

ABSTRACT

With the increasing destruction of our natural environment, and with the realization that we ultimately depend upon this environment, my thesis explores the role of Architecture in designing the built environment to be harmonious with the natural one. How can Architecture be a teaching tool for the natural and built environments? Through the design of The Sun School for Environmental studies involving the integration of a building's site, photovoltaic technology, daylighting, and natural ventilation, how can Architecture encourage a building to teach about itself? How can a building respond to its occupants, and to sun, wind, daylight and temperature? How can Architecture encourage the occupants to interact with the building, learn about it, respond to it, and consequently to increase their awareness of it?

The Sun's Perspective



Sunset



Afternoon



Noon



Morning



Sunrise

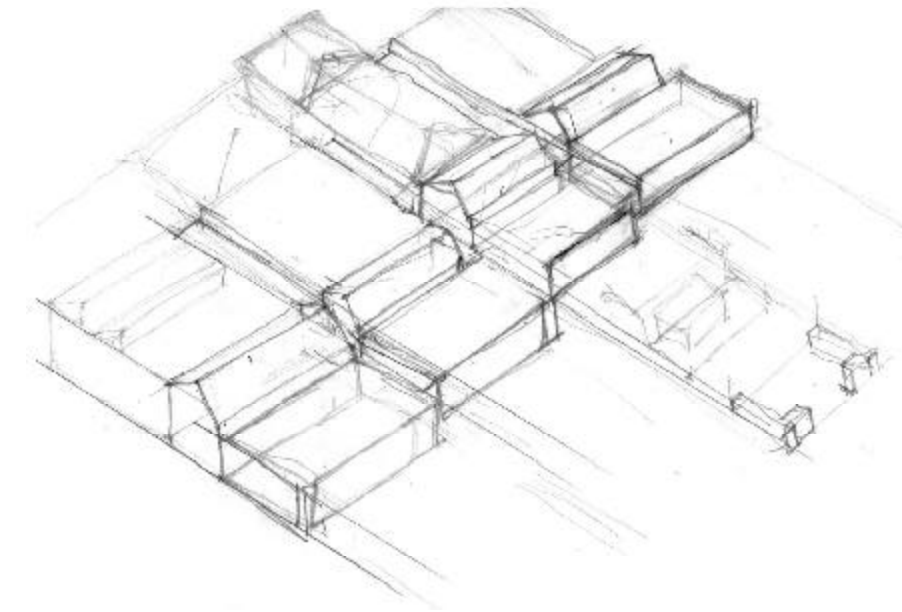
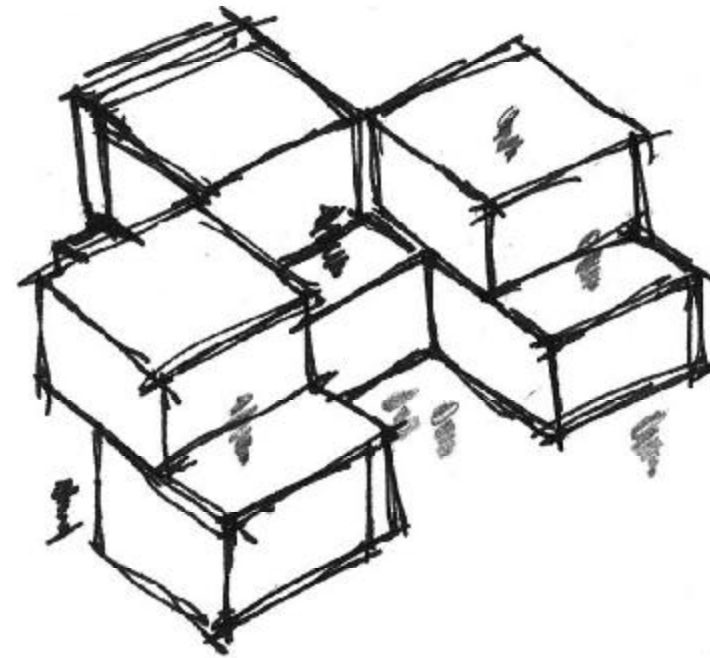
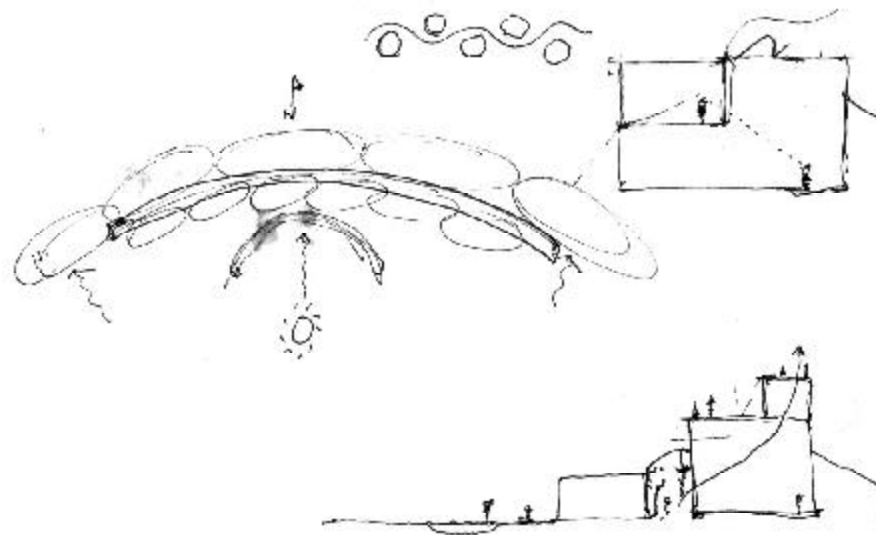
INTRODUCTION

Humankind has lived in harmony and balance with the natural environment for millenia. Though there are instances when this was not so, it is only recently that this balance has been seriously threatened on a global scale. Even in today's industrial and technological

world, however, I believe it is still possible to live in a harmonious, healthy and sustainable way. There is nothing inherent in humankind and the natural world that renders us incompatible.

It has been said that humans have three basic

needs - food, clothing and shelter. Of these, certainly the production of food and shelter consumes a great part of our time and energy. The built world, and all the natural resources it takes to create it, has a major impact on the natural world. How do we design and

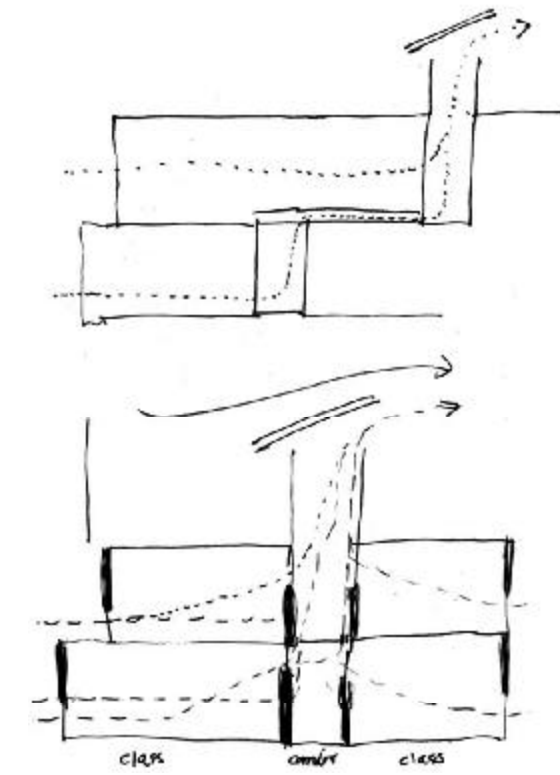
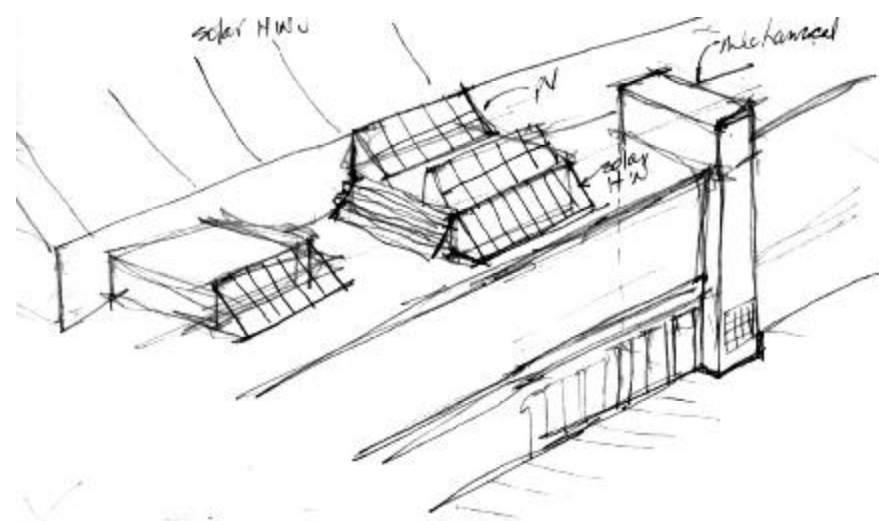
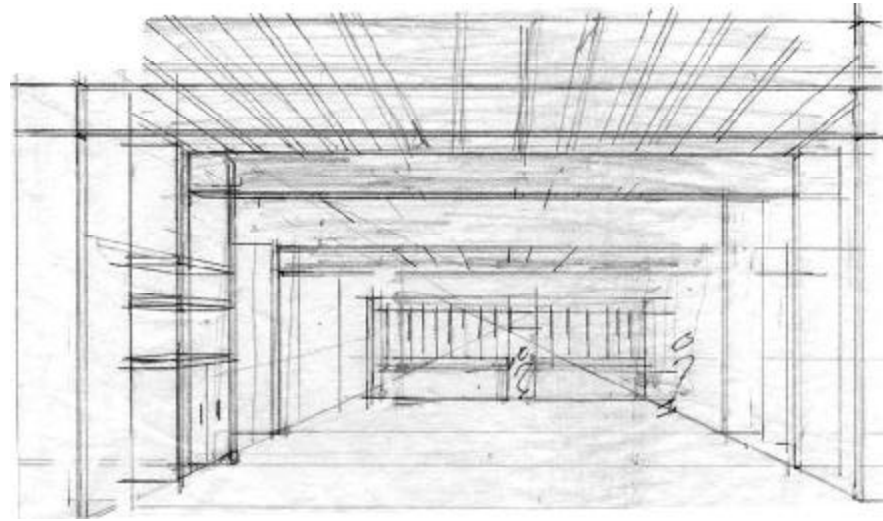


Early Study Sketches

build in a way that both sustains us and the natural world we depend on? Can the built world allow us to learn about the natural world, or even enhance it, instead of separating us from it? How can the design of a building teach us about the building and how it operates in harmony with the natural environment?

To explore these questions, I chose to design The Sun School for Environmental Studies in Blacksburg, Virginia. The building type is actually irrelevant, because any building has the potential to inform us about the natural and built environments. A high school, however, seems most appropriate because

the building affects people at a young and receptive age. A building and its site can best engage students by encouraging them to interact with it. A building can best teach by revealing how it works. Through this interaction and revelation, a building can engender respect for the built and natural environments.



Early Study Sketches

Architecture is the discipline that determines how well a building and its site accomplish this interaction and revelation.

What the building and its site teach can be incorporated into the curriculum, especially a curriculum for environmental studies. If a building is

well integrated with its site and its parts well integrated with each other, then the building can teach about harmony and integrity in general. The school can be a teaching tool for the entire community of Blacksburg.

My approach to designing the Sun School for

Environmental Studies is based upon concepts of Natural Light, Photovoltaics, Natural Ventilation and integration of the school building into its Site. My goal is to design a building that will be a healthy and stimulating place to be, an asset to both the students and the community at large.