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Traditional Sustainability
The Architect's Role and Sources in Sustainable Design

DLA Dissertation — Thesis

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Abstract

Solving global environmental problems is perhaps one of the most important Issues of the Day, having a perceptible Influence on contemporary architecture. Thanks to the immense amount of energy and pollution may be associated with buildings, sustainability and buildings' effect on the environment has become a major subject of architecture-related discussions.

Challenges of sustainable architecture excite a lot of architects indeed, leading to the birth of many buildings all over the world having been inspired by the "Green Movement". Like the Whole of contemporary architecture, green buildings show a great variety, and demonstrate the ideals of sustainability in many different ways.

What is in Fact Sustainable Architecture?

What are the intellectual and technical Aspects that characterize Sustainable Buildings?

What are the Aspects of Architectural Design that influence the environmental footprint of buildings most dominantly?

Is it true, that the knowledge of a region's architectural tradition, and the use of its often century old wisdom may contribute to the creation of buildings that are more environmentally responsible?

I was looking for the Answers to these Questions.

The main goal of this dissertation is to outline how the Idea of Sustainability might appear in the design process and in which ways it affects the designers' attitude.

The examination had two main objectives : I wanted to understand the effects of the ideals of sustainability on the intellectual background of architectural design, on the

other hand I was also eager to learn how the certain Aspects of Sustainability may appear in the materialization of a Design Process- the Building itself.

Considering the complexity of the topic and the fact that architecture is determined by both intellectual and technical factors, the examination of sustainable architecture requires a comprehensive approach, in which the intellectual and technical side of architecture have a role in both. The environmental challenges of the day have unfortunately become too serious to allow an examination of the topic only from the spiritual-philosophical perspective – in order to have a broad view, one needs to look into the practical issues of sustainable architecture as well.

Nevertheless, I wanted this Inquiry to stay within the field of architecture, so from the practical aspects I primarily examined those closely related to architectural design - location, orientation, spatial layout and façade design. Examining these factors in the first place is also reasonable, because basic decisions of an architect have a great effect on buildings' environmental impact, and also because getting the principles right is fundamental to be able to design buildings that are more environmentally responsible, no matter how technically advanced they are.

The philosophy behind and the practical issues of sustainable architecture are presented here in a hypothetical design process, in the design stage where the certain Issue is most relevant.

The Design Stages are:

- Appraisal (Preparation)
- Site Layout (Concept Design)
- Massing (Concept design)
- Spatial Layout (Design development)
- Façade Design (Design development)
- Construction (Detailed design)

Thesis 1.

Sustainable architecture is fundamentally a way of thinking, irrespective of style. It is to be found in the architects' approach. Its key indicators are: harmony, rational thinking and preservation of values. All the buildings included in this dissertation have been inspired by these ideas. Their philosophy reflects an aspiration of creating harmonic relationship with nature and saving cultural as well as environmental values. As to the design approach, meeting these aspirations requires conscientious attitude and rational thinking throughout the design process.

Thesis 2.

Contemporary green buildings are strongly defined by place, they can not be separated from the local environment they belong to. As an expression prudent thinking, being well aware of the finiteness of our resources, considering a place's natural, cultural and infrastructural aptitudes throughout the Design Process is to the day the most important characteristic of sustainable architecture.

Thesis 3.

First principles of creating sustainable and good quality built environment are in strong connection. Orientation, spacing of buildings, considering the site slope, designing streets for pedestrians as well as for cycling and mindful arrangement of vegetation around the buildings are all simple design tools, that play a considerable role in creating a more sustainable built environment, and at the same time unquestionably contribute to the overall quality of places we create.

Thesis 4.

Harmony between the building and its natural environment is not only a philosophical manifestation of sustainability: Understanding nature and having a respect for its values and constraints do in fact contribute to creating buildings which enjoy a better protection from natural forces (cold winds, summer heat etc.) and as a result have a smaller environmental impact.

Thesis 5.

Primary decisions of architectural design such as size, form, orientation and connections of a certain space have a major effect on its environmental impact and the relationship it creates between man and nature. Getting the basics right is therefore the most determining characteristic of sustainable Design.

Given that the essence of buildings is space, and principal goal of architecture is creating spaces it is essential to incorporate sustainability into the process of space creation and make it a part of the concept. In terms of shaping spaces an environmentally responsible approach might be indicated by nothing more than well-sized spaces which have a close relationship with nature, and a conscious as well as mindful use of natural light, air movements and the Sun's warmth.

Thesis 6.

Creating sustainable buildings is a complex Process in which architectural and environmental factors have to be in balance. It is the architects' responsibility to take all the possibilities into account and choose the best Option in order to create valuable buildings the environmental impact of which is within the reasonable boundaries.

Thesis 7

Throughout its history, regional architecture was always characterized by local climate, geography and locally sourced materials. Driven by mere necessity, harmony with nature was essential, and buildings also had a closer relationship with place as they have nowadays.

We are not fully aware of it, but this has not changed. Although modern technology has created an illusion that man does not need to live in harmony with Nature, increasingly worrying environmental problems of the day – global warming, depletion of resources – prove the contrary.

Incorporating regional tradition in contemporary sustainable thinking might be justified by its to this day credible basic principles: harmony with Nature and shaping buildings based on and according to local conditions.

Region specific architectural character, buildings' massing, form, material use and the proportion of openings on the façade provide vital and useful information, enabling us to draw conclusions to the optimal and rational solutions of a certain area which may also be helpful today to keep buildings' environmental impact within the reasonable limits.

Thesis 8.

Even in small scale projects, challenges and issues of sustainable architecture are well beyond the limits of architectural design. Creating a built environment which is in essence more sustainable requires a joint effort of representatives of different disciplines- Architects, Urban Planners, City Administrators, Ecologists, Environmental Psychologists and Engineers.

In order to be able to create a more sustainable built environment active communication of the project team is essential, the promotion and coordination of which is the architects' responsibility. Communication plays a key role in incorporating various aspects of deviating disciplines into the design process, enabling these to assist in creating a built environment which is more sustainable and more pleasurable to live in.

Summary

In the essay I attempted to uncover and to define the philosophy and the closely architectural design related practical aspects of sustainable Architecture. I also tried to point out that sustainable Architecture is primarily be found in the architect's attitude, and getting the basics right play an important role in creating sustainable buildings.

I sincerely hope, that the findings of the essay shall contribute to have a better understanding of the increasingly important issues and connections of sustainability, and – more importantly – to the start of a dialogue within the profession and among architects and representatives of related disciplines.

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MSc. In Architecture and Architectural Engineering

Budapest, 1981.

Qualifications:	ARB registered Architect Chartered Architect in Hungary (Budapest Chamber of Architects)	2009- 2008-
Education:	MSc. In Architecture and Architectural Engineering	2005
	Architecture Doctoral School	2006-2009
	Budapest University of Technology & Economics	
	Budapest University of Technology & Economics Faculty of Architecture	2000-2005
Professional Experience:	Stefan Forster Architekten, Frankfurt am Main	2012-
	Geraghty Taylor Architects, London	2009-2011
	Department of Residential Buildings Budapest University of Technology & Economics	2006-2009
	L2 Architects LTD. ,Budapest	2005-2009
Masterwork:	Beaumont School, Croydon, Surrey. £1,8 million Extension of an existing building. Completed Architect, Interior Designer, from RIBA stages C-G	2010-2011
Selected Projects:	Housing Project comprising 70 Dwellings, Düsseldorf Architect, Stage C&Stage D Design	2013-2014
	Trinity School 6th form Centre, Croydon. £ 0,8 Million Conversion of an existing Building. Completed. Architect, from RIBA stages C-D	2010-2011
	Woldingham School, Surrey. £ 2,0 Million. Extension of an existing building. Completed. Architect, Interior designer from RIBA stages B-G	2010

Curriculum Vitae

	Private House, Budapest, £ 1,1 Million. Completed. Project Architect. Concept, Design, Stage G Doc.	2008-2009
	Dwelling House, Győr, Hungary £ 0,1 Million. Refurbishment of a dwelling in conservation area. Architect. Concept, Design, Planning Application	2007
	Mixed use Development, Győr, Hungary £ 3,5 Million Complete refurbishment of a listed building. Project Architect. Concept, Design, Planning Application	2007
Other Projects	Research into sustainable dwelling typologies Suntrap house, various Terraced Houses related to DLA research and Dissertation	2011-
Design Competitions:	House for Life design competition, Salford. Housing scheme comprising 120 No. family units.	2010
	Budapest Lofts High end residences. Conversion of listed buildings' loft spaces. Prized.	2008
	Budapest 13th district City centre. Mixed Use Office Leisure & commercial development. Prized.	2008
	City Centre Rehabilitation, Kecskemét Master planning, 2 nd Prize	2008
	Hungarocontrol Headquarters, Budapest. Extension of the ATS Building with an Education Centre.	2007
	Biology research Centre, Szeged University. Extension of an existing university complex.	2004
Publications:	„Some Optimism” Alaprajz, 2008/5	2008

Master Work



Beaumont Primary School

