

ON SKINS AND OTHER PREOCCUPATIONS OF ARCHITECTURAL DESIGN

Alexandros N. Tombazis, architect

Meletitiki - A. N. Tombazis and Associates Architects, Ltd.
27, Monemvasias str., GR-151 25 Polydrosos-Athens, Greece
Tel.: 30 1 6800690, Fax: 30 1 6801005

ABSTRACT

The more the design of buildings becomes bioclimatically conscious, the more the behaviour of these buildings tends to become skin dominated. Double elements, much like the different layers of the skin of animals or human beings, can serve more than one purpose at the same time, such as shading, movement of air, evaporation, filtering of light or the support of other elements. Their use can help in a better integration of indoor and outdoor space, an extension of functions and a smoother transition from a more to a less controlled environment.

KEYWORDS

Architectural design, Skin of living organisms, Skin of buildings, Building envelope, Plants, Climatic Conditions, Threshold between exterior and interior.

When one comes to think of it, the history of architecture is virtually the history of the skin of buildings. This means the way we treat walls, roofs and openings. These utilitarian components, very often of a most mundane nature, when combined in an aesthetically pleasing manner, have led to realms of higher aesthetic appreciation and philosophical levels of abstraction and contemplation.

In the present-day way of thinking the approach to the design of the skin of a building in general comes about at two levels: On the first level, it is taken for granted in its simplest form, that it has to fulfil its most immediate functions of keeping cold and water out and letting air and light in. Very often little consideration is given to the multiple functions that an opening in a wall has to fulfil. It is taken for granted (in most cases) that it is only natural for it to exist without much further thought.

On a second and higher level, after the basic technical questions have been dealt with, the architect enters into the picture and starts combining the different components into a more holistic and aesthetically satisfactory overall product. This of course is not always the case, but it is the practice in most of the cases. The different components become abstract objects of an aesthetic value to be manipulated by the "craftsman-architect". The different materials, textures, shapes and many other properties of these components become issues of concern and starting-points for design development. Nowhere does it enter in this process, that these components exist also to fulfil a further role of creating a transitional space or threshold, the skin between the outside and inside. Nowhere does it become aware, that there are constraints to be dealt with and objectives to be fulfilled, and that with imaginative thinking these issues, further to being just constraints, could become starting-blocks for a much more holistic design. The richness of issues to be addressed is incredible and completely out of scale with the poverty and one-sided (depending on the designer's philosophy to design!) approach.

In the sense that the shell of a building is both its skin and a threshold between the exterior and interior, I find it useful to look up the meaning of these two words. Thus, the Oxford Dictionary gives the following definitions:

skin n.: flexible continuous covering of human or other animal body;...

So a skin is both continuous and it is flexible. Both these meanings are useful in the context of buildings.

Moving on to the word *threshold* the Oxford Dictionary tells us:

threshold n.: plank or stone at bottom of door in dwelling - house, church etc.; (fig.) point of entry (on the threshold of a revolution, of a new century); (Physiol. & Psych.) limit below which a stimulus ceases to be perceptible; (Phys.) limit below which no reaction etc. occurs ...

So we see in both a literal and metaphorical sense that the threshold is an element or notion of transition, something that can be of great importance such as a revolution or a new century. It is a state that does not really exist in itself, but leads and opens the way to something else or another condition of importance. One does not need to once again draw attention to the similarities to buildings.

To start with, I would like to briefly compare the skin of buildings to different kinds of skins of plants, animals and human beings and to contemplate on their similarities and differences, because we should always remember, that many of our habits and patterns of living come from nature and were established there many thousands of years ago.

When studying plants one observes that the more the colour of the leaves of a plant is darker, the easier the plant can adapt to its environment. Plants with brighter green leaves, or multicoloured ones, need more specified conditions in order to survive. Exposure to direct sunlight can cause "sunburns" to sensitive plants. The shape and colour of the leaves or the complete absence of them (cacti), are related to light, temperature, humidity and the wind.

If for nothing else, the animal world is worth looking at for its enormous variety of different kinds of skins. Let us just enumerate a few:

- scaled skins that one finds in different species of reptiles that periodically shed their skins,
- soft skinned animals with short or longer furs such as a cat, dog or antelope,
- hard skinned animals in which hardness is a means of protection such as a rhinoceros or crocodile,
- spiked animals for which their prickles are a means of protection such as a hedgehog or porcupine,
- thick coated animals with elaborate furs or rich in oil content skins, which help them maintain constant body temperatures, such as bears and other mammals, which for this reason do little or no building,

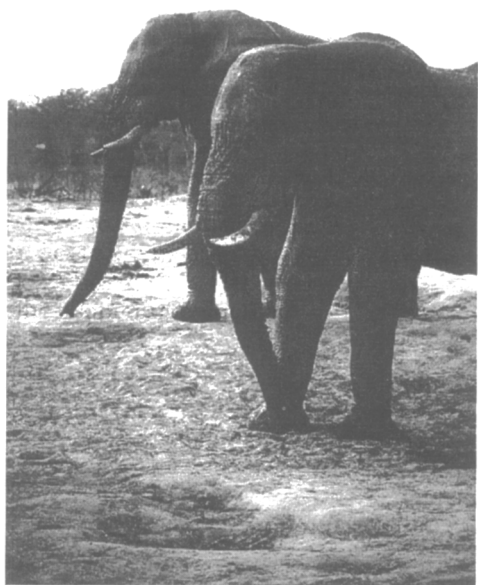


Fig. 1: Many lessons can be learnt from the different kinds of skins of animals.

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