

Crossing a Chasm on a Tightrope

Using oral histories that she recorded for the National Library, Diana Giese looks at the struggles underlying the lives of two inspirational Australians

Nothing is more revealing than achievers' own accounts of their lives. While success is publicly displayed, the private struggles to reach these heights are often hidden. They are often harder, blacker, tougher narratives than we might expect. They reveal hardship, struggle, stubborn persistence, hostility, envy and disabling failures. The lives of Ronald Strahan and Graeme Clark—although entirely different—are two such stories. Their achievements are showcased in books, conference and personal papers, pictures and media coverage held in the National Library.

In the mid-1960s, zoologist Dr Ronald Strahan was working at the new University of New South Wales. He was already a world authority on primitive fishes, our earliest ancestors, and part of the burgeoning field of mammal physiology, behaviour and ecology which, in time, would produce the standard works in the field, including *Mammals of Australia*.

It was at the university that Strahan first met Sir Edward Hallstrom, the man who would change his life. Hallstrom ruled Taronga Park Zoo 'like a king'. Strahan contacted the zoo to ask for access to animals when they died for use as scientific specimens. 'Animals don't die at Taronga,' he was peremptorily told. But he knew they did. 'Big cats, apes, kangaroos and possums all died—and in worrying numbers,' Strahan says.

In the late nineteenth century, Sydney's zoo had been founded by the Royal Zoological Society of New South Wales at Moore Park on a disused rubbish dump. From the animals' point of view, the Taronga site was not a great improvement. Enclosures faced south towards the source of cold winds and, on winter afternoons, there was no sun. When this site was proposed, the surveyor-general of the day commented in a



marginal note that the planners were mad. 'The Zoo should be at Balmoral,' he observed. 'They grow bananas there.'

Hallstrom, head of the Taronga Park Zoological Trust, was a wildlife enthusiast. He developed a personal aviary of birds of paradise that he swapped with colleagues in other parts of the world. He also employed a man to care for his collection of macaws. At a public level, he donated animals and birds to Taronga Park until it was the largest zoo in Australia.

To Strahan, however, he seemed to have little feeling for the way animals and birds actually lived. At the zoo, hooved animals were confined in small concrete enclosures and apes were behind bars. Expanses of concrete that could easily be hosed down, rather than simulated habitats, were a feature of the harbour-side site in which it was so pleasant for humans to roam as they enjoyed views back towards their city.

In 1967, Strahan was nominated by the Royal Zoological Society to become a member of the Trust, the zoo's governing body, despite being aware that he was 'against zoos, basically. It's very hard to justify animals in cages'. At the time, zoos such as those in Sydney, Melbourne, Adelaide and Perth 'were part of the standard entertainment of any ordinary city'. They all contained the same kinds of exotic animals, and offered elephant and donkey rides. 'I felt

Frank Hurley (1885–1962)
*Old Study, Lion in Cage [at
Taronga Park Zoo]*
glass negative; half of full plate
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above left:
Frank Hurley (1885–1962)
*Four Elephants [at Taronga
Park Zoo]*
glass negative; half of full plate
Pictures Collection
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below:
Southern white rhinoceros
Geratherium simum
Reproduced from *Western
Plains Zoo*, photography
Steve Parish.
(Mosmon, NSW: Zoological
Parks Board of New South
Wales, 1986)



this was insufficient justification for holding animals in captivity,' says Strahan.

His philosophy of the role of animals and the zoo itself was diametrically opposed to Hallstrom's and the Trust's. Strahan's vision was of animals treated as 'ambassadors for those in the wild', in line with changing international opinion. He saw zoos as cultural institutions for education, research, conserving and breeding species, and providing the best possible care for animals.

Strahan was urged to take on the most challenging role of all, director of the zoo. With some reluctance, he accepted, throwing himself into the job. He set up a three-year course for the keepers of Taronga's animals, who were being paid as little as agricultural labourers. Each year of study they completed

resulted in a pay rise. He appointed three zoologists, one to look after the aquarium and the reptiles, one to take care of the birds, and one to oversee the mammals. He went to the director of education and asked for six teachers so that all students taking Biology in the Higher School Certificate could make two visits a year to the zoo. Although the target was eventually reached, at first he was given only one.

In order to make revolutionary changes for the animals, Strahan knew he would also need public and political support. He began to broadcast on the ABC, to speak to meetings of service clubs, and

to write a monthly column in the *Sydney Morning Herald*. He received many letters, some 'deploring the cancelling of the elephant rides', but others congratulating him on his leadership. 'I could feel I was getting through,' he says. 'It was clear I was carrying a lot of New South Wales with me.'

He leveraged this into a bigger vision of 'the bar-less zoo that avoids the cage'. He allied himself with Tom Lewis, then minister for lands, who was gathering votes for a tilt at the premiership of the state. One of his backers was the member for Dubbo. 'His reward for garnering the votes was to become minister for lands and to have either a teachers' college or a zoo at Dubbo. He chose the zoo.'

This was the beginning of the Western Plains Zoo, 'a green oasis in a dry land', where animals now roam freely over spacious plains. It has become a breeding ground for threatened species such as Asian horses to be returned to Mongolia, and bilbies to be reintroduced to the Northern Territory.

Modernising an old institution and building a new one required Herculean labours on Strahan's part. These two huge jobs were often lonely and thankless, and involved enormous stresses and sacrifices in his research life. Strahan recounts how the pro-Hallstrom Trust members 'were waiting for me to make errors. If one could think of something to say that was critical of me, suddenly the whole mob rushed in to the kill'. Strahan was set impossible tasks, and told to find ways of organising special privileges for corporate donors such as 'stag nights where girls could do interesting things with pythons'.

Struggling to cope, Strahan 'started drinking a lot'. He became ill, lost his energy and his optimistic spirit and felt himself sinking. Finally he broke down and was taken to a psychiatric hospital. Fortunately his large network of friends and colleagues, who recognised and supported his passion and commitment, stepped in to help. He was offered a fellowship at the Australian Museum, during a dynamic phase under the directorship of Dr Frank Talbot.

Strahan went on to pioneer outreach education at the museum and to write a definitive history of its first 150 years, *Rare and Curious Specimens*. In the museum's history, he found parallels to his own

experiences. Director Gerhard Krefft, whom Strahan considered to be 'probably the finest zoologist' of the nineteenth century, was also hounded from office.

Like Strahan, Dr Graeme Clark faced numerous obstacles to achieving his goals. In the mid-1960s, Clark was a successful ear, nose and throat surgeon in Melbourne, but he was bored by the repetition of such work, and restless. Then he read an article by an American surgeon who had put wires in a deaf patient's nerves, allowing him to hear sounds. 'That really lit a fire in the belly,' Clark says. He immediately set out to find out how this could lead to the relief of deafness, something of which he had dreamed since assisting his deaf father in the family pharmacy.

He plunged into research at the University of Sydney on how the brain responds to electrical stimulation for coding sound. He backtracked to learn the basics for understanding electrical stimulation of the inner ear. 'It was intoxicating. Most of the work I did was new, different,' he says. Questions crowded his mind. Could nerves be stimulated artificially? He became interested in how electrical stimulation could reproduce the frequencies of a sound by the way in which brain cells respond. Do they preserve the time intervals that are different for each frequency? Or does the brain also function like a filter or a musical scale on a piano, by stimulating an area of the inner ear and an appropriate site in the brain? Would current be localised for place coding of frequency?

To discover the answers, he needed to implant a device, but even the supervisor of his work was sceptical. He did not believe that the small number of electrodes it was possible to feed into the inner ear could reproduce the complexity of nerve patterns. After all, some 20 000 nerves are fundamental to humans' understanding of speech.

Clark persevered, with the growing realisation that a single-channel implant would not be sufficient for speech to be understood by a deaf person. He started to 'gamble' on the development of a multi-channel system. This required expensive pioneering work 'that no-one really believed would work'.

Clark needed a sympathetic institution where he could pursue his ideas with the help of specialist staff. He applied for a job at the University of Melbourne and



found it was willing to take 'a real punt' on his work. They appointed him professor of otolaryngology, making him, at 34, the youngest clinical professor in Australia.

Summoning his enormous reserves of energy, he threw himself into his work. He was sustained then, as throughout his career, by a strong Christian faith. From his schooldays, he had studied and tried to understand the Bible and the meaning of prayer. 'I had to sit and wait and see how an answer might come ... I was doing God's will, not man's will. My work was a mission.'

He believed that 'if my faith is correct, I've got to make it a scientific hypothesis'. He also prayed for charity towards his critics and tried to turn the other cheek. At the university he continued to receive a barrage of criticism. His work was unsafe, they charged. Implants would lead to infections such as meningitis in his patients. The deaf community, committed to the use of sign language and drawn together by its use, resented what they saw as his 'intrusion' into their world.

He nevertheless doggedly built up a team of scientists, clinicians and technicians to explore how, through stimulation, they could reproduce the complex time and place coding of sound by the brain. But every time he applied for a grant with 'anything that smelt of electrical stimulation of the ear', he was rejected. It took five years for even the basis of his work to be accepted. By then, American researchers were also pursuing similar ideas.

The need to raise money incurred further criticism. He and his staff resorted to rattling collection tins outside Myers. Then

Phillip-Stephan Photo-Litho. and
Typographic Process Company
Zoological Gardens, Sydney 1880s
col. photolithograph;
28.8 x 37.3 cm
Pictures Collection
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came a lucky break. Sir Reg Ansett, who had an 'humanitarian streak, and whose daughter had a deaf friend, needed to draw attention to his television station, Channel 0'. In 1973, Ansett put on a mini-telethon to raise money for Clark's institute. It was a success, and a bigger fundraising effort followed in 1974. Television coverage had 'a very powerful effect'. It gave visibility to the project and aroused the interest of charitable trusts and politicians, but it was also a double-edged sword. As Clark explains, it created 'an expectation in the press, who kept coming back for more news'.

Years of preparation, combined with Clark's dedication and faith, saw him finally begin the crucial operations in the late 1970s. Before the first operation, he went up to the Dandenongs with his wife for a weekend of prayer. Clark remembers: 'I felt as if I was about to cross a chasm on a tightrope. If I failed, my reputation would be in tatters, and there would be many people, patients, whose hopes would be dashed.'

His first patient, Rod Saunders, had become profoundly deaf through a head injury 18 months previously. He had sung in a choir, so Clark knew he would be able to tell the team if the octaves he would hear were higher or lower. Clark started the operation slowly and carefully, in the knowledge he had done everything he could to prepare. Then all they could do was wait.

At the first test for hearing, Saunders could not discern any sounds. Clark forced

himself to remain calm. 'The scientist in me said: "Let's see what the problem is. Never assume it's biological. Always assume it's engineering." I didn't know whether his head injury had fractured his hearing nerve.'

Clark had his engineers search for electronic failure in the testing gear before performing a second test. The result was the same, and this time Clark's faith was sorely tested. Then the engineers discovered a loose connection. In the third test, Saunders heard his first sounds. He could hear different timbres, from dull to sharp, and vowel sounds. 'Gee, it was fantastic!' Clark says, beaming. He went into a neighbouring room and cried.

Now over 50 000 adults and children in eight countries have received the bionic ear, and Cochlear Pty Ltd has 70 per cent of the world market.

It takes vision, focus, persistence and self-sacrifice to succeed, as Clark and Strahan have, against mounting obstacles and constant criticism. Others, similarly challenged, have been crushed or excluded. It also takes a special honesty to reflect on the hard times, as well as the great achievements.

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Rod Saunders and Graeme Clark
2001
Courtesy of the Bionic Ear
Institute, Melbourne

