Wildlife art and illustration: stone sculpture and painting - some experiments in Auroville, Tamil Nadu, India

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Abstract: The métier of combining granite stone carving with painting of wildlife subjects in Pitchandikulam at Auroville International Township has been rather innovative, and some works are described and analyzed. The basic history of stone carving, and especially of those sculptures with animal motifs, is recounted, and the applications, especially in the context of enhancing landscape architecture, are discussed and highlighted.

Keywords: 3 ds Max, landscape architecture, outdoor public space, petroglyph.

Petroglyphs are older than human civilizations - the earliest known examples date back to the time of the Upper Paleolithic or Late Stone Age (50,000–10,000 years ago). Engravings on flat pieces of stone were found in considerable numbers—more than 5,000 at one Spanish cave site—with marks so faint that the technique was closer to drawing than to sculpture and were not spotted by the early excavators, but were discovered much later in 'spoil heaps' (Breuil & Kirchner 1970; Clottes 2010). The earliest known three-dimensional sculptures were of human form (for example, the "Venus of Hohle Fels" that dates back to 40,000 BC and the "Venus of Willendorf" to around 30,000 BC), but later cultures created animal and human/animal forms in stone (Liebson 1991). The earliest such artworks were produced using abrasive techniques, but for most of human history the hammer and chisel were the basic tools for carving stone. Modern technology has provided pneumatic hammers, drills and other devices, which make it possible for artists to be more creative and to speed up what used to be, at an earlier period, a time-consuming and physically strenuous endeavour.

The production of the sculpture begins with the selection of the stone for carving. Some sculptors use the stone itself for inspiration, while others begin with a form already in mind, and find the right stone to realize their vision. The latter was the preferred method of Michelangelo di Lodovico Buonarroti Simoni who claimed that his job was to free the form trapped inside the 'block', as whatever was inside was already there, and it was his responsibility to remove what did not belong in order to reveal the true beauty within, and his single-minded searches of the various marble quarries to choose the exact stones to represent his concepts are well-documented (Scigliano 2012). This is contrary to the often-repeated stories that he developed his concepts according to the shape of the stones he acquired <en.wikipedia.org/wiki/stone_carving> <http://dawnarobertson.weebly.com/wildlife-soapstone-portfolio.html>

Being a subtractive medium, stone sculpture is demanding and fraught with a lot of risk - with clay or wax modelling one can both add and take away, but with stone one can only take away and a single mistake can irretrievably destroy many hours of hard labour. Because of this, sculptors usually pay great attention to the design phase and make a series of detailed sketches (studies) and / or maquettes before even touching the stone - which in the rough form itself can be quite expensive (especially if marble is involved). In these days of superior technology many artists use software like 3ds

Max which provides a comprehensive solution for three-dimensional modelling, rendering and composing, which is ideally suited to graphic artists, and new versions like 3ds Max 2014 have new tools for particle animation and perspective matching.

The sculptor usually begins by knocking off large pieces of unwanted stone (the 'roughing-out' phase) until the block assumes the overall shape of the envisioned statue. Once the general shape has been established, other tools are used to refine the image. Scraping tools are then used to enhance the shape into its final form, and nowadays abrasives attached to machine tools have made a huge difference to what at one time used to be quite a laborious process. Finally, a device called a riffler is used to create fine textural details like scales, hair, etc.

Common subjects for animal sculptures in prehistoric times included animals that were hunted, like reindeer, horses, bison and mammoths, as well as animals that were not, such as lions and other big cats, bears and woolly rhinoceros. This is clear evidence of behavioural modernity: the appearance of art in the past helps us define what makes us human, and is part of what we are or what we can be (Gabora 2007; Williams 2011).

Animal and human/animal motifs in rock were an integral feature of the art of ancient civilizations. The Egyptians were probably the best-known stone carvers (Stevenson et al. 1998), but monumental stone carvings of animals also existed in ancient India, western Asia and South America (Grigson 1977; Gruzinski 1992; Ascalone 2007). However, true representations of animals began in Greece during the Hellenistic Period (around 31BC) when common people and animals became acceptable subjects for sculpture and were commissioned by wealthy families for adornment of their homes and gardens (Boardman 1989; Burn 2005; Havelock 1968). The Romans were, in their turn, influenced by Greek art and they made it more dramatic - good examples are Trajan's Column and Hadrian's Triumphal Arch, both of which have animal motifs carved into them (Toynbee 1971; Kleiner 2007). Nevertheless, it is difficult to distinguish between Greek and Roman art because most sculptors of those times were Greek (Henig 1983). It is surprising that, except for horses and domestic livestock, animals did not feature prominently in sculpture during the Renaissance (Olson 1992) - even the great Michelangelo used an owl only as an adjunct symbol of 'night time' in his sculpture of a reclining female nude (Morris 2009). Even today, in spite of wildlife artists like Pati Stajcar, Martyn Bednarczuk, Ed Walicki and Clifford Frederick working in stone, we do not know of any working specifically with granite.

We use granite as the principal base material, and add paint to lend colour to the animals. Granite is the chosen material because most of the sculptures are designed for outdoor public spaces, and softer stones would be damaged by long-term exposure to the elements. This is one innovation (that is, combining painting with sculpture in stone) that does not have a precedent to the best of our knowledge, and our experiments in Pitchandikulam have proven to be worthwhile, and the results found to be very satisfactory.

However, one must say that paint fades, especially when exposed to direct sunlight. The phenomenon of pigments fading when exposed to infra-red and ultraviolet light has been an eternal problem in outdoor spaces. David Roberts (1796–1864), an 'orientalist', depicted in a number of his lithographs brightly-painted freshly-unearthed Egyptian sculptures which have today lost almost all traces of paint. Non-fading paints are available, but due to their non-malleability and limited range of colors are not suitable for this type of work. Oils showed some promise, in spite of being time consuming to work with, but fungal encrustations occurred during wet weather and damaged the painted surfaces. The most effective are standard enamel paints which are malleable, fast drying and allow fine rendering of detail. At one time we did try coating the painted surface with transparent varnish, but the paintings changed color and hence the exercise had to be discontinued.

GENRES OF WILDLIFE CARVING AND PAINTING

Engraving and painting: This genre is influenced by ancient petroglyphs - for example the Saharan rock carving of a recumbent antelope from southern Algeria, and the carvings of various creatures from 'Laxe dos carballos' in Campo Lameiro. The technique is very simplistic: incised outlines in stone with painted interiors.

Two-dimensional carving and painting: Here the onus is on creating a shape. Only part of the stone is removed, and the figures in relief are painted over.

Three-dimensional carving and painting: This involves removal of large quantities of stone and is an exacting process. The design phase itself is quite challenging, and both traditional methods as well as 3ds Max are employed.

An intermediate phase: Sometimes it is possible to relatively little stone to give a realistic three-dimensional perspective, especially when subjects like geckos are concerned, because these creatures appear as such in nature.

APPLICATIONS

As mentioned earlier, most of the work has been created to enhance landscape architecture, but a few pieces have been purposefully designed as collectors' items.

Image 1. Simple engraving and painting on stone was employed in this seating arrangement. Creatures depicted: Centipede *Scolopendra hardwickii*, Stainer Bug *Iphita* sp*.* and Jewel Bug *Chrysocornis* sp. A Club Tail Dragonfly *Ictinigomphus* sp*.* is also visible in the foreground. Pitchandikulam, Auroville.

Image 2. Two-dimensional carving and painting of a Common Lime Butterfly *Papilio demoleus* on an oddly-shaped pillar. Sometimes one comes upon oddly-shaped pillars like this and we usually find a subject to suit it. So, occasionally, the shape and size of the pillars influence the design. The reverse side of the pillar has the same species in a resting posture. Pitchandikulam, Auroville.

Image 3. A three-dimensional carving of a Chameleon *Chamaeleon zeylanicus* exhibiting bright colouration. This sort of carving necessitates the removal of large quantities of stone. Pichandikulam, Auroville.

Image 4. An intermediate stage of a carving depicting a Termite Hill Gecko *Hemidactylus triedrus*. Private collection of Payal Bojwani Molur.

Image 5. A carved pillar with a Spotted Owlet *Athene brama* and the head of a Common Palm Civet or Toddy Cat *Paradoxurus hermaphroditus*. Pitchandikulam, Auroville.

Image 6. A carved pillar depicting Indian Monitors *Varanus bengalensis* in combat. Pitchandikulam, Auroville.

Pillars: The most frequently-used element to enhance landscape architecture is the carved pillar. Some of these works are quite difficult to execute, especially when the pillars are 15 ft tall and weigh many tonnes, but they are especially impressive when grouped together.

Directional signage: Grooves are cut into some pillars and directional signage on planks bolted on.

Benches: Carving has been used to embellish seating, especially in public spaces where human amenities are the main concern.

Plaques: One innovative feature is the use of carved boulders to accommodate commemorative plaques. These are especially effective and impressive when dignitaries are called upon to inaugurate prestigious government projects like the Adyar Eco Park.

Collectors' items: We believe painted stone carving is an art in its own right, and some artists now concentrate upon working in their studios and exhibiting the resulting works in galleries. Often, the items prepared for such

Image 7. An artist working on a 7m long Indian Python *Python molurus*. Such work is rather time-consuming and can be hazardous. WIPRO Technologies, Electronic City, Bengaluru.

Image 8. A combination of pillars of different heights is especially eye-catching. Creatures visible from this angle: Common Palm Civet *Paradoxurus hermaphrodites*, Centipede *Scolopendra* sp., Black-rumped Flameback Woodpecker *Dinopium benghalense*, Jewel Bug *Chrysocornis* sp.*,* Russell's Viper *Daboia russelii*, Slender Loris *Loris lydekkerianus*, Fan-throated Lizard *Sitana ponticeriana*, Chameleon *Chamaeleon zeylanicus*, Spectacled Cobra *Naja naja*, Common Tree Frog *Polypedates maculates*, Pied Cuckoo *Clamator jacobinus* and Painted Grasshopper *Poecilocera pictus*. WIPRO Technologies, Electronic City, Bengeluru.

Image 9. A bench with the four commonly found geckos of the Coromandel Coast, viz., Southern House Gecko *Hemidactylus frenatus*, Brook's Gecko *H. brooki*, Bark Gecko *H. leschenaulti* and Termite Hill Gecko *H. triedrus*. Pitchandikulam, Auroville.

display have been thoroughly researched, designed and executed in such detail that every scale, feather and hair is replicated to scientific exactitude.

To the purist, painting stone may be anathema, but we wish to point out that we paint only the relevant portions, that is, the subject itself, and leave the rest of the surrounding medium to exhibit its natural beauty and colours. Today, wildlife art appears to be in the grip of a tendency towards schematization which is cramping artistic expression, so that new trends charged with living tension are becoming increasingly rare. If zoomorphic representation is to survive in this age of photography and cinematography, newer trends must be encouraged and sustained. This does not mean that wildlife art has to lean towards abstractionism / other forms of modernistic art, but rather that it has to become more user friendly and functional. The experiments in Pitchandikulam have attempted to address exactly such a situation, that is, art for outdoor public areas intended to enhance landscape architecture, and for

Image 12. A fine carving and finer painting of a Slender Loris *Loris lydekkerianus*. Every hair has been meticulously painted, and the animal is very lifelike. Pitchandikulam, Auroville.

Image 10. A directional sign with a Short-nosed Fruit Bat *Cynopterus sphinx* carved at the top. Adyar Eco Park, Chennai.

the connoisseur, a piece of scientific art in a favourite personal space.

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Image 11. These are large stones with carvings and paintings of wildlife and vegetation designed for the then Chief Minister of Tamil Nadu, M. Karunanidhi's inauguration of the Adyar Eco Park. Wildlife depicted: Black-rumped Flameback Woodpecker *Dinopium benghalense*, Hoopoe *Upupa epops*, Lime Butterfly *Papilio demoleus*, Peacock Pansy *Junonia almanae*, Climbing Perch *Anabas testudineus*, Painted Stork *Mycteria leucocephala* and Black-winged Stilt *Himantopus himantopus*. Adyar Eco Park, Chennai.

Image 13. A fine carving and painting of an Indian Python *Python molurus*, about 8 ft long. Every scale has been reproduced in scientific detail. Pitchandikulam, Auroville.
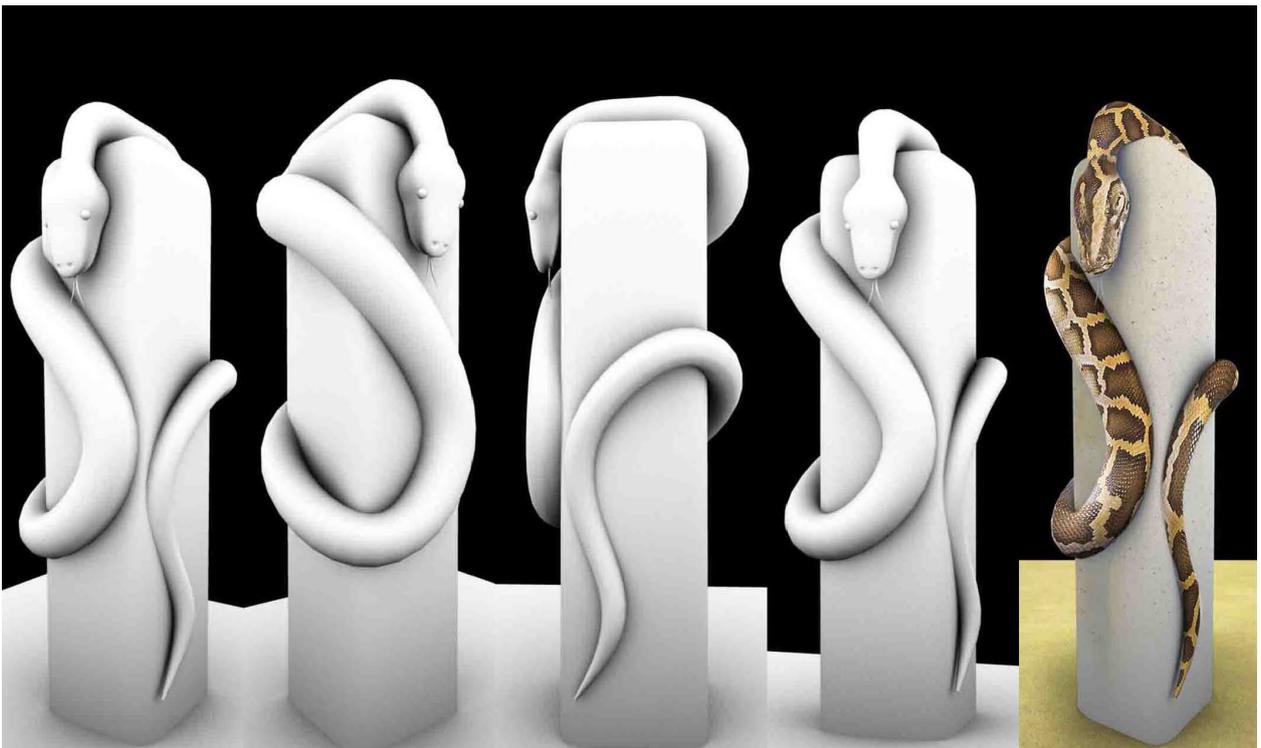

Image 14. Three-dimensional carving is an exacting process in itself but the design phase is also crucial in order to produce a satisfactory result. Shown here are 3 ds Max images which helped with the planning of the sculpture of the python.