

Phylogenetic Memory



In our garden, here in the Last Outpost, we have two fever trees. Their bark shines with that soft iridescent yellowy-green colour. They were called fever trees because they were often found in such places as the Lowveld where tropical infections such as malaria were common.

Rudyard Kipling's *Elephant*

Child mentioned them when he came to "the banks of the great, grey-green, greasy Limpopo river, all set about with fever trees". In isiZulu the fever tree is called *umKhanyakude* (*khanya*: light, *kude*: far), the light that can be seen from far way. Its botanical name is even more of a tongue twister, viz: *acacia xanthophloea* (*xanthos*: yellow, *phloios*: bark). Here endeth the botany lesson.

As I write this article it is mid-summer and things have become quieter but in the spring the air was filled with the crackling, thrashing, squabbling sound of a colony of African weaver birds as they built their nests in the tops of the trees. It is quite a precarious business as they seem to tie the nests onto the tips of the branches and even the slightest wind makes the branches and nests look like a trapeze act from the *Cirque du Soleil*. So one of the main occupations of a weaver bird is hanging on for dear life.

Another full-time occupation for the male weaver bird is attracting a female weaver to his nest. This is by no means an easy business. He starts by weaving a ring of grass with his beak and feet and then crafts an intricate trelliswork of walls to attract a female. If she rejects the nest, he tears it apart and starts all over again. This sounds a lot harder than a glass or two of wine, some soft music and would you like to come over and see my collection of stethoscopes. In a study, one male masked weaver built 204 nests over a period of 8 years and only 24 were acceptable. Now that is rejection and perseverance for you! After the first one I would have gone off weeping in a sulk.

Someone who also studied weaver birds was the naturalist Eugene Marais at the turn of the last century. The anthropologist

Robert Ardrey writing in *The Territorial Imperative* (one of my top ten books of all time) describes Marais as "a genius, a Van Gogh of the natural sciences, whose career was written in waste and passion and demons and who died by his own hand". Marais, who was a lonely tortured morphine addict, wrote two seminal books on his observations of Chacma baboons and on the ant termitary. In his book *The Soul of the White Ant* there is a diversionary chapter called *What is the Psyche?* In this chapter he describes an experiment that he conducted when he "hatched the eggs of weaver birds under canaries for four generations". They were made to lay eggs each time without building their nests and were never shown grass or anything that could be used for building a nest. The fourth generation were then let out and went out and promptly weaved perfect nests. There can have been no personal experience or individual memory. This, he called, the instinctive race memory or the inherited memory of instinct.

It is also called phylogenetic memory and is a category of information arising from the experience of a species over eons (thank you, Google). I assume most of our unconscious sympathetic and parasympathetic responses are inherited in this way. The flight and fright response to danger of sweating, tachycardia and diversion of vascular supplies must be one. Both Freud and Jung also recorded their opinions that phylogenetic factors played an important part in the causes of neuroses and psychoses, so here's a thought.

There is a global population explosion of over six billion of our species and wars are already starting to break out in the 21st century. If we found the switch to our phylogenetic memories the family planners might be able to organise our desire to procreate and the sociologists may be able to turn off the switch that makes each generation respond to the call of the drum and bugle. Now wouldn't that be a thing to find in the evening surgery.

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