch has helped Oxford and the world take a giant step forward in our understanding of elephants.

It is not just the fact that her distress and lingering death helped advance the scientists' knowledge which made Eleanor's case study unusually emotional for those who witnessed it first hand. It was rather more that her demise, probably from a snake bite on the trunk, showed elephants to be greater than we had ever previously imagined them.

For as well as strength, we now know they have vast reserves of a quality thought to be pretty well monopolised by humans, compassion.

The caring behaviour of other elephants towards the dying Eleanor, including elephants from other families, provided conclusive evidence of that.

The Oxford researchers found that Eleanor was assisted by the unrelated matriarch of another family and over days they were able to track down other elephants who had visited her both before and after her death.

In the view of Dr Iain Douglas-Hamilton, from Oxford Zoology Department and founder of the Save the Elephants charity, it was an example of how elephants and humans may share emotions and have an awareness and interest in death. Elephants were previously known to show a strong interest in the dead bodies of other elephants.

He said: "The behaviour in an animal species can be compared to human behaviour and indicates that such feelings as compassion may not be restricted to our species alone.

"The extent to which elephants hold behavioural traits in common with human beings is relevant to the ethics of how we treat them."

The study was carried out in perhaps the most spectacular of 'laboratories' used by Oxford researchers - the Smburu National Reserve in Kenya, where the Oxford Department of Zoology, the University of California and Save the Elephants are working together to closely monitor the local elephant population.

Data collected over a decade from the research station has provided fascinating insights into the associations and family units of a 900-strong population of individually known elephants.

Dr Douglas-Hamilton's involvement with the Department of Zoology has ensured that Oxford is an unlikely world centre for elephant research. A former Oxford University student, at the age of 23 he pioneered the first in-depth study of elephant social behaviour in Tanzania's Lake Manyara National Park, for which he received a doctorate in zoology from Oxford University.

During the 1970s, he investigated the status of elephants throughout Africa and was the first to alert the world to the ivory poaching holocaust, chronicling how Africa's elephant population was halved between 1979 and 1989. His work was to help bring about a world ban on the ivory trade.

The arrival in Oxford of Fritz Vollrath, a Danish Professor of Animal Behaviour from Aarhus University, has ensured that it is now difficult to keep up with the flow of elephant research coming out of the department.

Prof Vollrath arrived here with an international reputation based on his work on silk production in spiders and silk worms. A close friend of Dr Douglas-Hamilton, he has overseen Oxford's continued dedication to elephant research. Ironically, one of Prof Vollrath's earliest projects offered a simple solution to the problem of marauding elephants, utilising the natural defensive mechanism of one of the Earth's smaller inhabitants.

On discovering that African elephants were wary of the native African honeybee, he showed the placing of beehives strategically in vegetation acted as an effective deterrent against elephant damage to crops.

Since then there has been chemical analysis of elephants' tail hair, which apparently provided information about their dietary habits, need to roam and conflict with human

settlements. In June research was published showing that elephants avoid walking up hills and studiously stick to the flat.

While everyone joked about how Hannibal must have had an uphill struggle crossing the Alps, zoologists saw the importance of the research to establish safe places for elephants in the face of human encroachment.

Much of the research has been made possible by the development of a tracking collar. The global-positioning satellite collars allow scores of animals to be tracked, any time night or day.

Prof Vollrath said: "I can log on to my computer and see where the elephants are right now. It allows us to make sense of why they are where they are and analyse this behavioural data. We can also find them when something interesting is going on."

Because elephants live a long time it is necessary to follow their movements over years to create an accurate picture about their migrations and wanderings, and build up a data base.

For Prof Vollrath, the elephant is the key species which is able to transform its environment. But at the same time much of the work concentrates on how elephants respond to changes in the environment brought about by man, with the erection of fences, for example, or the threat of poaching.

Henrik Rasmussen, who worked for Prof Vollrath in Denmark, and followed him to Oxford, reckons he has put collars on 140 elephants over the last five years. As he picks up one of the massive collars resting against a wall in his office you realise the 'Elephant Man' notice jokingly pinned on his door has been well earned.

"It can be a bit tricky," he said. "You can never predict how things will go. You always have to come up with an alternative plan so you are prepared for any kind of development. But when you are involved in behavioural studies, it is important that you disturb the elephants as little as possible."

The animals are drugged with a dart fired from a gun. Once they are asleep, Henrik or one of his colleagues, who will always be accompanied by a vet, have between eight and ten minutes to fit on a collar, which would normally allow animals to be tracked for three or four years.

Elephant collarings are tense affairs, with every one different, with the unexpected often happening. The elephant's welfare is at the forefront of the scientists' minds and the sooner an animal can be revived the better. While the vet monitors the anaesthetised elephant and rangers watch out for danger from other members of the herd, the rest of the team fix the collar. Samples and various measurements have to be taken in the quickest possible time.

Although each operation is meticulously planned, more often than not it requires split-second decisions. He has experienced elephants inconveniently waking up early and of

five-ton musk (sexually active) bulls suddenly arriving on the scene, just as the anaesthetic was taking effect on a darted female.

Henrik has been charged a number of times: three times on one particularly bad day. There have been times when he has been reduced to running for his life and climbing up trees. Nevertheless, Henrik reckons he is now fairly accomplished at guessing when elephants are merely bluffing.

But when a bull lifts his shoulders, raises his head and approaches your vehicle with a slow motion swaying of his head, it certainly does not pay to guess wrongly. He well recalls being parked in a car and seeing an elephant pretending to eat as it moved ever closer, before it suddenly charged, apparently without warning. For Henrik even this is simply further proof of the elephant's intelligence.

"To me it showed how advanced elephants are. They have an ability to see the world through my eyes."

The collars used won a prize from a telecommunications company for the best use of mobile phone technology. Henrik is now developing the next generation of elephant collars with more sensors to provide even more information. It is hoped that the next level could be attached to zebras and wild dogs.

There are now three other research students at the Department of Zoology focusing on elephant behaviour for their doctorates. One of them, Lucy King, is looking in detail at elephants' fear of the aggressive African bees and using bees to create elephant 'no-go' areas to reduce conflict with farmers.

But conservation is what lies at the heart of this project. The remarkable journeys of elephants have set Oxford zoologists on a wonderfully rewarding and high-profile path followed across the world.

Animal experiments come in many shapes and forms at Oxford, something Eleanor and the elephants of Kenya are helping the world not to forget.

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