Kunst und Ökologie von Dekorgesteinen: das Erbe aus Nord- und Nordostbrasilien

Art and Ecology in Decoration Stones: the Legacy of North and Northeast Brasil

Искусство и экология в драгоценных камням: завещание северной и северо-восточной Бразилии

Von/by

A. Bhaskara RAO [197] **& Claudio DE CASTRO** [198]

mit/with 8 Abb./fig., 3 Tab./tab.

Schlüsselworte

Brasilien
Kunst
Ökologie
Dekorgestein

Abstract

Always generations depicted through art their fauna and flora. Interestingly enough such ecological recollections are being forgotten, not by the archaeologists. Geosciences possibly helped maintain this legacy through generations. Had it not been due to hematite ochre and black graphite, there might not have been any ancient art in the caverns. Had it not been to the noble metal gold, there might not have been the relicts of Minoan Ertruscan Nature God of 17 B.C., a gold pendent with two serpents flanked by two birds.

Brazil, a land of contrasting fauna and flora due to the Amazon jungle in the North and the Polygon of Draught in the Northeast, shows it's own legacies. One has pretty birds and reptiles, while the other has simple desert and draught land survivors. The legacy of both these regions depicted in semi-precious stones as objects of decoration, perpetuates them the same way as the former civilizations immortalized the then contemporary fauna and flora. This shall be the ecological legacy of the N and NE of Brazil.

The concept of legacy in in ecology

The perpetuation of MICHAELANGELO and Vincent VAN GOGH is certainly not through their exotic lives, but due to their eternal art. Man as the product of nature conceives and creates many things, and lives up to the expectation of his fellow citizens. Often he rises much above his own limitations to reach space and moon. These talents are conditioned to the society in which he lives and the day to day culture which limits his behaviour. Thus, civilizations are either forlorn or lost in time, but they live and always record something to leave behind as heritage.

Gods have shown themselves in legendary art of jewellery and many other things could be mentioned where stones or metals have taken part. They are usually religious or artistic, nevertheless they are amulets. By carrying God or the Cross on chest, even today, people believe that they are free from danger.

Serpents are considered as representations of gods in India. They symbolize the success over evil. Thus, NAGA, the king of serpents, is adored in the South of India and golden ornaments are made symbolizing him. Other Gods and Goddesses have been represented with fauna as their seats or transport. Even modern films with ancient tales do count on this sympathy of humanity with the animal kingdom (tab. 1).

Cavern art, known since ancient history of civilizations and with the recent discoveries in France, reveals the aspirations of Man to depict his art in stone for centuries to come, or to attend to his own vanities, using fauna and flora. From fauna he had his food, and thus he depicted it more. He had to hunt to eat. Thus the laws of nature have been written on stone, in caverns, in the stone age and we should be proud of those who knew how to communicate, even at that time.

North and Northeast Brazil

Brazil is a land of extensive territory. It has forest and, a draught sticken region, corresponding to the North and Northeast respectively. There is no similarity between the two. But both of them occupy the entire Northern portion of the country. The vast Amazon that covers the North is over 3 million km^2 while the Northeast is less than 600 000 km^2, but still about 45 % of the national territory.

North-eastern Brazil is draught sticken. Since times immemorial, the rich always took advantage of the unlucky lot, and created their empires. With the lack of water, both agriculture and cattle breeding becoming scarce, the population runs for food through simple hunting.

[197] Anschrift des Verfassers:
A. Bhaskara RAO, Senior CNPq Scientist, Dept. of Mineral Resources, University of Brasilia, 70910 Brasilia, Brazil

[198] Anschrift des Verfassers:
DE CASTRO, Claudio, Dept. of Mining Engineering, UFPE, 50740 Recife, Brazil

The consequence is the destruction of that little fauna which survived in such a torturing climate. It is the law of the fittest in nature. Northern Brazil covered by the vast Amazon is another contrasting case, which is being occupied but as ecologists say *"is being devastated"*. The fauna and flora are very sumptuous and versatile. They could recycle and maintain themselves, with no human interference. The crocodile family or the pythons are considered species indestructible. Yet they are the primary targets. The problems and the survival of Amazon are to be viewed in the same context as the Northeast of Brazil, eventhough they are different in conditions of climate, people and habitation. Both, however, are considered as less to underdeveloped in relation to South of Brazil.

Geological consciousness

Brazilian geological consciousness started in 1957 with five Schools of Geology one at Recife in NE, and much later at Manaus in Amazon region. Earlier geological work was either carried by the Mining Engineers or the Naturalists with tendency to earth sciences. The consequence is that today in the country 18 Geology Departments offer professional courses, and geological activity has increased and is respected. A good part of the country's geology is known, permitting the mineral exploration projects to develop within modern technical know-how and concepts.

Eventhough ores, metals and gems have been attractions quite earlier, yet the search for minerals, ore deposits and rocks started to develop with geological mapping both at regional and local scales. The RADAM project stimulated greater attention and enthusiasm with discoveries in the Amazon region. Even now here the mining is flourishing in the deposits of aluminium, gold and tin. The failure of good mineral/metal market reflected much in the mineral economics of Northeast which was dominated by tungsten, niobium, tantalum, and beryllium. Thus, mining activity seeking options in minerals and rocks for construction and other industries, besides gems and decoration stones, has increased.

Artesian activities

With constant draught problems and mining as a second option after agriculture, NE continues its mining through artesian activities, with varieties of quartz, semi-precious stones, transforming them into decoration pieces of art. The themes are principally ecological.

Ecological Depiction

The master art is so well depicted that the local fauna is being represented in them. They are like the age old paintings and sketches in caves by primitive habitants in different parts of the world, and have been a tribute to the ecological consciousness, the respect for the fauna that sustained man during all his survival.

Unfortunately belated, this respect is still important because now Man is causing the extinction of the species. On the other hand, the artesian art is a typical outflow of talent. The fauna in NE is not so excellent, because in that climate with the draught man is surviving by eliminating that little surviving fauna.

Fig. 1: General aerial view of the Minerals & Earth Science Museum of University of Brasilia (MM-UnB) in the Institute of Geosciences, organized by the authors in 1972 (MSA & ABR

Fig. 2: A view of giant iron meteorite, about 300 kg, found in the Sanclerlândia of Goiás State (MM-UnB)

Fig. 3: Giant rock crystals of quartz from Cristalina in Minas Gerais (MM-UnB)

Fig. 4: Gem and ruby tourmalines embedded in massive quartz in pegmatite deposits in Minaçu, Goiás State (MM-UnB)

Fig. 5: Exposition of the regional mineral riches from Northeast Brazil, where the museum is located (MM-UFPE)

Fig. 6: *"Discover the erarth"* project for schools: a view of demonstrations

Fig. 7: General view of the *"Fossil Garden"* at the entrance of the Museum of Minerals and Rocks of the Federal University of Pernambuco in Recife (MM-UFPE), originally organized by two of the authors in 1966 (ABR & MSA) and now administrated by the third author (CC)

Fig. 8: View of the mineral collections exposed for public, and also used for teaching purposes in the University (MM-UFPE)

Fig. 1

Fig. 2

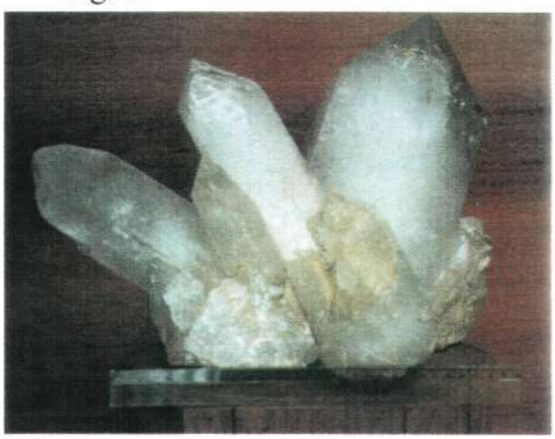

Fig. 3

Fig. 4

Fig. 5

Fig. 6

Fig. 7

Fig. 8

In the Amazon, with the flora and fauna exuberant, the depiction is yet not so versatile. Colourful birds happen to attract more attention and thus form excellent pieces of decoration. Not always they are shown in their original colours, as biological species should be, but as an artesian art and conserving the basic elements of art, the available stones are used to form parts of the body of the birds.

Amazon Birds in Stones from Northeast

The Amazonian birds call attention of ecologists, due to their variations, colours and qualities like stand-still flying Humming bird (Beija-Flor) and Singing bird (Sabiá). They are being represented in semi-precious stones (tab. 2).

Interestingly enough these semi-precious stones mostly come from Northeast. They are principally represented by :

1) A variety of massive
   - a) Rose and pink quartz
   - b) Green quartz
   - c) Rock crystal
   - d) Amethyst. crystal aggregates
   - e) Agate, yellow, red, brown etc.
   - f) Red jasper
2) Blue to dark blue sodalite

Further these decoration pieces do not usually correspond to the colours of the birds they are expected to represent, but are typically colourful and artesian without scientific commitment Undoubtedly the forms of the body, beak, tail, wing and legs are correctly observed and represented (tab. 2).

Thus a comparison of these birds in stones is attempted with their true scientific counterparts, known in the ornithology of Brazilian Birds (tab. 3).

Conclusions

Decoration Pieces

Ecological decoration pieces must have the following characteristics:

1. They need not be true replicas of species in all aspects.
2. They should represent the species in general aspects.
3. They have to be attractive pieces.
4. They need to be colourful; not necessarily as true replicas in colour either.
5. They need to have appeal and be pleasant.
6. They have to be artistic and decorative.

Legacies

Amazon has a legacy much more complex than any other region in Brazil. It is another country in this country, with its own characteristics and peculiarities. The region is still being discovered. Each day is another new adventure in this vast area, and its exploration and exploitation should be well supervised, but not condemned. Human race cannot afford to isolate natural wealth from participating in sustainable development. Only planned exploitation is needed. The Amazon continues to conquer the hearts of the world due to the legacy of this complexity and ecological magnanimity.

The legacy of Northeast Brazil, which truly shows no serious signs of change towards planned development away from the beach resorts and skyscrapers, certainly is being depicted and conserved through some local art availing raw material like stones and paying tribute to ecological heritage. Only times can prove how important this culture could be. It is just the same way as Artist Vitalino of Caruaru (Pernambuco State) moulded sculptures in clay immortalising the local Caboclo and his inseparable Jegue (donkey) of the region.

Hopefully this could be taken as a lesson and our environmentalists preach less and practice more, before our dwelling places get transformed into deserts.

Final remark

This work was intended to be less scientific and more objective. However during its organization the authors felt the lack of variety in information which limited the treatment in this first attempt.

References

AGID., 1991. Geosciences in Development. Ed: D.A.V.Stow & D.J.C. Laming., A.A.Balkema, Rotterdam. 324 pp.

ANONYMUS., ?. Brazilian Precious Birds. Folder. Holmana Artes em Pedras In. e Com. e Exportação Ltda, Rio de Janeiro, 24 pp.

SAUER, J.R.,1982. Brazil: Paradise of Gemstones. Jules Roger Sauer, Rio de Janeiro.135.

SICK, H., 1984. Orintologia Brasileira. Editora Universidade de Brasilia. 2 vols.827 pp.

GODS and GODDESSES	PREFERENCES
Indian	
Lakshmi	Lotus as seat
Kali	Tiger for transport
Shiva	Snakes as ornaments Bull for transport
Krishna	Cow and calf for milk and butter
Vishnu	Serpent as his throne Garuda (Hawk) for transport
Ganesh	Mouse
Others	
Hecate of Greece 350 BC	Crowning Horse
Nature God	Serpents Birds
He-Man	Tiger

Tab. 1: Gods and others: their ecological preferences

POPULAR NAME	STONES USED	BODY PARTS
HUMMING BIRD BEIJA-FLOR	Quartz (pink and rose) Agate (yellow) Sodalite (dark blue) Amethyst (violet)	Body Beak Wing and Tail Support stone.
WILD DUCK PATO SELVAGEM	Quartz (pink) Agate (red) Amethyst (violet)	Body Beak Support stone
TOUCAN TUCANO	Quartz (pink or rose) Sodalite (dark blue) Quartz (green) Amethyst (violet)	Body Beak Tail Support stone
PEACOCK PAVÃO	Quartz (rock crystal) Amethyst (light violet Quartz (pink) Agate (red) Amethyst (pink)	Body Wing Tail Beak and Crest Support stone
TURKEY PERÚ	Sodalite (blue) or Quartz (rose) Quartz (rose) or Sodalite (blue) Quartz (pink) and rock crystal; or Quartz (green) & Sodalite (blue) Jasper (redish brown) Agate (red) or (brown) Rock crystal (colourless) or Amethyst (violet crystals)	Body Chest Tail Crest Beak Support stone
COCKATOO CACATUA	Rock crystal (colourless) Sodalite (deep blue) Amethyst (crystal aggregates)	Body Beak, and Crest Support stone.
OWL CORUJA	Quartz (rose) Agate (red and black) Agate (orange) Amethyst (violet)	Body Eyes Beak Support
GOOSE GANSO	Quartz (rose) Agate (red) Amethyst (pink)	Body Beak Support
PARROT PAPAGAIO	Quartz (rose) Quartz (green) Quartz (dark green) Amethyst (pink)	Body Beak Tail Support
BRAZILIAN SINGING BIRD / SABIÁ	Sodalite (dark blue) Agate (dark brown) Quartz (rose) Rock crystal aggregate	Body Beak Tail Support
PELICAN PELICANO	Rock crystal (colourless) Agate (ochre brown) Amethyst (violet)	Body Beak Support
MACAW ARARA	Quartz (green) Agate (honey yellow brown) Quartz (rose) and Sodalite (blue) Rock crystal (colourless)	Body Beak Tails Support
HERONA GARÇAS	Quartz (rose) Agate (light brown to red) Amethyst (aggregate, violet)	Body Beak Support

Tab 2: Brazilian Amazon Birds in stones [199]

[199] Extracted from the folder of: Brasilian Precious Birds by HOLMANA Artes em Pedras Ind. e Com. e Exportação Ltda, Rio de Janeiro.

NAME IN ENGLISH	NAME IN PORTUGUESE	SCIENTIFIC TERMINOLOGY FAMILY NAME IN CAPITALS; & SPECIES	COLOURS OF BRAZILIAN SPECIES, AND SIZES.
HUMMING BIRD Large variety	BEIJA-FLOR	TROCHILIDAE Melanotrochilus fuscus	Colourful, rose, greens, blues, grey, black, white, brown. Small to very small.
WILD DUCK	PATO SELVAGEM	ANATIDAE Cairina mochata	Black, white. Red feet.
GOOSE	GANSO	ANATIDAE Mergus octosetaceus	Black and white.
TOUCAN Large variety	TUCANO	RAMPHASTIDAE Ramphastos tucanus	Black, grey, red, yellow, white, orange, green etc. Small to big.
WILD PEACOCK	PAVÃO DO MATO	COTINGIDAE Pyroderus scutatus	Grey to black. Orange to red, white.
COCKATOO	CACATUA		Similar to parrot
OWL	CORUJA	STRIGIDAE Otus choliba	Striped, white, yellow, brown and black.
PARROT Large variety	PAPAGAIO	PSITTACIDAE Amazona xanthops	Blue,green and red dominate. Small to big.
MACAW Large variety	ARARA	PSITTACIDAE Anodorhynchus hyacinthinus	Sea blue, yellow, deep red, oarange, green. Small to big.
BRAZILIAN SINGING BIRD	SABIA	TURDIDAE Turdus amaurochalinus	Brown,yellow,orange, white.
PELICAN	PELICANO	PELICANIDAE Pelicanus occidentalis	Cream
HERONA	GARÇAS	ARDEIDAE Egretta thula	White, grey, blue, cream, spotty. Small to big.

Tab. 3: Ornithology of Brazilian birds in stones [200]

[200] Extracted from: Sick, H., 1984. Ornitologia Brasileira. Editora Universidade de Brasilia, 2 vols. 827 pp.