



Project Title: **Furniture for a Church**

Student name: **Jay Axe and Mike Hemme**

Level: **Fourth Year**

Course: **Mind and Medium Seminar**

Advisor/Instructor: **Murali Paranandi**

Principal Investigator: **Murali Paranandi**

Mr. Ted Wong, the wood shop manager provided valuable direction for the project.

Department/School: **Miami University, Oxford, Ohio**

Summary description of project:

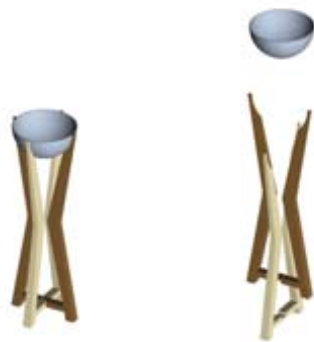
This project involved creating four main pieces of furniture (Baptismal Font, Pascal Candle, Ambo, and Modular Altar) for a recently renovated Holy Trinity Episcopal Church. The church wanted furniture that was lightweight, while sturdy and had the ability to be moved easily by one person with mixed uses for the pieces of furniture.

Reasons for the nomination:

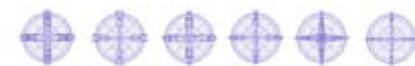
The success of this project is combining the physical model studies with computer models to define a design trajectory to facilitate studying *stereotomic* possibilities for modular assemblies (fig.1). Upon research and experimentation in the woodshop the students developed a butterfly connection technique that allows sturdy edge-to-edge connection (fig. 2). They used this connection detail to form various assemblies. **form•Z** allowed to quickly create multiple, exact iterations of the various pieces (fig. 3). Modeling the church allowed them to create an animation that was much more successful in portraying the procession and mobility of the pieces far better than the sketches alone. Given the short time and the lack of budget to create multiple physical prototypes, what these students were able to accomplish is remarkable.



Figure 1. An example of cutting objects with objects in 3D to study and develop modular altar that can be grouped in flexible ways.



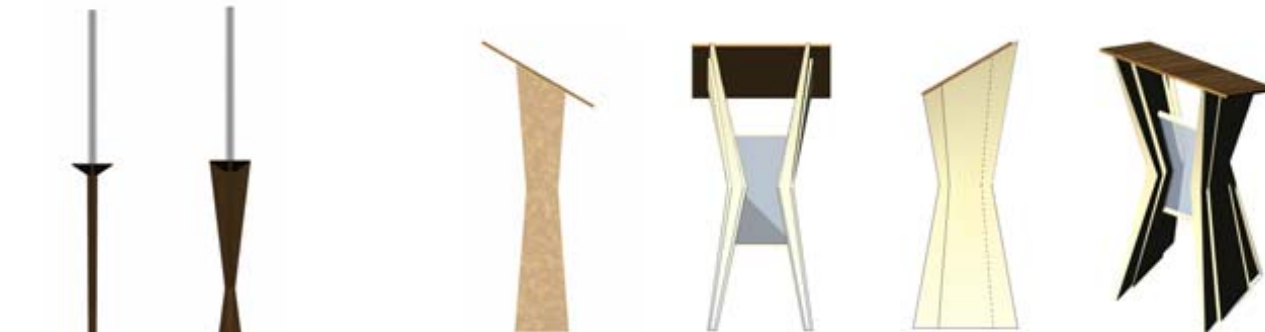
Pascal Candle



Baptismal Font

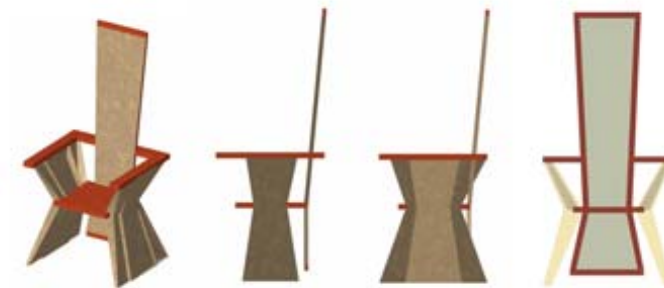


Figure 3.



Ambo

Figure 2. Inspired by Schreiner, Timothy D., ed. *Woodworking Techniques*. New Town, CT: Taunton Press, 2000, Jay and Mike developed a hands-on understanding of material, structure, scale, and detailing of butterfly joint in the wood shop that drove their design

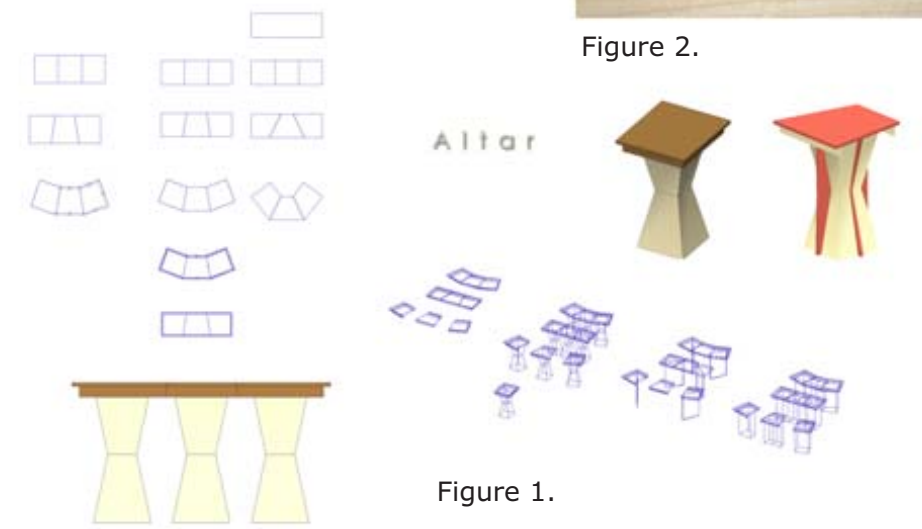


Bishop Chair

Figure 3.. The use of the computer allowed them to quickly create multiple, exact iterations of the various pieces.



Figure 2.



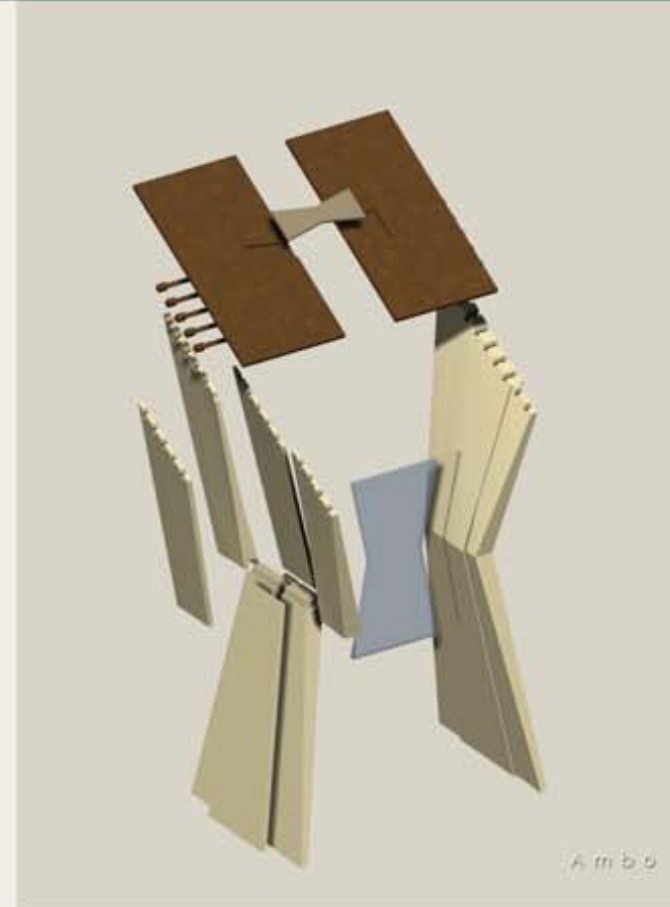
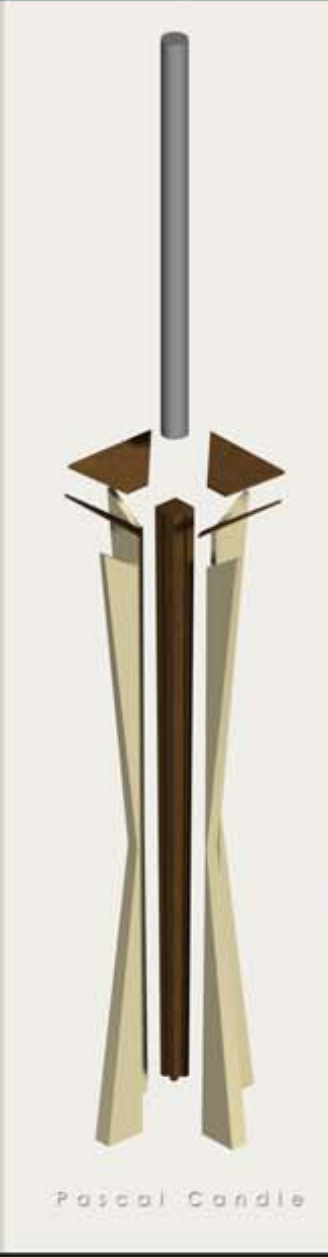
Altar

Figure 1.

Furniture Design Competition

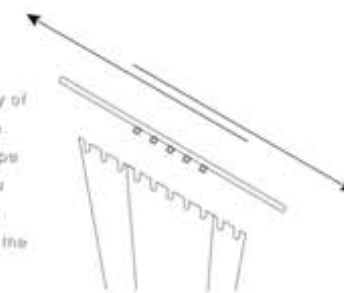
Holy Trinity Episcopal Church

EXPLODED AXON



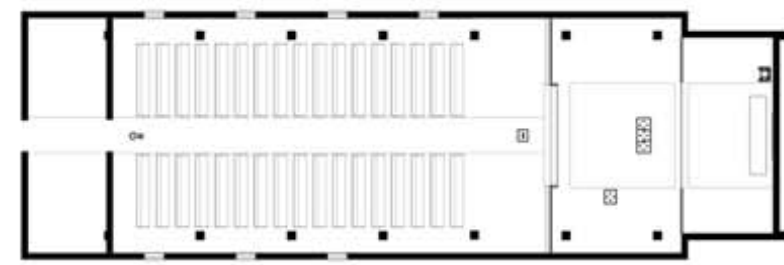
ADJUSTABLE CONNECTION

The ambo allows for adjustability of height by sliding the top surface along an angled plane. The slope is at 30 degrees that allows for a comfortable reading angle. Pin connections are used to secure the reading surface into the stand.

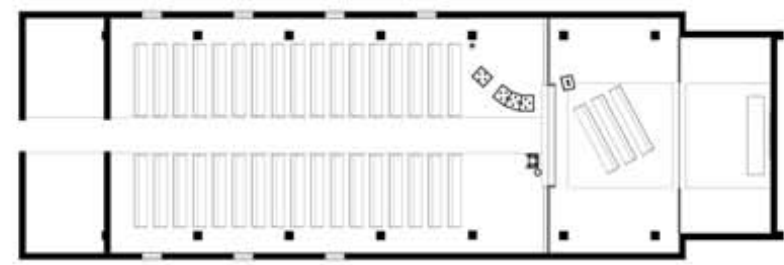


MODULAR UNITS

The variable design of the Altar consists of three modular parts. These can be arranged in a traditional manner creating a standard rectangular shape, or the left and right ends can be switched to create an arched table formation. This increases the level of customization of parts for various needs and activities that take place in the church. Also, the credence table was designed to be used in conjunction with the altar units for services and other social gatherings. In addition, the modular units make it simple for a single person to organize the Altar in various formats.



Modified Plan



Typical Procession





Jury Comments:

This project really demonstrated the use of the application for furniture design, showing models of all the different items of furniture needed in a church and exploded views of how the individual pieces of each item come together. The focus was very much on the design rather than on creating flashy renderings and visuals. The illustrations were very lucid, indicating a well thought out design process in which **form•Z** played a critical role as the design medium.

- **Lachmi Khemlani**

This project clearly illustrates the unique advantages software such as **form•Z** brings to a design project. The ability to quickly test design concepts and evaluate multiple what-if scenarios helped the designers develop a modular altar that can be arranged in different configurations for different purposes. The time-saving benefits of such simple functions as the ability to copy objects is apparent in this thorough and persuasive project presentation. Even though their task was to design four pieces of furniture, the students ended up modeling the entire church to better illustrate how their pieces would function.

- **Sara Ferris**

Furniture Design Competition

Holy Trinity Episcopal Church

SECTION

