

## The Theme Behind *Elephant Dreaming*.



*Elephant Dreaming*, Copyright 2014, Bruce Kerr.

On the east side of Lake Michigan where my family vacations, thunderstorms make their presence known far in advance of their arrival due to the vast expanse of flat water that lies offshore. Sitting on the beach one evening listening to an approaching storm reminded me that I had once heard that elephants are able to feel subsonic waves from thunder over great distances through the pads of their feet. I mused that if they have these specialized abilities there must be all sorts of sensing capabilities in other animals, and since we are preceded by a variety of life forms prior to becoming human, we must have gained and lost a variety of interesting senses in the process.

So what were we once able to see, hear or feel? Humans had to come from the primordial ooze, with flagella, gills, fins, tails, scales, you name it. Did we too once sense subsonic waves? Or guide ourselves through the early seas by lateral lines along our sides or primitive eye spots? And what still lurks in our cells, waiting to awaken to meet the demands of survival? This painting is a visual exploration of this theme. **Each of the numbers on the painting corresponds with the descriptions that follow.**

1. The figure in the foreground is dreaming and as she does so, starts to revert back to a more animalistic form, in this case a Zebra, which uses its markings as camouflage in the tall grass of the African plains. Perhaps sometime in the past, we had more elaborate coloring to our hair patterns that allowed us to survive to our current form or our sense of smell was heightened to warn us of danger.
2. The elephant uses the pads of its feet to feel for subsonic waves given off by thunderstorms at distances of up to 75 miles to aid in their search for water during the dry season. Subsonic waves can travel great distances through the ground, as well as water, where prior to the appearance of powered ships and the cavitation caused by their propellers, whales were able to communicate over thousands of miles via subsonic waves.
3. Honey Bees are able to see ultraviolet waves, allowing them to better distinguish certain types of flowers by both color and pattern that we don't see. In addition, they use a "dance" to communicate these sources of rich pollen with others in the hive, orienting themselves to the sun as they do so.

4. The Dung Beetle of Africa uses the Milky Way Galaxy (shown in the upper portion of the painting) for navigation. During the day, the beetle's eyes have photoreceptors that allow it to navigate by a pattern of polarized rays around the sun. But under the dark skies of the Serengeti, the beetles orient themselves by the bright stripe of the galaxy across evening skies.
5. Several species of jellyfish and marine feather worms have eye spots that allow them to sense light. We often think of the eye as an incredibly complex mechanism available only to higher forms of life but we have since come to realize the breadth of animals that contain some type of "vision" system, however primitive.
6. Cartilaginous fish such as sharks and rays have a network of sensors scattered about their heads called Ampullae of Lorenzini. These sensors give its owner the ability to sense prey by the faint electrical signals given off by their muscle contractions or nervous system. These systems are incredibly fine, with the Scalloped Hammerhead Shark sensing as little as one billionth of a volt, allowing them to find live food buried under the sand. There is also speculation that this system also allows them to navigate by detecting fluctuations in the earth's magnetic field caused by ocean currents.
7. Single-celled animals use a variety of mechanisms for locomotion such as flagella, cilia or pseudopods. We too most likely had some form of locomotion in our single celled forms as our earliest direct chordate ancestor is a worm found in the fossilized mud of the Burgess Shale formation in Canada, which dates back to the Middle Cambrian Era over 500 million years ago.
8. A sea-going animal is shown making its way to shore, most likely with some combination of gills, skin that absorbs air, lobes instead of feet or fins and a variety of other methods of adaptation that allowed it to survive better than other species and therefore pass its genes along.
9. The volcano represents the electro-chemical stew which gave rise to all life as we know it. The exact source of the seeds are still unclear, but it is speculated that life either rose from the amino acids present in earth's early atmosphere or was delivered via extraterrestrial sources which then prospered on our young earth.

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