

Introduction :

Climatic Factors in Urban Design

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The benefits of designing with nature are not only practical but also aesthetic and sensory. It would appear most appropriate that we consider managing and designing landscapes, buildings and the open spaces between them, in a way that emphasizes rather than minimizes seasonal variation. Regional identity in architectural and urbanistic expression (colour, form, texture, materials, etc.) should be encouraged. Standardization of building techniques and methods throughout Europe and much of North America has resulted in stylistic uniformity and in a neutralization of built form. Adopting a climate-sensitive approach (in less than ideal climatic regions) is clearly the best strategy (when combined with appropriate, user-responsive, ergonomic design) for obtaining an ecologically balanced and sustainable lifestyle well into the 21st century.

Differences in social behaviour patterns have frequently been ascribed to climatic influences. Northerners are often described as cool, while southerners are labelled fiery. Speculation has created stereotyping that has only recently been receiving scientific scrutiny (Andersen, Lustig & Andersen, 1990). In 1918, R.D. Ward, in the book *Climate: Considered especially in Relation to Man*, reported that in both the United States and Europe northerners are serious, industrious, enterprising, pessimistic and mature, whereas southerners are cheerful, impulsive, generous, lazy and easy-going. Such characteristics — whether partially accurate or not — have largely been attributed both to culture (and its effect on communication) and climate.

It becomes clear that linear cause/effect relations are not simple to identify since most variables can hypothetically serve as either cause or effect. The environmentally deterministic view believes that physical environment affects behaviour — and cultural norms. Topography and climate may play important roles but cultural practices and attitudes can override these factors so that people in the same environment often have cultural practices which vary widely (Altman & Chemers, 1980,10-11). Although it is held that traditional cultures and the vernacular solutions which they spawned were always ecologically sound and climatically sensitive, this

has not always been the case — and examples can be found that seem to work badly in response to climate — reinforcing the sometimes determining importance of socio-cultural factors (Rapoport, 1987, 263). This suggests that life-style, beliefs, identity and other forces — together — may be more powerful than climatic ones in the creation of built form. However, to ignore climate, particularly under harsh conditions, would certainly be unwise. Most vernacular design solutions have been extremely sensitive to ecological context and much can be learned from them.

We should probably keep a sufficient distance from the nostalgia of the past — from literal interpretations of urban and architectonic forms — as we confront future problems. But we ought to retain a sense of the spirit within which problem-solving was approached in the vernacular tradition. It is within a framework that will blend a mastery over nature and co-existence with nature that meaningful solutions shall be found. Historic examples can offer guidelines and valuable insights which can serve as a basis for new directions. Their lessons are often applicable to present-day situations because the vocabulary of the past constitutes a repository of ideas and forms which, if successfully adapted, can prove beneficial.

The current thematic issue of *Architecture & Behaviour — Climatic Factors in Environmental Design*, is intended to address many of the issues raised above. The major thrust is to relate climate, design and behaviour with the aim of creating humane, livable private and public places in cities, urban regions, and the countryside. Climatic factors have been ignored or swept under the rug for far too long. Techno-lust has guided design during recent decades, accompanied by stylistic pluralism. In so doing, there has been a destruction both of cultural traditions and regionalism in design. Diverse private interests are replacing a public culture that is slowly disintegrating. Collective well-being is no longer in the forefront of political concern. If urban design is to be user-responsive it will have to confront climatic elements head-on, improving human comfort indoors, out-of-doors, and in that elusive in-between zone of inside-outside where real-life is said to occur. Design will also have to derive inspiration from cultural and climatic contexts to instill deep aesthetic and sensory meaning. A richness which can evolve from a climate-sensitive perspective can also assist in heightening the quality of life in both cold and hot climates. Towns should be conceived to function equally well in all seasons, and the harsher the conditions the greater the need will be to pay more attention to climatic imperatives.

The purpose of this collection is to provide an international overview of bioclimatic design for a broad range of different climates, in the hope that the information will be useful to architects, urban designers, planners and policy analysts involved in decision-making that simply cannot afford to overlook climatic factors. It is my genuine desire that readers lacking knowledge of this subject area may find the ideas instructive and meaningful. The invited contributors are all experts in their respective fields — both scholarly and professionally. They have been requested to focus on two key targets:

- 1) the relationship between climate and behaviour at architectural and urban design scales of concern;
- 2) ways of organizing urban space to improve the micro-climate of parts of the city and on building sites — through modification of built form — ameliorating human comfort in the process.

If, in addressing these targets, they will have succeeded in bridging the disciplines of environmental sociology and psychology, urban and landscape design, and architecture and planning, my initial objectives will have been clearly fulfilled. Climatologists, on the one hand, and designers, on the other hand, have tended to remain isolated within their own respective fields. This phenomenon, in fact, is extremely common in most professional disciplines and may be a partial explanation for the lack of integration of knowledge essential in developing high-quality solutions to built form dilemmas.

There has always been broad agreement that the built environment — composed of cultivated nature, buildings, open space systems, towns and regions, and the natural landscape — is a most valuable, common resource that cannot be managed carelessly. The long-term sustainability of water, land and air is critical. Designing and building according to a climate-sensitive approach can be one additional way in which we can all be environmentally responsible, and in which, under the proper conditions, we can transform space into place while preserving the bio-diversity essential to human well-being. Finally, as design will continue to play an ever increasing role in the 21st century, it will be absolutely essential to strike an optimum balance between nature and the environment shaped by humankind.

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