Indian University - Organizational Art Museum - Design Analysis

David Argast – I300 Design Language Analysis

The Floors
Composed of triangular tiles that all meet at 30° angles. These tiles progress throughout the atrium, fitting perfectly side by side. No one tile is larger or smaller than the next due to the uniform size of all the tiles in the atrium. (Photo of triangular floor tile)

The Walls
Made up of rows and columns of cement squares. Similar to the triangular floor tile, these squares are all identical in size and shape, fitting perfectly together to form 90° angles. (Photo of vertical square wall tile)

The Building
The IU Art Museum is composed of various shapes, which come together forming various angles. The following three shapes are the most predominant geometrical elements, which make up the museum:

- **Triangles:** At a glance, triangles are a major feature, predominantly notable in the floors. However, the entire building housing the atrium and nearby Fine Arts Library is in-fact triangular. Internal elements such as the staircase are aligned such that they are parallel to the walls of the building. (Photo- Atrium staircase)

- **Squares:** In contrast to the triangular motif of the building and floor tiles, the shape of the square is especially evident in the vertical wall structures. While the shape of the square is predominant in the walls, it can also be found in light fixtures, windows and trashcans. (Photo- Square windows)

- **Circles:** The last major geometrical element to make up the Art Museum is the circle. While the circle is not as distinct as the triangle and square, it still serves a unique purpose to provide contrast to the building. The circle can be found in light fixtures (often with triangular counter parts), trashcans, revolving doors and various pieces of artwork, even overlaying the square wall. The added angle of 360° adds even more contrast to a building already full of shapes. (Photo- Circular and triangular trashcans)

Each element provides unique detail to the building. Every inch of the building is made up of shapes, whether it is the doors, staircases, artworks, lights or even the wall and floor tile.
The horizontal surfaces of the museum are meeting at sharp angles. The image to the left shows one wall with blocks and the other is coming directly at me with no blocks to show. The organizational system used in the floor doesn’t exactly exist. The floor resembles something very jagged with walls shooting up in random places.

The organizational system used in the vertical walls isn’t necessarily there either. Although the vertical lines just go straight up like normal walls would, the walls themselves have no order to them whatsoever.
Relationship of Surfaces

The relationship of the surfaces is shown in the sketch to the left. The horizontal acute angles are meeting with the vertical angles in ways that make the organizational structure very sharp. Although the building looks very neat and orderly because the blocks are all the same size, it actually has no organization as to where walls start and stop. The overall concept for the building geometrically is to use sharp and acute angles. Although there are right angles in the building (such as the obvious blocks the building is made of) the architecture makes the illusion that there are no right angles. Now that I think about it, having the walls and floor be made of acute angles while using symmetrical blocks to do so is a pretty cool design.
I also found the library book I was assigned to look for and took some sketches of the Fine Arts Library as well.
Target Book: **Video Art**  
(An exhibition held at)  
The Institute of Contemporary Art; U of Pennsylvania, Pa

**Project One: Book Scavenger Hunt**

I entered the Library through the Fine Arts Museum. Though the interesting angles of the stairs were charming, they unnecessarily increased physical effort.

The library was sorted by color coded sections each labeled with a category. I started by finding a legend (below) that matched colors to categories and finding the photography section (labeled)

In the photography section, there were signs (left) listing call numbers of subsections of the photography section. I found the cinematography sub-section and began to look for my book.

After searching for a while, I decided to look up the call number of my book only to find that it had been reserved by someone and was being held at the front desk. I went to the front desk and asked for my book and that’s where I took my selfie!

The library design seemed to emphasize aesthetic appeal over practicality and frequently sacrificed upholding principles of universal design for appearance. Information about call numbers was inside aisles out of sight and the triangle shape often seemed impractical and wasteful.
Organizational Systems

Image 1

Image 2

Image 1: This picture shows the wall structure at the IU Art Museum.
Image 2: This picture shows the ground and wall structure at the IU Art Museum.

Horizontal Surfaces
The horizontal surfaces, or the floor, is made up of rhombus shaped tiles that fit together to fit nicely into the acutely angled corners. They are all identical tiles, with the exception of the tiles that meet the wall and had to be cut to fit properly.

Vertical Surfaces
The vertical surfaces, walls, shown here are organized with square shaped tiles. They are all symmetric and are created with 90 degree angles. The vertical surfaces meet to form an angle that is less than 90 degrees, in other words an acute angle.

Relationship of the Two
The two surfaces, horizontal and vertical, meet to form 90 degree angles. Although the vertical surfaces present acute angles, where they meet the horizontal surface is a right angle.
Design Language Findings:  
The Structure of the IU Art Museum

The Horizontal Surfaces

The organizational system of the horizontal surfaces of the IU Art Museum consists primarily of equilateral triangles. As shown in the pictures to the right, these horizontal surfaces include not only the floor, but also the bottom surfaces of the upper levels of the building that hang over into the atrium. Additionally, the stairs consist of parallelograms, which are formed by combining equilateral triangles.

The Vertical Surfaces

The organizational system of the vertical surfaces in the IU Art Museum consists primarily of squares. This is particularly true of the walls. The windows are primarily square also, although there are some rectangles also.

The Overall Concept

The overall concept of the IU Art Museum is evident in the aerial view of the building in the picture to the right. The building itself is shaped like two triangles. The overall concept is also evident in places where the horizontal and vertical surfaces meet, which also consists primarily of triangles.
Sources

Two Dimensional

Floor Surface
When first entering the building’s atrium, the terrazzo floor is laid out in a systematic triangular fashion. The triangular shapes are also congruent but not proportional to the three-dimensional objects elsewhere in the building. For example, there is an over hang balcony that was triangular shaped and matched the triangles on the floor.

Vertical surface
On all the surrounding walls are squares carved out of the concrete to create a massive grid. The lines running vertical on the wall meet tips of the triangles on the floor all throughout the atrium. This intentional design future gives the space a refreshing geometrical feature.

Ceiling Surface
The ceiling is composed of a steel square grid with square windowpanes. What makes this ceiling unique is the poles that jet out from the corner points of the steel grid to create pyramidal structures therefore giving the ceiling a pleasing atheistic.

Initial Observations
The building is visibility unique to the structures around it. It sports a more modern look, with its square shaped facades and triangular structure. On the wall leading up to the entrance, there are several windows sporadically placed about the wall. A visual characteristic that caught my eye was when we approached the building were both walls met, which created a New York “corner building” style.

Quick Look

Scenario: Elderly Tourist
I am a 60 year old traveling around from city to city visiting art museums. My main purpose is to enjoy the art as well as analyze the structure of the museum.

Upon Entering the Building...
My main objectives when I enter most museums:

- Where is the restroom?
- How do I get to where I can begin my tour? Maybe stairs?

Restroom
When I entered the museum, it was rather difficult to locate the bathrooms. The atrium looked beautiful, but my bladder thought otherwise. I found that the bathrooms where in a cove to the left next to a storage room. The bathroom portion looked like some kind of add on rather than an essential part of the design to the building. I felt like I did not belong to this area

Stairs
After using the restroom, I proceeded to the visually pleasing stairs. They satisfied the form idea indeed, but I struggled making my way up them due to their unique geometrical design that played a trick on my old eyes. I would have rather used an elevator instead, which was also difficult to find. The elevator was tucked behind a wall next to the storage room.

Through these preliminary observations, I began to realize that this building sacrificed form more over function.
The Fine Arts Library

Functionality and Form:
The library is shaped like a triangle. Two sides of the triangle serve as shelving and storage for books. The third side is a massive window showing off the atrium. The open space of the library is supported by 3 circular beams and is populated by desks sporting more books and desktop computers. In terms of function, this library would seem like a pain with the color code system instead of Dewey decimal system. In terms of form, the space is very cool with the two story shelving and “cove like” areas with books.

Atrium: Is it functional?
I do believe the atrium serves a purpose. It is a nice space to gather as a group and prepare for a tour of some sort. You can also see two of the exhibits connected to the atrium on the ground floor.

Form and Function

Overall, the building was based heavily on form and lacked functionality. We can see that I.M. Pei’s focus was heavily on the geometrical aesthetic. He gives the viewer an exceptional visual experience. From the glass atrium to “sideways” stairs and more, the museum is a work of art in itself. I found that because of the layout of the building, entrances into exhibits, the bathrooms, and even the Fine Arts library felt hidden. If you are new to the space, a little exploring is essential to find what you are looking for. There are no visible signs hanging from the walls aiding you where to go.

Personally, I really enjoyed the experience. Although it isn’t the most functional, I’ve never seen a building designed like this one. Its architecture is very powerful and distinctive. One frustration I have about the building was the temperature in the atrium and the not-to-appealing look of the water dripping down the sides of the walls.

Three Dimensional Aerial View

The museum is comprised of two triangular buildings side by side, which also create a glass atrium. The south wall of building one and north wall of building two aid to the construction of the atrium. The north wall of building two creates one side of the atrium’s triangle. Building one creates the other two sides of the triangle. The sides are then connected by a similar structure to that of the ceiling. These “connecting” pieces also act as entrances into the museum.

Layout

The museum is 105,000 square feet: 38,361 square feet are devoted to gallery space, 16,664 square feet are devoted to the Fine Arts Library, and 18,000 square feet comprise the atrium. The other space is used for offices, gift shop, storage, and the outdoor Sculpture Terrace ("Indiana Art Museum", 2014). In terms of the overall layout, there is an overwhelming presence of “angles” and oddly shaped rooms. After a while the layout began to feel like it was overboard and form was impeding function.

Final Thoughts

Form and Function

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indiana university art museum

introduction
I.M. Pei designed the Indiana University Art Museum. The repeated pattern of triangles is evident at first sight and the unique form catches your attention.

floor plan
The floor has a repeated triangular pattern that is important because structures above the floor line up with the pattern. The floors are visually appealing as well as durable which are both important factors; however, the material causes noises to often echo throughout the room.

vertical surfaces
The exterior and interior vertical walls are made up of a repeating square pattern. The lines direct your eyes throughout the museum and the square grid on the interior walls meets with the triangular pattern on the floor.

3D concept
The three-dimensional concept of the building engages visitors as they are surrounded by a series of geometric
shapes. The triangular pattern on the floor along with the triangular structure of the building provide the unique feel to the museum, along with the black grids on the ceiling and the squares on vertical walls.

**obstacles**

When entering the building, it can be difficult to locate the elevators and restrooms. Although the stairs are visually appealing, they are difficult to climb due to the angles. It is evident that the building lacks function due to its form. Another example of how form trumps function is in the library upstairs. There are no numbers which contributes to the overall design, but decreases the function as locating books can be difficult.

**conclusion**

I love the originality of the IU Art Museum and how unique the triangular shapes are. The architecture itself is a work of art. One aspect I dislike about the museum is how much the building lacks function in order to achieve the form, but overall I.M. Pei successfully designed a

**work cited**

*Bloomington, Indiana* [map]. 2014. 50:1; generated by Sarah Wysong; using “Bing.com” (4 August 2014)