The Architecture of Light

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Mary Ann Steane is a senior lecturer in the Department of Architecture at Cambridge and also a registered architect. She co-ordinates undergraduate studio teaching, lectures on environmental issues and is a course director of the MPhil in Environmental Design. Her research on environmental issues attempts to marry technical analysis with a broader cultural perspective. Here she considers the themes addressed by her latest book, 'The Architecture of Light' (2011), which has recently been shortlisted for a 2012 RIBA Research Award. The book reviews the use of natural light by architects in the era of electricity. In examining projects constructed during the last ninety years that have given particular emphasis to light or window design, it questions the way in which words and practice in natural light are interconnected. Its aim is to elaborate the richness of narratives that resonant interpretations of daylight represent in a world where the 'static moment' of artificial light too easily keeps the shadows at bay.

Arguably 'lighting' as an architectural topic is now largely determined by the terminology and assumptions of artificial lighting, and therefore by all the science and technology decreeing the weight now given to the predictability and control of light in buildings. Elevating task-lighting to the quantifiable standards set out in current building codes may have become possible with the introduction of electricity, but too frequently it is only possible to meet such standards with artificial sources. This means lights are left on, whether needed or not, leading to uniform spaces, or their counterform, potentially costly effects of colour and intensity that transform architecture into a spectacle of total control. Most critically it is the advent of electric light, with the support of air conditioning, that has enabled deep-plan buildings and the need for laws to determine

how much sky office workers can glimpse from their desks. Beyond the need for a more careful use, rather than elimination of artificial light sources, the main implication of this compilation of the negative impacts of electricity is that the imaginative use of natural light deserves more thorough discussion.

Like being, one is always inside architecture, and it is something impossible to objectify completely. As a result, the structure of light within architecture is present as a possibility or challenge even in unsuccessful architecture and is not something one can make over to theories of 'correctness'. It can only be done well or less well; but doing it well seems to involve a remarkably rich and yet precise imagination, rooted in a species of tact or generosity, a capacity to see the meaning in human situations. Only by looking closely at individual projects in context is it possible to convey how architects' ideas about natural light are translated into cogent design decisions. It is important to treat light as an aspect of place, but also to pay close consideration to the way in which different designers frame their design philosophies in relation to light. Thus, climatic analysis can be used to evaluate the character of light available, while published writings and/or semi-structured interviews establish design intentions, key sources of inspiration for light, and light modelling techniques. Photographic studies of lighting conditions, materials, design details, patterns of inhabitation and the local context can extend the spatial analysis of drawings and models, supplemented on occasion by physical modelling. Avoiding the standard exchange between arid lighting guidance (technics) and effusive but vague evocation (aesthetics), such an approach strives to reconcile the analysis of light quality and its perception with climatic conditions and cultural motives.

In my book *The Architecture of Light*, a number of key influences on ambitions for natural light are investigated, including the significance of Le Corbusier's written and built oeuvre to subsequent thinking. By considering examples from the old world and the new, the north and the south, examples that also take on a range of sites and briefs, the book argues that the architecture of daylight, well understood, fosters stimulating

buildings in league with their environment. In this regard the intention is to show how ideas influence practice, and the degree to which understandings of geography and history colour design principles concerning light, rather than to establish a definitive new canon of expertise.