MAN
THE MODELING SPECIES

A commented review

by Nold Egenter

Review

"Modeling is a good candidate for a basic activity of mind." What does this mean? A sentence caught up from Naomi Campbell at a fashion show? Some citation from a famous artist fascinated by 'modelling' bodies? Or is it taken from an architectural magazine characterising the conviction that the complexity of design can only be done through the modeling type of thought? In short, it is a key sentence found in an editorial written by an anthropologist, Bradd Shore, for "The Semiotic Review of Books" (3.9.99). The title is "The Modelling Species. Humans in general are implied. Shore proposes the "idea that all humans understand the world through models or schemes ..." Having its gravity point essentially in cognitive anthropology and psychology the essay opens up some very interesting perspectives.

Naturally the term model in this framework is wide. It implies not simply the 'tools' of science, the molecular models of physics, chemistry and biology, nor those used by architects and urbanists or fashion designers. Kant's categories of the mind are also considered as models, as well as Frederick Bartletts 'mental schemes' or even Ruth Benedict's 'patterns of culture'. Shore clearly indicates the direction towards an anthropology of cognition. An anthropology of the brain?

Most important: "The human brain is a virtuoso modeler, constructing models from external input, reading models already in the environment, storing models for future use and accessing pre-stored models as interpretive tools." Input/Output. Shore describes this outside-inside relation through the capacity of the human cortex. Inside, "the brain is constantly generating models in the form of electrochemical patterns - neural networks. The brain is also continually monitoring the external world through its sensory portals, seeking patterns in the world to model neurally. When our brains can match external patterns with those already stored in memory, we get 'meaning'."

Shore goes on then to deal in more detail with what he considers as models. Scientific models or theories can be considered as such. Abstract data like equations, statistical patterns, case studies, etc., all can be considered as models, schemes. Important for social studies are also family patterns, personality structures, cycles of economic behaviour, patterns of language use, etc.. "If human behaviour were not already patterned, social scientists would not have anything to discover." Similarly, artists and designers work with models, "create new models out of old ones." Shore

considers even aesthetics as "probably conditioned by the human penchant for finding emotional and intellectual meaning in models. Further, anthropologists and psychologists in the domain of cognition work with models. "Culture may be thought of as a vast stock of models used by communities to understand and manipulate the world in a more or less coordinated way." In studying models with models we "make models about people's models."

Doubtless, Shore's attempt to generalise the term model or scheme into an all-embracing validity is puzzling. On the other hand there are evident phenomena like the facial gestalt, or emotional expressions shared by most humans as mental schemes. Maybe the advantage of the term consists in its openness. It is not structured like 'structure', not textured like 'patterns', it simply rests on more or less precise analogies. It is evidently this quantitative minimum of definition which supports Shore's wide domain of model perception and conception. Clearly it is at the same time the source of its strength. "Cultural models serve a wide variety of cognitive and social functions..." Shore sums them up as orientation, conceptualisation, communication and control." Evidently he implies a fully fledged cognitive cultural anthropology with these four terms. "Man the modeling species"!

Shore's attempt is fairly bold in the wide horizons it tries to cover. And it is true that at first sight, he packs very heterogeneous things into the same parcel. But overall it is somehow convincing. It provides a general condition with wide-reaching implications. Modeling seems to be a basic activity of the human mind.

In the following, a second layer is spread over his domain, a five-fold typology giving contrasting expressions for their characterisation, thus indicating also that they cannot be clearly defined. They have to be understood as interactive complementary domains. This framework is very important.

Following his 'outside/inside' interaction scheme of the brain he gives two basic types of models: '**models-in-the-world' and 'models-in-the-mind** '. The former are "instituted models, .. public artefacts", reaching from material objects to gestures, words, rituals and everyday conventional routines like 'sales meetings' and 'breakfast'." The latter 'models in the mind' imply the creative way towards the outside, "words or paintings, dramas or gestures...mind made matter." Evidently both model types are intimately related, they have a complementary relationship.

Important is also the distinction of what Shore calls the **"user's model" and the "generalised" mode** l, giving a city map as an example. The latter, the generalised model, is the map with its multi-perspective birds-eye view, the former corresponds to the person standing factually in some spot of a city, trying to locate his position, either referring to the map in a generalised sense or feeding his orientation as a 'user' empirically with landmarks. Evidently, Shore describes a powerful instrument, the tensions between a socially designed generalised" map and the personal experiences within this urban space and its factual arrangements. This tension between different models can be related to the whole body of modern existence, particularly in educational systems.

Shore gives a further contrasting or complementary pair of **descriptive and prescriptive models** . Descriptive types indicate a pre-existing reality like the description, sketch or photograph of a landscape. Prescriptive models correspond to ideas of architects and planners. An existing reality is modeled for transformation. In this "give-and-take between prescriptive and descriptive models", Shore mentions the "key role" of **analogy,** without, however, explaining its function. He relates it psychologically to "creative intelligence". Analogies are used "as a bridge to something new". We

will develop this point further below.

In fact, up to now, all types of models are similar. All are per-/conceptional relations of individual and social existence in environmental space. The indication of analogy remains vague. This corresponds to the openness of the term model. Taken as a whole, the scheme is plausible.

Not very convincing, however, is the distinction between **mechanical and statistical models** derived from Lévy-Strauss, mainly because his structuralism overestimated the relevance of scale.

Interesting, on the other hand, is the conclusion, the final distinction of the **"categorical" and the "epidemiological" model of culture.** The latter corresponds fairly to what is called diffusion' in ethnology. Shore calls categorical the 'folk model' of culture, evidently the professional static image. "Epidemiological models suggest gradients, clines and other features of statistical distributions. They lack the precise boundaries of categorical models." Shore maintains that the divergence between the factual, but highly abstracted diffusionist concept and the "rather neat categorical folk models" even anthropologists seem to cherish, is one of the main factors "why some complex concepts (like 'culture' or 'race') are subject to habitual misrepresentation."

But let us conclude, for the moment leaving open this very important question of whether incompatible models blur our views. Shore's dominant use of psychology and neurology is clear. Evolution endowed our species with the ability to project our internal models into material forms." But this is only one side. Shore takes a striking turn. "The sapient hominid is also Homo faber- maker of artefacts. Our penchant for physical modeling is built into our hands, with their opposable thumbs and precision grip. With the help of a big forebrain, humans extended these manipulative capabilities through the invention of tools, both physical and symbolic."

Evidently, the intermingling fields of anthropology and psychology allow important constructions, but this is not without problems. The wide definition of the term model including objective types and abstracted meanings in the sense of 'scheme', allows us to describe an extremely wide field of 'modeling'. In fact, a fully fledged anthropology is in view, "man the modeling species. On the other hand, this extremely wide definition leaves us with a tremendous variety of potential models, a wide typology of schemes. However, it does not give us answers to the question: why is man a modeling species? How did 'models-in-the-world become 'models-in-the-mind' in such great quantity?

In his outlook on prehistory, Shore refers to the toolmaker concept, indicating that tools can also be taken as symbols. It is this which is the weak part of Shore's essay. Legitimate in psychology in view of the high elasticity of its terms - its emphasis is on an enormously wide spectrum of essentially synchronous data. On the other hand, in the diachronical domain, particularly in regard to prehistory, it is limited to the 'homo faber' in the narrow sense of the toolmaker. For Shore, the term "adaptive intelligence" seems to bridge the gap between the Miocene nutcrackers and ant fishers and modern society with its endless manifold of 'modeling' capacities! But, evidently, this is fairly unbalanced, thus theoretically not convincing. Cognitive processes 'created' the cortex. But, what was the relevant mover?

Comment

Maybe the expression "modeling species" has better chances if it is connected to another interface in

regard to its past conditions: the anthropology of demarcated settlement (architecture and habitat anthropology). Surveying various domains (ethno-pre-history, anthropology and primatology) and using new methods, this approach reconstructs a constructive hominid tradition which uses fibrous materials or "[pre-]lithic fibroconstructive industries" (hand as the first 'tool'!). Particularly the study "Habitat anthropology and the anthropological definition of material culture" shows that such fibrous constructions ('semantic architecture') might have been an important factor in Palaeolithic developments, particularly in view of increasing control of food resources (semantic types of 'tectiforms').

Further, fibroconstructive demarcations are also highly valid in explaining processes of Meso and Neolithic sedentarisation. **Most important is their structural potential to assume bipartite 'structuro-symbolic' forms. They might have acted as "models" for the perception of natural forms using 'categorical polarity' as the basis of comparison, thus allowing analogies.** Ethnologically, it can clearly be shown that such fibrous artefacts primarily used as territorial markers, enter into dialogue with 'natural' forms like plants [tree], animals [bird, snake, fish], even geotectonic (mountain) or cosmological forms (sun, star; Egenter 1994).

Based on various arguments (e.g. technological, functional), such results can be interpreted diachronically as **processes of a cognitive evolution of man.** The approach provides indicators as to how natural forms like trees, birds, snakes, fish, mountains etc. were 'discovered' by hominids: they had a "model", namely fibrous signs and symbols that functionally constituted their system of territorial organisation and orientation.

Most important: their polar structure gave birth to analogy, to cognitive concepts like 'the general and the particular' (Egenter 1994). Thus, with this new method of habitat research, Bradd Shore's hypothesis "man the modeling species" would gain surprising support. Man's tremendous modeling capacity might have had a very ancient 'history'.

- **Probably we should urgently re-evaluate prehistory. Very likely it was a time of tremendously intensive discoveries: 'the natural form perception period'!** (Egenter 1998)
- **The tremendous increase of brain size is probably its most convincing support!**

In short, Bradd Shore's condensed hypothesis might be an access path towards this re-evaluation of prehistory suggesting plausibly "man [as] the modeling species"!

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