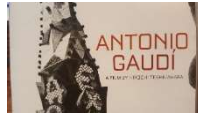


Lecture 5 – Sagrada



[Hiroshi Teshigahara film: ch.22 – Sagrada Familia]



“Gaudí knew perfectly well how the **great cathedrals of the Middle Ages had been constructed, as generations** of Christians put all of their effort into the construction of the house of God, in the middle of the village, with those who could not offer gold offering their labor.

With his stock response to this **question about the termination of the Sagrada Familia**, saying that ‘**neither he nor anyone now living would finish it, because it is a known fact in the history of architecture that all cathedrals have taken three or four centuries to build**’.

At this, Rusiñol, with characteristic irony, asked him ‘**if he believed that there would still be religion three or four hundred years from now**’.

We need not tell those who knew Gaudí and know how he thought and how he felt, that on hearing this question from the great Rusiñol, the great architect of the universe fell as silent as a corpse, as silent as he is now, for as we all know, he had a **blind faith in religion**. He lowered his eyes and closed his lips, as if he were mentally praying, while his **shoulders drooped**, not knowing what to say or do. As in every case when he heard **someone speak against religion, he was disconnected to the point of being speechless**.

The architect of the temple of the **Sagrada Familia (1883-1926)**, **sculpted his religious vision there in those stones which represented the height of his artist vision**. He puts art at the service of religion instead of putting religion at the service of art – a feat which only the Greeks have achieved in all history.

Many years later, when Rusiñol no longer remembered the question that had left the daring and luminous genius of Gaudí without an answer, accompanied the director of the Carmen Cobeña theatrical company on a visit to the Sagrada Familia to see for himself the marvels that he had heard so much about.

Rusiñol acted as their interpreter, for as is well known, Gaudí did not understand Castilian very well and Oliver did not know any Catalan at all. The visitor began to wonder, about **the eternal question which concerns us all: whether or not the Sagrada Familia will be finished, and when**.

It was then, needless to say, that the great architect, finding the perfect manner and opportunity to respond to that question with which Rusiñol had confronted him so many years before, told him to answer that ‘all cathedrals had taken three or four centuries to be finished, and that this would be no different, despite some people’s belief that there would be no religion three or four hundred years from now’ – he added this with purposefulness, straightening those shoulders which had drooped on that day long before. (Gaudí’s Artistic and Religious Vision, Pujols, 1927)

During the Tragic Week (Semana Trágica, 1909), citizens were ordered to stay off the streets, that had been barricaded with debris to slow the movements of troops. Despite pleas from his builder (Josep Bayó) not to, Gaudí left the safety of Park Güell, to check on the condition of the Sagrada Familia. When he had found it left untouched, while so many churches had been burned by the revolutionaries, he asked ‘why the arsonists have not vented their rage on the Sagrada Familia?’

This is a picture of the Sagrada Familia, as it stood when Gaudí died in 1926. He had completed the first tower (St. Barnabas) in his last year and died two days before its intended dedication. Gaudí was named the architect for the Sagrada Familia in 1883, just as he was beginning construction on his first major commission – Casa Vicens. And, he worked on the church continuously for four decades, until the day he died. In the Sagrada Familia, Gaudí was searching for what he called a Living Architecture, to give form to the stone, breathing life into it, making the building come to life, the materials something more than tectonic and structural properties, to capture the essence of all living things, created by God.

In 1914, just after his assistant Francisco Berenguer died, who Gaudí referred to as his right hand, the Sagrada Familia was in great debt and exploring termination of its construction. Joan Maragall, a poet friend, wrote a plea for donations, “The day that work on the Sagrada Familia is halted for lack of funds will be even more disastrous, both for Barcelona and for Catalonia, than that day when a bomb exploded in the street or when a hundred factories closed down. For a nation faced with violent anarchy or poverty is still a nation and has a right to hope, but a nation without ideals is nothing, and has no right to anything.” Gaudí sold his family farm in his hometown to reduce the deficit, ended his work on all other projects, to dedicate himself solely to Sagrada Familia.



Two decades before, in 1891, Gaudí with a similar determination, began work on **Nativity Façade**, following a **large anonymous donation and directive to spend it**.

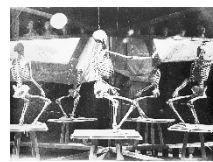


November 7, 1893, **Santiago Salvador** threw two bombs into the stalls of the **Liceu Theatre**. The eruption of hatred, spreading as a shockwave of violence. The bourgeois theatergoers killed instantly, their **torsos still upright in the theatre seats, heads hanging from broken necks**. (Ornament, Fire, Ashes, p.179)

Following Spring (1894), during a **Lent Fast** that Gaudí nearly died, his body **reduced to a corpse**. Yet, it was during this time, that he **began his anatomic studies of the human skeleton and body**.



Recalling the **marble figures** (by **Becerra**) of the **Astorga Cathedral**, his discussions with **Bishop Grau** while working on **Episcopal Palace** (in 1888), Gaudí **develops a process of casting, to capture the movements of the figures**, to bring life to the **Nativity Façade (1892-1898)**.



After **studies of an ideal structure, expression, attitude** with small **metallic skeletons**, he would apply them to an **actual anatomical skeleton**, obtained by his sculptor **Llorenç Matamala** from his friend at the **Hospital de la Santa Cruz**, using **wire to approximate the volume and silhouette of the figure**.

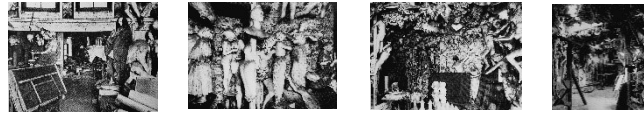


Then placed the **wire frame over a live model** in front of a **series of hinged mirrors**, to be **photographed**, capturing **multiple sides of the figure simultaneously in a single image**.



The dimensions of the figure was studied in relation to each element on the façade, enlarged to compensate for the distance from the observer at the foot of the building and in relation to their liturgical importance and symbolic hierarchy.

“It is mandatory for sculpture to be positioned in such a way that it will be easily seen, otherwise, it will be superfluous and destroy the ensemble.” (Gaudí)



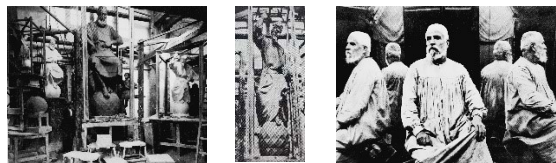
A plaster cast was then made of the live model's pose. Fabrics were draped over to study the pleats composition. Hemp dipped in plaster, to model beards and hair.



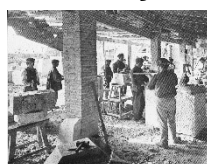
After plaster set, he made an initial copy in clay at 1/4 the final scale to study. Then a second clay copy was modeled at the desired size, which was cast in plaster, to be sawed into sections, divided according to future assembling in stones: chest, waist...



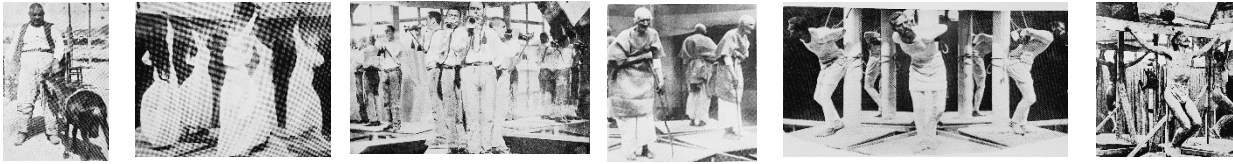
Cast sections hoisted into place on the façade, while Gaudí would stand on the opposite side of the street, to work out corrections based on lighting, perspective, and the architectural and ornamental environment.



Visual distortions were corrected, lengthening elements that appeared too small, by adding two to four inches of thickness between the joints of the divided sections, balanced to Gaudí's eye. (Sculptor Llorenç Matamala posed for an apostle)



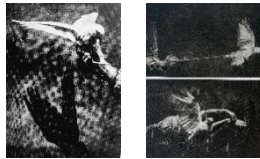
Plaster cast was noted for the corrections, used for sculpting in the final stone.



In this way, workers at the construction site, their wives, children from the Sagrada Familia school, the entire **community surrounding the church came to model, photographed, entered into Gaudí's archive of reference materials.** The common people **immortalized in stone**, an **economy of means, reproducing life as it is.** True reality, most important, **involving the people** it became **a church of the people, atoning for the sins and corruption of the Catholic Church.**



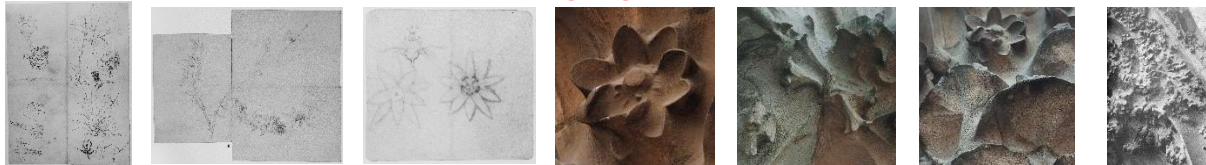
If nature is a goose, we try to transform it into a swan. Gaudí was content with the goose, a **slavish copy of reality.** At the base of the Nativity were found roosters and hens, as if a **doorway to a country house – quite controversial** at the time.



Birds **photographed in flight**, to **capture movement in stone**, the **essence of life.**



But that was not enough, the birds **must be put in the proper place**, to create the perfect context, nebulous, **forms emerging from the surface** of the façade.



Gaudí studied all of nature, to **give movement and life to the flora.**



Even the **smallest of creatures**, insect were not forgotten.



The same life was captured in the figures, by **freezing a gesture in stone.**



Slaughter of the Innocents, stillborn babies were used to capture death. Six toes.



A façade full of scenes from Christ's life, the church becomes a poor man's bible, each stone a verse.



One of the most subtle aspects of the Nativity Façade is the symbolism. The Catholic Church began in the catacombs, worship in secret, not recognized as the official religion of the state. Symbols were used to keep their faith secret, Christ was symbolized as a fish, a lamb or a dove.



For the Catalan, their faith was symbolized by Montserrat, placed on the façade.



But to the uninitiated, to understand the meaning behind a symbol, they must be told. And, it is in the telling, a parent to their child, that a bond is created. Those who understand significance behind a symbol become one community, a church.



By making Sagrada Familia full of symbols, Gaudí has turned the stones into a communion, where the people are brought together as one. As the Nativity Façade was going up, Gaudí would continuously tell the stories behind all the symbols to his workmen, parishioners, priest and bishops that would come to see the work. Artists and philosophers would visit, politicians, even the King of Spain made the trip to see the church at the height of Gaudí's fame (1904). These are the constellations of the zodiac, in their exact position on the day of Christ's birth.



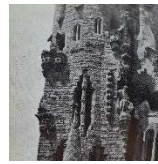
[TEN MINUTE BREAK]

Names for Villa Vuoto tour
Recommendations for future courses
Sagrada Familia handout online this weekend



2pm

It was in 1904, the year the King visited, that Gaudí **changed the bell tower design from square plan spires to the parabolic circular plan, from Tangiers Mission.**



This transition is visible on the façade and where the square corners of the base already built, **project beyond the rounded form** continuing up, he placed the **sculpted figure of the apostle for whom the tower was dedicated** (on the Nativity Façade **Barnabas**, Simon, Jude, and Matthew).



+5

The **bell towers (1899-1914)** were formed of a **double layer of 12 parabolic arcs**, rotating around a circular center, **linked together by a spiral staircase between** the two layers, with the **parabolic arcs tied together by slatted vents** that slope downward as **resonating boards directing the tubular bell sounds to the ground.**



+4

Passion Façade (1911-1917) is a monumental gable supported on **6 tilted columns**, taken from the church for Colonia Güell.



+1

Sharp geometrical simplicity, **devoid of ornamentation**, to feel of desolation, the **suspension of life**, the **upheaval of nature that accompanied the divine tragedy**.

“Some people may find this portal too outrageous, but I wanted it to be frightening, and in order to achieve this I shall not dispense with the chiaroscuro of the projecting and receding elements or anything that produces a really somber effect, in order to give an idea of the cruel pain of the Sacrifice.” (Gaudí)



+1

Because the **exterior walls only had to support its own weight**, with the loads of the vaults above transmitted to the interior columns, most of the **wall area could be filled with windows**.



Made **hyperboloid windows (1918)**, as if the **daylight had slowly bored through** the thickness of the walls, a **polyform erosion**.



During the restoration of the **Palma de Mallorca Cathedral (1904)**, Gaudí **experimented with color and the play of light**. The stained glass panels consisted of **4 layers of colored plate glass: red, yellow, blue and white**. Each sheet was **toned down with an acid**, to make **one color dominate over another**, thereby creating an infinite variety of possible color tones by their layering.



This new method **avoided the traditional approach of using enamels, which reduced the transparency**. “I defy anyone to achieve the effect of the setting sun as it glides over the white horse of San Fernando, without using the three-color process.”

(Gaudí)



+5

The **stain glass with strong colors in the lower range** of the nave, to **wash the interior with color**. The upper clerestory windows with white glass, to illuminate the vaults decorated with mosaics.



After experiments with **equilibrated structures on the Colonia Güell church**, Gaudí redesigned the **Nave Section (1921-1923)** of the Sagrada Família. The weight of the **stone roof is transmitted through a series of slanted interior columns**.



Fully realizing the **stereo-static model of compounded stacked structural members**, the **columns become a tree**: trunk, branches, leaves, flowers, and fruit.

“That tree over there by my workshop, that is my master.” (Gaudí)

Frank Lloyd Wright spoke of Gaudí (in 1959) as “my master Gaudí”.

“Intimacy combined with space is the forest-like interior of the Sagrada Família.”

(Gaudí)



The column in plan is a 16 pointed star, that **rotates as it rises up the length**, creating a **helical twisting shape like the growth of a tree trunk**. By mirror the same rotation with a **second in the opposite direction**, the cross section becomes a 8 pointed star with **fluting that transitions up the length**.



+1

The **branching column completely changed the structural design of the Gothic cathedral**. The branches were tied directly to the vaults divided up in segments, each of their loads transferred down, combined in the column trunk, all internal to the exterior walls and each sequential bay independent of the others.



+1

With the branches and trunks inclined in the path of the loads, the mechanics and the architecture were in harmony, became one. The **building becomes a living organism in which every architectural element serves a mechanical purpose**.



The hyperbolic vaults, like the bóvedas tabicadas (board vaults) produce no lateral thrust and could be pre-fabricated pieces. A parabolic arch is formed by the vault and the two supporting slanted columns on either side.



+1

Like the undulating concave and convex vaults of Colonia Güell church (and later the Sagrada Familia School roof), the intersections of the hyperbolic vaults create convex surfaces on the diagonals, that modulate the light with shadow, with the star formations scattering the light and sound.

“Projecting and receding features must be combined so that each convex element with the light falling on it is matched by a concave element in shadow.” (Gaudí)

“The light in a church must be sufficient, and no more, for a church is a place for withdrawal.” (Gaudí)



+1

The towers terminate in a 12 star **pinnacle (1923-1925)**, a crown with the tops curving like a **crosier** (bishop's staff), a **mitre** (bishop's cap), and a **gold cross**.



+2

Here is the **final resolution in fullest glory of the rooftop ventilation shafts** that first made their appearance atop Güell's Palace (1885-1888). There we also saw **Gaudí's vertical thrust**, **drawing the house up to the sky**, a model of the cosmos. Here the pinnacles are **metaphor ventilators, transporting the spirits of man into the heavens**.



"That spire (Barnabas) really seems to pierce the sky, doesn't it? It seems to link heaven and earth, don't you think?" (Gaudí)

"**I do not want to complete the church**, because thus would not be appropriate. A work of this nature must take a long time, the longer the better. The spirit of the monument must be preserved, but its **life must depend on the generations with which it lives and grows**. The work of a single man must necessarily be frail – dead at the moment of birth." (Gaudí)



+10

As a coda, with Sagrada Família **reaching for the heavens**, I will finish off today's lecture and the course, with Gaudí's **most celebrated rooftop terrace: Casa Mila**.

Lifetime of **refinements** of ideas that were present from the very first works.