

SOUND TOWERS

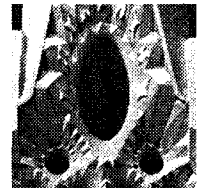
EVOKING THE MUSICAL DIMENSION OF GAUDÍ

PHILIP HOLLETT

HISTORY AND THEORY OF ARCHITECTURE PROGRAM

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of the requirements of the degree of Master of Architecture.

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Abstract

Antoni Gaudí was the architect of the Sagrada Familia from 1883 to 1926. Over this period of time he prepared the overall design and supervised the construction of the Nativity facade. One of Gaudí's main design objectives was to include tubular bells in the tall slender towers. It has been said that through his sound studies for these bells, Gaudí developed his musical sentiments most fully. Through the sound of bells, accompanied by song, he imagined a festive environment around the temple. These considerations might be seen as reflecting the overall spirit of the time, as Catalonia was in effect experiencing a cultural rebirth known as the *Renaixença*. Originating with the call of the poets, this time of exuberant growth for Catalonia was one that was built upon the rebirth of language. As a result, language through poetry continued to be celebrated throughout the century, particularly through annual poetic contests called the *Jocs Florals*. This paper studies the façade of the Nativity as a expression of this culturally exuberant time by exploring how the *Jocs Florals*, and poetry in general, may have played a role in shaping its form and sound. The study also acknowledges the fact that Gaudí's inspiration for his design was derived from symbolism associated with the Catholic liturgy. The result is architecture that might be described as a union of religious and cultural symbolism, yet ultimately its festive expression is a poetic one. As such, the Sagrada Familia might be described as a celebration that is a call to gathering.

Resumé

Antoni Gaudí fut l'architecte de la Sagrada Familia entre 1883 et 1926. Bien qu'il ait conçu l'ensemble du temple durant cette période, Gaudí n'a pu construire que la façade de la Nativité. Un des principaux objectifs de Gaudí, était d'intégrer les cloches au design architectural des majestueuses tours. Les écrits sur la sonorité des cloches révèlent que Gaudí a développé ses sentiments pour la musique grâce à elles. Le tintement mélodieux des cloches à travers les chants lui ont permis d'imaginer un environnement festif aux alentours du temple. Cette considération peut correspondre à ce qui a inspiré la renaissance culturelle en Catalogne connue sous le nom de *Renaixença*. Stimulée à l'origine par un appel venant des poètes, cette révolution fut extrêmement stimulante pour la Catalogne puisqu'il ne s'agissait rien de moins que la renaissance d'une langue. De sorte que le Catalan, grâce à la poésie, fut honoré tout au long du siècle, particulièrement lors du festival annuel, appelé *Jocs Florals*. Cette thèse étudie la façade de la Nativité en tant qu'expression de cette nouvelle exubérance culturelle en explorant l'impact de la *Jocs Florals* et, de la poésie catalane sur sa forme et sa sonorité architecturale. Cependant, on ne peut oublier aussi l'inspiration que Gaudí a reçue du symbolisme propre à la liturgie catholique. L'architecture de la façade peut donc être entendue comme le produit d'une union d'un symbolisme religieux et culturel. Mais en définitive, son expression doit être décrite comme étant d'une nature festive et poétique. Comme l'époque elle-même, l'architecture agit, grâce à sa forme et sa sonorité, comme un appel au rassemblement.

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Finally, special thanks to Chander Chopra for resounding friendship (not to mention very good dinners) and to my family for their love and support. Thanks especially dad, for the memory of one very fine sounding cowbell!

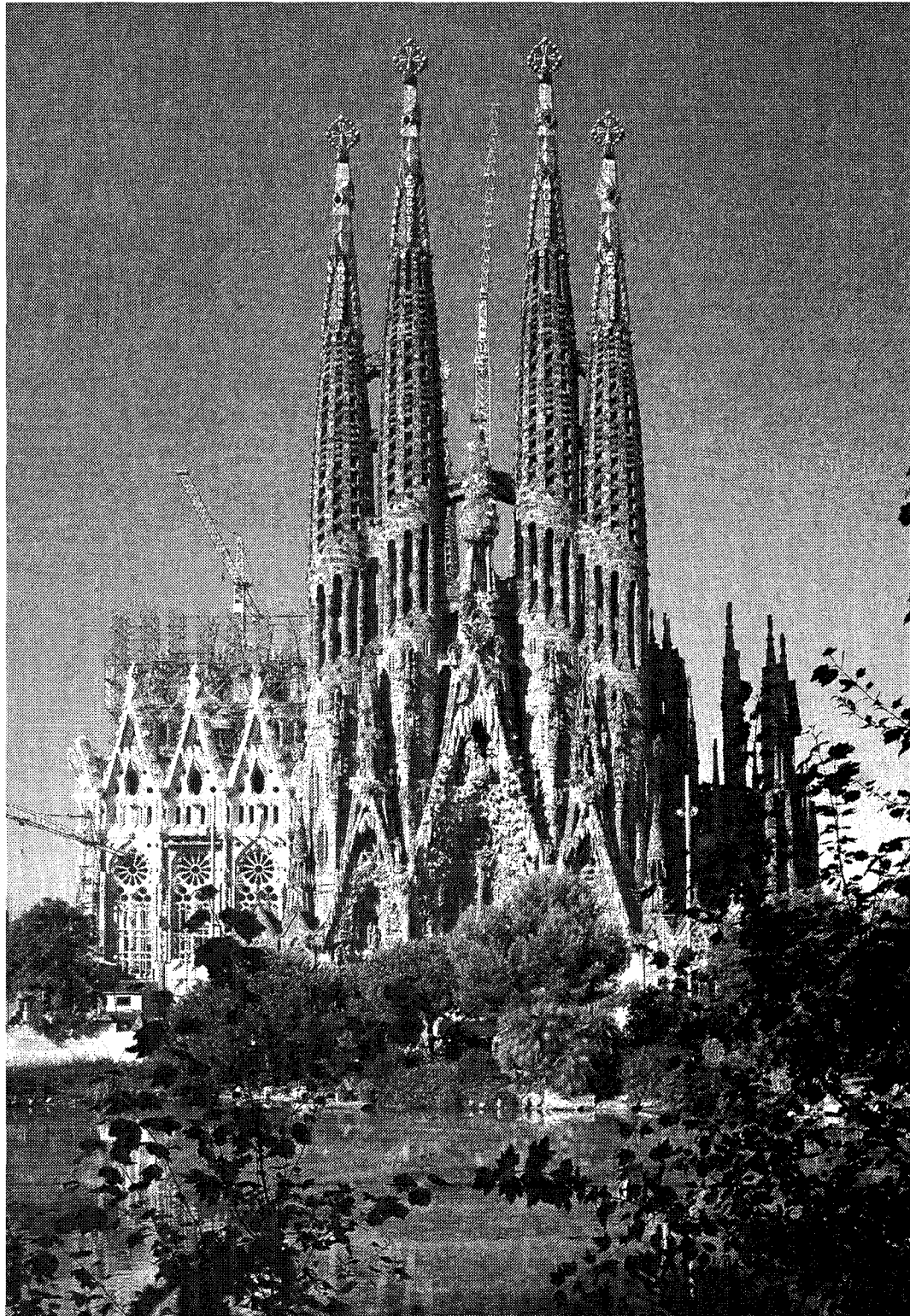
I dedicate this work in memory of Martha Hann: August 14, 1914 – July 6, 2000.

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Bibliographical Note

All blocks of text appearing in italics are the words of Antoni Gaudí. They are gathered directly from his writings or are attributed to him by the various biographers who knew him personally.



Antoni Gaudí *The Sagrada Família*, 1883-1926



Figure 1: Gaudí at age thirty-six.

"My master Gaudí."¹ *Frank Lloyd Wright*

"I put Antoni Gaudí among the very greatest."²
Joan Miró

"Having mentioned this grand mixture of styles which produced the confused, baroque, and monstrous style of Gaudí's architecture, we will say that there are very few of us who admire the aesthetic power of this Catalan genius of our time (who would have no rival if all men were equally sensitive) and there are many thousands who do not like it, who can't bear it – something that we can understand perfectly well, for only those of us who seek in art the aesthetic essence which is the substantial and universal basis of all artistic work, and who can feel and admire it when it is there, only we are not afraid to experience the earthquake that comes with it."³ *Francesc Pujols*

Antoni Gaudí (1852-1926) clearly is one of the most renowned architects of our time. In fact, one could also say that his popularity is on the rise. To honour his birth, the city of Barcelona named 2002 "The International Year of Gaudí." This feat is astonishing when one considers the events of the past century with respect to Gaudí. During the latter part of his life and well into the twentieth century, critics labelled his work irrational and complained that it was an eyesore. Leading artists and writers of the day reduced his work to the subject of jokes and ridicule. Yet, it was during this very time of hostile reaction that Gaudí completed his most distinguished works, such as the Casa Batlló and Casa Milà apartment houses in midtown Barcelona. Here, as elsewhere, he continued to work in a unique and extraordinary way, virtually ignoring the popular new trends in architecture. The criticism prompted him to dedicate himself ostensibly to his cause. This is particularly the case in the last twelve years of his life, when he devoted himself exclusively to the ongoing design and construction of the Sagrada Família, his masterpiece. During these twelve years, Gaudí's intense working habits escalated to the point that



Figure 2: Funeral procession

he literally sacrificed everything that he had for the project. When he was found lying on the street in Barcelona on June 7, 1926 after being hit by a tram, passers-by mistook him for a homeless person because of his deplorable appearance. As word of his death three days later spread, the feelings harboured by Catalans for Gaudí emerged, and the government announced a state funeral. At his funeral, citizens of Barcelona poured onto the streets by the tens of thousands, forming a procession that extended all the way from the Cathedral of Barcelona across town to the crypt of the Sagrada Familia, where Gaudí was buried.⁵ After the funeral and a retrospective exhibition of his work, however, interest in Gaudí faded and there began a period of silence that lasted for decades. The momentum of the construction of the Sagrada Familia subsided and as Salvador Dali suggested, the abandoned structure stuck out in the field like a “gigantic rotting tooth.”⁶ Ironically, it was a compliment.

Not until 1952, the centenary of Gaudí's birth did there emerge signs of a reawakened interest in Gaudí. The first of these was the classification of his buildings as historical monuments by the city of

"It was in the year 1928...I was intrigued by a modern house: Gaudí...on the Paseo de Gracia, some large apartment houses, and further on, the Sagrada Familia, attracted my attention. The whole Gaudí episode appeared! I was sufficiently indifferent to other people's opinions to take a keen interest in it. There I found the emotional capital of 1900. 1900 was the time when my eyes were opened to things of art, and I have always retained tender memories of it...What I have seen in Barcelona was the work of a man of extraordinary force, faith, and technical capacity, manifested throughout his life in the quarry, that of a man having stone carved before his very eyes from really masterly drawings. Gaudí is *the* constructor of 1900, the professional builder in stone, iron or bricks. His glory is acknowledged today in his own country. Gaudí was a great artist. Only they remain and will endure who touch the sensitive hearts of men, but they will be badly treated on their way- they will be misunderstood, accused of sinning against the fashion of the day. Architecture whose meaning shines forth at the moment when lofty intentions dominate, triumphant over all the problems assembled on the firing line (structure, economy, technique, utility), triumphant because of an unlimited inner preparation, *that* architecture is the fruit of character- properly speaking, a manifestation of character. Let me say how much I love Barcelona, that admirable city, - so old, so intense, -that seaport open to the past and to the future."⁴

Le Corbusier

Barcelona.⁷ It was not until later in the decade that his popularity spread beyond the frontiers of Catalonia. One of the major reasons for the architect's new renown was because some of the most powerful voices in the world of architecture suddenly expressed their admiration for Gaudí. The best known of these was Le Corbusier, who sang Gaudí's praises in the preface to *Gaudí*, published in 1958. Le Corbusier's acknowledgement seems to have encouraged a wave of writings and pictorial essays on Gaudí by prominent scholars, among them biographers, architectural historians, and journalists. Today, Gaudí's popularity comes as a second wave, extending beyond the realm of scholars and into homes around the world. Now popular newspapers and magazines broadcast catchy phrases such as "God's Architect Gets Closer to Sainthood" in articles that describe the Sagrada Familia as "a cross between a cathedral and a mosque, with a dash of Disney in for good measure."⁸ It is likely that the ongoing construction of the Temple of the Sagrada Familia is the catalyst for this continued enthusiasm and it is probably this ongoing construction that will allow Gaudí's presence to be recognised on a global scale.

"Gaudí is clearly one of the most powerful minds yielded by our Renaissance."⁹ *Domenec Sugranyes*

"Gaudí, a follower of the *Renaixença* in his youth but even then gifted with a striking critical sense...Gaudí from the *Renaixença* by-passed *Modernismo* [1888-1908] and *Noucentisme* [1907-1917]"¹⁰ *Eusebi Casanelles*

"He shared all of the concerns and ideals that pervaded the dynamic intellectual atmosphere during his youth, along with the poets Verdaguer and Maragall, the clergymen Torras I Bages and Jaume Collell, the writers Ruyra and Carner, the architect Joan Martorell and the Llimona brothers, among other leading lights of the Catalan *Renaixença*, and he was on cordial terms with all of them."¹¹ *Masso Bergós*

"The blood of my spirit is my tongue. And my motherland is where it will resound."¹²

Miguel De Unamuno

"Man acts as though he were the shaper and master of language, while in fact language remains the master of man."¹³ *Martin Heidegger*

"The language proved stronger than the circumstances which had brought it so near to annihilation. All this can most clearly be seen when studying the lyric poetry of Catalonia, which is the purest and most transcendental embodiment of its tongue."¹⁴ *Joan Triadu*

"And poetry, forever the sole reason for stones being laid upon stones, plots being staked out and walls being built, always preserves the natural essence, purifying and exalting the compounds and aspiring to ever nobler ideals by leading the soul of the people on an indefinite ascent towards the light."¹⁵ *Josep Carner*

Gaudí achieved popularity in part because he belonged to an extraordinary time in Catalan history known as the *Renaixença*. After three centuries of suppressive rule by the Central Spanish government, Catalonia established a sense of independence in the nineteenth century.¹⁸ This period has been described as a monumental force in which the whole country took part.¹⁹ A modern Renaissance, this rebirth was characterised by a resurgence in the arts, culture, economy, and eventually politics, resulting in political independence in 1932.²⁰ As many have suggested, this rebirth was a period when Catalonia was able to achieve within some fifty years what had taken other European nations five centuries."²¹ The initial momentum of the *Renaixença* stemmed from the purposeful emergence of the Catalan language, that prior to this time had been officially outlawed by the central power.²² The call of the Catalan poets ignited the fire that became the *Renaixença*. Their evocations of language struck the chords of determination and sparked the people's fervour. In speaking about these early poets at the dawn of the twentieth century, the Catalan bard Joan Maragall claimed they had been responsible for all that was great about his time, adding that "their dominant obsession

"It is the way of poets to shut their eyes to actuality. Instead of acting, they dream. What they make is merely imagined. The things of imagination are merely made. Making is, in Greek, *poiesis*... Poetry is what really lets us dwell. But through what do we attain to a dwelling place? Through building. Poetic creation, which lets us dwell, is a kind of building."¹⁶ *Martin Heidegger*

"I have a dawning suspicion that making a real building... and making a real poem are pretty much one and the same thing."¹⁷ *Louis Sullivan*

"*'There is so much aggressiveness that goes against Catalonia', he told Martinell, 'her language which is mine, and for that reason in those moments of persecution I didn't abandon it. The aggressiveness that they felt against me was because I spoke to them in Catalan'.*"²⁴

"The most symbolically powerful manifestation of the *Renaixença*, however, and one that Gaudí took an immense interest in was the reinstatement of the ancient national poetry contest, the *Jocs Florals*. Catalan poets read out hymns, odes and epics that celebrated the beauty of their language and land in Catalan. The prizes awarded were: first, a rose for the poem on any subject; second, the *eglantina d'or* – a rose made of gold awarded for a poem on Catalan customs and its history; and third, a gold and silver violet for a religious or morally uplifting piece... The ultimate goal was to win all three prizes and become a Catalan legend, the *Mester de gay Saber*. One of the few to win this was Jacinto Verdaguer in 1877, during Gaudí's last year at the School of Architecture, with his monumental *L'Atlantida*."²⁵ *Gijs van Hensbergen*

"Gaudí sought," notes Ráfols, "to present an image of life as it is, as though life and art were one and the same thing."²⁶ *José Ráfols*

was for their language."²³ The movement hinged upon language, the very "blood of the spirit," as the Catalan philosopher Migel Unamuno described it. The words of the poets were symbolically imbued with a magical power that sparked the spirit of the people and the prosperity of the *Renaixença* was built upon their "dreamy" words.

Gaudí took great pride in the Catalan voice.²⁸ In addition to speaking his language, Gaudí surrounded himself with music, particularly singing, one of the particular pass-times of the nation. Regular gathering of singing and poetry aimed at retaining the native tongue were the driving forces of the *Renaixença*. Specifically, there were annual poetry contests known as the *Jocs Florals*,²⁹ a tradition of Medieval origin in which Gaudí took special interest.³⁰ Taking place in the Heroic, or Floralesque period of the *Renaixença*, the *Jocs Florals* began in 1859 and lasted for more than half a century.³¹ As a means to celebrate the Catalan language, these poetry contests captured the imagination of the nation and created its festive mood. Gaudí captured the spirit of the *Renaixença* in his architecture. Language plays a visible role

"The Sagrada Familia church in Barcelona is a monument to the Catalan identity. It is a symbol of eternally uplifting holiness, the construction in stone of a yearning for the sublime. It is the image of a people's soul."²⁷ *Joan Maragall*

"We encounter that initial and fundamental experience between knowing and not knowing, a knowing that I don't know, that wonder which begins all thinking and doing and which guards them in relationship."³² *Paul Valéry*

"The man on the street automatically asks what style it is in order to orient himself, and on finding that it does not correspond to any known style he remains disoriented, for he does not have the prerequisite knowledge necessary to enter into the new style and to be able to enjoy it. Apart from the fact that some people are somewhat pleased by it and others not at all, even the most ignorant feels the superiority of this architecture without understanding it; he does not exactly like it, but he does find it imposing in its content of the beyond."³³ *César Martinell*

"There have been five man betrayals which have been shamelessly perpetuated upon the spirit of Gaudí by contemporary panegyrists, that is to say, by those who have not applied their five senses to his work."³⁴ *Salvador Dalí*

"Gaudí's interpretation [for the Nativity façade] goes beyond traditional religious symbolism to its mythical origins. What is traditionally a winter theme Gaudí treats as spring, almost in a pagan sense. Most of the elements are made of casts. Taken away from their original surroundings, they are reintegrated into a dream-like vision of a creation out of primordial chaos, and receive completely different appearance and supra-natural meaning. It is not possible to speak about surrealism here because of the profound mysticism of the whole vision."³⁵ *Dalibor Veseley*

"[The Temple of the Sagrada Familia] is the greatest piece of creative architecture in the last twenty-five years. It is spirit symbolised in stone!"³⁶ *Louis Sullivan*

in accomplishing this: nearly ecstatic his work appears as if with a desire to speak in ways that are very much akin to the early poems of the *Renaixença*.

People are attracted to Gaudí's architecture, yet most do not understand why. Furthermore, many have tried to categorise it as belonging to a particular style or period. The more meaningful descriptions, however, associate the work with the embodied senses, or describe it in the context of the "mythical," "mystical," or even "magical," instead of conventional terms, such as Art Nouveau. Continuing in this spirit, the following paper explores the architecture of the Temple of the Sagrada Familia as "musical," within a context of the festive era that it was conceived. One imagines Gaudí, the great architectural conductor, as possessing alchemical power, transforming the material into the spiritual; raw matter into a joyous song.

The Sagrada Familia, regarded as the showcase of Gaudí's extraordinary abilities as an architect, is one of the great examples of spiritual architecture in the world. While many have suggested the presence of a

"...beyond all our artistic evaluations, beyond all the architectural qualities...there lies a secret violence, a great spiritual force animating the work that he has left us which gives him so important a position in the history of man's development."³⁷

Juan Eduardo Cirlot

"...Gaudí the man, from whose spirit we can learn...the architecture of the years to come need not be barren or poor; it should and can fulfil both our material and our spiritual needs."³⁸

J. J. Sweeney and J.L. Sert

*"I also admire the exquisite tact with which the Church accepts all styles, and receives the homage of all the arts. The Church makes use of all the arts; those occupying space (architecture, painting, sculpture, goldwork...) and those occupying time (poetry, song, music...). The Liturgy provides us with lessons in the refined aestheticism."*³⁹

"The most characteristic aspect of the personality of the master was his faith founded on art and the liturgy. We must not forget that he arrived at his faith by the way of architecture and that for him it had such an extremely wide base that in the second half of his life, together with piety and sacrifice, it absorbed him totally."⁴⁰ *César Martinell*

spiritual force both sacred and profane in Gaudí's architecture, it is a very difficult subject to address. Let us begin with the well-known assertion that Gaudí's design for Sagrada Familia is based upon symbols of the Catholic liturgy. A devout Catholic, Gaudí practised the liturgy faithfully. Towards the end of his career, according to the biographical writings of César Martinell, his average day consisted of balancing his practices of architecture and religious rituals.⁴¹ The presence of religious symbolism in Gaudí's work attests physically to his spirituality.

While this study acknowledges Gaudí's religious spirit, the objective is to understand the Sagrada Familia as an expression of his cultural spirit. As discussed, the essence of the Catalan cultural spirit hinged upon language. From language emerged the poetic expression, the basis of the movement's creative and festive mood. Like poetry, Gaudí's architecture is an expression of culture; moreover, it reaches beyond Catalan culture towards a more universal expression, explored here through sound in three chapters.

"Everything in his work, light as well as silence 'transports us elsewhere'... He provokes us down to our innermost depths. Through him, everything is metamorphoses, nothing is taboo or set any longer..."⁴² *Salvador Dali*

"What vibrations will the songs of the grandiose sound box have? Who knows...but the temple, already with conviction invites communion in the highest faith. Facing the workers district, the portal beckons."⁴⁴ *Joan Maragall*

"He appeals to all of our senses and creates the imagination of the senses. Gaudí researched this deeply by studying the application of acoustics. He turned his bells into organ pipes...[The Sagrada Família] is a magnetic tuning-fork whose waves spread ceaselessly and penetrate all minds receptive to the irrational that often practice and live art nouveau unwittingly."⁴⁵ *Salvador Dali*

"The architect is a man who combines. He is capable of seeing things as a whole before they exist; he places these elements and coordinates them in relation to one another at just the right distance."⁴⁶

"UNITY. Synthesis must lead to unity- a condition of all works of architecture and of artistic composition in general. To compose means to unite, to relate parts, not to subdivide. The goal is the formation of a harmonic whole based on diverse elements with an overall criterion of unity."⁴⁷

Chapter One explores Gaudí's process of making the Sagrada Família. It examines the archetypal mountain as the source of inspiration for Gaudí's concept. He revealed the spiritual by melting the material, making architecture, as Salvador Dali said, "the way an angel cooks a cathedral."⁴³ In addition to revealing spirit, he also revealed a voice, the sound of which symbolises the rebirth of language and with it the birth of an optimistic age that allowed Catalonia to flourish.

Chapter Two studies the towers of the Sagrada Família as instruments of the *Renaixença*. Several writers have described both the overall temple and its towers as musical instruments. As "*Renaixença*" instruments, the towers are furthermore an expression of a cultural time; an architectural synthesis of cultural form and sound. As such, the form of the towers as instruments of the *Renaixença* are explored as corresponding to the three themes of the *Jocs Florals*: *Patria*, *Fe* and *Amor*, which translate respectively to patriotism, faith, and love. The first part of this chapter interprets these three cultural themes as they exist in four examples of Gaudí's work apart from the towers themselves. The second part of the chapter explores the

"The Art which we find in the poetry and sculpture of the Greeks meet us also in their architecture; for a people cannot be called artistic, unless Art pervades all the forms to which its hands and its intellect have given birth. Moreover, architecture with music, is one of the forms of art in which man's creative faculty develops itself most independently."⁴⁸

Voillet-le-Duc

"More need not be said to make it clear that music and its derivatives, Poetry and the Drama, with Architecture, are the only arts in which primitive man, - actuated by the desire of propagating his ideas, preserving his remembrances, or imparting his hopes, by associating them with a form or a sound, - displayed certain creative faculties inherent in his nature."⁴⁹

Voillet-le-Duc

"The great architectural builder, who has rightly been called the poet of stone; could also be called a musician- not only because of the silence that accompanies his architecture and the wind that sings in the original lines of the stone edges and walls with a sound very different from that of other buildings of the other modern architects...but also because he told us that he had devised a system of tubular bells which were to be played by means of a keyboard...making melodies and harmonies to be heard by all of Barcelona in the morning, at noon, and in the evening..."⁵⁰ *Francesc Pujols*

"To sing...means: to belong to the precinct of beings themselves. This precinct, as the very nature of language, is being itself. To sing the song means to be present in what is present itself. It means: Dasein, existence."⁵¹ *Martin Heidegger*

three themes as a representation of the form of the towers. The third part explores the sound of the towers as "*Renaixença*" instruments through a reading of Gaudí's sound studies. These sound studies can be further divided into three categories. The first addresses Gaudí's broader concerns of sound outside the bounds of the Sagrada Família. The second explores Gaudí's studies for tubular bells, which he intended to hang in the towers that to this day, soar in silence. The third is a study of Gaudí's intense interest in the musical expression of the human voice, a fascination that had a obvious impact on his overall studies of sound.

Chapter Three explores the impact of singing on Gaudí's work as having the power to make architecture sing. Many examples of his architecture are explored through musical analogies, however, the chapter focuses on two studies of architecture as song: the "freedom shout," and the "universal call." Although derived from a specific time and place, these two songs in the architecture of Gaudí have universal appeal.

All three chapters build upon the premise that the “musical dimension” of Gaudí, as a synthesis of music and architecture, originates with the human voice.

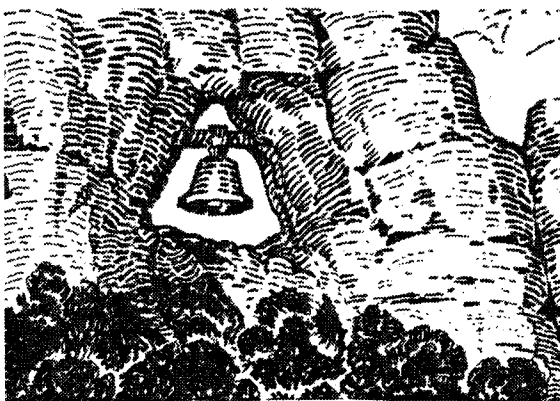


Figure 3: Gaudí's bell project for Montserrat as drawn by the architect Pericas.

CHAPTER 1

THE PROCESS OF MAKING: GIVING A VOICE TO THE TEMPLE

*'On the slender peak of the Cavall Bernat, I would have placed a large crown of wrought iron and glass, topped by a star and supporting a huge bell that would have made the peals of the Angelus resound over the countryside. The crown would have been reached by a stairway coiled around the spire of the rock, which would have served as an easily accessible vantage point for hikers. On the inner side of the crag, I would have placed Catalonia's shield, twenty meters tall, made of mosaic, which would have been visible from a distance of ten kilometres.'*⁵²

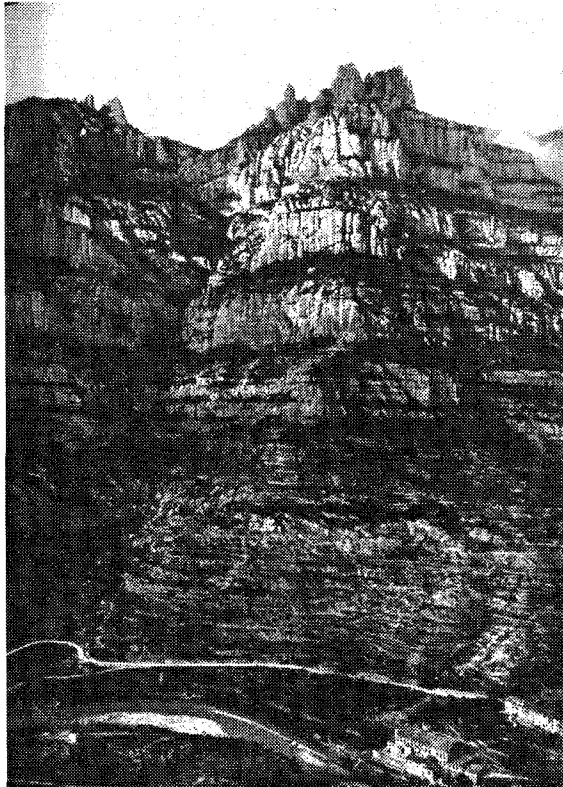


Figure 4: Montserrat

"The tempest advances through the night. At the first gust of the hurricane, the valley shivers in the darkness, and in the uproar of the storm, coming closer, the tremulous sound of the hermitage bell begins to respond up on the hill...I pray for all; and in my voice, heard in the entire region, vibrates the fears and yearnings of the valley and of the mountain, the most humble and unaware, as well as the most reflective and rational...I have a voice for all: The terrors of the tempest and the night vanquished, I will bring happiness to the valley by announcing the day."⁵³ *Joan Maragall*

"The Catalan poet descended from the mountain to the city singing his poem, and our language reappeared alive and complete, popular and literary in one piece. He came the precise moment in which he had to arrive, because as with all the heroes, he created the moment: and this is his glory."⁵⁷ *Joan Maragall*

Voice may have been the initial reason why Gaudí made the Sagrada Família the way he did. This assumption is based on a project Gaudí considered for Montserrat. High up in the mountain peak, he had the idea of hanging a large bell in the "pierced rock," a natural opening in the mountain. This bell would, in Gaudí's words "give a voice to the mountain."⁵⁴ The size of the bell Gaudí envisaged would have allowed the voice to be heard throughout the Catalan countryside, perhaps all the way to Barcelona. As Gaudí observed the *Angelus* salutation strictly, one might say that this was his way of gathering the thoughts of the people together.⁵⁵ He was not able to bring his idea to fruition because the monks of Montserrat were opposed to the idea.⁵⁶

The Montserrat bell project may have inspired Gaudí's conception of the Sagrada Família, however, perhaps more pertinent to our immediate subject, is the inspiration of the physical mountain itself.⁶⁰ By evoking the mountain, Gaudí followed the tradition of the great *Renaixença* poets that came before him. The poets who called

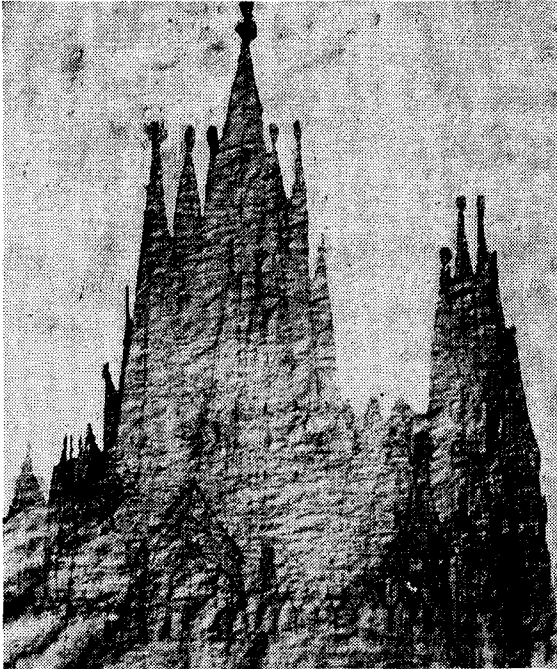


Figure 5: Gaudí's concept sketch of the Sagrada Família, 1902.

"Farewell, my native hills, farewell for aye to you,
Deep-cloven ranges merging in the clouds on high,
Which none can tell from cloud-banks or from
distant sky / Save by your frozen stillness and your
deeper blue. / Farewell, thou old Montseny, fortress
stern and steep, / Most watchful guardian clad in
snow and mist and dew / Whose glance can reach
the tomb of the departed Jew / And the Majorcan
vessel in the ocean deep.

Of old thy proud, majestic face I learned to know
As 'twere the face of one most near and dear to me.
The music of thy streams familiar came to be
as 'twere my weeping child, my mother calling low.
Now cruel fate pursues me wheresoe'er I go:
I neither see nor hear as once in a happier time.
A tree am I transplanted to a barren clime.
Whose fruits have lost their taste, whose blossoms
scentless grow.

What joy to speak the language of the wise and
strong / Whose laws and customs fill'd the world
both far and wide; / The language of the brave who,
at their monarch's side, / Fought to defend his
rights, avenged his every wrong! / Oh, dead of soul
is he who hears his native tongue, / An exile on a
foreign soil, and sheds no tear, / Who feels no inner
yearning that his home were near, / Takes not the
ancestral lyre and breaks not into song." ⁵⁸

Bonaventura Carles Aribau, "Oda á la Patria."

forth the mountains spoke from a symbolically sacred ground. From the summits, one could see wide vistas, as well as the ocean, and could imagine the lands beyond. Through their words, the poets brought the landscape to life in the minds of the people. Following in the footsteps of the early poets, Gaudí chose the grandest and most sacred mountain in Catalonia to continue the poetic tradition. His evocation of the archetypal mountain is shown clearly in his concept sketch for the Sagrada Família, dated 1902. In this drawing, a series of great soaring peaks protruding from an ominous rocky mass take on an appearance that is conspicuously suggestive of Montserrat's. Instead of focusing on the modern stylistic concerns that dominated his era Gaudí's concept denotes a very poetic gesture that speaks directly to the people from a spiritual plane. To evoke the mountain of Montserrat was to claim the patriotic spirit attached to the land that Catalans felt had been taken away from them during three long centuries of political domination. Gaudí transformed the words of the poets and their optimism for the future into architectural form. He apparently created a new trend amongst his contemporaries, for in his sonnet entitled "En Gaudí," Josep

"If with my songs in *llemosi*, my country, / I one day may re-weave the crown of laurel, / Which, leaf by leaf, the bleak, rude winds of ages / Have scattered o're the ground.

Then from the tombs of troubadours forgotten / Their lyres now broken I will tear in triumph. / The genius in their vaults that nightly wanders / I will invoke with boldness.

And, once inspired, I will sing deeds heroic; / Warriors and kings shall issue from the shadows; / Names wreath'd of old in glory shall awaken- / Names at which men shall marvel."⁵⁹

Rubió I Ors, "Mos Cantars"

"The church's architectural composition is a development of a concept of tectonics based on the mountain of Montserrat, seen directly in space."⁶²

Masso Bergós

"...we reached the *Sagrada Familia*. Gaudí raised his eyes, and, looking at his belfries asked me: 'Don't you see in them a certain resemblance to the needle rocks of the *Mont Salvatge*?'"⁶³

"[The *Renaixença*] was the rebirth of a Catalan identity, spearheading the move towards modernity by digging through Catalan's medieval past."⁶⁴

"One cannot move ahead without a basis in the past, taking advantage of the efforts and advances of the generations that have gone before us. We must know the past if we wish to be capable of producing something worthwhile, of avoiding the errors of the past."⁶⁵

"Before the middle of this century, tradition imposed the forms of the Renaissance. Since then, the tendency is to reject them, in order to adopt those of the Middle Ages. Both possess elements which are very well worth while preserving, and which we are the inheritors of both ages."⁶⁶

Carner transformed Gaudí the man into a majestic mountain peak.

"Oh, the sun, how it plays flatteringly on his face! He is a summit commanding the sterile plains / Reached by the light of future glories / He is a magnificent sign of promise / And his arms, above the Catalan people / Immensely raises the sovereign doors / Of life, death and resurrection."⁶¹

In addition to Gaudí's concept sketch, verbal and literal descriptions of the *Sagrada Familia* as an evocation of Montserrat were frequent. Gaudí likened Montserrat to *Mont Salvatge*, the Medieval name for Montserrat as it had existed in Catalan history for a millennia, having even been described as being associated with the Holy Grail.⁶⁷ To speak of the Medieval as Gaudí did was to evoke a period of great pride for Catalonia, for in the Middle Ages it was considered the "lord and terror" of the Mediterranean.⁶⁸ By associating his towers with the *Mont Salvatge* he was recognising this strength. Although Gaudí wrote very little he did address the subject of history, along with the impact the Renaissance and the Middle Ages had on his own time. The *Renaixença*, then, was a cultural gathering of centuries. Perhaps this is why Gaudí's work has such an expansive sense of time.

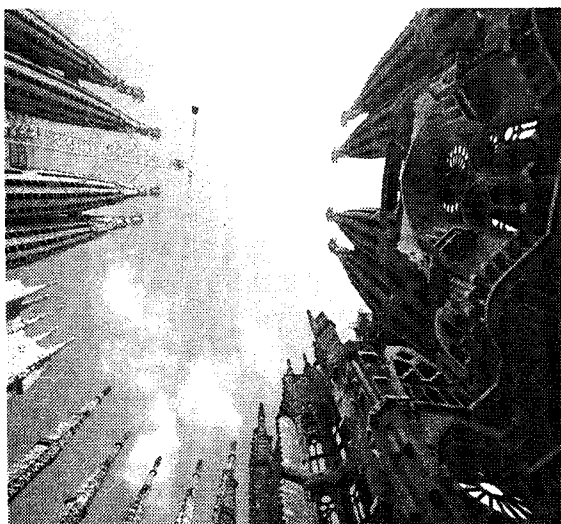


Figure 6: Interior space of the Sagrada Família between the Nativity and Passion facades, 1997.

"See a new vision of the temple, which now seems definitive to me. It is no mountain striving to become a temple, but resembles the ruins of an enormous temple draped and clothed by nature's perpetual renewal. The whole dome has collapsed and there the dazed columns, now bereft of anything to support, raise their thousand arms towards the blue vault of the unreachable heavens...And this, mark well, is ours; it is the symbol to which our soul has surrendered. It is the miracle of Catalonia – Montserrat."⁶⁹ Joan Maragall, "Montserrat."

"And in the heap of the old mass, the cliffs have opened up their throats, springs have sprung, birds have sung, paths have opened. This is a temple that becomes a mountain: recovered by the forces of nature that will perpetually adorn it with mountain grace, without forgetting that it was a temple."⁷⁰ Joan Maragall, "Montserrat."

"The portal is something of a marvel. It is not architecture: it is poetry of architecture. It does not appear to be a construction of man. It seems like the earth, the rocks, are striving to loose their inertia and beginning to have a meaning, to outline images, figures and symbols of heaven and earth in a sort of stony *balbuceo*...It is a stony *balbuceo* of joy that means nativity. There, the most humble of the earth's animals, with the angels of the heavens, the branches of the forest, the stalactites of the deepest caves, and the mystical symbols of the loftiest ideas, struggle to overcome and free themselves of the shapelessness of the rock where they lie. They conquer indeed. They take shape and arise singing of creation as a continuous act of renewal; of nativity, like something eternal."⁷¹

Joan Maragall, "The Temple Being Born."

Poet Joan Maragall was probably the first to write about Montserrat as Gaudí's temple. This is evident when comparing his articles "Montserrat," and "The Temple Being Born," both penned around 1900. In "Montserrat," Maragall's description of the mountain as a dome collapsed with many arms outstretched was also a fitting description of the Sagrada Família's interior. In this description of Montserrat, Maragall appears uncertain whether to call Montserrat a mountain or a temple, as if confused by Gaudí's conceptual inspiration for the Sagrada Família. In "The Temple Being Born," Maragall brought Gaudí's temple to life in the spirit of a true poet, describing it as a life forms that evolve and free themselves from the stone. It is a description that once again parallels his description of Montserrat as springing to life through sound. For Maragall, the architecture of the Sagrada Família symbolised joy as it embodied the process of also becoming alive through sound. He gave this joyful process a voice, which he called "*balbuceo*," a kind of murmuring, stammering, or babbling, which one might normally associate with a young child, eager to speak, but without a full grasp of the language.

"That is how the first symbol of Catalanism, the Jocs Florals, appeared. It was there, that all the visionaries of history, philology, politics and folklore met: dazzled by their vision, they blindly groped for the Catalan verb and held hands. Some came from the country of troubadours and chroniclers buried in the centuries, and babbled a sweet archaic talk that nobody understood; others came from modern suburbs with a vulgar yet living and picturesque language; others came from the lecture halls and academies, striving to give the nascent literary language an accent characteristic of already formed cultures; and they spoke a castilianized Catalan or one with Italian and French echoes; others finally, the minority at the time, always the best, brought on the lips something of the pure living music from rural Catalan, spoken like centuries ago, and having gone by them without stains or rupture."⁷² *Joan Maragall*

"I shall assail the rocks in their disorder! / My pure acts / Will shape to unexampled masterwork / The ruins of the mountains, monster crags / Tumbling from the mountain flanks!"⁷⁵

Paul Valéry, "Amphion."

"And the stones-who would believe it unless ancient tradition vouched for it? -began at once to lose their hardness and stiffness, to grow soft slowly, and softened to take on form. Then, when they had grown in size and became milder in their nature, a certain likeness to the human form, indeed, could be seen...."⁷⁶ *Ovid*

"Baluceo" was also the voice that symbolised the birth of the *Renaixença*. In his article dedicated to the heroic *Renaixença* poet Jacint Verdaguer, whom Gaudí also knew personally,⁷³ Maragall uses the word "*baluceo*" to describe the gathering of the first poets at the Jocs Florals of 1959. He called this initial gathering a reversal of Babel:⁷⁴ it was the beginning of understanding between men who had been dispersed for centuries as a result of the official outlawing of the Catalan language by the central government. In using the word "*baluceo*" to also describe the Sagrada Família, Maragall provided an architectural parallel to the Jocs Florals whose essence rested in the spirit of gathering.

Gaudí's process of making the Sagrada Família might be best described as a metamorphoses: the transformation of the mountain of Montserrat into a soft and melted monument. One is naturally inclined to call this a mythical process. The Nativity façade takes on the appearance of life forms emerging from solid rock, not unlike that found in ancient myths. Like a modern day Amphion, Gaudí's process of transformation seems to defy all rational methods of making



Figure 7: Details above the Door of Faith of the Nativity façade.

"...the birds towards the summit emerge vaguely as though their finer edges had already begun to melt; above these again come the heavens indicated by stars strewn among the signs of the Zodiac."⁷⁷

Evelyn Waugh

" But the feeling of ruin is the one that penetrates me most; and pleases me, because knowing that the ruin is birth, it redeems me from the sadness of all ruins, and now since I know of this construction, all the destruction may seem like a construction."⁷⁸

Joan Maragall



Figure 8: Signs of the Zodiac over the Door of Charity.

architecture. Rather than being static, the Nativity façade remains in a perpetual state of becoming. As the title of Maragall's article suggests, the Sagrada Família is a temple *being* born.

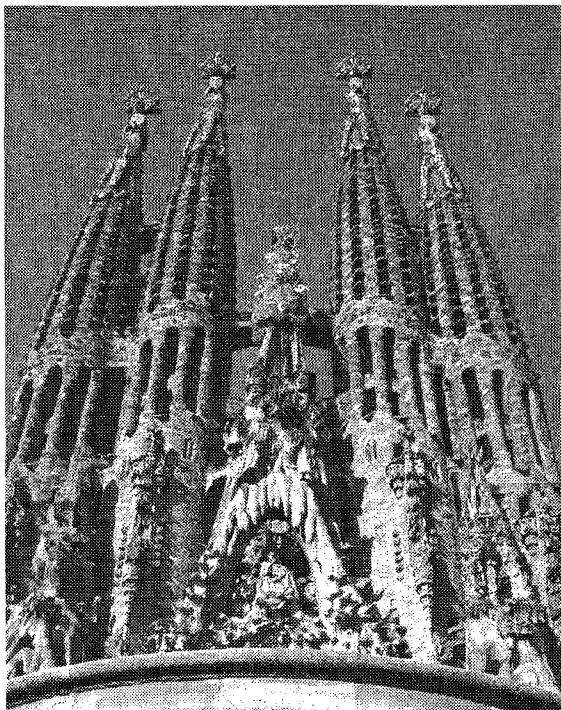


Figure 9: The four bell towers

"...the growth of the towers- Gaudí's most highly personal creation..."⁷⁹ *César Martinell*

"Saying Yes to life even in its strangest and hardest problems; the will to life rejoicing over its own inexhaustibility even in the very sacrifice of its highest types - that is what I called Dionysian...Not in order to get rid of terror and pity, not in order to purge oneself of a dangerous affect by its vehement discharge...but in order to be oneself the eternal joy of becoming, beyond all terror and pity - that joy which includes even joy in destroying."⁸⁰

Friedrich Nietzsche

"The feelings are never wrong, because they are life (if they could be wrong, that would be death); it is the head which is not more than the control panel, just a part, that makes mistakes. As a result, a people cannot be killed. Voices can be stifled, valves can be closed, but then the pressure increases, and the danger of an explosion grows. And if too many valves are blocked, the explosion becomes inevitable."⁸¹

The process of metamorphoses in the towers of the Sagrada Família differs from the expression of life forms evolving mythically from soft stone. It is as if Gaudí had imagined the great mountain as being subjected to an intense heat that caused the outer material to melt and succumb to the natural force of gravity. The towers emerge more skeletal than fleshy, like crystal that had been once buried deep within the rock. They leap into the air claiming their place in the heavens. In this respect, Gaudí's process reveals the primacy of the spiritual over the secondary nature of the material. As if to further debunk matter, Gaudí punctured perfect perforations around the towers' perimeter, allowing in turn spaces for the emission of sound. They are like release valves after an explosive force, both literal and figurative.

The resulting towers with their multiple openings appear in a state of balance. The popular analogy of "blowing off steam" is appropriate here: when things get too hot and tight, the whistle blows. It is of interest to note that Gaudí described the power of feelings by this same analogy when he spoke about the need to balance feelings or take the risk of an eventual "explosion."

"*El Poble Catala* printed the prophetic warning, 'The valves have been closed and the steam is accumulating. Who knows if it will explode'."⁸²

Gijs van Hensburgen

"In 1910 [Gaudí] retired to his church site, like a hermit, and there he said things, drew things, and built a few things that have now burst upon us like a book of revelations."⁸³ *George Collins*

"And the four living creatures, each of them with six wings, are full of eyes all around and inside. Day and night without ceasing they sing, 'Holy, Holy, Holy, / the Lord God Almighty, / who was and is to come...'"⁸⁴ *Book of Revelations*

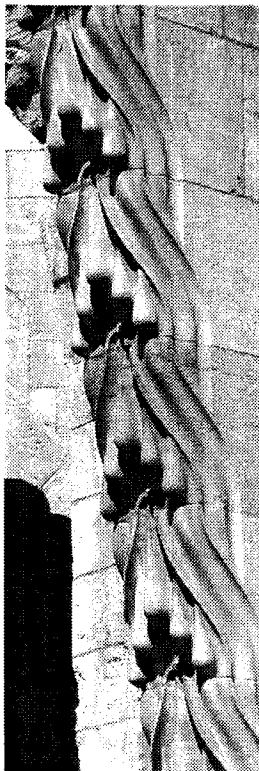


Figure 10: Flowing tear motif, interior of the Nativity façade.

"...I wept at the beauty of your hymns and canticles, and was powerfully moved at the sweet sound of your Church's singing. Those sounds flowed into my ears, and the truth streamed into my heart: so that my feeling of devotion overflowed, and the tears ran from my eyes, and I was happy in them."⁸⁶

St. Augustine

His words, mirroring those in the popular print of the day, were an obvious reaction to the mounting political tension of the day.

The spires now stand proud and precise, made heavenly by daring innovation. They resemble the multi-eyed creatures of the Apocalypse. However, when one takes into account that the Nativity façade symbolises birth, one might suggest that this is an Apocalypse in reverse - the moment of redemption.⁸⁵

Gaudí named his project the "Expiatory" Temple of the Sagrada Família thereby situating it as a symbol of the purification of sin. Physically, the temple does indeed expiate: the internal façade features stones that fall like water in pools of teardrops. One may speculate that Gaudí's evocation of expiation was a reaction to the terrible period in Catalan history known as the Tragic Week of July 1909, during which time Barcelona's churches and convents were subjected to reckless violence by rioters that set the city on fire.⁸⁷ The eruption was caused by Catalans who felt provoked by the central administrative policy. Gaudí and his friend Maragall were



Figure 11: Photo of Barcelona, Tragic Week of July 1909.

"We have reached a moment in time when even the stones must speak."⁸⁸ *Torras I Bages*

"Death explodes
in the gentle air of your laughing street:
explodes unexpectedly, sure and traitorous
with an outburst of mocking laughter...
Outburst of bloody laughter!
The mud of your streets- Oh Barcelona!
is kneaded with blood.

In the east, mystical example,
like a gigantic flower, a temple blossoms,
amazed to be born here amid such a coarse and
wicked people
who laugh at it, blaspheme, brawl, vent their scorn
against everything human and divine.
Yet amid misery, madness and smoke
the temple (so precious!) rises and flourishes
waiting for the faithful who must come."⁸⁹
Joan Maragall, "New Ode to Barcelona."

deeply affected by this tragedy. In response to the riot, Maragall wrote his poem "New Ode to Barcelona." In this poem he likened the Sagrada Familia to a giant flower that bloomed in the east and that one-day would call the faithful. Maragall expressed surprise that such a flower of a temple could bloom among such a "coarse and wicked people." At the time of the tragedy, Gaudí insisted on crossing the city to get to the Temple, nearly passing through the line of fire to do so.⁹⁰ Out of the violence came the peaceful symbol of the Sagrada Familia as "The Temple Being Born," Gaudí's architectural poem of renewal and change – his song of hope.

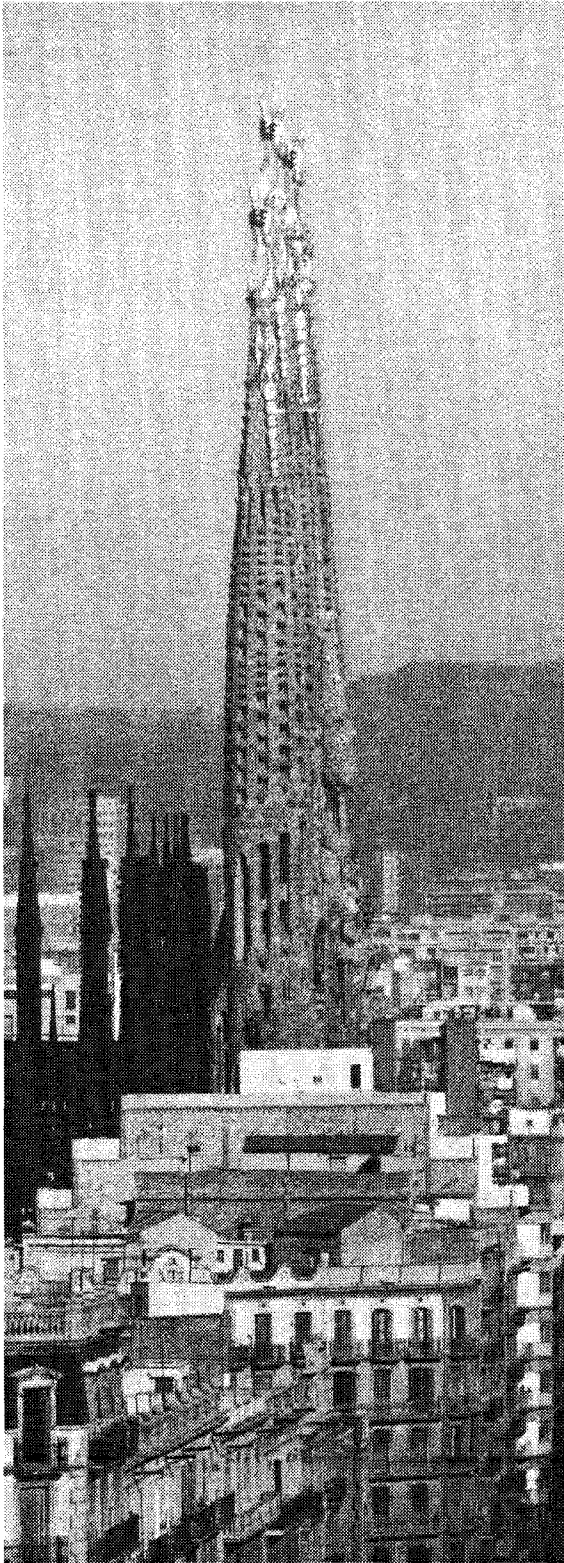
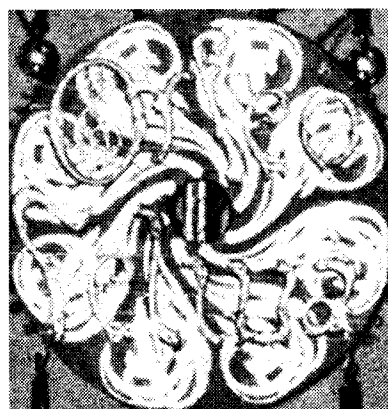
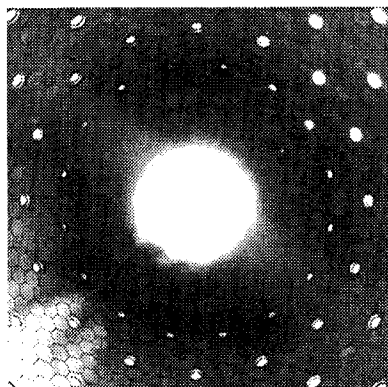


Figure 12: The towers of the Nativity façade in their urban context.

CHAPTER 2

THE TOWERS OF THE SAGRADA FAMILIA AS A SYNTHESIS OF CULTURAL FORM AND SOUND

"Each time I penetrate the walls of the Sagrada Família, I experience the same feeling of leaving time. I mean, the present moment suddenly acquires a historical perspective to my eyes: withdrawn and withdrawing...At that moment I see myself in a heroic time...And if returning to myself, I think of this heroic past as my present, a great pride overtakes me and I feel I am living as a pure spirit."⁹¹ *Joan Maragall*, "Outside of Time."



PART 1:
INTRODUCTION TO THE THREE
CULTURAL THEMES: *PATRIA, FE,*
AND AMOR.

"The city proudly displays the growing temple to every foreigner. In its material expansion, the temple ennoble the town. Soon, Barcelona will be the city of that temple, and it seems that the temple can only belong to that city: they are bound forever."⁹² *Joan Maragall*

"In the distance, between gigantic ferns, / Stands white the wide face of its menhirs and towers, / Alpine pyramids of marble upon marble, / Whose summits appear to pierce the sky."⁹³

Jacinto Verdaguer

"No slave flowers these- own'd and possess'd by none: / Only the sun and wind do they obey; / And, when their laughing, sun drench'd lives are done, / The free wind bears their petals far away."...How bravely did they flower! / It seemed that they were singing, / Defying bitter winds / And icy snow-showers that the winds were bringing. / Though snow was in the air / They sang with pure delight / At having stol'n a march on Father Time / And bloom'd, so innocently, in a winter's night."⁹⁴

Joan Maragall

Gaudí planned for the Sagrada Família to have twelve towers, each representing one of the twelve apostles. He lived to see the completion of one tower, however the progress made on the construction of the other three towers of the Nativity façade was sizeable. Today all four towers of both the Nativity and Passion façades soar high over the Barcelona skyline. Like the great epic poems of the day, the Sagrada Família is a symbol of *Renaixença* splendour.⁹⁵

Maragall's evocation of the Temple as a gigantic flower identifies it with the "*Floralesque*," another term used to describe the "heroic" period that the *Jocs Florals* grew out of. The Sagrada Família as a gigantic flower may be compared to another poem by Maragall entitled "Roses of Freedom." In this work the poet describes surprisingly resilient flowers that lie in the open field, defying the bitter winds of winter. Under these hostile conditions, the flowers continue to bloom and even appear to sing while they do so. These hardy blooms, like the Sagrada Família, symbolised the resilience of the Catalan people who defied all odds and went on to make the *Renaixença* one of the greatest periods of Catalan history. It was a time that promoted poetry, singing and

"[The themes of the] 'heroic' period, are three traditional ones- patriotism, faith and love- the first being the most prominent...Patriotic verse was the most original and the most inspired: the art produced by the themes of religion and love was, by comparison, conventional."⁹⁶ E. Allison Peers

gathering and it is in the same spirit that this study likens the towers of the Nativity façade to "*Renaixença*" instruments.

An expression of culture, the towers as "*Renaixença*" instruments might also be expressed as *Patria*, *Fe* and *Amor*, the three themes of the *Jocs Florals*. This idea is one that parallels Gaudí's writing on the purpose of ornamentation as representative one's era.⁹⁷ Before proceeding to the towers themselves, the paper examines four smaller works by Gaudí that will help to introduce this idea. These four works include the Sagrada Família's insignia; the Orfeo Feliua Choral Standard; the central hall of the Palau Güell; and the walls surrounding the central interior staircase of the Casa Calvet apartments.

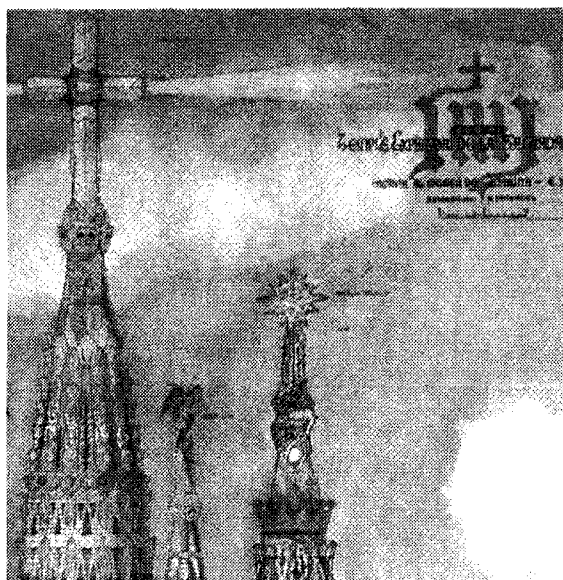


Figure 13: The insignia (upper right) in a drawing by Gaudí's assistant, R. Berenguer.

The insignia for the Sagrada Família. existed in the upper right corner of elaborate drawings of the project, where it appeared like the architect's stamp. The insignia illustrated the gathering of the cultural themes of the *Renaixença*, particularly with respect to festivals. Fire was, and remains a dominant expression of many festivals in the region, and the insignia conjures an image of metal having been melted and shaped by fire.⁹⁹ The result is a fusion of cultural symbols. The



Figure 14: *Corre-foc*, Barcelona.

“I shall never forget how in the builder’s shed near the church, speaking as if he embodied the spirit of his countryman, Raymond Lull, he introduced me to his mystical theory about the proportions prevailing in the lines formed by the architecture, to reveal everywhere symbols of the divine tri-unity. *‘This cannot be expressed (he said) in either French, German, or English, so I explain it to you in Catalanian, and you will comprehend it, although you do not know the language.’*”⁹⁸

Albert Schweitzer

“One afternoon, I found Gaudí sitting at his desk with an open notebook, and he showed it to me saying: *‘Do you see? Here on this page is the whole Christian doctrine.’* And it was true. It was a synoptic chart, covering not even half the page, giving all of the basic concepts related in an ingenious manner: the three Persons of the Trinity, corresponding to the three theological virtues and the first three commandment, the seven sacraments, related to the seven entreaties of the Lord’s prayer, the seven days of the Creation and the seven Commandments referring to our neighbour...”¹⁰²

Masso Bergós

result is a fusion of cultural symbols. The crown and a cross, symbols of *Patria* and *Fe* appear combined in the insignia. Their marriage is analogous to the joining together of the patriotic and religious spirit in Catalonia in the latter part of the 19th century that potentially resulted in political independence.¹⁰⁰ The insignia appears also to have been drawn in the spirit of the Middle Ages, as its overall appearance resembles calligraphy of the period. Gaudí’s speech, it is interesting to note, was observed by Albert Schweitzer as having a Medieval tone.¹⁰¹ As the *Renaixença* was rooted in the glory of Catalonia’s Medieval splendour, this observation is not entirely mystifying. Gaudí was in essence celebrating this glory in his speech.

The union of *Patria* and *Fe* in the insignia creates the space of *Amor*, a theme that can be interpreted as existing at the centre of the insignia where three vertical lines connect. This connection is an obvious reference to the Trinity symbolism that is evident throughout the *Sagrada Família*.

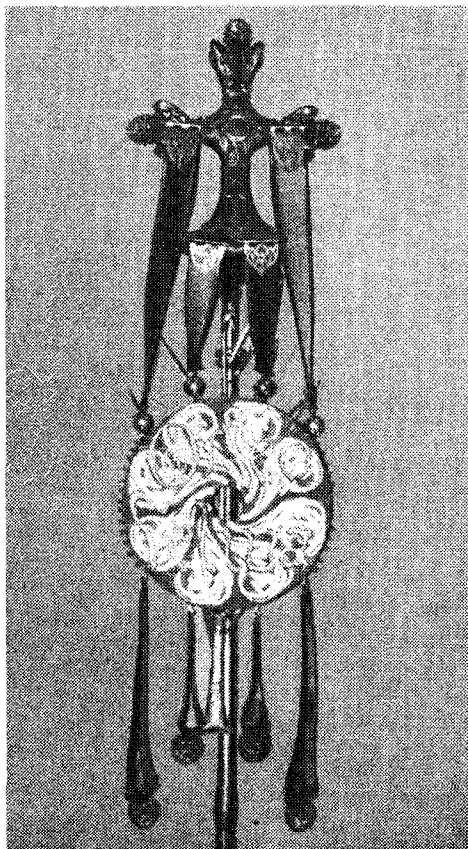


Figure 15: Choral standard, 1900.

"Around 1900 the town of San Feliu de Codinas founded this municipal choral society...Gaudí here created a completely original work, leaving aside the customary rectangular form and showy cloth fabric with embroidered or printed emblems such as he himself had used in the banner for La Obrera Matoronense. Here he resolved the problem by turning to those emblems which he considered most fitting – the cross, the millstone, and the palm symbolising the martyrdom of San Feliu; he combined these in an original manner as if he intended to present a practical example of the slogan 'original means to return to the origin'." ¹⁰³

César Martinell

"Voice is a flowing breath of air, perceptible to the hearing by contact. It moves in an endless number of circular rounds, like the innumerable increasing circular waves which appear when a stone is thrown into smooth water...In the same manner the voice executes its movements in concentric circles... horizontally, but also ascends vertical in regular stages..." ¹⁰⁴

Vitruvius

Symbols of *Patria*, *Fe*, and *Amor* can also be found in the Orfeo Feliua Choral Standard of 1900. This work indicates Gaudí's love for the choir as its existence alone attests to his conviction that the greatest source of music lay in the singing voice. Like the insignia, a cross appears at the top of the Choral Standard. What makes this cross unique is its secondary symbolism: it can be interpreted as the handle of a sword, with its blade running vertically down to form the staff, that is in turn exposed in the eye of the frontispiece. Since this Standard was made for a choir, sound was an obvious thematic consideration. According to classical and pre-modern sources, the voice was thought to move in a circular pattern. This notion becomes important when examining Gaudí's design for instead of making a traditional rectangular shaped standard that was customary at the time he chose the circle and perhaps with very specific intentions. Throughout history, the geometry of the circle was a symbol of God.¹⁰⁶ In the context of this historical symbolism, Gaudí's use of the circle in the Choral Standard might suggest his interpretation of singing as being closest to the voice of God. Reproduced in the Choral Standard as ornamentation on the

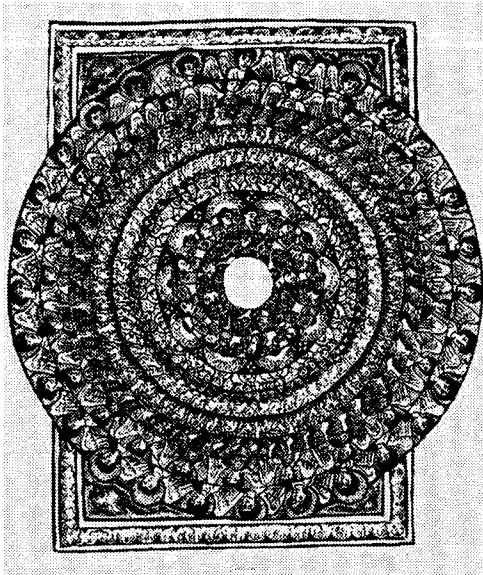


Figure 17: Vision of Hildegard of Bingen from Scivias, 12th century.

"Next I saw the most lucid air, in which I heard...in a marvellous way many kinds of musicians praising the joys of the heavenly citizens. And then their sound was like the voice of a multitude, making music in harmony."¹⁰⁹ *Hildegard of Bingen*

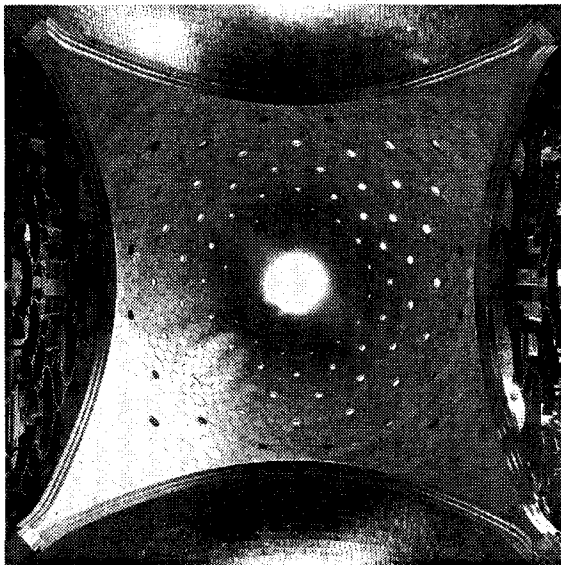


Figure 18: Dome of Palau Güell (1885-1895).

As a symbol of singing, one may interpret the spiralling action around the centre of the standard as being similar to medieval depictions of musical harmony. In the example illustrated here, the expression of singing is combined with circular forms and movement that radiate from a centre that is depicted as light. Symbolising the heavenly light of God, this centre of light is an obvious reference to transcending power of song.

Our third example of the three cultural themes is the central hall of the Gaudí's Palau Güell (1885-1890). Resembling a three dimensional version of the Choral Standard, this central hall, located at the heart of the building, functioned as a music room. Not only do all rooms surround this space, but the majority of them actually open onto it as well. Four columns in a square formation support the cone-shaped dome, which is featured as a symbol of cosmic unity with a brilliant sun at the centre. At the intersection of the walls and the circular dome Gaudí placed organ pipes that were described as having exceptional

"Gaudí had taken physical-as opposed to musical-acoustical considerations into account from the time he built the Palacio Güell. Here the organ was the object of special study as it was to be situated in a very narrow space in the central salon, next to the altar, which could be easily opened up into it. This organ was used both for religious functions and society concerts, and the space allotted it had room for the keyboard console and the register, but not for the pipes...Gaudí solved this problem by placing the pipe tubes on the salon arcade which proved to be acoustically advantageous, for when singers were used they, too, were placed on the upper floor."¹¹⁰

César Martinell

sound quality. Perhaps this was due to precise geometry of the space, that in essence functioned like a great hollow bell.¹¹¹ As a result, this central hall became known as one of the finer musical spaces in the city and its owner, Eusebi Güell, entertained some of Barcelona's most refined citizens here.

This particular work also further demonstrates Gaudí's "return to the origin," as joining together architectural form and music in such a way harked back to an era when music, geometry, astronomy and arithmetic formed the cornerstones of knowledge. Gaudí's synthesis of form and sound in the Palau Güell thus symbolised the ancient origins of music.

The dome's central oculus invites comparison to the circular opening of the Choral Standard. Neither is an empty gap, but rather, are formal representation of light and sound, that might be described as symbols of creation. Further to this, the appearance of this central focus in both works are suggestive of symbols of transcendence. Here the themes of music or voice and light, acts as a connection between heaven and earth.

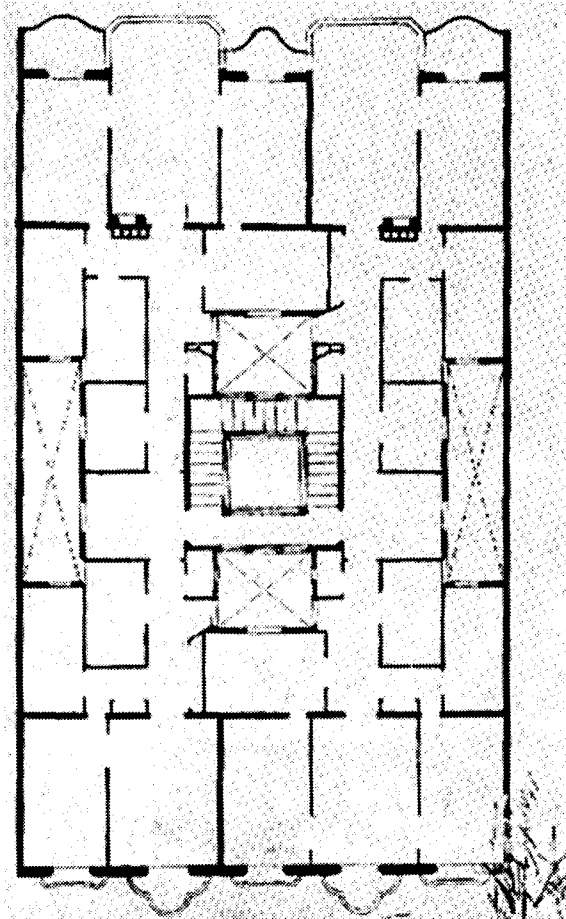
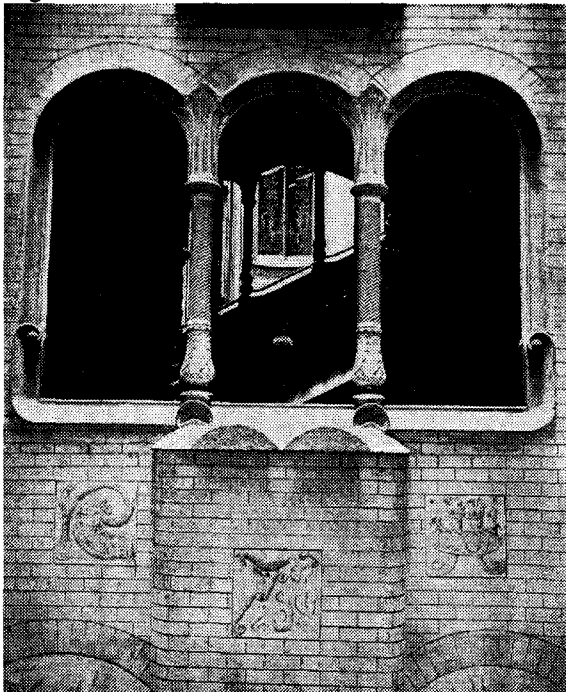


Figure 19 A) & B): Plan of Casa Calvet (1898-1900) and view of the stair tower wall showing tiles engraved with the words *Patria*, *Fe* and *Amor*.



The fourth example of the three cultural themes of *Patria*, *Fe* and *Amor* addressed in this particular study is from Gaudí's Casa Calvet apartment house (1898-1900). It is the most evident depiction of the three cultural themes for they appear as writing on the interior stair tower wall. Existing as ornamentation in stone, *Patria*, *Fe* and *Amor*, communicate their themes from both the staircase and lobby, welcoming residents as they enter and take their journey up the staircase. Located directly below three open archways that provide light and views to and from the staircase, these three themes, the thematic roots of the *Renaixença*, form part of an overall setting involving central positioning and light. Like the central opening in the standard, and the oculus of the dome, the stair tower, washed with light, is also located at the centre of the building.



Figure 20: *Castells*, or “human towers”, Camp de Tarragona.

PART 2: FORM

THE TOWERS AS AN EXPRESSION OF *PATRIA, FE AND AMOR*

“You see, with [the Sagrada Familia], it is all of us that remain half built. You see that the man who builds the temple is building us as well; Pity if you are never able to see this mystery clearly!...But I believe that he has no right to die until he has given us all his vision, the vision of his time, and of us who are his time...”¹¹²

Joan Maragall, “An Act of Charity.”

"The club had an annual party for St. George's day, when [*Excurionista*] members including Gaudí decorated the clubhouse. Its Roman column tops were draped with flower garlands and wrapped with ivy. Busts and portraits of Catalan cultural heroes ranging from Ramon Lull to Clave were crowned with laurels and placed in a decorative ensemble surrounded by the words 'Past' and 'Future' in Catalan, flanking the emblazoned central motto '*Patria*'.¹¹³ *Gijs van Hensbergen*

The four examples described in the introduction to this chapter help to define the towers of the Sagrada Família as *Renaixença* instruments built upon *Patria*, *Fe* and *Amor*. *Patria* and *Fe* together form the wall of the tower. They may also be expressed as individual entities. The exterior face of the tower represents *Patria*, the most powerful cultural force, and its inner face represents *Fe*. Combined, they form the conical towers that harbour the space of *Amor*. As an emulation of these cultural themes, the towers of the Sagrada Família are forms that were designed specifically to accommodate sound.

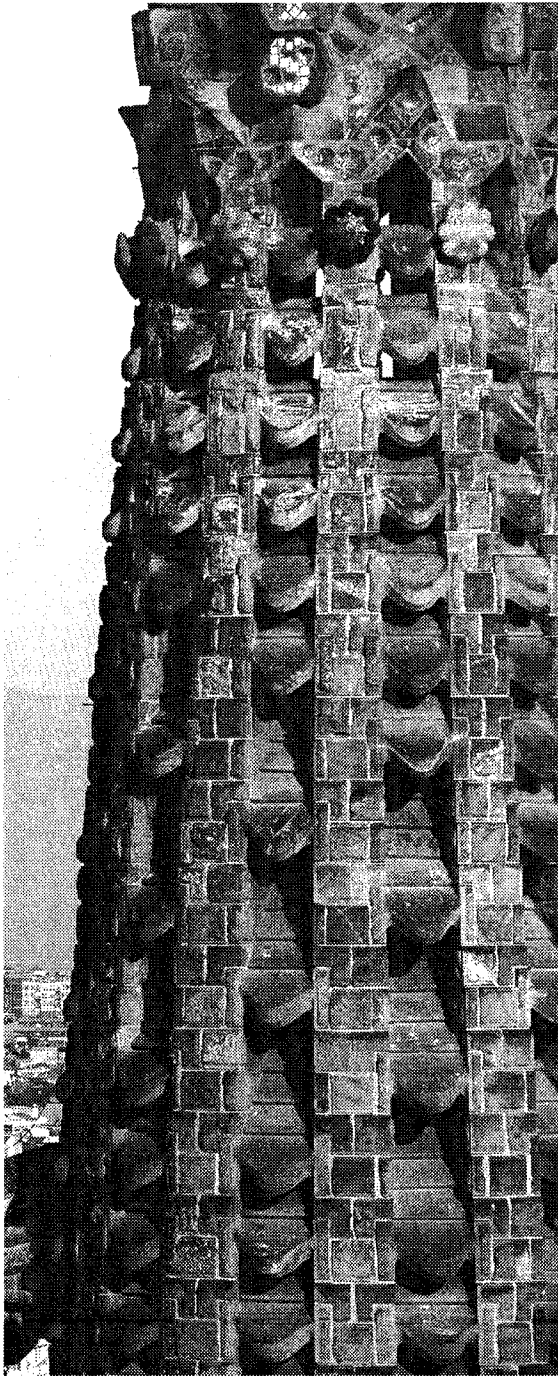
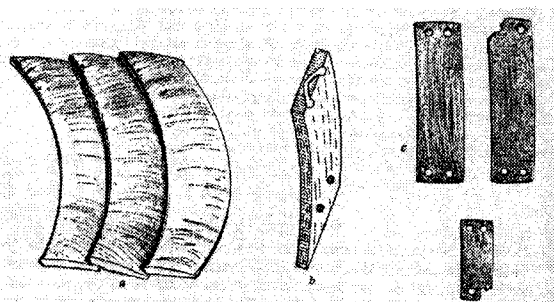


Figure 21: Tower showing stone louvers

THEME I: *PATRIA*

“On the outside, the acoustic characteristics of the bell towers were also studied carefully. They are equipped with inclined stone louvers to direct the sound of the bell towers downwards...”¹¹⁴

Masso Bergós



Figures: 22 A) & B): Ancient armour, Bronze Age Greece.

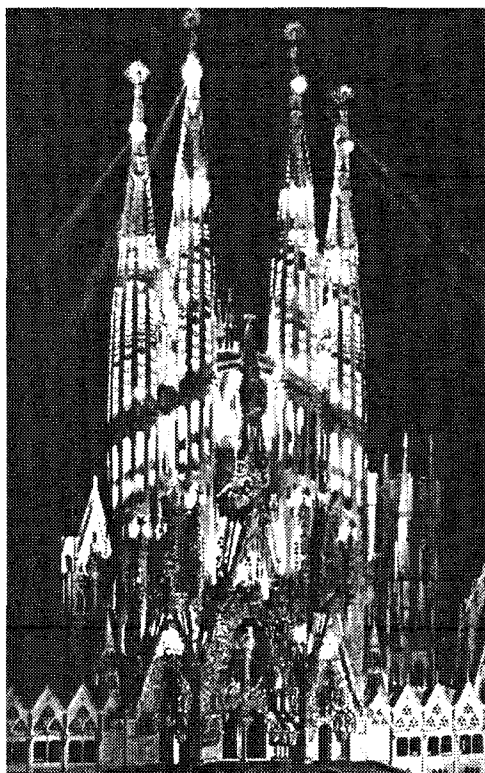


Figure 23: Model showing Gaudí's concept for lighting the Nativity façade.

The exterior face of the tower represents *Patria*, the heroic outer body that symbolises Catalan pride. It also represents protection, as its appearance is suggestive of the thick outer layer that covers and naturally protects multiple forms of organic life on earth. Man assumes this protective surface with armour. Clad in their armour-like stones, the towers rise up like giant warriors. Combined with light as Gaudí had imagined them, they would soar like goddesses, protecting the modern metropolis by day and night. Through such analogies the towers demonstrate the patriotic spirit of the *Renaixença*.



Figure 24: Veritas, Roman goddess of truth and justice

"The Sagrada Familia is for me one of the building-wonders of the world... Like the Taj Mahal, the Sagrada Familia was no house of God, but a house of the Goddess, of his Goddess, his heavenly and therefore unhappy love. For such cathedrals are only built by a heart in monstrous despair or one in Dionysian ecstasy, and only a superman is capable of such creative despair."¹¹⁵

Hermann
Finsterlin

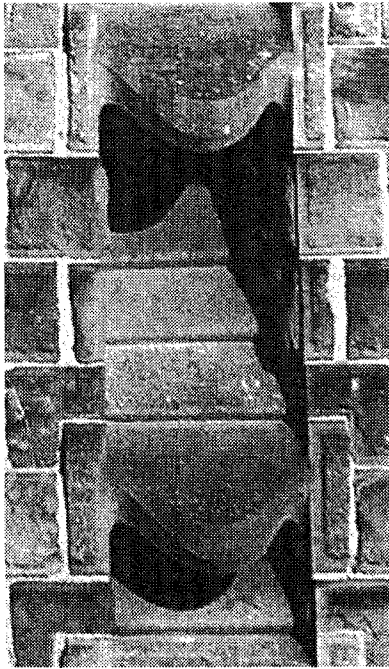


Figure 25: Detail of *tornaveu*.

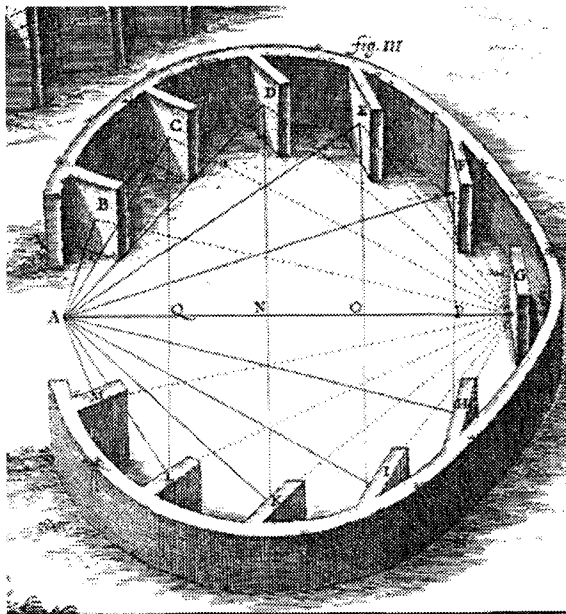


Figure 26: Sound studies, 17th century.

To fully understand the notion of *Patria* in the towers of the Sagrada Familia, it is necessary to examine the etymological meaning of what is referred to in English as a sounding board. In Catalan, the sounding board translates as *tornaveu* which means turning voice. By combining language in this context sound is naturally transformed into voice.

This study is concerned specifically with how Gaudí designed this external acoustical device known as the *tornaveu* to direct the sound of the bells downward to the ground, and thereby create a festive mood around the Sagrada Familia. His design intentions are analogous to historical examples of sound perfection, however, these were chiefly concerned with sound in the context of the theatre. In considering this historical precedent and in knowing of Gaudí's concern for sound in the urban context, one might say that the Sagrada Familia, although planned internally as a temple, acts externally like a theatre.

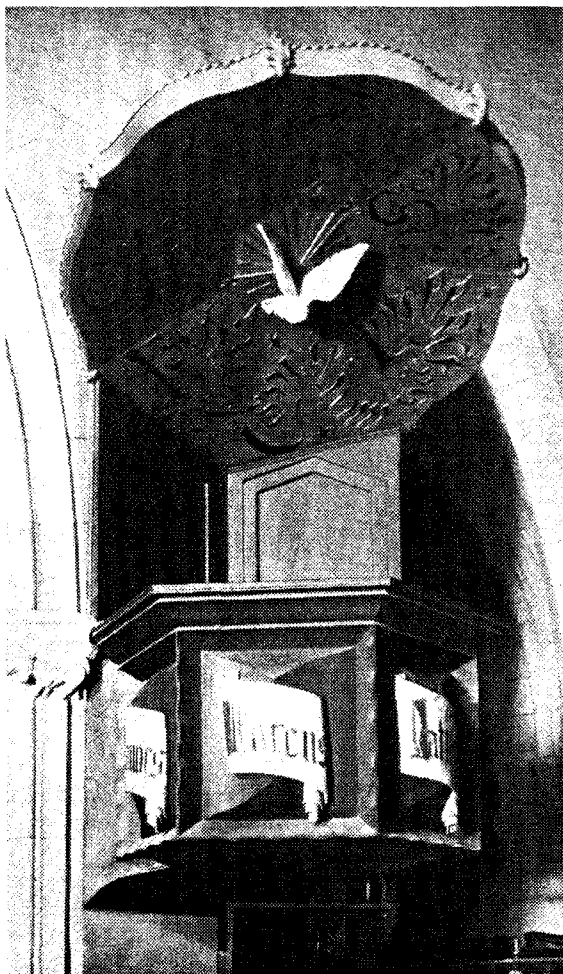


Figure 27: Tornaveu over Pulpit for Blane's Cathedral, 1905.

"First [the blacksmith] began to make a huge and massive shield, decorating it all over...On it he made the earth and the sky, the sea, the weariless sun and the moon waxing full, and all the constellations that crown the heavens...And on it he made two fine cites of mortal men. In one there were marriages and feasting...dance, and among them reed flutes and lyres kept up their music...The other city had two encamped armies surrounding it, their weapons glittering... huge and beautiful in their armour, and standing out, as gods will, clear above the rest." ¹¹⁶ *Homer*

"The new foundation's chief monument [at the beginning of the *Renaixença*]- a collection of nearly one hundred volumes of Greek and Latin classics, in which writers of antiquity were made accessible to the general reader by the publication on opposite pages, of annotated texts and translations." ¹¹⁷

E. Allison Peers

Gaudí's work at the Cathedral of Blanes, will provide a better understanding of the exterior character of the tower as an expression of *Patria*. At the Cathedral of Blanes, the *tornaveu* is shaped like a shield and is located above the pulpit. It is designed to turn the voice of the preacher towards the congregation. ¹²⁰ The fundamental symbolic significance of the shield is protection. ¹²¹ This particular shield is seven-sided and contains ornamentation that bears a striking resemblance to shields made in Catalonia in the Middle Ages, a patriotic tradition that continued well into Gaudí's time. ¹²²

Gaudí's *tornaveu* recalls the mythical shields described in classical literature. A lover of classical literature and with a great respect for history, many Catalonia's, Gaudí perhaps included, believed their ancestral roots were directly linked to classical antiquity. Hence, it was natural for people of the *Renaixença* to adopt classical thought. The Blanes shield evoked mythically the power of the voice, which was illustrated in the polychrome relief of the "gifts of the Holy Spirit." Gaudí sculpted tongues of fire at the shield's perimeter further suggesting this power. However, as in the case of the

"The happiest days of his life, he told Matamala, 'was an afternoon spent listening to Dr. Llobera reading from his translation of Homer into Catalan'." ¹¹⁸

"[Gaudí] also had books by his favourite authors of the Catalan literary movement and he subscribed to the *Classics Grecs i Llatins* collection which had been begun around 1823 by the *Fundacio Cambo*." ¹¹⁹ *César Martinell*

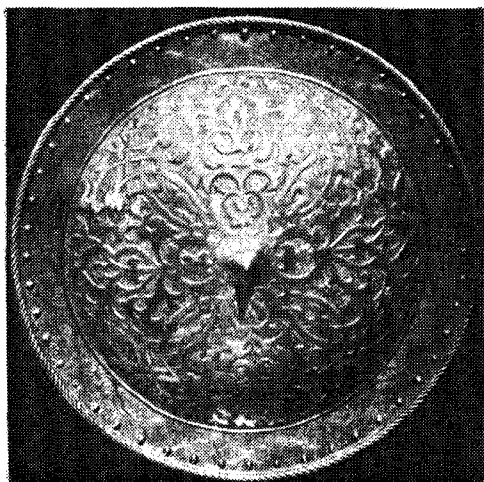


Figure 28: Shield. Catalonia, 19th century.

insignia, the Choral Standard, the oculus of the Palau Güell dome, and the central stair tower of Casa Calvet, it is the centre that is the focal point. Here it is depicted as a brilliant white dove, also a symbol of transcendence. Here, as in the other examples combined with light, this symbolism seems to speak about the transcendental power of the voice. Further, this centre might be described as a union or crossing between spiritual and material realms. The same idea is depicted at Casa Vicens of 1883-1885, Gaudí's first urban project where on the shield-like dome a tromp l'oeil painting depicts several doves that fly enthusiastically through an oculus whose appearance resembles the choral standard frontispiece. The resulting image is an expression of peace, freedom and joy through the analogy of flight. It is perhaps synonymous to the "transcendence" felt by the Catalan people as a result of the *Renaixença*.

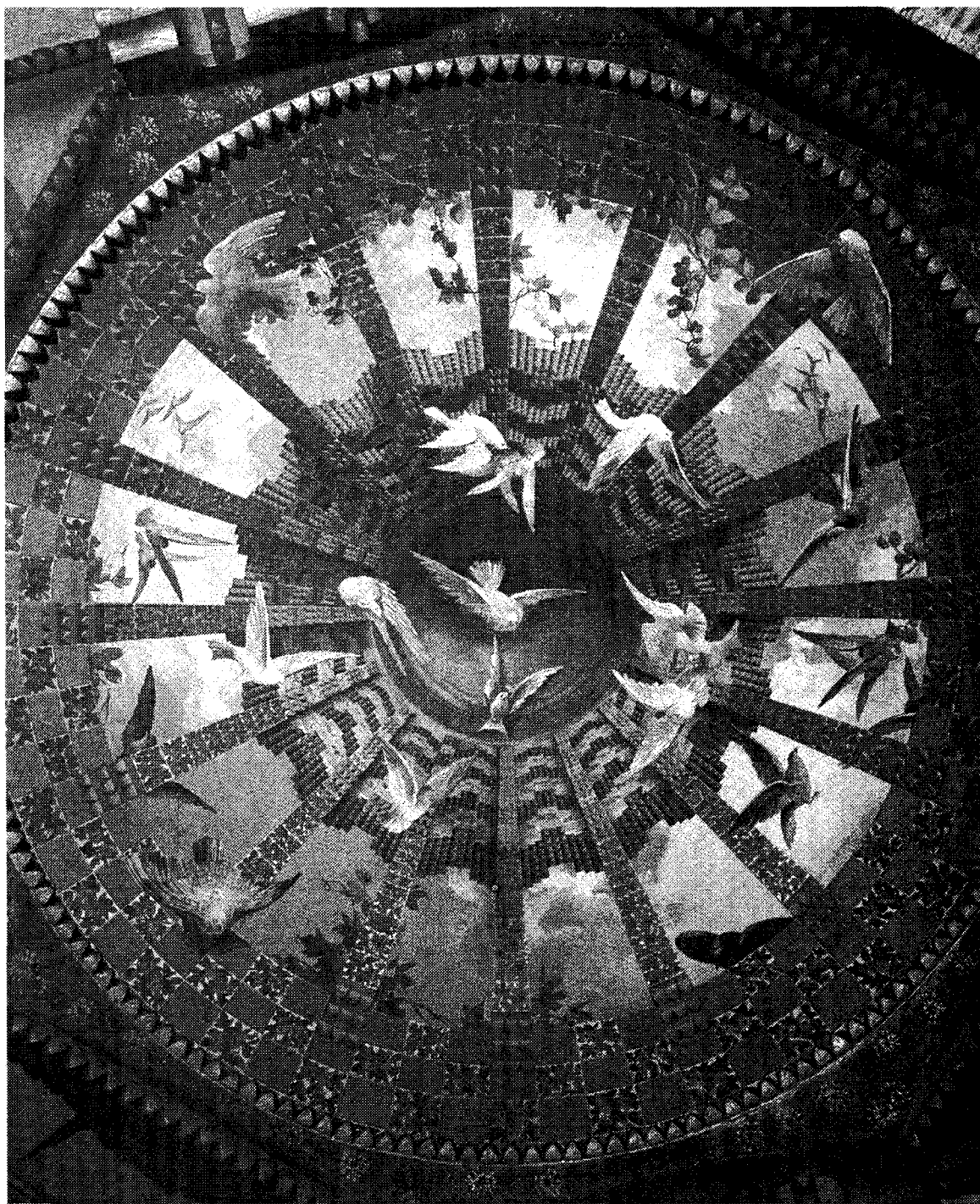


Figure 29: Dome, Casa Vicens, 1883-1885.

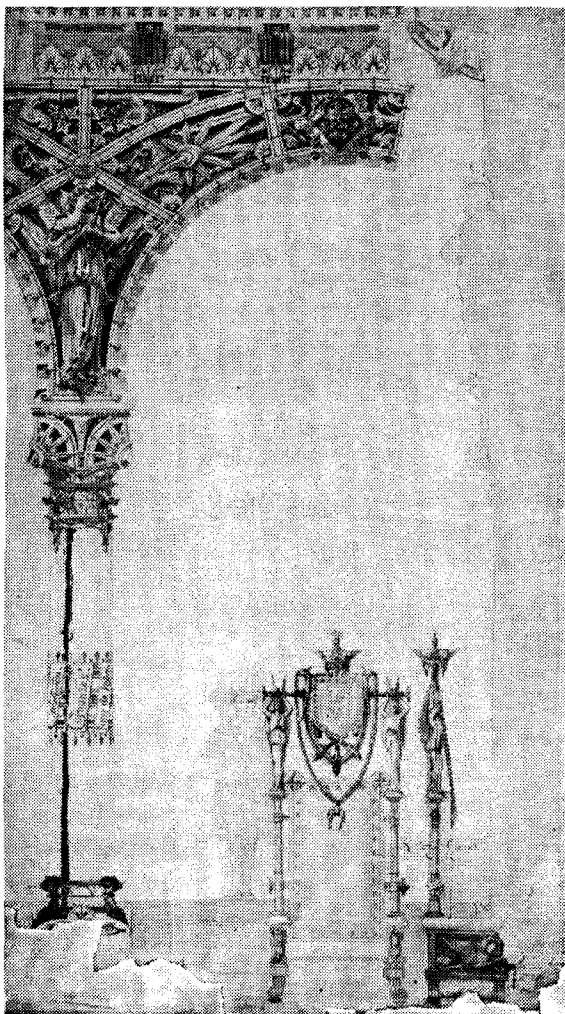


Figure 30: Paraninfo project, 1878. Detail of interior.

"Poets are the acknowledged legislators of the world, and their original prototype is Orpheus, who by his songs...held fast the streams, and added ears to the oaks by his songs...and by his singing compelled to tears the shades that were done with life."¹²³ *John Milton*

"Orpheus with his lute made trees, and the mountain tops that freeze, bow themselves when he did sing. To his music plants and flowers ever sprung, as sun and showers these had made a lasting spring. Everything that heard him play, even the billows in the sea, hung their heads and then lay by."¹²⁴

William Shakespeare

"The study of Greek Antiquity is, and probably ever will be, the surest means of initiating youth into the knowledge of the arts"¹²⁵

Vollet-le-Duc

Shields are found in diverse configurations and sizes in Gaudí's architecture. Perhaps the first example where shields abound is in his final school project known as the Paraninfo.¹²⁷ In all cases, the shields offer a connection to voice. For example, the Paraninfo's lectern was delineated as a medieval shield, complete with a patriotic crown atop. There is a military quality about the image that is perhaps a reflection of Gaudí's military training.¹²⁸ In addition to the lectern, shields exist in the interior elevation drawing of the Paraninfo in the form of abstract metalwork that runs vertically and round the column. Positioned prominently above the column capital, the figure of Orpheus is shown holding his mighty lyre. Depicted as a tortoise shell as described in ancient Greek mythology, the surface of the lyre resembles a shield. One might suggest that the lyre's surface is analogous to the protective outer surface of the towers of the Sagrada Familia. As a symbol of the voice's power the figure of Orpheus also appears to be the cause of a dark liquid-like streak to run down one side of the column. It is as if metal were being melted by the power of Orpheus' song. This concept of metamorphoses is one that corresponds to conceptual process of the Sagrada Familia

*"He added that the essence of Greek art was innate in him; that he carried it within him and that when they had explained about the Greeks to him in school, none of it was new and he learned quickly."*¹²⁶

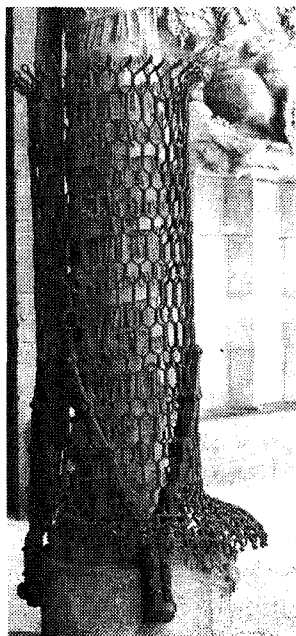


Figure 31: Central pillar of the Nativity façade dividing the Door of Charity.

*"It is unnecessary to recount the advantages of paintings under conditions of artificial light and the support graphic scenes give to the spoken word; that most easily distracted sense, hearing, it there made more attentive, guided by sight."*¹³⁰

*"It is undeniable that we intuitively make the memory of an object poetic; we either increase the degree of beauty it contains; if the impression which it made on us was pleasant, memory will make it a thousand times more pleasant; if it was frightening, the mere idea of remembering it will be sufficient to frighten us."*¹³¹

as well as the fusion of cultural themes in the insignia. Although the origin of the concept of metamorphoses in Gaudí's work cannot be ascertained, perhaps it was the classical foundations of the *Renaixença* that contributed to its frequent occurrence.

In the Paraninfo project another shield is featured wrapped around Orpheus' column. On its surface are inscribed the names of some of the contemporary leaders. This concept is also one that corresponds to the Sagrada Família, as a wrapped shield also exists at the very centre of the Nativity façade. Located at the base of the pillar that divides the central door of Charity, this shield protects the genealogy of Christ inscribed on the stone pillar.¹²⁹ Forming the optical and structural centre of the Nativity façade, this shield represents a position that is a well protected point of origin.

Returning to Gaudí's bell project for Montserrat, it is important to note that he intended to place below the bell his rendition of "Catalonia's shield," made of brilliant mosaic that would be visible for miles. These several examples of shields suggest Gaudí's profound interest in and understanding of the power of sight and

sound combined, and the potential this combining had on memory. This is particularly evident through examples that combine form, sound and light as evident in the works described here. The Sagrada Familia was an opportunity for Gaudí to demonstrate his understanding of these subjects in a single building.

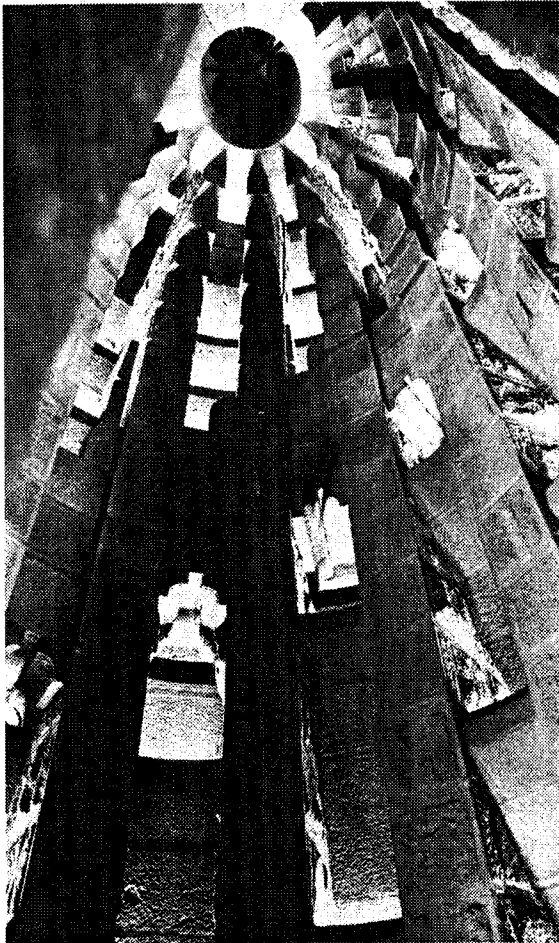


Figure 32: Interior of tower, Façade of the Nativity.

THEME 2: *FE*

“On coming into personal contact with the decorative forms, and on contemplating at close ranges the images, volumes, and unexpected inner structure, we ourselves become absorbed within the dimension of movement and time which enlivens the space defined by the palpitating architecture. Anyone who has not climbed inside as if on a country outing, leaning over balconies, looking out from the miradores, and nearing St. Joseph’s boat, ascended the spiral staircase of the bell towers, crossed the bridge behind the tall cypress, and surveyed from above the growing temple far below while coming close enough to reach out and almost touch the terminal crosses, cannot feel that he has really seen this façade. Only after we have intimately penetrated its inner substance, putting styles and theories aside and open only to aesthetic emotions, can we truly say that we have seen and heard and touched this grandiose artistic florescence left to us by Gaudí. As we penetrate it, it will penetrate us as well, and on returning to the ground and looking up again at the magnificent ‘fragment’ of the future temple, it may be that some of the surface symbolism will have vanished, but we will be left with a more complete, alive, and human reality.”¹³² *César Martinell*



Figure 33: Christ resurrected. Detail of icon. Russia, C. 1700.

*"Religious objects are slaves to a profane idea: art..."*¹³³

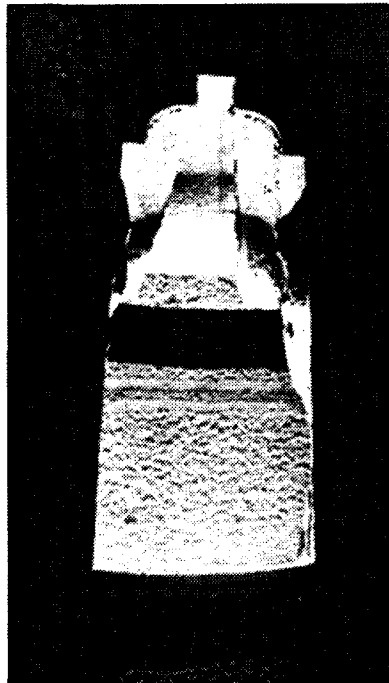


Figure 34: Detail of tower interior.

*"The church's decoration is based upon saints ascending to heaven from the earth, and angels descending from heaven to earth."*¹³⁴

*"The helical form itself of the church towers played the double role of transforming sound and light."*¹³⁵

Robert Descharnes

The interior surface of the towers represents *Fe*. Much of the symbolism of *Patria* is also applicable to the concept of *Fe*. It symbolises the power of transcendence. The inner face of the wall is a symbol of pure faith. Much like the handle of a shield that permits a warrior to support it, the inner wall of *Fe* permits the external wall of *Patria* to stand. A mystical concept, *Fe* is easily overlooked. Through his architecture Gaudí challenges this dismissal and makes the mystery of *Fe* appear.

Gaudí's representation of *Fe* on the inner wall of the tower consists of brilliant light and infinite movement that imbue the space with a proverbial "ray of hope." Expressed as an extension of the helical pattern of the spiral stair below, this sparkling array winds round the tower and appears to levitate all the way to the pinnacle. The ray is in essence an ornamental detail that assumes the appearance of angelic figures that form a brilliant spiralling necklace inside. Mythical in appearance, they look like divine offspring laid there by the gentle stroke of a mother's spiralling magical wand. They also resemble serial cut-outs that unfold eagerly inside the tower as if

*"The stars follow the orbit that is the trajectory of their stability; moreover, their movement is helicoidal."*¹³⁶

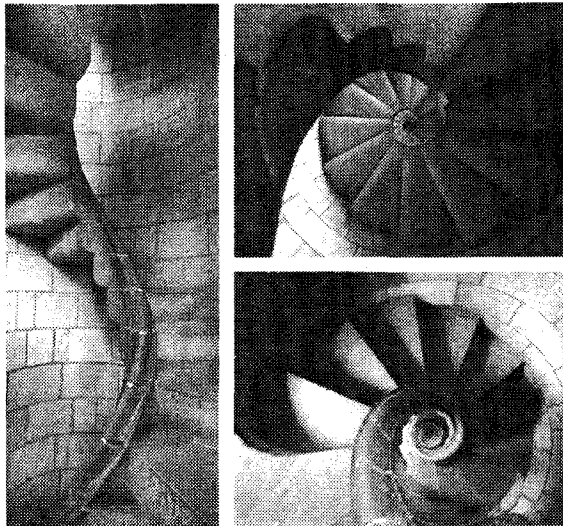


Figure 35: Spiral stairs inside tower.

*"...for because their movements are a combination of two distinct contrary motions, it gave them a spiral twist..."*¹³⁷ Plato

our architect had greedily kept them trapped inside. Their ascent to the top of the tower and beyond to the clear night sky suggests hope. Their link to the sky is their transcendental journey, provided by Gaudí by means of exploratory movement.

The climb up the towers is a test of faith. At the bottom, the passage is tight, dark and uncomfortable, and one must be determined in order to continue the climb. As one moves upward, the space of the stair widens and is provided with light and views through tall slender openings that appear midway. At this point of orientation, the stair sweeps gently as it literally passes through the thick structural wall of the tower. Upon reaching the top the explorer exits the tower by crossing a bridge that connects to a descending staircase in the adjacent tower. The movement is not just helicoidal but is also circular or elliptical and could be described as paralleling the natural cycles of life and time.

Gaudí's influences in making this circular or "spinning" in the towers is unclear, however, his project for a Franciscan Monastery in Tangiers (1892-1902) has been described as a likely model.¹³⁸ In

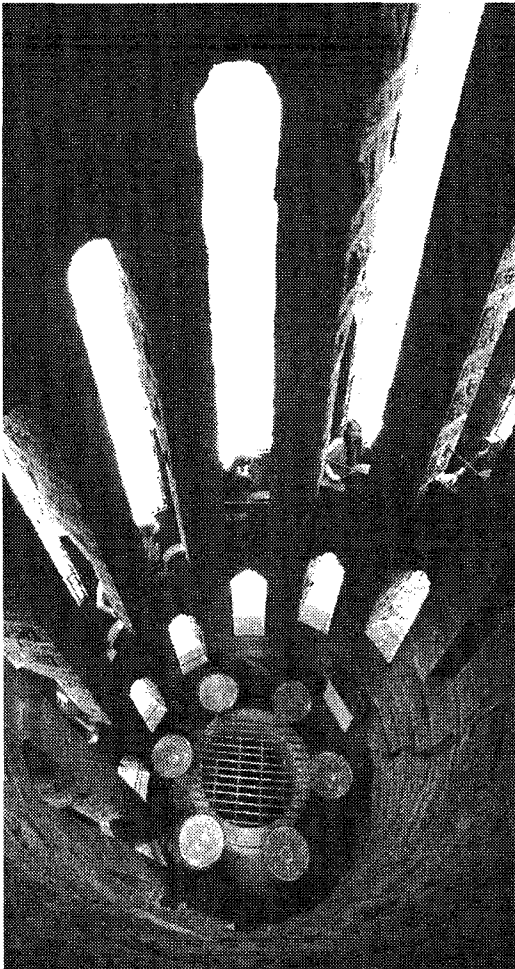


Figure 36: Tower interior showing relationship between spiral stair and the tall slender openings.

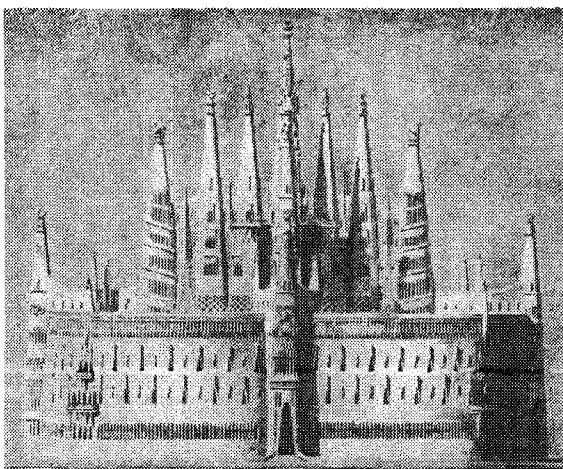


Figure 37: Project for a Franciscan monastery in Tangiers, 1892-93.

looking to Gaudí's elevation drawing for this project, one imagines transcendental sects such as Whirling Dervishes. Certainly he did speak about the towers of the Sagrada Familia as being a connection between heaven and earth, but whether such symbolism is at all appropriate remains unclear. Another possible influence may have been the notion of exploring itself as Gaudí was a long time member of the Excurionists Society, a popular movement in his day.¹³⁹

In broad terms, the details of the tower as a conjoining of form, light, and sound suggests the theme of transcendence. Unlike historical examples of this concept as depicted in art, the theme of transcendence by way of the towers is experienced through participation. Yet, as a construction, it requires participation involving walking and climbing in a particularly pattern, most of which is circular.

This depiction of architecture as a transcendental experience is so because it is distinctly memorable. The experience of ascending and descending the towers of the Temple of the Sagrada Familia is memorable, but what is perhaps most



Figure 38: Jacob's Ladder, c. 1800 by William Blake, a modern example of transcendentalism in art.

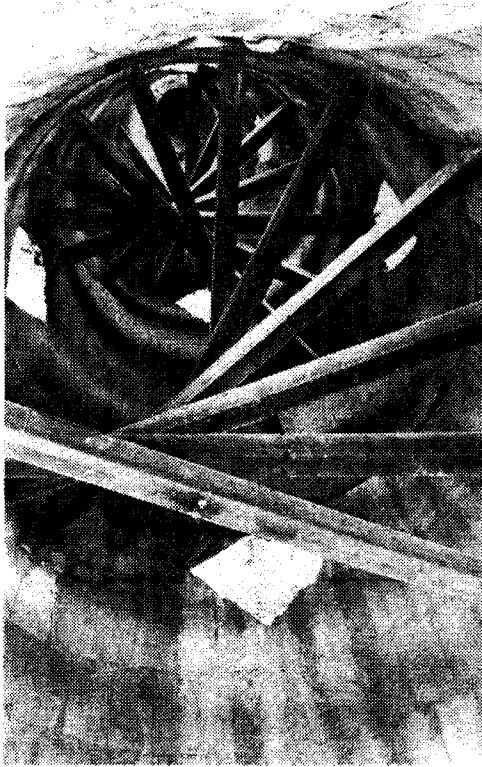


Figure 39: Palau Güell. Central dome under construction.

memorable results from the inclusion of a bridge between the towers. In arriving at the bridge, the explorer is inclined to stop and ponder the wonders of the sky. From this vantage point, the focus is on the sky, the city, and the horizon beyond. It conjures a feeling of joy and hope, particularly when illuminated by the brilliant hue of the Barcelona sky.

What enabled Gaudí to make this playful expression of transcendental joy? Certainly this is a difficult subject to address, however, the answer to this question may lie in the very question itself. Gaudí “made” transcendence. To understand this involves looking at a photograph of the actual construction of the Palau Güell dome. Here, existing as structure, the ladder, the quintessential symbol of transcendence, is clearly revealed. Perhaps the same technique was used in the construction of the towers. Whatever the case may be, these ideas suggest the power of architecture to make the world of symbols a physical reality.

“I am not alone, I am surrounded by an endless array of marvels.”¹⁴⁰

“‘Play’, the useless – as the ideal of him who is overfull of strength, as ‘childlike’. The ‘childlikeness’ of God, pais paizon”¹⁴¹

Friedrich Nietzsche

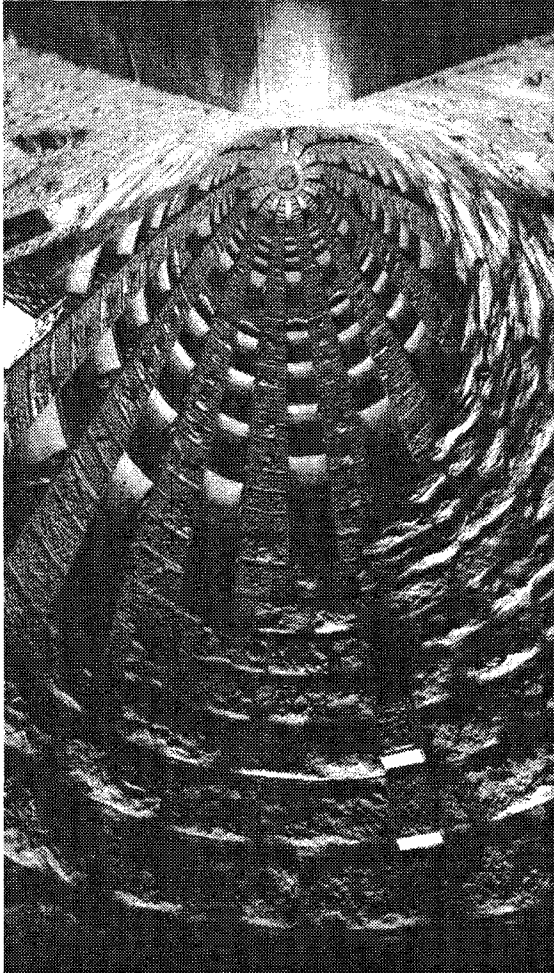


Figure 40: Interior view of tower.

THEME 3: *AMOR*

“But it is precisely the quality of childlike wonder, the acceptance of magic and miracles, that makes Gaudí what he is. Other architects compel admiration; Gaudí demands love as well.”¹⁴²

Anthony Burgess

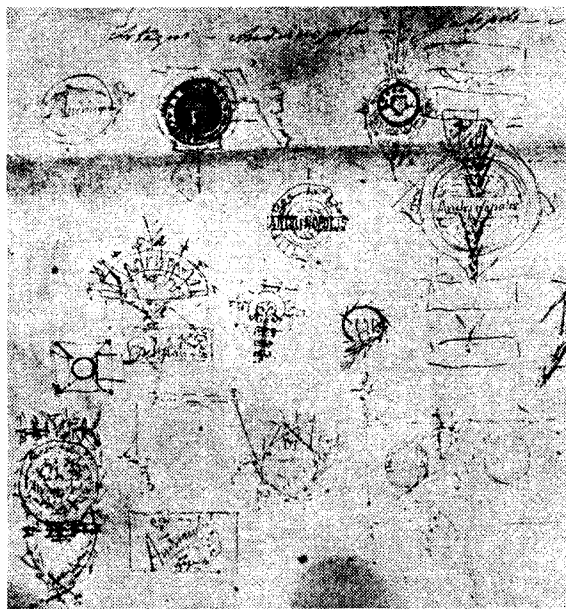


Figure 41: Notes and sketches by Gaudí, perhaps for a school project, 1876.

"In general terms, it is the receptacle and, as it were, the nurse of all becoming and change...but we shall not be wrong if we describe it as invisible and formless, all embracing, possessed in a most puzzling way of intelligibility, yet very hard to grasp...We may indeed use the metaphor of birth and compare the receptacle to the mother..."¹⁴³

Plato

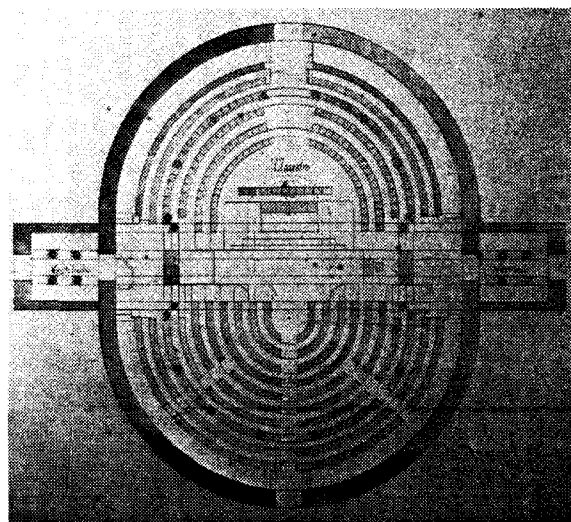


Figure 42: Plan of Paraninfo project, 1878.

The interior of the towers represents *Amor*. It is the space formed by the union of *Patria* and *Fe* and like the Nativity façade itself, symbolises birth. Its egg or womb-like configuration attests to this interpretation. Gaudí seems to have been inspired by the concept of birth even when he drew, as evidenced by his drawings for an unknown project.¹⁴⁴ The birth theme is suggested through circles in various stages of development. In one example, there is a suggestion of the force of birth itself, depicted as multiple bursts of strong lines that cut vertically through the centre of the circle, while across the centre, title of some sort is inscribed. Additionally, a fan shape springs open almost as if announcing joyfully the birth of an idea.

The principles described above also apply to Gaudí's Paraninfo project both in plan and section. The plan is expressed as an oval or egg-shape with axial circulation routes that cross at the centre. The configuration of the plan appears to be a mirror of a theatre form, which suggests a classical influence. The concept of mirroring itself foreshadows Gaudí's extensive use of mirrors as study tools in his later work.

*"So far as I am concerned I was attracted to certain specific forms already when I was a student."*¹⁴⁵

"[Gaudí] is said to have recommended that the walls be curved in, so that everything the professor said would reach even the students farthest from him. The oval form of the egg seemed to him to be the perfect form."¹⁴⁶ *Robert Descharnes*

"'In the beginning, all the universe was non-being. It became being. It grew and formed an egg, which remained unbroken for a year. Then it broke open. Of the two halves of the shell, one was silver and the other gold.' The latter was heaven while the former became earth. Celestial space, then ceases to be a container and becomes content of hyperspace, or rather, trans-space."¹⁴⁷ *Luc Benoit/J. E. Cirlot*

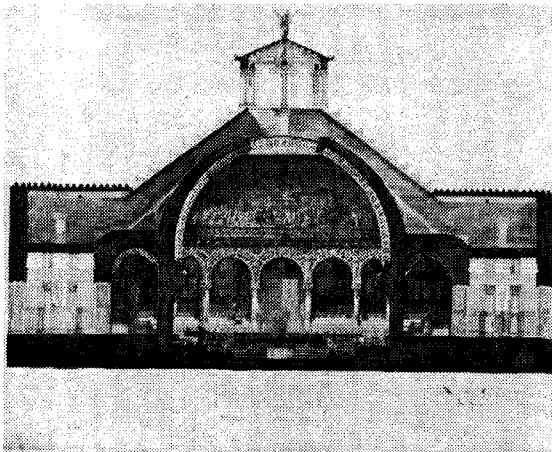


Figure 43: Paraninfo project, Cross-section.

Analogies to birth, often appearing in Gaudí's work, also have connections to sound. For example, Gaudí described the egg form in the context of a project that parallels the Paraninfo, as one that possessed excellent sound qualities. It involved the transmission of sound in the classroom. As all the wall surfaces were curved gently, sound was transmitted evenly throughout the room and students at the back could hear the professor as well as those at the front. This principle may explain why the towers of the Sagrada Família consist of a curved wall that form a space that is an elongated egg-shape.

Like the floor plan, the cross-section of the Paraninfo project suggests the concepts of birth and transcendence. The oculus suggests a breakage point where light, air, and movement coincide. As with the tower perforations, one could call this central opening the release valve that "calms the spirit." The semi-circular dome appears like a thick crust that encloses a space that is essentially a circle. In recalling the theme of birth, the space is analogous to the egg or womb. The underside of the dome, appearing as if brightly lit, is delineated with ornamentation that resembles porous bone. This

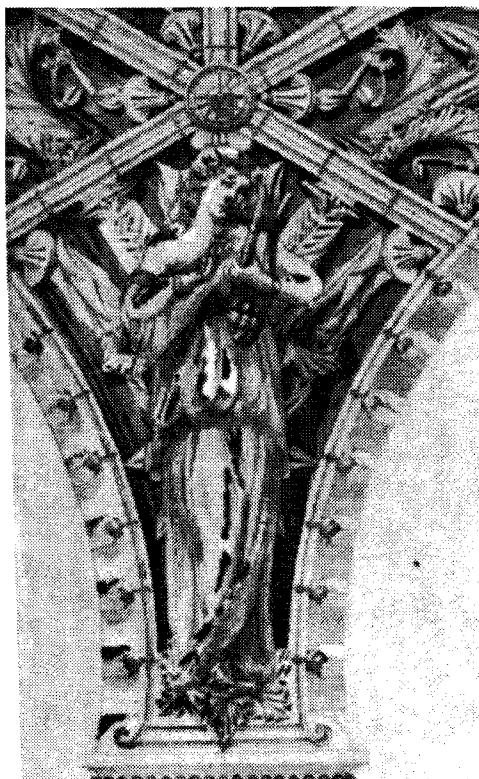


Figure 44: Paraninfo Project, detail of interior showing figure of Orpheus above column.

*"I have the qualities of spatial apprehension because I am the son, grandson, and the great-grandson of coppersmiths...All these generations of people gave a preparation. The metalsmiths embrace all three dimensions and thus unconsciously he achieves a dominion over space which not everybody possesses."*¹⁴⁸

*"Gaudí jokingly called this faculty to visualise space copper kettlery."*¹⁴⁹ César Martinell

*"The experiential space of early childhood is explored above all through sound."*¹⁵⁰

Hans Reinecke

*"It is amazing, as is often said, how what we learn as children sticks in the memory...I listened to it then with a child's intense delight, and the old man was glad to answer innumerable questions, so that the details have been indelibly branded on my memory."*¹⁵¹

Plato

ornamentation extends down and around the archways that encircle the space. Expressed like vines that symbolise growth, this ornamental stonework seems to originate at the top of the figure of Orpheus that exists above each column. Therefore, the ornamentation might be interpreted as the product of Orpheus' voice. A mythical depiction, the presence of the musical voice resonates around the room, bringing life and light to inanimate objects. Hence, life forms such as egg or womb, and bone, nerve centres crucial to organic life, resonate with a musical light.

Parallel with the aforementioned ideas, another way of understanding the connection between the egg-shape or womb and sound in Gaudí's work can be reached by considering his early childhood. Gaudí was born and raised among metal cauldrons, as his ancestors, including his father, were coppersmiths. Acting like a "preparation," as Gaudí himself said, his ancestors may not only have helped him develop a particular ability to comprehend space and form, but possibly also sound. By constantly being in the presence of highly resonant materials and forms, Gaudí's early childhood experiments

"...if your mind is lofty enough, sympathetic and honourable enough, to come into a genuine companionship and communion with [your forefathers,] you will wish through your communion, to emulate them, not to imitate them, to do what they did, namely, to reproduce: to interpret the life of your own people, the spirit of your times, in terms of knowledge and understanding."¹⁵² *Louis Sullivan*

would likely have been frequently associated with sound, for example as illustrated by figure 45. Whether Gaudí's early associations with sound resulted in a more acute awareness of sound cannot be determined. However, more convincingly, one might say that his early associations prompted his intense interest in perfecting sound for the Sagrada Familia. As such, his sound studies represented a return to childhood play.

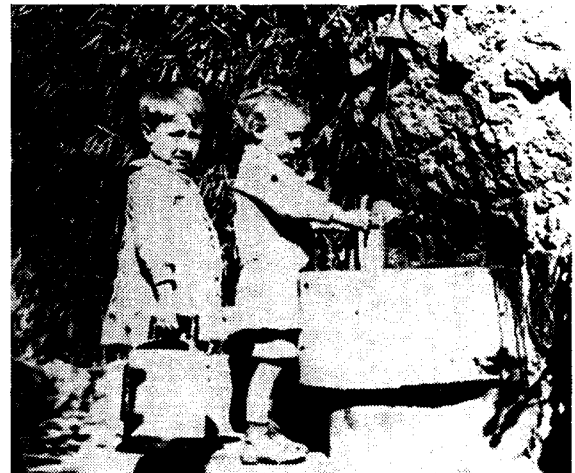


Figure 45: Gaudí at age nine holding a water cauldron.



Figure 46: Gaudí, 1924. Detail from photo of his participation in Corpus Christi Procession.

PART 3: SOUND

THE VOICES OF THE TOWER.

"Sound invades us, impels us, drags us, transpierces us. It takes leave of the earth, as much in order to drop us into a black hole as to open us to a cosmos. It makes us want to die."¹⁵³

Deleuze and Guattari

"...sound brings to being in us the primordial condition of the Universe, which as Marius Schneider has eloquently described it, is musical and temporal in nature, not visual nor spatial."¹⁵⁴

Joscelyn Godwin

The third part of this chapter is concerned with the sound of the towers as “*Renaixença*” instruments. For Gaudí, sound in the towers depended both on the tubular bells and the resonating qualities of the wall surfaces. Before proceeding to Gaudí’s sound studies, three other works are explored here to introduce ideas about the form of the towers and the festive character of the sound that Gaudí imagined around the Sagrada Família. As in the examples described earlier, these three works are explored through the themes of *Patria*, *Fe* and *Amor*.



Figure 47: The *Glorification of the Virgin* by Dutch painter Geertgentot St. Jans, late 15th century.

The first example, although not relating specifically to Gaudí is a painting from the fifteenth century that depicts the birth of Christ, the very symbolism informing his Nativity façade. In this image, the joyous announcement of the birth is made through the ringing of bells, one in each hand of the newborn child. A great ensemble of musicians circle round the Mother and Child in celebration of the birth. They form a joyous expression of the walls of the towers as symbols of *Patria* and *Fe*, whereas the Mother and Child surrounded by light, occupies the sacred and mysterious space of *Amor*.

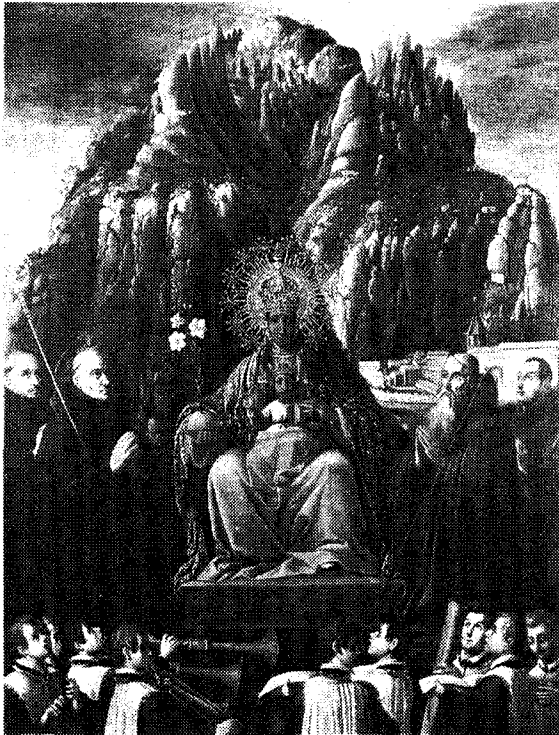


Figure 48:
J.A. Ricci, *Mare de Déu de Montserrat*, c. 1640

The subject of our second study is a seventeenth century painting of Montserrat, one among several that represent centuries of sacred artworks of this mountain and its association with the Mother of God. This second painting may be likened to the spirit of the first. However, since Gaudí selected Montserrat for his conception of the Sagrada Familia, the symbolism evoked by this painting may be linked more closely to Gaudí's ideas for the towers, in respect to both form and sound.

This painting shows the great towering peaks of the mountain leaning towards the Mother of God seated at her throne at the centre. The four highest peaks are suggestive the four towers of the Sagrada Familia in a state of metamorphoses. The centrally positioned Mother with Child, forming the heart of the mountain are suggestive of the space of the towers as corresponding to what has been described here as the space of *Amor*. Below, a gathering of child musicians form a musical foundation for the work. They are symbolic of Gaudí's enthusiasm when imagining his finished work surrounded by singers.



Figure 49: Drawing showing legend of Orpheus for album for Orpheo Catala, 1922.

"A hill there was, and on the hill a wide-extending plain, green with luxuriant grass; but the place was devoid of shade. When here the heaven-descended bard sat down and smote his sounding lyre, shade came to the place...Such was the grove the bard had drawn, and he sat, the central figure in an assembly of wild beasts and birds... he raised his voice in song: From Jove, O Muse, my mother- for all things yield to the sway of Jove- inspire my song."¹⁵⁵

Ovid

The third work is a painting prepared under Gaudí's supervision for a page in a commemorative album for the Orpheo Catala in 1922. This date coincides with the time when a great deal of progress had been made on the construction of the towers of the Nativity façade. Such works were not common for Gaudí, but he acquiesced in this particular case because of his great affection for both the choir, and its conductor, Luis Millet.¹⁵⁶ The theme of the work, as in the Paraninfo project, is the myth of Orpheus. Like the two examples before, this painting depicts a festive gathering which in this instance is the result of Orpheus' song. In addition, like the other two paintings, the space of music or realm of song is depicted with as what might be expressed as divine geometry, symbolised here by a semi-circular dome.

The painting demonstrates the synthesis of the three cultural themes of *Patria*, *Fe*, and *Amor* with sound. *Patria* and *Fe* are represented here as a metamorphoses and are shown together in a manner that resembles both the temple insignia and the Choral Standard described earlier in this chapter. Shown above the centre, *Fe* is symbolised by the cross. This unique cross appears to be metamorphosed, perhaps

because of Gaudí's reading of the power of Orpheus' song. Attached to the cross of *Fe* is *Patria*, represented by great straps that dance round the semi-circular dome that marks the limit of the musical world below. The straps also appear to be metamorphosing, for as they come into contact with the musical dome, they appear to transform into blooms. The resulting musical dome, the space of *Amor*, is analogous to both the space of the towers and the surrounding urban space. At the bottom of this painting Gaudí wrote, "In heaven we shall all be choir members" as if affirming his joyful vision of the Sagrada Familia in a future time.

"Gaudí developed his musical sentiments most fully in the bell towers of the temple conceived as a magnificent three-part instrument...He planned to have three types of bells: the ordinary ones, tuned to the notes of E, G, and C- most easily obtained in such bells- and others which would contain all of the notes of the scale and would be tubular; of this second kind some would be played by percussion and others would be sounded by injecting air. The first would sound like a piano and the second like a reed organ. It was his contention that the piano only plays, whereas the reed organ sings and comes closer to the word. The tubular bells, some 84 in number, would be fixed in the bell towers and would be sounded by electronically activated hammers controlled by a keyboard, or a system of compressed air."¹⁵⁷ *César Martinell*

"At times his quest for exactitude reflected a physico-psychological profundity. Speaking of the tolling of bells, he explained the famous phenomenon that the older the bells, the better they sound: with repeated percussion the molecular structure of the bronze becomes fibrous, improving

The sound of the towers was one of Gaudí's greatest concerns. His sound studies can be grouped into three categories: the first, his broad interests concerning sound involved sound studies outside the temple; the second was his studies of tubular bells that he conducted in the tower; the third concerns his great interest in understanding the sound of the human voice.

Gaudí's overall interest in studying sound was as vast and elusive to his contemporaries as his architectural

its sound. But the bell loses resistance until the moment arrives when it cracks and ceases to be useful. And he went beyond this fact to draw to a sentimental analogy: the best sound of the bell is given out immediately before cracking, that is, dying. Thus he deduced that the special emotion of the tolling bells at the end of each day came from this relation between the day that dies and the best sound that the bronze can give as a goodbye on ending its life.”¹⁵⁸ *César Martinell*

“Each being has its own tone assigned to it.”¹⁵⁹
Luis de Leon, 16th century

*“Each element of the Creation possesses not only its own colour but its particular sound. The air is their common vehicle. This is why it would not be enough to want to produce solely the light of the Mediterranean sky.”*¹⁶⁰

“He has observed that when the atmosphere is humid, the bells are heard less. Which seems strange, as the humidity makes the air denser and according to physics, it should conduct the sound waves better. Gaudí explains this phenomenon with the hypothesis that the humidity in the atmosphere must be in a sort of spherical state, that instead of uniting the molecules, it disperses them, producing solutions of continuity in the atmospheric mass that is thus less apt for the transmission of sound.”¹⁶¹
César Martinell

“So do let Gaudí make a wind tower for the four winds that will show their direction like the rose of the winds and will whistle and howl like the winds themselves...It would have to be higher than the entire city!...The people of Barcelona will only have to listen to the bells to know the direction of the winds; and what the wind knows and the torrent doesn't know, the instrument of the tower of the winds will know...and the whirlwinds will sound all the instruments of the tower of winds as if with the winds the rose of the winds will shed its petals which the winds will scatter to the four winds.”¹⁶²

Francesc Pujols

repertoire. Some aspects of his studies seem relied on curiously out-dated a priori knowledge. Gaudí's process was more more experiential than theoretical, for as he told it, he gathered very little from books.¹⁶³ As César Martinell commented, Gaudí's studies of sound were psychologically profound. He was interested in sound that extended beyond the limits of human perception.¹⁶⁴ He studied sound in the larger urban context and developed a method of calculating the travel distance of sound in proportion to the size of bells used in various towers throughout the city.¹⁶⁵ His interest in sound also went beyond the urban landscape as he explored how atmospheric conditions such as humidity and wind affected sound quality. With respect to wind itself, many writers have suggested the importance that it played in Gaudí's sound studies.¹⁶⁶ Frances Pujols suggested that Gaudí designed the towers of the Sagrada Família to harmonically interact with the wind, so like a towering whistle it would be in constant communication with the citizens of Barcelona.¹⁶⁷ Although mystifying, these examples provide some indication of the lengths that Gaudí went to perfect sound.

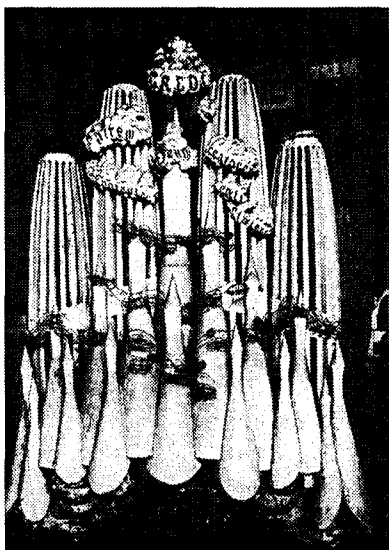


Figure 50: Model of either the Glory or Resurrection façade.

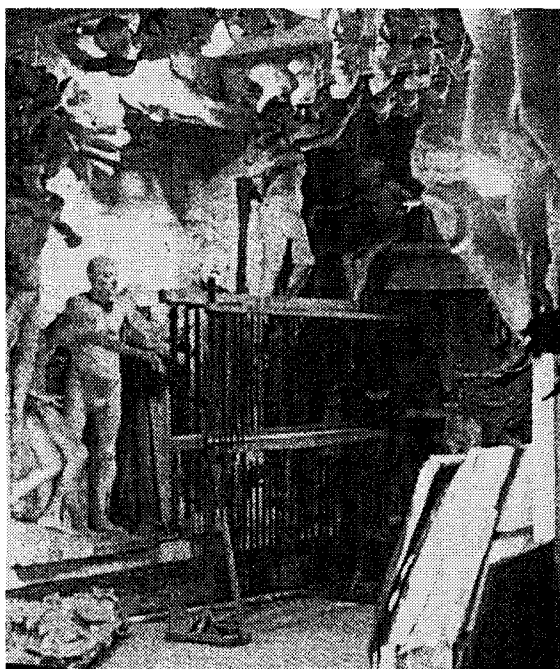


Figure 51: Gaudí's studio-workshop showing metal tubes used to test sound in the towers.

"...he was trying out two tubes in a reduced scale model of the bell: the diameter and longitude of one were double that of the other and produced the same note at a one- or two-octave interval. He struck them with two small hammers of known weight...An assistant played notes on a reed organ to confirm the sounds."¹⁶⁸ *César Martinell*

Gaudí had the extraordinary vision that the Sagrada Família would be a cathedral of sound. As already stated, Joan Margall described the Temple as "a grandiose sound box," and Salvador Dalí compared the towers to "Organ Pipes." These analogies are appropriate when considering the fact that Gaudí used the organ both in his sound studies and as inspiration for his model study for the Glory or Resurrection façade, where a series of organ pipes virtually steam with musical sound.

According to César Martinell, Gaudí developed his musical sentiments most fully through his sound studies for tubular bells. These studies consisted of three processes. Firstly, he made an instrument that resembled mock tubular bells. Like an upright xylophone, this instrument consisted of a series of metal tubes of graduated lengths and thickness that were hung so that when hit with a hammer, the sound tones could be measured. Secondly, all studies were conducted in the tower for it was Gaudí's belief that the form and space of the tower would have a direct impact on the sound quality of the bell. Thirdly, all sounds were measured with the aid of a reed organ, an instrument that "sings and comes closest to the word"

"It is Gaudí's opinion that the sound of the bells depended on the objects that surround them, and by the material that they are made and the method that they are manufactured. Gaudí had described that the room acts as a resonance box, resounding to the point that in some case crystal sings. Therefore, he says, that all of the sound experiments are conducted in the tower."¹⁶⁹ *César Martinell*

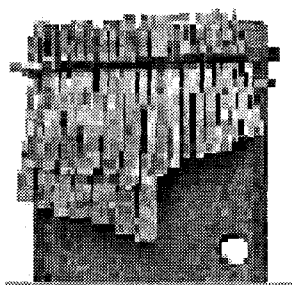


Figure 52: *Lamellaphone*, pre-historic Africa.

according to Gaudí. This remark parallels our understanding of the organ in the historical context as being an instrument closely related to the voice, a subject in architectural history that has been suggested as originated with Vitruvius.¹⁷⁰ The presence of the reed organ in being connected to the voice, suggests that Gaudí wanted his bells to harmonically accompany singing, or perhaps even to actually sing.

Although Gaudí conducted his studies in a modern metropolis, his studies resemble a series of primitive instruments known as thumb pianos crafted from natural objects.¹⁷¹ This observation speaks not only of the instrument Gaudí made, but calls to mind both Gaudí's sound studies and the manner in which the bells would appear in the tower. These primitive instruments are like miniature views of Gaudí's sound studies. The thumb piano illustrated at the left is the *lamellaphone* and is unique to Africa. Despite its pre-historic roots, it resembles a miniature version of the instrument Gaudí used to conduct his studies for tubular bells. When surrounded by the qwriva (hardwood soundboard) from the mubvamarope tree, the *lamellaphone* is known as the *mbrina*,

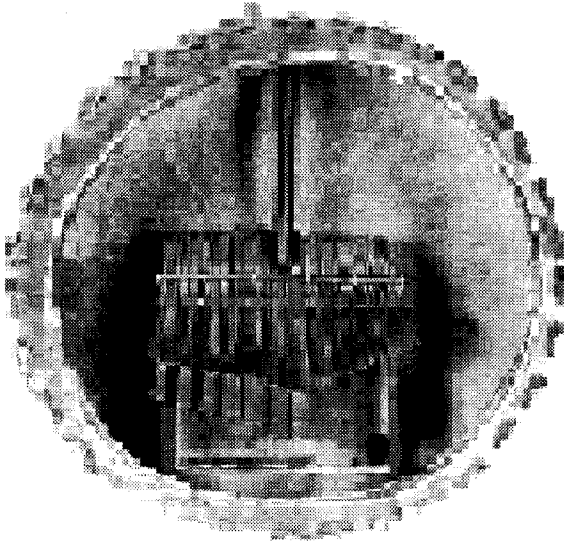


Figure 53: *Mbrina*, Africa.

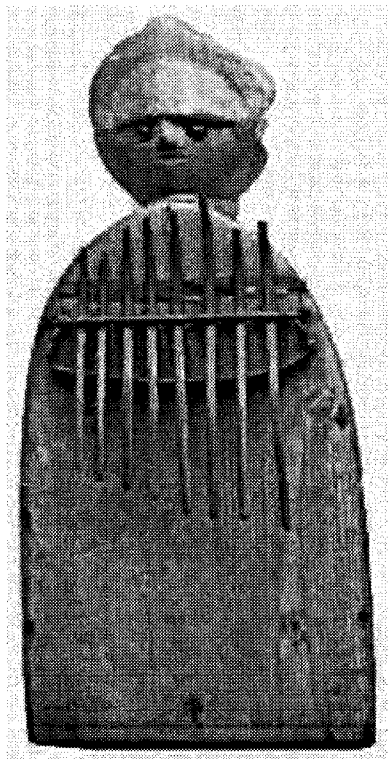


Figure 54: *Sansa*, South America.

an instrument specific to the Shona people of Zimbabwe. It is suggestive of the instrument positioned in the tower. The third primitive instrument illustrated here is the *sansa*. Native to South America, it resembles a miniature sectional view of the tower with tubular bells in tact. In the context of Gaudí's sound studies, comparisons to these primitive instruments support the notion of the "primitive" aspect of his work with respect to both its vast sense of time and its kinship with a crafts tradition. However, rather than describe Gaudí's processes as being primitive, it is perhaps more appropriate to describe them as relating to that which is most instinctual in man.

" 'If people do not sing patriotic anthems, they will sing revolutionary ones, and if they do not sing religious songs, they will sing blasphemous or bawdy ones. The people must participate, then in the Church's songs.' One day, as we were following the Corpus Christi procession and it was held up, he said to me: 'There shouldn't be pickets and military cordons, but instead choirs and choral societies on every street corner.' This explains his studies of acoustics and experiments with sounding boards and bells, for the purpose of endowing the Sagrada Familia with a clear and intense sound quality." ¹⁷²

"When one has mastered music completely and regulates the heart and mind accordingly, the natural, correct, gentle, and honest heart is easily developed, and with this development of the heart comes joy. This joy goes on to a feeling of repose. This repose is long continued. Persons in this constant repose become a sort of heaven. Heaven-like, they are believed without the use of words. Spirit-like, they are regarded with awe, without any display of rage. So it is, when one by mastering of music, regulates the mind and heart."¹⁷³

Chinese Book of Rites

"Plainchant is the proper devotional music for singer and listener alike...It does not demand the complications of professionalism...hears the stamp of no personality; it avoids emotionalism...it is therapeutic...it calms, it awes, it uplifts...But there is more. It is the vehicle which can take one as high as one is capable of going, whether on the path of identification with the inner tone, as the singer, or, for the listener, of that of entry into those temples in the high spheres that can be opened through music only."¹⁷⁴ *Idelsohn*

"Of sound [articulate speech and music] and hearing once more the same account may be given: they are a gift from heaven for the same intent and purpose. For not only was speech appointed to this same intent, to which it contributes in the largest measure, but also all that part of Music that is serviceable with respect to the hearing of sound is given for the sake of harmony; [tunefulness] and harmony, whose motions are akin to the revolutions of the soul within us, has been given by the Muses to him whose commerce with them is guided by intelligence, not for the sake of irrational pleasure

Gaudí's greatest preoccupation with sound concerned his admiration for the human voice, a notion supported by the presence of the reed organ. Moreover, as Martinell writes: "he considered choirs of human voices in the category superior to that of the orchestra, made up of instruments," to which he adds, "and above all children's voices with their heightened emotional quality."¹⁷⁶ It was through frequent analogies to singing that he expressed his joyful attitude as well as his optimism for the future. His love for singing enabled him to develop his greatest friendships, perhaps the best example of this being Luis Millet, conductor of the Orpheo Catala.¹⁷⁷

In 1918, around the time Gaudí conducted his sound studies for the Sagrada Familia, Gaudí studied Gregorian chant. It was during these studies of Gregorian chant that he proclaimed, "I come here not to learn music but to learn architecture."¹⁷⁸

Whether Gaudí's interest in chant did have an impact on his ability to synthesise form and sound cannot be determined, however, it is of interest to note that the impact of the hummed tone has been described as "relaxing, balancing, and harmonising the body."¹⁷⁹ Indeed, it is a subject that has existed throughout the music both in the

(which is now thought to be its utility), but as an ally against the inward discord that has come into the revolution of the soul, to bring it into order and consonance with itself. Rhythm also was a succor bestowed upon us by the same hands to the same intent because in the most part of us our condition is lacking in measure and poor in grace.”¹⁷⁵

Plato



Figure 55: Participants of Advanced Course in Gregorian Chant, 1916. Gaudí, partially hidden, is in the second row, fifth from the left.

*“Elegance is close to poverty; but be careful not to mistake poverty for misery.”*¹⁸⁰

“...for each of the Nativity or Life façade of the Sagrada Familia is one of David’s psalms, translated into Latin ...and the entire façade is little more than an occidental echo of the oriental prophets who sing to us from the pages of the Bible in the shades of willows...”¹⁸¹

Francesc Pujols

“‘[T]he Temple Being Born’ (*El Temple que Naix*), as Maragall called it in his article, or the New Temple as we could call it...or the temple of the Field of the Harp, as we poetically do call it, just as we also call it the temple of the harp of the field when we want to suggest an idea that approximates the musicality which emanates from that architectural structure, which, breathing the air of the heavens, seems not only like a harp but also like an organ that can be played by either the fingers or the lips; one could also say that the area is called the Field of the Harp because there is a temple there that seems like the harp of the field, and which plays the same tunes and makes the same harmonies as the harp of David, which, turning it back to Asia, resounded through all of Europe and America...”¹⁸⁴

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East and West. As such, achieving a sense of well being by intoning the chant would ultimately have considerable impact on process.

Gaudí’s interest in Gregorian chant suggests the possibility that he wanted the sound of the tubular bells to imitate the seven tones of chant, and therefore for the sound of the bells to imitate the singing of the psalms. There is a direct relationship between the psalm and the “psalm-tone” which is defined as “any one of the Gregorian tones of chant to which the psalms were sung.”¹⁸² Beyond sound, Gaudí may have wanted his bells to emulate the psalm-tone because he dedicated the Sagrada Familia to the poor. There was a natural affinity between the “Temple of the Poor”, and the psalms, the songs of the poor.¹⁸³

Francesc Pujols suggests many links between the psalms and the Temple. He described the Temple as a harp in the field that sings the psalms, whereby the field is a reference to the neighbourhood that houses the poor.¹⁸⁷ In fact, the Camp l’Arpa is the working class neighbourhood that surrounds the Sagrada Familia. The harp, like many ancient instruments such as the

"I am a Catalan peasant in tune with the soul of my land...In our solitude there we live according to the rhythms of cosmic pulsation."¹⁸⁵ *Salvador Dali*

"The inhabitant of the countryside in general love the sound of bells; when the belfry resounds their minds withdraw into themselves and grow exalted; on solemn occasions they love to let their cries of enthusiasm mingle with the clamorous sound of the bronze."¹⁸⁶ *Records of Vosques, 19th century*

"For the seven notes of the modes of the Gregorian chant can be heard as the notes of the planets, the wandering of the melodies through them felt as a journey around the spheres."¹⁹⁰ *Joscelyn Godwin*

cithara, the psaltery, and the dulcimer, is an instrument associated with or used to accompany the singing of psalms. The dulcimer is suggestive of the instrument that Gaudí's made to study sound, as playing it involves hitting strips of metal with a mallet.¹⁸⁸ Furthermore, the word psalm, in addition to being a song, is defined as "a twitching of the strings of the harp, the sound of the cithara or harp..."¹⁸⁹

A connection between the tones of Gregorian chant and Gaudí's tubular bells can also be arrived at by way of numbers. The total number of tubular bells Gaudí intended for the towers was said to be eighty-four. It is of interest to note that eighty-four divides evenly into seven, also the number of tones of the chant, and that their quotient is twelve, the total number of towers. Additionally, Gaudí's studies involved tones both in the single and double octave range. The double octave suggests that Gaudí wanted the tone of the bells to be within the range of the human voice.¹⁹¹ However, such suggestions are speculative since Gaudí's exact intentions are unknown.¹⁹²

Gaudí's interest in singing and perfecting sound resulting in architecture as an

"Sweet lyre! Sweet lyre! Your sound, your intoxicated, ominous sound, delights me! – from how long ago, from how far away does your sound come to me, from a far distance, from the pools of love! / You ancient bell, you sweet lyre! Every pain has torn at your heart, the pain of a father, the pain of our fathers, the pain of our forefathers; your speech has grown ripe..."¹⁹³ *Friedrich Nietzsche*

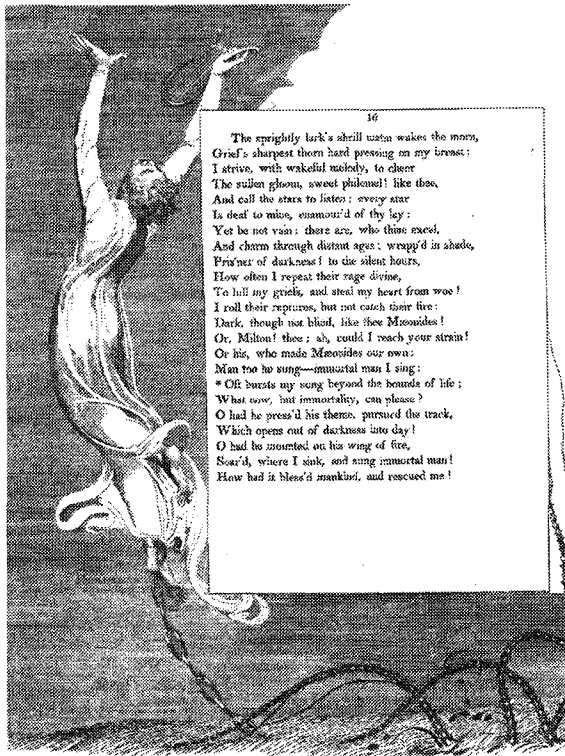


Figure 56: Illustration by William Blake, c.1797.

"The inner and outer man, with his four elements and discordant concord, even he is restored to blessed grace... The Natural Soul is the earth and the shadow... it is his slackest string... The Vital Soul is his water... with this second string the next register sounds. The spirit is in the air... his third string with silvery resonance. High Intellect, or Transparent Thought, is his fire... and the tightest string with silvery resonances."¹⁹⁵ *Guy Levevre, 16th century*

instrument that conforms to sound. Considering that Gaudí drew much of his inspiration from the Middle Ages, one might call this union of form and sound a quadrivium of elements, that not only evoke the essential nature of the medieval quadrivium, but also connects it to universal principles that point towards symbolism that ultimately represents the redemption of man.¹⁹⁴

As a symbol of redemption, the towers as *Renaixença* instruments may be described as a lyre of humankind. Originating in the depths of antiquity such as in the myth of Orpheus, the lyre symbolised the power of music to awaken and unite. In following this classical tradition, the early *Renaixença* poets evoked the ancestral lyre as a symbol of the power of language to unify the Catalan nation. As an emulation of these principles, Gaudí's towers, *Renaixença* instruments, can be divided into the four elements. *Patria*, the external face of the tower, is naturally inclined to the Catalan earth. *Fe*, the flowing light and movement of the inner walls, symbolises water. *Amor*, space, is naturally air, and the bells, the voice of the towers is fire. As musical instruments, this architecture sings of hope.

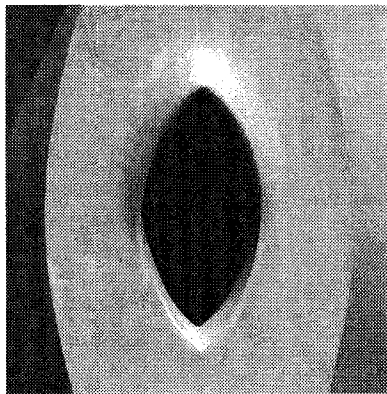


Figure 57: Detail of vent, Casa Milà.

CHAPTER 3

ARCHITECTURE THAT SINGS

“Sing me a new song: the world is transfigured and
all the heavens are full of joy.”¹⁹⁶

Friedrich Nietzsche



Figures 58: Ramon Picot, *Maria Gay Singing*. Concert poster, Barcelona, 1900.

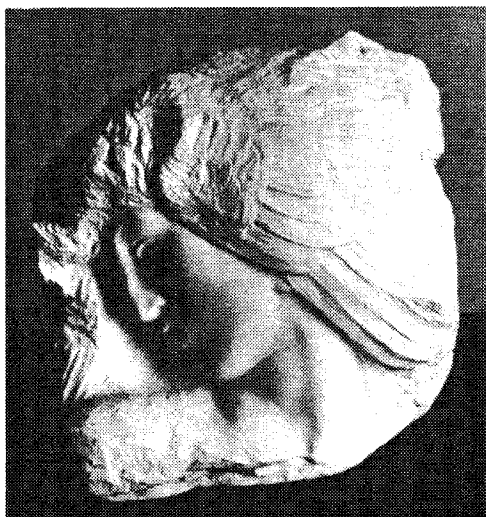


Figure 59: Gargallo, *Leda*, Barcelona, 1903.

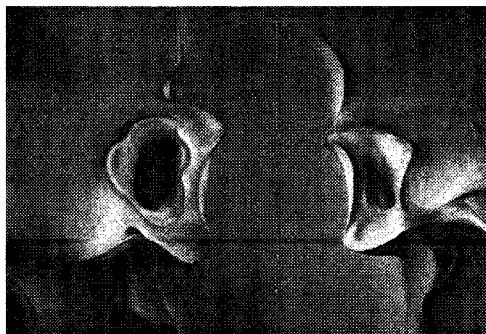


Figure 60: Detail of interior plasterwork, Casa Milà, 1906-1910.

Singing seems to have penetrated Gaudí's very being, but what impact did this have on his architecture? This chapter explores the notion that singing in his life caused the physical form of his architecture to also sing. Form conforms to sound: the material aspect of the architecture is stretched beyond imaginable limits, and it succumbs to singing's spiritual force.

This mythical conception of singing's power is also one that was evident in Gaudí's time. Two examples of artwork from around 1900 will serve to demonstrate this point. The first consists of poster art dated 1900. It is a depiction of metamorphoses by song: the singer transforms into water. This concept is not unlike the way Gaudí melted the mountain. The second artwork is a small sculpture from 1903 of a figure singing in a gentle tone. This work serves to introduce our first example of singing in Gaudí's architecture, found in an apartment of the Casa Milà, 1906-1910. Existing as plasterwork, singing is expressed by mouths that literally leap off the surface. This example by Gaudí, although a sculpted ornament, is profoundly different from the earlier example. It's appearance is more abstract – larger than life – yet

"...four obelisks, placed at the four corners of the church and corresponding to the four cardinal points, were to be the first signposts 'to sing in advance the praises of the Holy Family and proclaim the virtues of penitence' as Gaudí explained."¹⁹⁷ Robert Descharnes

"I am a geometer, which means a man of synthesis...to find [geometry] we must go back to the Greeks. Geometry of surfaces does not complicate construction- rather it simplifies it." ¹⁹⁸

"...and indeed I am every day more and more convinced of the truth of Pythagoras's saying, that nature is sure to act consistently, and with constant analogy in all her operations: from whence I conclude, that the same numbers of which the agreement of sounds affects our ears with delight, are the very same which please our eyes and mind. We shall therefore borrow all our rules for the finishing our proportions, from the musicians, who are the greatest masters of this sort of numbers, and from those particular things where nature shows herself most excellent and complete..."¹⁹⁹

Leone Battista Alberti

"It is clear that music and architecture are, both of them, arts that dispense with the imitation of objects; they are arts in which the matter and the form have far more intimate interrelations than in the other arts; both are addressed to our most general sensibility. Both admit of *repetition*, which is a very powerful instrument; both have recourse to the physical effects of grandeur and intensity, by which they can astonish the senses and the mind to the point of annihilation. Finally, the character of each allows or suggests a wealth of regular combinations and treatments, by which both arts are connected or may be compared to geometry and analysis."²⁰⁰ Paul Valéry

"*Repetition is the only productive method: Verdaguer always repeated, copied and corrected his poetry.*"²⁰¹

curiously more alive. It is as if these mouths are overly eager to communicate, as if speaking in many directions at once. In this respect, their expression, like Maragall's description of the first Jocs Florals, is a kind of *balbuceo*.

Abstract references to singing such as the plasterwork described above abound in Gaudí's architecture, both in his descriptions and actual practices. In his mode of speech, references to architecture that sings introduced a mythical quality to physical form. However, in practice, the opposite effect may be said to be true. Perhaps his inclination towards abstraction through singing allowed Gaudí to make art: architecture that interacts with the senses. Although it is difficult to speak about the impact of singing on process, it is perhaps easier to describe how singing is revealed in the work. Gaudí's musical architecture might be described as being more geometric, repetitive, and precise, as if carefully measured and calculated by number, yet with an overall configuration that is not composed of straight lines. One might call it architecture with a musical spin: the towers of the Sagrada Família are called to mind.

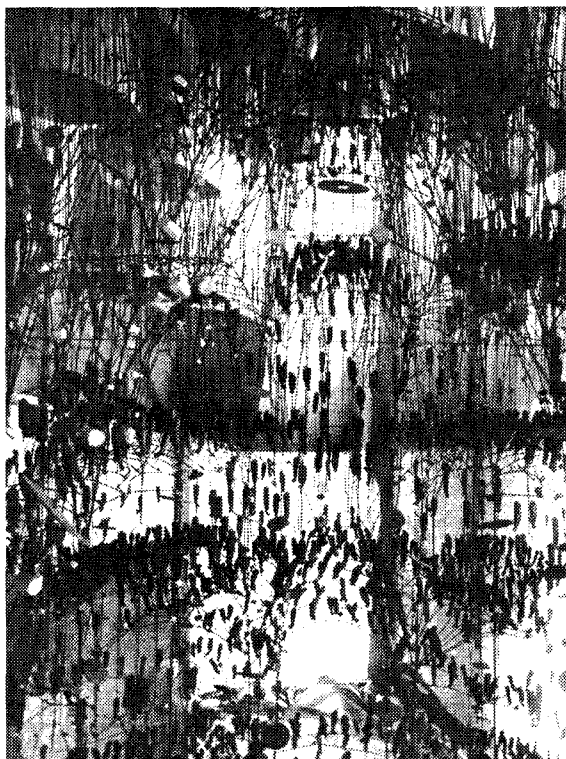


Figure 61: Model combining hanging weights used to study the interior structure for the Santa Coloma de Cervelló Church, Güell Workers' Colony (1898-1916).

*"I calculate everything: First I suspend a number of weights to find the funicula; then I shape the resulting funicula with forms and materials; then I revise their weights, sometimes changing them slightly. In this way, I find the logical shape resulting from the requirements. The procedure of trial and error is required by the limited human intelligence. The basis of all reason is the rule of the three, mathematical proportion, syllogism."*²⁰²

*"Harmony, or what is the same thing, balance, needs contrast, light and shade, continuity and discontinuity, concavity and convexity, etc."*²⁰³

Before proceeding to explore the Sagrada Família as architecture that sings, another project by Gaudí will help to define the possible impact of singing on his actual process of making architecture. From 1898-1916, in addition to working on the Sagrada Família, Gaudí also worked on the Santa Coloma de Cervelló Church at the Güell Workers Colony. Although only the crypt of the church exists, Gaudí had carried out elaborate studies of the church's interior using an upside-down model. Consisting of cords and small weights that represented the interior forms of the church subjected to loads, the adjustment of the cord lengths and weights by Gaudí represented a study of precision and balance that is said to have lasted for ten years.²⁰⁴ Representing a process of making architecture, this model could be interpreted as one that lends itself naturally to musical analogies. Like a symphony of number, weight, and measure, it appears more like notes in a musical score than following any obvious conventions of making architecture. Ironically, the tangible result of Gaudí's study was architecture in reverse: to see it as it would exist in the material world required the aid of photograph.

The aforementioned examples help to introduce the concept of the Sagrada Familia, the “Cathedral of Sound,” as architecture that sings. This study explores the Sagrada Familia as composed of two songs. The first song explores the galleries as a “Shout of Freedom.” It is a symbol of victory; a powerfully passionate expression of singing that also corresponds to cultural developments that led to Catalan independence. The second song explores the space in-between the Nativity façade and towers as a “Universal Call.” Its focus is the Sanctus inscriptions and the tall slender openings located directly below.

*"These galleries [of the temple] would open to the exterior. Imagine, imagine: for the high religious festivals, processions will approach along the great avenues of the future city, and the harmony of ten thousand voices (for by then popular religious singing will have emerged victorious and every confraternity member will be a singer) will reverberate through the air from the exterior galleries, justly and gloriously as accompaniment to the psalmody of the good brothers."*²⁰⁵

"I remember Lorca in front of the admirable façade...claiming to hear a *griterio*- a cacophony of shouts- that rose stridently to the top of the cathedral, creating such tension in him that it became unbearable. There is the proof of Gaudí's genius."²⁰⁶ *Salvador Dali*

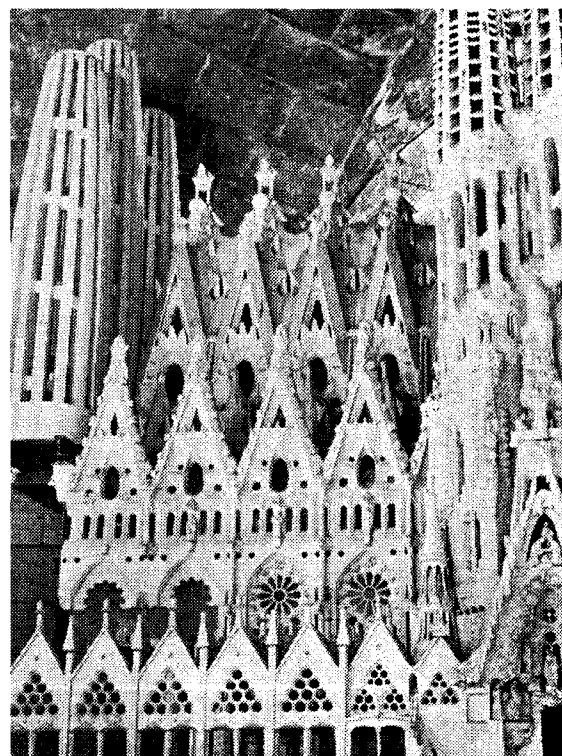
"...to seek the front of the porch...and immediately to find oneself facing its centre, and to feel the powerful attraction of any true porch as it utters its loving imperative: 'Come in!' But this time, I have no idea why, I did what I had never done before and stopped at the threshold to look up; and I saw it all above me, as if it had sprung from the ground that very instant; and human heads peered out and gazed at me, and the Star of Bethlehem spread its stones rays above my head; I had never seen stone turned to light, and this was a torrent of light. I looked down, utterly dazzled. I had never heard stone sing, but I felt that the whole porch was singing in stone with a deafening harmony. And I went in...or out, I don't know which; for in this temple there is more light inside than out."²⁰⁷ *Joan Maragall*

"I remember an extremely vivid emotion of my childhood which is still fresh in my mind, though the incident in question must have occurred at an age which generally leave none but the vaguest recollections...One day we entered the church of Notre-Dame...My gaze rested on the painted glass of the southern rose window...All at once the roll of the great organ was heard; but for me, the sound was the singing of the rose window..."²⁰⁸

Voillet-le Duc

SONG 1: A FREEDOM SHOUT

The galleries connecting the principal façades of the Sagrada Família form a powerful expression of architecture that sings. It is as if stone has succumbed to the spirit of song and has transformed into a multi-tiered choir. As if in the midst of a joyous song, this display of singing architecture also reflects the general mood of Gaudí's time, as illustrated by figure 64. However, instead of shouting "AUTONOMIA" for Catalonia, Gaudí's architectural choir stands as a bold "Shout of Freedom" for everyone.



Figures 62: Model of the gallery, left side of the Nativity façade.

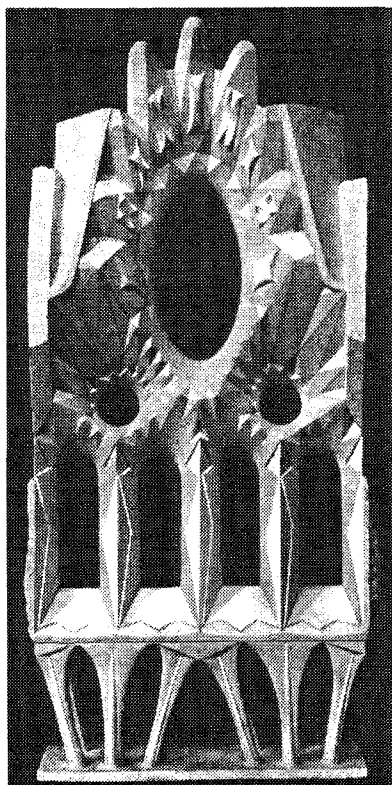


Figure 63: Model study of a typical gallery window.

"Raise up your hearts, my brothers, high, higher! And, don't forget your legs! Raise up your legs, too, good dancers; and still better: Stand on your heads!"²⁰⁹ *Friedrich Nietzsche*

"In song and dance man expresses himself as a member of a higher community; he has forgotten how to walk and speak and is on the way toward flying into the air, dancing...he feels himself a god, he himself now walks about enchanted, in ecstasy, like the gods he saw walking in his dreams. He is no longer an artist, he has become a work of art."²¹⁰

Friedrich Nietzsche

Great attention has been given to detailing this example of singing architecture as illustrated by the model study of a typical gallery panel. Appearing like a figure that stands on its head, it is an expression of ecstatic singing: architecture that has been transfigured by singing's intoxicating joy. Around the circular and oval openings, the ornamentation consists of precise and repetitive geometric forms. There is no melting matter here: the process of metamorphoses has cut deep to the bone. What is revealed might be described as the inner spirit of song. It is as if sound and light had shot out through the openings, and like a searing flame, carved impressions on the skeleton-like form. The central oval opening, obviously a mouth wide-open, is stretched beyond realistic limits. It is a transformation inspired by the transfiguring power of sound.

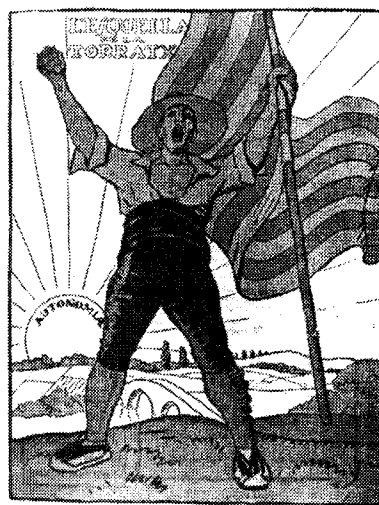


Figure 64: Cover for publication celebrating the approval of the Statute of Autonomy on January 24, 1919.



Figure 65: The Sanctus inscriptions.

"To be a poet in a destitute time means: to attend, singing, to the trace of the fugitive gods. This is why the poet in the time of the world's night utters the holy."²¹¹ *Martin Heidegger*

"The Sanctus, Sanctus, Sanctus...they will coil around the towers in triple dedication to the triple Father, Son, and Holy Spirit...And all who read this bannerole will intone a hymn to the Holy Trinity as they, in discovering them murmur, Sanctus, Sanctus, Sanctus...and the song will draw their gaze to the sky."²¹² *César Martinell*

*"Do you not see that it seems to link the earth and the heavens? The brilliance of the mosaic is the first thing that sailors will see on arriving to Barcelona: it will be a radiant welcome!"*²¹⁴

"The harmony of formal expression became greater as he moved upward, and the symbolism kept pace by becoming more and more purified. In the lower part of the façade the symbols are more abundant and allude to human themes. The Sanctus inscriptions are placed at the point where the vertical walls of the cylindrical masses merge with the parabolic parts- a merger which represents, according to Gaudí, the union of gravity and light; the first is directed down toward the earth and the

SONG 2: A UNIVERSAL CALL

The second song, the "universal call," is explored through the theme of "gathering." Here gathering can be expressed as the union of humanity, of matter and spirit, or of heaven and earth. These expressions of union are indicated most apparently by writing on the tower wall in the form of the *Sanctus* inscriptions. Flowing in an undulating pattern across the centre of the façade, these inscriptions suggest the sacred tones of Gregorian Chant. Its central presence alone is perhaps an indication of the emphasis that Gaudí placed on singing. Precisely configured, Gaudí had planned to colour these letters brilliantly so that they could be seen from a great distance.²¹³ In their gentle upward movement, brightly coloured like a rainbow, they, like the angelic figures inside the towers, represent another ray of hope.

The *Sanctus* inscriptions, in being located at the middle of the tower, communicate a song that exists between earth and sky. Gaudí described the significance of the central location of the *Sanctus* inscriptions as a symbol of the Holy Spirit, for it symbolised a link between the Father and the Son.²¹⁷ Gaudí thus made the Trinity

second soars upward. The inscriptions themselves are a hymn to the Trinity that would be intoned by anyone who read it: as one reads them in an upward progression-looking towards the heavens- they lead to the Hosanna in Excelsis in the pinnacles.”²¹⁵

César Martinell

“The upward glance passes aloft toward the sky, and yet it remains below on earth. The upward glance spans the between of sky and earth. This between is measured out for the dwelling of man. We now call the span thus meted out the dimension. This dimension does not arise from the fact that the sky and earth are turned towards one another. Rather, their facing each other itself depends on the dimension. Nor is the dimension a stretch of space as ordinarily understood; for everything spatial, as something for which space is made, is already in need of the dimension, that is that into which it is admitted...The nature of the dimension is the meting out-which is lighting and so can be spanned- of the between: The upward to the sky as the downward to the earth...Man’s dwelling depends on the upward-looking measure-taking of the dimension, in which the sky belongs just as much as the earth...the taking of measure is what is poetic in dwelling.”²¹⁶ *Martin Heidegger*

“He once recounted the dialogue [involving the Roman Emperor Theodosius the Great who] hearing the voices of the people singing, was moved to ask if they were already in heaven, and received the reply that they were not in heaven yet, but they were in its anteroom.” *Masso Bergós*

“The round dance, then, is a possibility of dwelling; it is a commitment, on the part of those who are gathered, to the building of a world of beauty, a world for the dwelling, not only of mortals, but also of the gods who reflect them. The round-dance is a ring of gathering for the preservation of the Fourfold: not only gods and mortals, but also the earth and Sky. The dance takes place in a clearing on the earth; and its protection is the canopy of the sky. In the round-dance, we are gathered around a centre. Being is welcomed in that centre. The round dance is a hermeneutic circle gathering the Fourfold in a recollection which turns toward the central meaning of being...The round-dance is a coming together of the Four in a reaffirmation, a renewal, of the cosmic order.”²¹⁹

David Michael Levin

symbolism evident again. In the context of the overall façade, Gaudí also spoke of the symbolism of its upper and lower parts. The towers represented light and the façade below gravity. The *Sanctus* inscriptions located in the “space in-between” represented the union of light and gravity. As such, it was also the space of balance between the two, achieved here through the symbolic medium of song. One might also define this in-between space of song the “dimension,” a word given very specific meaning by Martin Heidegger; it is where the four-fold of earth, sky, mortals, and divinities meet and ultimately, what allows man to dwell. To Gaudí, this dimension of dwelling might be described as the “anteroom” of song.²¹⁸

Located directly below the *Sanctus inscriptions*, the tall slender openings of the towers, also located in the “space in-between,” can be described as an architectural rendition of a classic round dance. Rooted in antiquity, the round dance served as an eloquent symbol of union for man throughout history. In Catalonia, a form of this dance known as the *Sardana* was reawakened with the *Renaixença* and continues to be performed to this day.

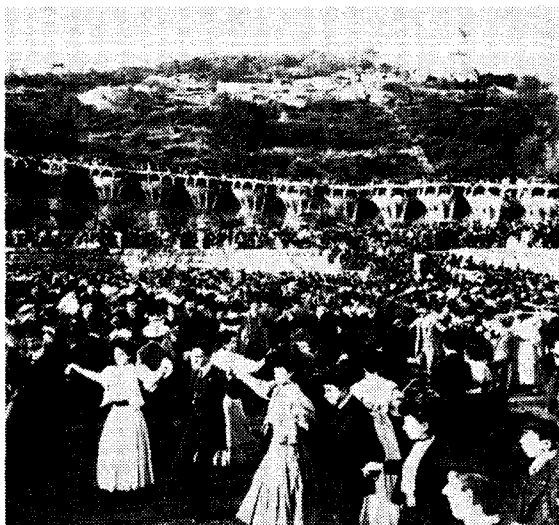


Figure 66: Sardanas in Park Güell, 1907.

"The Heav'only Spheres make music with us; The Holy Twelve dance with us; All things join in the dance! Ye who dance not, know not what we are knowing." ²²⁰ *Gustav Holst*

"And the famous lame god elaborated a dancing-floor on it, like the dancing-floor which once Daidalos built in the broad space of Knosos for the lovely haired Ariadne. On it were dancing young men and girls...holding each other's hands at the wrist. A huge crowd stood round enjoying the sight of the lovely dance: and two acrobats among the performers led their dancing, whirling and tumbling at the centre." ²²¹ *Homer*

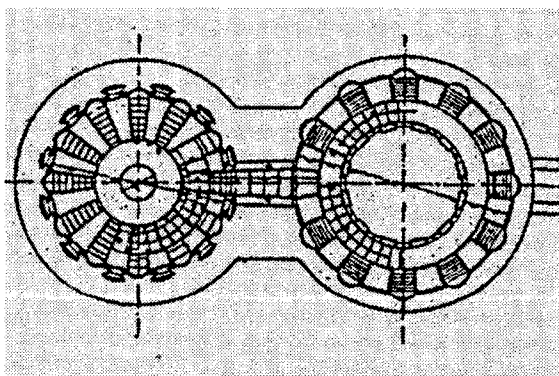


Figure 67: Cross-section of the towers from Plan of the Nativity façade and bell towers by Bergós.

Specific links between Gaudí's architecture and the *sardana* have been made, notably through the writings of Francesc Pujols.²²⁵ Indeed, Gaudí's architecture could be described as engaged in a round dance as shown by a photograph of *sardanas* being performed in the plaza of his Park Güell of 1900-1914. As if mirroring the actually form and motion of the dance, the perimeter wall that surrounds plaza appears as a *sardana* embrace.

The towers of the Sagrada Familia also contain elements that resemble the classic round dance. First, our study of the circular movement inside the tower is symbolic of the dance. Concerning the physical form of the towers, this concept is also clearly illustrated in the cross section drawing of the towers produced after Gaudí's death. Shown here are the twelve structural pilasters and twelve openings that comprise both the structure and space allocation for the *tornavue* plaques. As part of our discussion here, it is necessary to also introduce part of Gaudí's conceptual work carried out for the Cathedral of Mallorca between 1904-1914. Here, as at Blanes Cathedral, he proposed to build a *tornaveu*. Although never built,

"The sounding board [like the pulpit] was also to have been octagonal: 'On the rim there should be angels with their wings spread...to form the parabolic curves of the sounding board; above this flared structure of rather small diameter would rise a colonnade with the twelve apostles; above these would be the four symbolic beasts of the gospel, and between them the double banded orb and the cross-the symbol of Christ the Redeemer'. Such symbolism did not get beyond the artist's imagination...In their place he left provisional sounding boards, with forms appropriate to their acoustic purpose."²²² *César Martinell*

"And before he was taken ...he gathered us all together and said: Before I give myself over to them, let us praise the father in a hymn of praise, and so let us go to meet what is to come. Then he bade us form a circle; we stood with folded hands, and he was in the middle. And then he said: Answer me with Amen. Then he began to intone a hymn of praise and to say: /Praise be to thee Father. /And we all circled round him and responded to him: /Amen. /Praise be to thee, Logos. /Praise be to thee..."²²³

The Acts of St. John

"...the Greek pantheon usually included twelve [gods]."²²⁴ *Plato*

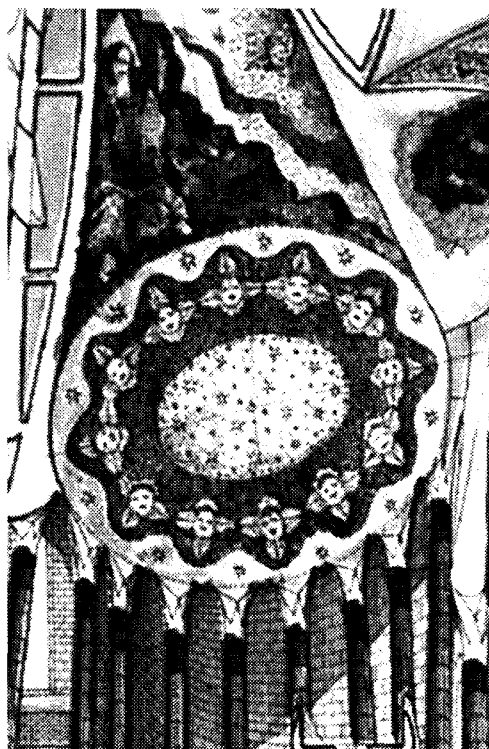


Figure 68: Detail of interior from a drawing by Gaudí's assistant, R. Berenguer.

the description of his model study is similar in character to the cross-section of a typical tower. This *tornaveu* is described as consisting of twelve vertical pilasters around a circumference that also symbolising the twelve apostles. The exact date of this work is unknown, yet it happened to coincide with the period in which Gaudí devoted himself fully to the design and construction of the Sagrada Família.²²⁶ Consequently, one is inclined to believe that Gaudí may have built ideas gathered from making the model of the Mallorca *tornaveu* into the towers. Specifically, that the number twelve as the twelve apostles that circled round the circumference of the *tornaveu* also represents both the twelve towers of the Sagrada Família and their twelve vertical pilasters and openings. As such the Temple of the Sagrada Família could be said to symbolise the Biblical description of Jesus' Round Dance, the dance of the twelve apostles round Christ performed before the crucifixion. In following the thematic character of this dance, Gaudí's overall design for the Sagrada Família may be interpreted as consisting of twelve towers that twirl round the central crossing. It was at this central crossing that Gaudí had positioned a dome under the tallest

spire and dedicated it to Christ. Furthermore, a drawing of the interior of the Sagrada Familia completed under Gaudí's supervision shows a round dance scene. Depicted as an ordered universe, its form is evocative of the dance described above as well concepts raised earlier.

Figure 69: Ancient Greek figurine showing bell-shaped skirt with round dance decoration. Beotia, c.725-700 BC



"The bell ringer is the verb of all of this: he is the artist, the poet, the spokesman, the musician of popular life and the bells, his instrument."²²⁸

Joan Maragall

"...sound of the bells directed downwards to 'accompany processions as they move through the cloister or through the streets of the city. They can also be used to perform concerts of sacred music to solemnize the church's major feasts.'"²³⁰

"...[The Temple] was also a meeting place for the fine arts: because poetry, music, sculpture, and painting, joining hands as if dancing the Catalan *sardana*, had arranged to meet in the Field of the Harp, to build together a work of architecture, and all those who can imagine this ardent and intensive fusion of the fine arts – hot from the oven and fresh as a rose – will have an idea, vague and fuzzy though the image may be, of the artistic vision of our Gaudí."²³¹ Francesc Pujols

The inclusion of bells completes the theme of the "Universal Call." Throughout history, it was the sound of bells that served to connect men on earth through a communication with heaven. The bell tower was positioned in the middle of the auditory landscape and functioned as a point of origin and orientation both by way of its form and sound.²²⁷ Gaudí also spoke about the significance of the Sagrada Familia as being located in the centre, a further indication of how his ideas often embodied the spirit of past ages.²²⁹

It is obvious that Gaudí believed the Sagrada Familia would function as a "centre" due to its location, form, and sound. It would also be a "centre" because he provided plenty of space to gather in the form of plazas in front of both the Nativity and Passion facades, a subject that he was aware of since his school days.²³³ As architectural form, what is the meaning of

“...for the purpose of seeing plays or festivals of the immortal gods, a site as healthy as possible should be selected for the theatre...For when plays are given, the spectators, with their wives and children, sit through them spellbound, and their bodies, motionless from enjoyment, have the pores open, into which blowing winds find their way.”²³²

Vitruvius

“centre” in the context of the Sagrada Familia? From within, there is no doubt that it is a temple. However, in considering both Gaudí’s concern for perfecting sound and his enthusiasm for creating a festive environment around the site, one is inclined to describe the exterior or urban character of the Sagrada Familia as a theatre. Terms such as architecture as “performance” or “entertainment” also seem appropriate, as they accurately describe the constant gaze of the world audience on its ongoing construction.

The Sagrada Familia as architecture that sings – entertains – performs, follows a theme that other modern architects concerned themselves with on a grand scale. Looking back to Le Corbusier for example, he not only described Gaudí as *the* greatest in 1958, but also in that same year, in speaking about his own work he said the following:

“This Electronic Poem will combine in a coherent whole what films, recorded music, colour, words, sound and silence have until now produced independently.”²³⁴

It is a description of an architectural synthesis that also calls to mind the work of Gaudí.

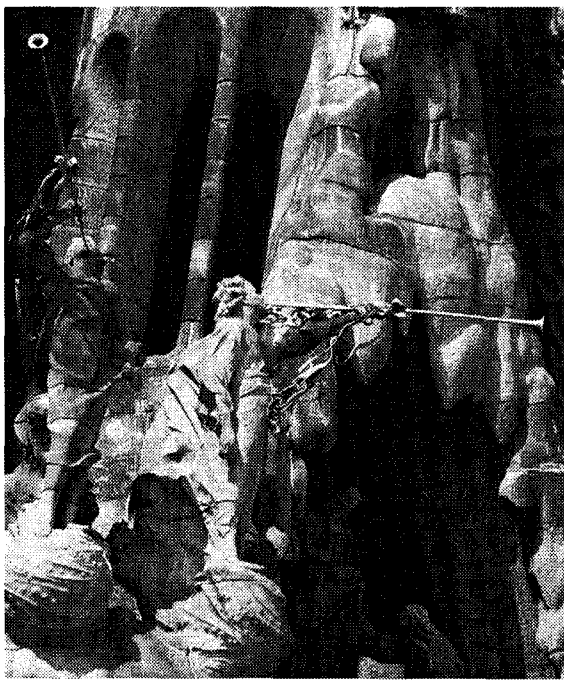


Figure 70: Trumpeters of the Nativity façade.

CONCLUSION

"The step from individual love to family love, to the love of the home, the love of the country, even the vast empire and all the ideas and ideals it connotes, is normal...Surely love and loyalty to a league of civilized and free nations can, will and must be as strong and passionate as they now are for a single country. The day will come, and may not be far distant, when the Great International Federation will be as real in the hearts and minds of men and women as in any political body now existing."²³⁵

Sir Charles Waldstein, 1917.

"In an age which believes neither in the creative power of sound nor in a musical cosmos, such ideas must enter the collective mind through the back door of fantasy...Moderns...need to rediscover the child like state that receive these perennial truths."²³⁶ *Joscelyn Godwin*

"During the course of this meeting Corbu asked me if I had any thought about the future of his art...and I categorically confirmed that the last great architectural genius was called Gaudí, whose name in Catalan means 'enjoy'..."²³⁷ *Salvador Dali*

"He only required one thing and that was freedom in which to express himself, freedom allied to kindness and confidence in his vision. These

The observations made in this paper may provide reasons as to why the architecture of Gaudí continues to have an "international" voice. As a synthesis of form and sound, combined with light and colour, it is architecture that is as deeply emotional as it is personal. Gaudí spent his lifetime making it that way. The result is architecture that is like a mystical encounter; elements normally taken for granted are imbued with supernatural meaning. Gaudí's use of light is a particularly good example of this. However, his architecture moves beyond the realm of vision, and as Salvador Dali suggested, resonates through all of our senses. Perhaps it was Gaudí's personal attachment to music by way of singing that permitted his work to open to a universal dimension.

The architecture of Gaudí continues to call people from around the world. They continue to be amazed, wonder struck, and even enamoured by his work. On any given day at the site of the Sagrada Familia, one will witness gatherings of people from many nations speaking different languages as if Maragall's evocation of "balbuceo" has become a reality. It is an experience that is a

conditions were fulfilled in [his work]. What urged him on was freedom.”²³⁸ *Eusebi Casanelles*

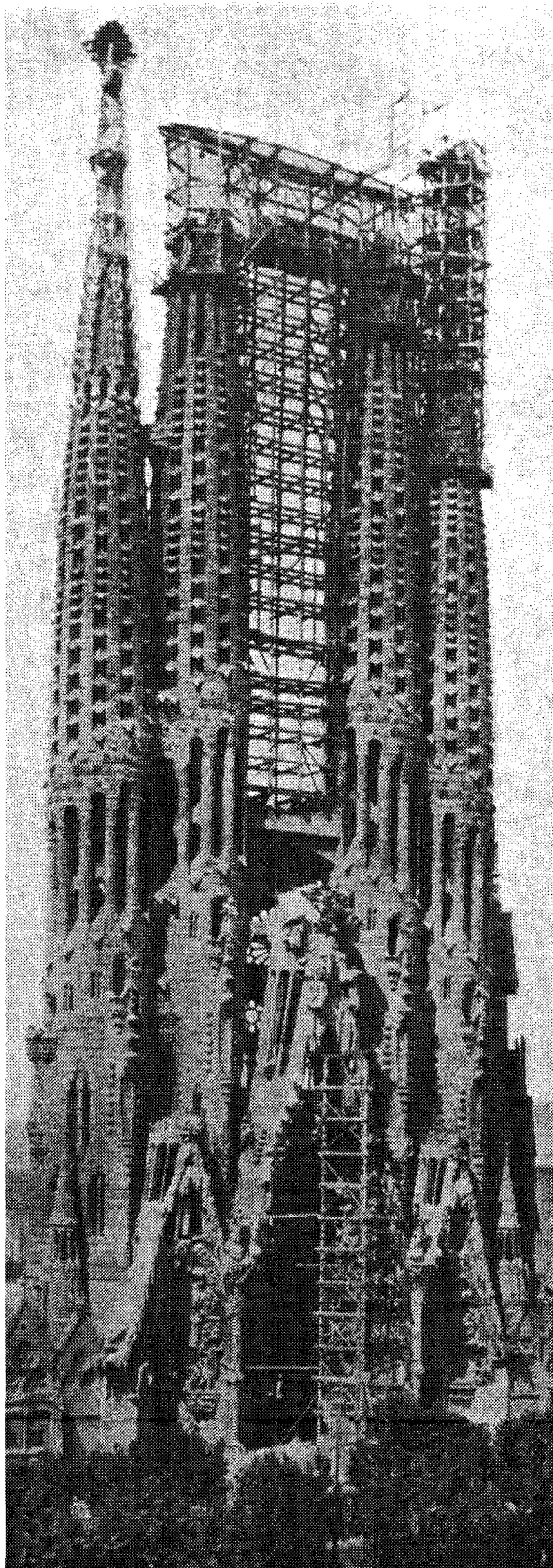
*“When we put up a building”, said Gaudí, ‘everything stirs around us in a continual transport of joy. Here a stonemason dressing his stone; there, a carpenter sawing some fine wood; labourers are moving about and a builder shouts from the top of a wall that grows almost miraculously, while beside him someone is singing. The sun filters through everywhere! But, when the building is completed and all the bustle and revelry has ended, some people turn up and lock themselves away behind the walls oblivious to poetic creation. Order and peace have come, but so, too, silence and monotony.’ We poets are the nation-builders and now that we have so much work to commit on the projected home of the Catalan people – after gauging everything still to be done and seeing the holes where the sunlight comes in – we feel no discouragement or pessimism, but are eager to create, which is fortunate as it has to be fertile.”²³⁹ *Josep Carner**

“Fa Goig (it gives pleasure) tells it all...It inspires joy. It can’t be expressed in a better way. The man was not saying words; he was expressing what he felt. Really, this brilliance makes you happy. This phrase which hit the mark was spoken by a modest man...Gaudí never tired of commenting on this ‘fa goig’, and he didn’t hide the happiness which he himself also felt in contemplating this fragment of his work, the anticipation of the great temple that lived in his imagination.”²⁴⁰

César Martinell

combination of “I don’t know” either the language you speak, or the architecture of Gaudí, however, in its midst, “I feel the joy of your smile,” for it is joy that is brought to the surface through the work.

Joy resonates from the work because it originated with the work. Gaudí was able to make joy for the simple reason that he surrounded himself with joy, singing perhaps being the best example of this. Sound was as tangible spiritually as stone was materially, and as expressed here; it possessed a transfiguring power. For Gaudí, it was the process of making architecture itself that brought joy. For as he said: “When we put up a building, everything stirs around us in a continual transport of joy,” whereas when the building is complete, so came “silence and monotony.” It was the sounds and songs of work that stirred the process with joy. One observer in witnessing the completion of the first tower shouted “joy”, because this is how he felt. It was as if the joy of the process had been imbibed by the finished work.



Figures 72: The Temple of the Sagrada Familia as Gaudí left it in 1926.

"Oh delight of indefinite formation! I understand that the man who has given most of his life to the construction of the temple, would not wish to see it completed, and humbly bequeaths the continuation of the work and its culmination, to those that succeed him. Under the humbleness and abnegation beats the drum of a mystic and the refined delectation of a poet. Is there something of a deeper sense and more beautiful in the end, than to devote a life to a work that will outlast it? A work that will consume generations that have yet to come? Oh, the serenity this kind of work will bring to man! What contempt of time and death! What anticipation of eternity!"²⁴¹

Joan Maragall

"The genius of the heart, as that great concealed one possesses it, the tempter god and born piper of consciences whose voice knows how to descend into the netherworld of every soul; who does not say a word or cast a glance in which there is not consideration and ulterior enticement; whose mastery includes the knowledge of how to seem-not what he is but what is to those who follow him one *more* constraint to press ever closer to him in order to follow him even more inwardly and thoroughly – the genius of the heart who silences all that is loud and self-satisfied, teaching it to listen; who smooths rough souls and lets them taste a new desire – to lie still as a mirror, that the deep sky may mirror itself in them- the genius of the heart who teaches the doltish and rash hand to hesitate and reach out more delicately; who guesses the concealed and forgotten treasure, the drop of graciousness and sweet spirituality under dim and thick ice, and is a divining rod for every grain of gold that has long lain buried in the dungeon of much mud and sand; the genius of the heart from whose touch everyone walks away richer, not having received grace and surprised, not as blessed and oppressed by alien goods, but richer in himself, newer to himself than before, broken open, blown at and sounded out by a thawing wind, perhaps more unsure, tenderer, more fragile, more broken, but full of hopes that as yet have no name, full of new wills and currents, full of new dissatisfaction and undertows... We men are – more humane."²⁴²

Friedrich Nietzsche

"Do you wish to be an intelligent man? Be kind! .
Comrade, be sound, practice kindness!
Nothing is greater than fraternity."²⁴³

NOTES

INTRODUCTION

¹ Joan Bassegoda I Nonell, Preface to Isador Puig Boada, *El Templo de la Sagrada Familia* (Barcelona: Ediciones de nuevo Arte 1982). Reprint of first edition, 1929. The date of 1959 given by the author suggests that this was Wright's last impression of Gaudí as this was the year of his death. Two other sources give Wright's earlier impressions of Gaudí as "that mud pie artist" and "a dabler in mud," statements that indicate the prevailing sentiments towards Gaudí before the 1950's. See "Gaudí Symposium, Museum of Modern Art, January 20, 1958," in *Architectural Review*, (Vol. 123-124 1958), 158, and Glenna Dunning, *Antoni Gaudí: The Visionary Architect, A Partially Annotated Bibliography* (Los Angeles: University of Southern California, 1989), 2.

² Jacques Dupin, Miró, translated by Norbert Cuterman (New York: Abrams 1961), 15-16.

³ Francesc Pujols, "Gaudí's Artistic and Religious Vision, 1927," in Robert Decharnes, *Gaudí the Visionary* (New York: The Viking Press 1971), 236.

⁴ Le Corbusier, "On Discovering Gaudí's Architecture," Preface to *Gaudí* (Barcelona, Editorial R.M. 1958).

⁵ Details of the accident and the events leading up to the state funeral can be found in César Martinell, *Gaudí: His Life, His Theories, His Work* (Cambridge, Mass: MIT Press 1967), 116-120.

⁶ Salvador Dalí, Preface to Robert Descharnes, *Gaudí The Visionary* (New York: Viking Press 1966). See also "The Vision of Gaudí," *Architectural Design*, No. 2-3 (London: Architectural Press 1978), 141.

⁷ See George Collins, *Antonio Gaudí* (New York: George Braziller 1960), 32.

⁸ Carl Honoré, *The National Post* (Toronto: February 16, 1999), B5.

⁹ Domenec Sugranyes, "The Dante of Architecture," published anonymously in *Bella Terra*, 1923. See Castellanos & Lahuerta, *Gaudí: Images et Myths*, (Rodez: Editions du Rouergue 1992), 171.

¹⁰ Eusebi Casanelles, *Antoni Gaudí: A Reappraisal* (Greenwich: New York Graphic Society 1965), 14.

¹¹ Masso Bergós, *Gaudí: The Man and His Work* (Boston: Little & Brown 1999), 23.

¹² "La sangre de mi espíritu es mi lengua. Y mi patria es allí donde resuena." See Joan Maragall, "Catalunya I Avant" ["Catalonia and Forward"], October 1911 in *Obres Completes, Vol. 2: Obra Castellana* (Barcelona: Editorial Selecta 1961), 759-760.

¹³ Martin Heidegger, "...Poetically Man Dwells..." in Poetry, *Language, Thought*, translated by Albert Hofstadter (New York: Harper & Row 1971), 215.

¹⁴ Joan Triadu, "Introduction" in *Anthology of Catalan Lyric Poetry*, translated by R.D.F. Pring-Mill (Berkeley: University of California Press 1953), XI

¹⁵ Words of Josep Carner uniting poetry and architecture. See Castellanos and Lahuerta, 182.

¹⁶ Martin Heidegger, "...Poetically man Dwells..." in Poetry, *Language, Thought*, translated by Albert Hofstadter (New York: Harper & Row 1971), 214-215.

¹⁷ Louis Sullivan (1856-1924). See Robert C. Twombly, *Louis Sullivan: The Poetry of Architecture* (New York, W.W. Norton 2000), 25.

¹⁸ J.J. Sweeney and J.L. Sert, *Antoni Gaudí* (New York: Praeger 1960), 33: "The modern Catalan movement, however, dates from the middle of the nineteenth century. Catalonia had lost between 1822 and 1837 her penal law, her commercial law, her coinage, her special tribunals, even her rights to use the Catalan language in her schools. But very soon after that a revival of Catalan national feeling began. At first this nationalistic movement was purely literary. In the eighteen fifties competitions of Catalan poets were held and Medieval festivals of regional poetry, music and dancing such as the *Jocs Florals* were revived. The sixties saw a revival of language, which had ceased to be spoken except in the villages..."

¹⁹ Oriol Bohigas, "Luis Domenech," in *The Anti-Rationalists*, edited by Nikolaus Pevsner (New York: Harper & Row 1973), 71.

²⁰ Catalan independence was short lived as it was crushed by the Civil War in 1936 under Franco.

²¹ Oriol Bohigas, 71.

²² E. Allison Peers, "Aspects of the Catalan Renaissance," in *St John of the Cross and Other Lectures and Addresses 1920-1945* (London: Faber and Faber 1946), 114-115.

²³ Joan Maragall, "Jacinto Verdaguer," in *Artículos 1893-1903* (Barcelona: Talleres de Fidel 1904), 217. "El renacimiento catalán, de poco tiempo iniciado, avanzaba lentamente al inocente impulso de los poetas solos. Los poetas lo hacían todo. Hacían historia, hacían arqueología, excursionismo, política a su manera,

critica, filosofía, todo. O cuando menos, cuantos trabajaban en el movimiento renaciente tomaban matices de poetas por su entusiasmo soñador, su inocencia que hacía sonreír a todo el mundo en torno de ellos, y su obsesión dominante de la lengua propia.”

Author's translation: “The recently initiated Catalan renaissance slowly advanced with the innocent impulses of the poets alone. The poets did everything. They made history, archaeology, excursionism, politics their way, criticism, philosophy, everything. Or at least those who worked in the nascent movement had hints of poets for their dreamy enthusiasm, their innocence had made everyone around them smile, and their dominant obsession was for their language.”

²⁴ Gaudí in Gijs van Hensbergen, *Gaudí* (New York: Harper Collins 2001), 259.

²⁵ van Hensbergen, 53-54.

²⁶ Robert Descharnes and Clovis Prevost, “The last Cathedral,” in *Art News Annual* (No.35, 1969), 86.

²⁷ Joan Maragall, “Una Gracia de Caritat!...” [An Act of Charity...!], November 1905 in Castellanos and Lahuerto, 180.

²⁸ Martinell, 48-49: “...he always shared the unrest and idealism which served to elevate a sense of Catalanism throughout his lifetime. Above all he promoted the use of the Catalan language which he considered to be the ideal expression of this personality.” See also Castellanos and Lahuerto, 179. Llorenç Riber's recollection of conversation with Gaudí as follows: “To my immense fortune, I understood what he was saying as he gesticulated, impassioned, transfigured, clutching a copy of *La Veu de Catalunya* [The Voice of Catalonia] he subscribed to. That same passion gripped me to.”

²⁹ John MacInnes, *Journal of Catalan Studies* (University of Edinburgh), <http://www.uoc.es/jocs/2/articles/maciness/>: “The most important area of activity [of the *Renaixença*] was language and literature, as illustrated by the revival of the Jocs Florals, and such works as “La Patria” by Bonaventura Carles Aribau (1798-1862), or “Poesies” by Joaquim Rubió I Ors (1818-1899).

³⁰ Triadu, XXIX: “A group of Catalans who frequently competed at its *Jocs Florals* gathered round King Pere the Ceremonious [12th century] to foster a similar but autonomous movement in Catalonia. This achieved its own expression in the Floral games in Barcelona, modeled upon those of Toulouse...The historical importance of these *Jocs Florals* is considerable, because they kept Catalan poetry alive during the fifty years preceding the Italian influence of the Renaissance.”

³¹ Peers, 129: “The first celebrations of the Jocs Florals were held in Barcelona in 1859, with Milá y Fontanals as President.” Gaudí had attended lectures by Fontanals. See Martinell, 33; Bergós, 26. Fontanals ideology has been described as following: “We know [Fontanal's] method was to situate art within its area of culture, to break the isolation in which art had hitherto been confined and integrate it with the life that produced it.” From Juan Eduardo Cirlot, “The Ideological Atmosphere of Gaudí's Time” in *The Genesis of Gaudí's Architecture* (New York: George Wittenborn 1967).

³² Paul Valéry, “My Possibility Never Leaves Me”, in William Kluback, *Paul Valéry: Philosophical Reflections* (Peter Lang, 1987), 2.

³³ Martinell, 194

³⁴ Salvador Dalí, “The Vision of Gaudí,” in *Architectural Design*, No. 2/3 (1978), 141. For another translation see Dalí, Preface to Descharnes, *Gaudí The Visionary*.

³⁵ Dalibor Veseley, “Surrealism, Myth & Modernity,” in *Architectural Design*, no. 48; 2/3 (London: Architectural Press Ltd. 1978), 93.

³⁶ Louis Sullivan (1856-1924). From Thomas E. Tallmadge, “The Expiatory Temple of the Holy Family,” in *Western Architect*, XXXI (March 1922), 37. See George R. Collins, *Antonio Gaudí* (New York: George Braziller 1960), 28.

³⁷ Juan Eduardo Cirlot, *The Genesis of Gaudí's Architecture* (New York: George Wittenborn 1967) Conclusion.

³⁸ Sweeney and Sert, 175.

³⁹ Gaudí in Bergós, 272.

⁴⁰ Martinell, 115.

⁴¹ Martinell, 87: “Rising around seven, he would go without breakfast to his parish church...There he would hear mass and receive the sacrament, a custom that he had followed for some time. When he died in 1926 he had taken the sacrament daily for over 30 years...On certain days he would attend the services at the cathedral because there, he said, mass was celebrated with the entire city. Always in the same position, leaning against the column that supports the pulpit with hands folded and without sitting, he followed the ceremony with complete attention...On workdays, when he had finished his devotions, he would dedicate

himself fully to his professional work. At nightfall, almost always on foot, he headed for downtown Barcelona, usually to the oratory of San Felipe Nervi where he attended meditations read by one of the Fathers and followed with enthusiasm the litanies of the saints which were recited daily after the meditations."

⁴² Salvador Dalí, *The Unspeakable Confessions of Salvador Dalí*, translated by Harold J. Salemsom, (New York: Morrow 1976), 147.

⁴³ See Descharnes, *Gaudí The Visionary*, 17.

⁴⁴ Joan Maragall, "El Templo que Nace," [The Temple Being Born], December 1900, in *Artículos 1893-1903* (Barcelona: Talleres de Fidel 1904) 129: "Cómo serán las oraciones? Que vibración tendrán los cantos de la grandiose caja sonora? Quién sabe... Pero el templo invita ya con seguridad á la comunión en la fe más alta. El portal invita, mirando hacia el barrio obrero."

⁴⁵ Dalí, *The Unspeakable Confessions*, 146-147.

⁴⁶ Bergós, 162.

⁴⁷ Antoni Gaudí, "Ornamentation, August 18, 1878," in Martinell, 129

⁴⁸ Voillet-le- Duc, *Lectures on Architecture*, translated by B. Bucknall (New York: Dover, 1987) 28. Le Duc had a great influence on Gaudí as a student. This is indicated by Gaudí's diary entry of 1876-1879: "Reading 'Entretiens sur l'architecture' by Voillet-le-Duc." See Casanelles, 121. Gaudí also writes of Le Duc in "Ornamentation": "Basically, some of the ideas expressed here come from the Entretiens sur l'Architecture, but everything need not be subordinated to necessity." See VIA, Vol. 2, (New York: Wittenborn 1973), 22. Other authors have also described the influence of Le Duc. For example, see van Hensbergen, 33: "[Gaudí] borrowed a copy of *Dictionnaire raisonne de l'architecture francaise* by Voillet-le-Duc – the Bible of the neo-medievalists – from his friend Emilio Cabanyes Rabassa. When he returned it, the book was covered in scribbled notes and underlinings." See Also Bergós, 25; Descharnes, 19-20; and Martinell, 33.

⁴⁹ Voillet Le-Duc, 13.

⁵⁰ Francesc Pujols, in Descharnes, 216.

⁵¹ Heidegger, "What are Poets For?" in *Poetry Language Thought*, 138. Heidegger reference is to *The Sonnets of Orpheus, Part I*, by M. R. Rilke.

CHAPTER 1

⁵² Gaudí in Bergós, 79.

⁵³ Joan Maragall, "La Campana y el Parar-rayos", ["The Bell and the Lightning Rod"], August 1895, in *Obras Completas, Vol. 2* (Barcelona: Editorial Selecta 1961), 257-258: "La Tempestad avanza rugiendo entre la noche. Al primer soplo del huracán se estremece el valle en la oscuridad; y al fragor de la tormenta, cada vez más cercano, empieza á responder allá arriba en la loma el trémulo son de la campana de la ermita... Yo pido por todos; y en mi voz, oída en la comarca entera, vibran los temores y los anhelos del valle y de la montaña, los más humildes é inconscientes como los más reflexivos y fundamentados... tengo voz para todo: desvanecidos los terrores de la tempestad y de la noche, llevaré ahora la alegría al valle anunciando el dia."

⁵⁴ Martinell, 79.

⁵⁵ Martinell, 98: "Whenever he heard the chiming of the Angelus, whether he was alone or in company and whether the company be catholic or not, a famous person or humble, he would invariably suspend the conversation and recite the angelic salutation with his head bared: if the others did not answer, he would continue the prayer alone, as we have seen was the case with Unamuno."

⁵⁶ Martinell, 79: "In September 1900, the 'Lliga Espiritual de la Mare de Deu de Montserrat' for which Gaudí served as a member of the board of directors, commissioned him to direct the monumental First Mystery of Glory of the Rosary on that holy mountain... It appears that he was not pleased with his work at Montserrat, judging from what I have been told by the architect Pericas to whom he described it with severe criticism for the monks. He censured them among other things for not having realized what a magnificent natural spire the so called 'pierced rock' could have formed, had it housed a great bell that would have become the voice of the mountain..." Gaudí's idea of putting the bell in the mountain is not a unique one. For example see the Romanticist painting of 1818 entitled 'Gate of Rock' by Friedrich Schinkel (1781-1841), the German architect, painter and stage designer.

⁵⁷Maragall, "Jacinto Verdaguer," in *Artículos 1893-1903*, 218: "El Poeta catalán descendió de la montaña á la ciudad cantando su poema, y nuestra lengua volvió á existir viva y completa, popular y literaria en una pieza. El vino en el momento preciso en que habia de venir porque, como todos los héroes, el momento lo creó él: y esta es su gloria."

⁵⁸Bonaventura Carles Aribau [1798-1862], "Oda á la Patria" ["To My Country"], August 1833 in Peers, 119-120. The author notes the "tomb of the departed Jew" is a reference to Montjuic, the hill overlooking Barcelona. "To my Country" was "the anthem for the growing Catalan revival, the *Renaixença*." See van Hensbergen, 303.

⁵⁹Rubió I Ors [1818-1899], "Mos Cantars" ["My Songs"] in Peers, *St. John of the Cross*, 126.

⁶⁰Casanelles, 67: "Gaudí's attachment to Montserrat reached its peak during the first years of the century, when he was a mature man. He had many projects in mind for the mountain, some of which are known..." Other examples of the influences of Montserrat on Gaudí are given by van Hensbergen, 126 and 283: "It was in the space under the ramp that Gaudí built the three dimensional installation based on Montserrat. A musical (also called *Montserrat*) was written to accompany Gaudí's more permanent piece...When Gaudí worked in the Ciutadella park as an architectural student, a large model of Montserrat was created for the Expo."

⁶¹Josep Carner, "En Gaudí," sonnet of 1905 published in *Primer llibre de donnets*. See Castellanos and Lahuerto, 182.

⁶²Bergós, 78.

⁶³Gaudí in Casanelles, 114. Attributed to Ernst Neufert after meeting with Gaudí. In the legend of the Holy Grail, "it is the *mons salvationis*; the peak situated 'on the distant shores which no mortal may approach'...It is the symbol of supreme spiritual fulfillment." See Juan Eduardo Cirlot, *A Dictionary of Symbols* (London: Routledge 1971), 214. See also Cirlot, "Introduction," in *The Genesis of Gaudí Architecture*.

⁶⁴van Hensbergen, 24

⁶⁵Bergós, 190.

⁶⁶Gaudí, *Reus Museum Manuscript*. See Casanelles, 117

⁶⁷Juan Eduardo Cirlot, "The Ideological Atmosphere of Gaudí's Time," in *The Genesis of Gaudí Architecture*.

⁶⁸Sweeney and Sert, 31: "During the Middle Ages, like Carthage of old, Barcelona was the lord and terror of the Mediterranean and divided with Italy the enriching commerce of the East...The Catalans then at peace and free – for the Spanish and Moorish struggle was carried on far away in the South...Barcelona was then a city of commerce, conquest and courtiers – of taste, learning and luxury; and the Athens of the troubadours."

⁶⁹Maragall, "Montserrat," 1905. See Castellanos and Lahuerto, 180.

⁷⁰Maragall, "Montserrat," 1905, in *Los Vivos et Los Muertos* (Barcelona: Ediciones Destino 1946) 129-130: "Y en el hacinamiento de la derruida mole, los precipicos han abierto sus gargantas, fuentes han brotado en ellas, pájaros han cantado, caminos se han abierto. He aquí el templo que se vuelve montaña: helo aquí recobrado por las fuerzas naturales que lo ornarán perpetuamente con galas de montaña, sin hacer olvidar que fué templo."

⁷¹Maragall, "El Templo que Nace," ["The Temple is Being Born"] in *Artículos 1893-1903*, 129: "Este portal es algo maravilloso. No es arquitectura: es poesia de la arquitectura. No parece construccion de hombres. Parece la tierra, las peñas, esforzándose en pender su inercia y empezando á significar, á esbozar imágenes, firugas y simbolos del cielo y de la tierra en una especie de balbuceo pétreo."⁷¹

⁷²Joan Maragall, "Jacinto Verdaguer," in *Artículos 1893-1903*, 216-217. "Así aparecieron los *Jochs Florals*, primer simbolo del calalanismo. Allí se encontraron todos los visionarios de la historia, de la filología, de la politica, del *folklore*: deslumbrados por su visión á tientas se encontraron buscando el verbo catalán y se dieron las manos. Venían unos del país de los trovadores y cronistas hundido en los siglos, y balbuceaban un dulce hablar arcaica que nadie entendía; venían otros de modernos arrabales con un lenguaje grosero, pero muy vivo y pintoresco; otros llegaban de las aulas y academias esforzándose en dar al renaciente lenguaje literario acento propio á culturas ya formadas, y hablaban un catalán acastellanado ó con ecos italianos y franceses; otros, en fin, los menos por de pronto, los mejores siempre, traían en los labio algo de la música viva, pura, del catalán campestre, hablado como en los siglos y habiéndose movido con ellos sin mancha ni ruptura."

⁷³ The connections between Verdaguer and Gaudí are extensive. The subject of poetry itself is one source of connection. Gaudí described his own work through the analogy of Verdaguer's poetry. See Note 203. In the Palau Guell, the depiction of Hercules in a large mural on the lateral wall of Palau Güell is also a theme in Verdaguer's *l'Atlantida*. See Martinell, 188. Of the few books that Gaudí kept in his possession, he is said to have had an autographed copy of Verdaguer's *l'Atlantida*. See Gijs van Hensbergen, 102. Verdaguer has also been described as a catalyst between Gaudí and Eusebi Guell, perhaps Gaudí's most important client. See van Hensbergen, 86. Even Verdaguer's character, both with respect to the man and his work, might be said to resemble Gaudí: "First and foremost, he is incorrigibly sincere. He invented no themes; he wrote from his heart, upon what he happened to find there; and he wrote as the mood seized him, without ever a thought to consistency or the opinions of others. Secondly, both the subjects and the style of the lyrics are simple; the poems are couched in language understood by the people; they are rhythmical, tuneful and easily retained in the memory. Thirdly, he uses forms and devices well known to the people and of frequent occurrence in popular poetry. And lastly, his conception of God, of Heaven, of suffering, of sin, together with the substance, as well as the form, of his devotion, are of an unaffected, child-like kind which none would have appreciated better than the unsophisticated people from which he sprang." From E. Allison Peers, 143. Like Gaudí, Verdaguer was also compared to Ramon Llull: "Llull (1233?-1315?) and Verdaguer (1845-1920), both Catalans, were two of the greatest religious poets of the Western World. Although six centuries apart, they spoke of God in the same tongue, not just with the selfsame God but in the selfsame way. Theirs was no abstract mysticism, because their preoccupation with humanity linked them too closely to the earth for them to forget their own condition. This tense limitation on transcendence underlies all their most significant poems." From Triadu, XV.

⁷⁴ Maragall, "Jacinto Verdaguer", in *Artículos 1893-1903*, 218. "Y así los *Jochs Florals* fueron una torre de Babel al revés; porque ésta fué un fin de entenderse las gentes y una dispersión, y aquellos fueron un principio de entenderse los que de muchas cosas y muy diferente hablaban, y una unión en busca del verbo catalán que la nueva Cataluña necesitaba."

Author's translation: "And thus, the *Jochs Florals* were a reverse Tower of Babel; the former being the end of understanding among people and a dispersal, and the latter, a beginning of understanding for those who spoke differently of many things, and a union, in search of the Catalan verb the new Catalonia needed."

⁷⁵ Paul Valéry, "Amphion" in *Plays. The Collected Works, Vol. 3*, translated by Robert Fitzgerald (New York: Pantheon Books 1960), 251 and 253.

⁷⁶ Ovid, *Metamorphoses*, (Cambridge, Mass.: Harvard University Press 1977), 31.

⁷⁷ Evelyn Waugh, "Gaudí", in *The Architectural Review*, Vol. 67:403 (London: The Architectural Press June 1930), 311.

⁷⁸ Joan Margall, "En la Sagrada Família", in *Los Vivos y Los Muertos*, 192. "Pero a mí me penetra más la sensación de ruina; y me halaga, porque sabiendo que aquella ruina es un nacimiento, me redime de la tristeza de todas las ruinas; y ya desde que conozco esta construcción, todas las destrucciones pueden parcerme construcciones."

⁷⁹ Martinell, 420.

⁸⁰ Friedrich Nietzsche, "The Birth of Tragedy" in *Ecce Homo*, translated by Walter Kaufmann (New York: Vintage Books 1967), 273.

⁸¹ Bergós, 173.

⁸² van Hensbergen, 199.

⁸³ George Collins, *Who's Who in Architecture*, edited by J.M. Richards (London: Butler & Tanner 1977), 116.

⁸⁴ Revelations 4: 8.

⁸⁵ As a reverse apocalypse, moment of creative redemption, Gaudí's work falls into a genre of "reversal" as it applies to the *Renaixença*. There are at least two other specific examples that point to the *Renaixença* as a "reversal." The first is found in Verdaguer's "Atlantida" (1878) in which the island of Atlantis returns from the depths with towering spires more splendid than before. The second is Maragall's description of the *Jochs Florals*, as a reverse Tower of Babel. In the context of the Temple of the Sagrada Família, the term "reversal" is applicable to the Biblical Apocalypse, where the element of fire can be interpreted as a "fire of birth," a creation rather than a destruction as symbolised by the Nativity façade.

⁸⁶ St. Augustine, *The Confessions of St. Augustine*, translated by F. L. Sheed (New York: Sheed & Ward 1942), 158.

⁸⁷ Martinell, 90: "[The Tragic Week of July, 1909] paralyzed the working life of Barcelona and the city was tragically illuminated by the fires that rose up from the convents. Gaudí, secluded in Güell Park in forced inactivity, contemplating the flames and quantities of smoke which dotted the city... We can imagine how these events must have reverberated in the architect's religious and civil oriented soul." For an extensive study on the Tragic Week see Joan Connelly Ullman, *The Tragic Week, A Study of Anticlericalism in Spain, 1875-1912* (Cambridge, Mass.: Harvard University Press 1968).

⁸⁸ Words of Torras I Bages to Joan Maragall immediately following the Tragic Week. From van Hensbergen, 211

⁸⁹ Joan Maragall, "Oda Nueva a Barcelona" ["New Ode to Barcelona"], 1909 in *Poesis Completa*, Vol. 2, (Madrid: Editorial Castalia 1984), 180 and 182: "Estalla la meurte / en el aire suave de tu calle riente: / estalla impensada, y segura y traidora, / con una carcajada escarnecedora... / ¡Carcajadas de sangre! / El barro de tus calles, ¡oh Barcelona!, / Con sangre está amasado..."

Del lado de Levante, místico ejemplo, / como una flor gigante florece un templo / maravillado él mismo de haber nacido allí, / en medio de un gentío, tan carurro y mezquino / que se ríe y blasfema y pelea y revienta / contra todo lo hoano y divino. / Mas en medio de la miseria, la rabia y la humareda / El templo (¡da lo mismo!) se levanta y prospera, / Esperando unos fieles que vienen de camino."

⁹⁰ van Hensbergen, 207: "From the *ronda* we saw the shooting in the calle mayor de Gracia... and after we looked all over the buildings, Gaudí said, 'I'm going to the Sagrada Familia.' Bayo wanted to accompany him and on reaching the calle de Aragon they heard the loud report of gunfire. Gaudí asked, 'Those are shots?' And then continued walking calmly on to the Sagrada works." Originally from Joan Bassegoda I Nonell, *El Gran Gaudí*, 517.

CHAPTER 2: PART 1

⁹¹ Joan Maragall, "Fuera del Tiempo" ["Outside of Time"], 1907. From *Obras Completas*, Vol. 2, (Barcelona: Ediciones Destino 1946), 768-769: "Cada vez que penetro en el cercado de la Sagrada Familia, experimento la misma sensación de salir del tiempo: quiero decir, que el momento presente adquiere subitamente a mis ojos una perspectiva histórica: aléjase y alejándose... Véome desde aquel momento como en tiempo heroico... y si volviendo en mí, pienso que este pasado heroico es mi presente, acométeme un gran envanecimiento y me siento vivir como un espíritu puro."

⁹² Maragall, "Una Gracia de Caritat!..." ["An Act of Charity!..."], 1905 in *Obras Completas*, Vol. 2 (Barcelona: Editorial Selecta, 1961) 706: "La ciudad muestra orgullosa el templo en marcha a todo forastero; el templo ennoblece a la ciudad en su expansion material; pronto Barcelona na será la ciudad del aquel templo, y parece que el templo no puede ser sino el de aquella ciudad: están ligados para siempre."

⁹³ Jacint Verdaguer, *Atlantida*, 1876. From Descharnes, 20. The author adds that Verdaguer's *Atlantida* won first place in the *Jocs Florals* of 1877, at a time when Gaudí was an impressionable student. For other connections between Verdaguer and Gaudí, see note 75.

⁹⁴ Maragall, "Roses of Freedom," from Peers, 146-147

⁹⁵ Both the Temple of the Sagrada Familia and the epic poem "L'Atlantida" by Jacinto Verdaguer have been described as the two great masterpieces of the *Renaixença*. See Descharnes, 20. For the connections between Gaudí and Verdaguer, see note 75.

⁹⁶ Peers, 131.

⁹⁷ Gaudí, "Ornamentation, August 10, 1878" in VIA, 19: "Nowadays, the character of an object depends on the nationality, the customs, and the splendour of its users... To be interesting, ornamentation should represent objects that remind us of poetic ideas and that constitute motifs. Such motifs are historical, legendary, representing deeds, emblems, fables – regarding man and his life, actions, and passions... Ornamentation is only part; although essential in order to give character, it is, nevertheless, nothing more than the meter and rhythm in poetry."

⁹⁸ Albert Schweitzer, *My Life and Thought* (London: Unwin Brothers 1933), 121-123. From writing dated 1905-1912.

⁹⁹ Consummation by fire is a major theme of the many annual festivals in Catalonia. The *Corre-foc* illustrated by figure 14 also bears a resemblance to the fire and light that shoots from the terminal cross shown in the drawing (figure 13). The *Patum* is a ritual with an overwhelming expression of fire as it

involves walking through fire. See Joan Solé I Amigo, *Catalan Festivals and traditions* (Barcelona: Generalitat de Catalunya 1991).

¹⁰⁰ Castellanos and Lahuerto, 178: "The *Lliga Espiritual de la Mare de Deu de Montserrat* (Spiritual League of the Mother of God of Montserrat) was comprised of politicians, writers, artists and middle-class figures whose aim it was to 'agglutinate' Catalan society around a religious and patriotic ideal symbolised by the Virgin of Montserrat. In 1899, Antoni Gaudí became a member of both associations. [The *Lliga Espiritual* and the *Círculo Artístico de Sant Lluch* (The Artistic Circle of St. Luke)."

¹⁰¹ Albert Schweitzer, *My Life and Thought* (London: Unwin Brothers 1933), 121-123. From writing dated 1905-1912.

¹⁰² Bergós, 71

¹⁰³ Martinell, 321. Collins, *The Designs and Drawings of Antonio Gaudí*, plate 17, dates the work to 1900.

¹⁰⁴ Vitruvius, *The Ten Books of Architecture* (New York: Dover 1960), 138-139.

¹⁰⁵ Rainer Maria Rilke, *Sonnets to Orpheus, First Part*, translated by M. D. Herton Norton (New York: W.W. Norton 1942), 21.

¹⁰⁶ Rudolf Wittkower, *Architectural Principles in the Age of Humanism* (London: University of London 1949), 26: "The geometrical definition of God through the symbol of the circle or sphere has a pedigree reaching back to the Orphic poets. It was vitalised by Plato and made the central notion of his cosmological myth in the *Timaeus*; it was given pre-eminence in the works of Plotinus and, dependent on him, in the writings of the pseudo-Dionysius the Areopagite which were followed by the mystical theologians of the Middle Ages."

¹⁰⁷ Ephesians 6: 13-14 and 16-17: "Therefore take up the whole armor of God, so that you may be able to withstand on that evil day, and having done everything, to stand firm. Stand therefore, and fasten the belt of truth around your waist, and put on the breastplate of righteousness...With all of these [in all circumstances] take the shield of faith, with which you will be able to quench all the flaming arrows of the evil one. Take the helmet of salvation, and the sword [word] of the spirit, which is the sword [word] of God." See Bruce Metzger, ed., *The New Oxford Annotated Bible* (New York: Oxford University Press 1991), NT 278. See the annotations for words in brackets.

¹⁰⁸ Genesis 1: 1-3: "In the beginning when God created the heavens and the earth, the earth was a formless void and the darkness covered the face of the deep. While a wind of God swept over the face of the waters. Then God said, "Let there be light"; and there was light." See Metzger, ed., *The New Oxford Annotated Bible*, OT 2.

¹⁰⁹ The final vision of St. Hildegard of Bingen, as recorded in *Scivias*, 1143-50. From Joscelyn Godwin, *Harmonies of Heaven and Earth* (Rochester: Inner Traditions 1978), 71.

¹¹⁰ Martinell, 183.

¹¹¹ van Hensbergen, 97: "[Palau Güell] is almost symphonic, using the central salon as a larger than life protagonist, booming out like a giant hollow-sounding bell. Gaudí is actually depicting the whole Cosmic Order, spiced up with a subtle Catholic twist. The cellar is Hell. The central salon, that joined the whole towering structure together, was both earth and sky, while the roof scape represented Heaven. What the Palau Güell offered then was the language of Redemption and Resurrection. It was a saintly place for a worldly prince."

CHAPTER 2 PART 2

¹¹² Maragall, "Una Gracia de Caritat!..." ["An Act of Charity!..."], 1905, *Obres Completes*, 706: "Pues ahí tenéis ahora nuestro Partenón a medio hacer y que no puede más. Ved que con él somos todos nosotros los que quedamos a medio hacer. Ved que aquel hombre que hace el templo, haciéndolo, nos hace también a nosotros; ¡ay si no llegáis a ver claro este misterio!...pero yo creo que él no tiene derecho a morirse hasta habernos dado toda su vision, que es la visión de su tiempo, y de nosotros que somos su tiempo..."

¹¹³ van Hensbergen, 62.

¹¹⁴ Bergós, 78.

¹¹⁵ Hermann Finsterlin, *Gaudí und ich*, a monologue for the "Amigos de Gaudí", Barcelona 1967. See van Hensbergen, xxxi.

¹¹⁶ Homer, *The Illiad*, translated by Martin Hammond (London: Penguin Books 1987), 307-308.

¹¹⁷ Peers, 111.

¹¹⁸ Gaudí in J. Matamala, *Antonio Gaudí: Mi itinerario con el arquitecto*. Unpublished article held in the catedral Gaudí. From van Hensbergen, 162.

¹¹⁹ Martinell, 186.

¹²⁰ Martinell, 420: "Gaudí designed two pulpits, both on the same general lines...The first was hexagonal in plan with sculpted parchment rolls bearing the names of the evangelists on the four most visible faces: the two posterior faces were simple wooden tablets which supported the foot of the sounding board. This board was sharply inclined toward the audience for acoustical reasons. It was circular in shape, slightly undulating, and divided into seven sectors with Latin inscriptions indicating the gifts of the Holy Ghost in polychrome relief. In the centre there was a white dove, and the edge of the sounding board was also undulated and relieved with seven tongues of fire."

¹²¹ Cirlot, *A Dictionary of Symbols*, 295

¹²² Albert Calvert, *Spanish Arms and Armour* (London: John Lane 1907), 6: "Aragon, and to a less marked extent, Castile, were always in the van where the improvement of armour was concerned, and although experts consider that Italy set the fashions in the craft during the Middle Ages, it is by no means certain that Barcelona did not, at some periods [in the 12th to 14th centuries], assume the lead." The shield illustrated in the left margin is an example from the 19th century made for King Philip II, who has been described as Gaudí's favourite king. See van Hensbergen, 133.

¹²³ John Milton, Lines 52-55 of "Ad Patrem," from J. M. Evans, *The Miltonic Moment* (Lexington: University Press of Kentucky 1998), 87.

¹²⁴ William Shakespeare, *King Henry VIII*, Scene 3:1, lines 1-14. Gaudí had a "love of classic literature" including "Shakespearean theatre", probably introduced to him by Mila I Fontanals, the professor of classic literature whose lectures Gaudí attended in his spare time while a student of architecture. See Bergós, 26. Poet Francesc Pujols also writes "It is clear as spring water that Gaudí read and admired Shakespeare just as he admired and visited daily the Cathedral of Barcelona." See Descharnes, 211.

¹²⁵ Voillet-le-Duc, 62.

¹²⁶ Martinell, 109.

¹²⁷ The word *Paraninfo* is of Greek origin, and means both a university auditorium and what in our day might be called the "best man," he that supports or represents another. This portrayal of the word is evident in the dome of Gaudí's drawing of the *Paraninfo* interior (see figure 40).

¹²⁸ Martinell, 36-37.

¹²⁹ Martinell, 292.

¹³⁰ Gaudí, "Ornamentation, August 10, 1878," in *VIA*, Vol. 2 (New York: Wittenborn 1973), 21.

¹³¹ Gaudí, "Diary 1876-1878" in Casanelles, 123.

¹³² Martinell, 301.

¹³³ Gaudí, "Ornamentation, August 10, 1878," in *VIA*, Vol. 2 (New York: Wittenborn 1973), 20.

¹³⁴ Gaudí in Bergós, 278.

¹³⁵ Descharnes, 156

¹³⁶ Gaudí in Bergós, 306.

¹³⁷ Plato, *Timaeus*, translated by Desmond Lee (London: Penguin Books 1977), 53.

¹³⁸ Bergós, 59: "In [the Tangier's] project he experimented with circular towers with a parabolic profile, joined by a series of apertures arranged helicoidally, an approach that he later used for the bell towers of the Sagrada Família, which he had already started building on a square plan."

¹³⁹ Collins, *Antonio Gaudí*, 47: "March 15, 1878 [Gaudí was] awarded his title as architect. From this time on for nearly a decade, Gaudí took an active part in the trips of the *Asociación de Arquitectos de Catalunya* and the *Associació Catalana d'Excursions Científiques*, a political naturalistic group that was reviving interest in the antiquities and architecture of Catalunya."

As a member of the Excursionist society, Gaudí shared the company of *Renaixença* leaders such as Jacinto Verdaguer. See Martinell, 47 and Casanelles, 26-28.

¹⁴⁰ Gaudí in Bergós, 46.

¹⁴¹ Friedrich Nietzsche, "Note 797 (1885-1886)" in *The Will to Power*, translated by Walter Kaufmann (New York: Vintage Books 1968), 419.

¹⁴² Anthony Burgess, "The Gaudíness of Gaudí," in *One Man's Chorus* (New York: Carroll & Graf 1998) 219.

¹⁴³ Plato, *Timaeus*, 67 and 70.

¹⁴⁴ Collins, *The Designs and Drawings of Antonio Gaudí* (Princeton: Princeton University Press 1983).

- ¹⁴⁵ Gaudí in Collins, *Antonio Gaudí*, 41.
¹⁴⁶ Descharnes, 156.
¹⁴⁷ Cirlot, *A Dictionary of Symbols*, 142-143. The first part of the quote is a paraphrase of Luc Benoist's interpretation of Heaven from the *Chandogya Upanishad*.
¹⁴⁸ Gaudí in George Collins, *The Designs and Drawings*, 41.
¹⁴⁹ Martinell, 19.
¹⁵⁰ Hans Reinecke, "Evolving Spaces: Playing Space," in *Daidalos* 17, (Sept. 1985), 53.
¹⁵¹ Plato, *Timaeus*, 39.
¹⁵² Louis Sullivan, "On Poetry" in *Kindergarten Chats* (New York: Dover 1979), 160.

CHAPTER 2: PART 3

- ¹⁵³ Gilles Deleuze and Félix Guattari, *A Thousand Plateaus* (Minneapolis: University of Minnesota Press 1987), 348.
¹⁵⁴ Godwin, *Harmonies*, 94.
¹⁵⁵ Ovid, *Metamorphoses*, 73 and 75.
¹⁵⁶ Martinell, 182: "When the Orfeo [Catala] asked him to participate in the autograph album.... he acquiesced, his natural dislike for such activities being overruled by the affection which he felt toward the group and its director [Luis Millet]. On the page reserved for him he wrote, '*Al celtots en serem d'orfeonistes*' [*In heaven we shall all be choir members*]... To provide adequate [artistic] elaboration he had his assistant Quintana do a drawing of the legend of Orpheus which was completed in colour by J.M. Jujol."
¹⁵⁷ Martinell, 184.
¹⁵⁸ Martinell, 102.
¹⁵⁹ Luis de Leon [1528-91], "On Francisco de Salinas's Organ Playing," in Joscelyn Godwin, *Music, Mysticism and Magic, A Sourcebook* (London: Routledge & Kegan Paul 1986), 138-139.
¹⁶⁰ Gaudí in Martinell, 155.
¹⁶¹ Martinell, *Conversaciones Con Gaudí* (Barcelona: Ediciones Punto Fijo 1969), 59-60: "Ha observado que cuando el estado atmosférico es húmedo se oyen menos las campanas. Lo cual parece bien extraño, por cuanto la humedad hace más denso el aire y, según la Física, debería ser mejor conductor de las ondas sonoras. Este fenómeno lo explica Gaudí con la hipótesis de que la humedad, en la atmósfera, debe hallarse en una especie de estado esferoidal, que en lugar de unir las moléculas las disgrega, lo que produce soluciones de continuidad en la masa atmosférica, que así resulta ser menos apta para la transmisión sonora."
¹⁶² Francesc Pujols in Descharnes, 156-157.
¹⁶³ "In books one seldom finds what one is looking for. And when one has found it, it is often wrong." Gaudí in Bergós, 1954, p. 25. See Collins, *The Designs and Drawings*, 46. See also Martinell, *Conversaciones*, 62.
¹⁶⁴ Martinell, *Conversaciones*, 60.
¹⁶⁵ César Martinell, *Conversaciones*, 63: "El tubo fue transportado y colgado en un campanario a fin de observar su sonido entre el de las otras campanas de Barcelona, aprovechando la hora de las cinco de la mañana, cuando tocan todas las iglesias. Gaudí desde su casa en el Parque Güell, tras habar tocado la campana tubular unos minutos antes, a fin de conocer el sonido, escuchó cuando tocaron toas y observó que el sonido que más se le asejaba era el de la Concepción. Entonces comparó todos los detalles de ambas campanas, como la distancia a la casa de Gaudí (2.300 metros de la oncepción y 2.000 metros de la Sagrada Familia), peso y otras circunstancias; comprobó que el peso de la campana de la Concepción era doble del de la campana de la Sagrada Familia, e iguales los efectos; lo cual supone muchas y mejores condiciones vibratorias en la forma tubular. Y terminó diciendo: '*Esto es lo que tenemos estudiado de las campanas*.'" .
¹⁶⁶ Descharnes, 61: "The bell towers themselves were to be built so that their openings would direct sound toward the ground rather than disperse it in the air. On the other hand, Gaudí most likely made careful studies of these openings in order to obtain sonorous effects by using the wind." See also Martinell, 184 and Pujols in Descharnes, 156-157.
¹⁶⁷ Pujols in Descharnes, 156-157.

¹⁶⁸ Martinell, 185. The author gives the date of this encounter with Gaudí as November 9, 1915. See *Conversaciones*, 59. See also Bergós, 78.

¹⁶⁹ Martinell, *Conversaciones*, 59: "Ha hablado de la complejidad de los sonidos, que en cada caso parecen ser únicos y son múltiples. Los instrumentos sonoros reciben influencias de los objetos que los rodean, de la materia en que están contruidos y del sistema de fabricación. En sus estudios se ha encontrado con que un mismo experimento, realizado en la habitación donde nos encontrábamos o bien fuera, producía un resultado distinto. Proque la habitación hace de caja de resonancia (de 'resonador', ha dicho) y a veces, 'algún cristal canta.' Deibido a ello, realiza todos los experimentos en el campanario."

¹⁷⁰ For example see Indra Kagis McEwen, "Instrumentality and the Organic Assistance of Looms" in *Chora I*, edited by Purcell and Pérez-Gómez (Montreal: McGill-Queen's University Press 1994), 132.

¹⁷¹ "Idiophones" in *The Oxford Companion to Musical Instruments*, edited by Anthony Baines, (Oxford: Oxford University press), 1992.

¹⁷² Gaudí in Bergós, 44.

¹⁷³ *Chinese book of Rites*, in Godwin, *Harmonies*, 94.

¹⁷⁴ Idelsohn, *Jewish Music in its Historic Development*, 1929, in Joscelyn Godwin, *Harmonies of Heaven and Earth* (Rochester: Inner Traditions 1987), 63.

¹⁷⁵ Plato, *Timaeus*, translated by F. M. Cornford (London: Routledge & Kegan Paul 1956), 158-159.

¹⁷⁶ Martinell, 182-183.

¹⁷⁷ Gaudí also made the acquaintance of Albert Schweitzer through Millet. See Schweitzer, *My Life and Thought* (London: Unwin Brothers 1933), 121.

¹⁷⁸ Descharnes, 46: "In 1918, when Gaudí was sixty-six years old, the Benedictine father Gregorio M. Sunyol, considered in the musical world to be one of the most eminent authorities on liturgical art, gave a series of lectures on Gregorian chants...His specialities concerned questions relating to rhythm and modality... Asked why he was there by his friend, the conductor Millet, he responded by saying: '*I come here not to learn music but to learn architecture*'."

¹⁷⁹ See Johannes Itten, *Design and Form* (London: Thames and Hudson 1964) 23. Itten writes: "The third method of relaxing, balancing and harmonising the body is the use of tone vibrations."

¹⁸⁰ Bergós, 260.

¹⁸¹ Francesc Pujols in Descharnes, 232.

¹⁸² *O. E. D.*, Vol. 12 (New York: Clarendon Press 1989), 736.

¹⁸³ For example Psalm 149, a "Hymn to accompany the festival dance," : "Praise the Lord! Sing to the lord a new song, his praise in the assembly of the faithful...Let them praise his name with dancing, making melody to him with tambourine and lyre. For the Lord takes pleasure in his people; he adorns the humble with victory." From *The New Oxford Annotated Bible*, 800.

¹⁸⁴ Pujols, in Descharnes, 240.

¹⁸⁵ Dalí, *The Unspeakable Confessions*, 131.

¹⁸⁶ Records of a commissioner of the Republic for the department of the Vosques, 1848. See Alain Corbin, *Village Bells* (New York: Columbia Press 1998), 292 and 384.

¹⁸⁷ Pujols, in Descharnes, 232: "...in the very midst of the most modern working-class neighbourhoods in Barcelona (for that reason is also referred to as the Cathedral of the Poor...Which continues to sing in the very midst of the worker's neighbourhood...it is in such environs that one hears best the singing of the psalms and the hymns of the prophets - the best lyric poetry of all times and all places which we (being devotees) will never tire of hearing, especially when so well accompanied as by the harp of the field in that modern Barcelona neighbourhood, plucked by Gaudí, whom we have compared to Aeschylus, to Shakespeare, and to Wagner...and whom we can compare as well to such Biblical prophets as Isaiah and Jeremiah."

¹⁸⁸ The dulcimer, similar to the psaltery, is a musical instrument, in which the strings of graduated lengths are stretched over a trapezoidal sounding board or box and struck with hammers. The physical form of the instrument and the principles involved in playing it resembles the means Gaudí adopted to study the sounds of the tubular bells. Such tests are described in the legends of Pythagoras, where musical principles were said to be inspired by the hammering sound of blacksmiths. See *O.E.D.*, vol. 4, 1111.

¹⁸⁹ *O.E.D.*, Vol. 12, 736.

¹⁹⁰ Godwin, *Harmonies*, 64.

¹⁹¹ Vitruvius, *The Ten Books*, 9-10. In Book, 1 the following description of the 'sounding vessels' for the theatre is given: "In accordance with the foregoing principles on mathematical principles, [music that

harmonizes with the voice] let bronze vessels be made, proportionate to the size of the theatre, and let them be so fashioned that, when touched, they may produce with one another the notes of the fourth, fifth, and so on up to the double octave. Then, having constructed niches in between the seats of the theatre, let the vessels be arranged in them, in accordance with musical laws... They should be set upside down, and be supported on the side facing the stage by wedges.

¹⁹² It is beyond the scope of this paper to attempt to define the placement of the bells in the towers.

¹⁹³ Friedrich Nietzsche, "The Intoxicated Song," *Thus Spoke Zarathustra*, translated by R.J. Hollingdale, (Harmondsworth: Penguin Books 1975), 329.

¹⁹⁴ Henry Chadwick, *Boethius, the Consolations of Music, Logic, Theology and Philosophy* (Oxford: Oxford University Press 1981), 82: "Cosmic harmony also means the holding together in consonance and equilibrium of the four elements of earth, air, fire and water, or the cycle of the four seasons. *Harmonia* in Greek never loses its root meaning, the fitting together of disparate, potentially conflicting elements."

¹⁹⁵ Guy Lefevre de la Boderie [1541-98], "The Lyre of Man," in Joseclyn Godwin, *Music, Mysticism and Magic, A Sourcebook*, 141.

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¹⁹⁶ Friedrich Nietzsche, "Letters (1889)," in *The Portable Nietzsche*, translated and edited by Walter Kaufmann (New York: Viking Penguin 1954), 685.

¹⁹⁷ Descharnes, 62.

¹⁹⁸ Gaudí in Bergós, 184.

¹⁹⁹ Leone Battista Alberti. *Ten Books of Architecture*, translated by James Leoni 1755, edited by Joseph Rykwert (London: Alec Tiranti 1965), 196-197.

²⁰⁰ Paul Valéry, "Introduction to his lyric play *Amphion*," in *Paul Valéry: Plays*, translated by Robert Fitzgerald (New York: Pantheon Books 1960), 215-216.

²⁰¹ Gaudí in Bergós, 113. For a description of the connections between Gaudí and Verdaguer see Note 75.

²⁰² Gaudí in Bergós, 262

²⁰³ Gaudí in Bergós, 190

²⁰⁴ Martinell, 335.

²⁰⁵ Gaudí in Martinell, 185.

²⁰⁶ Salvador Dalí, *The Unspeakable Confessions*, 147.

²⁰⁷ Michael, Raeburn, ed., *Homage to Barcelona: the City and its Art 1888-1936* (London: Arts Council of Great Britain 1985), 266.

²⁰⁸ Voillet-le-Duc, 23.

²⁰⁹ Friedrich Nietzsche, "Attempt at a Self-Criticism, 1886" in *The Birth of Tragedy and The Case of Wagner*, translated by Walter Kaufmann (New York: Vintage Books 1967) 26.

²¹⁰ Friedrich Nietzsche, *The Birth of Tragedy*, translated by Walter Kaufmann (New York: Vintage Books, 1967) 37.

²¹¹ Martin Heidegger, "What are Poets For?," in *Poetry Language Thought*, 94.

²¹² César Martinell in Descharnes, 155.

²¹³ Bergós, 287.

²¹⁴ Gaudí in Bergós, 290.

²¹⁵ Martinell, 420-421.

²¹⁶ Martin Heidegger, "...Poetically Man Dwells..." in *Poetry Language*, 220-221.

²¹⁷ Martinell, 420: "Above [the twelve tall openings] is repeated the words Santus, Santus, Sanctus...every group of three being dedicated to the Father, the Son, and the Holy Ghost...The Holy Ghost was in the middle to represent its function as the link between the father and the Son."

²¹⁸ Bergós, 44.

²¹⁹ David Michael Levin, *The Body's Recollection of Being* (London: Routledge & Kegan Paul 1985), 325-326.

²²⁰ Gustav Holst, "The Hymn to Jesus," 1917 (New York: Angel Records, 1977)

²²¹ Homer, *The Illiad*, translated by Martin Hammond (London: Penguin Books 1987), 310.

²²² Martinell, 415. The author also quotes Gaudí's intention for the ornamentation of the Mallorca sounding board to be very similar to Blanes. See page 420.

²²³ Max Pulver, "The Acts of St. John," in *The Mysteries, Papers from the Eranos Yearbooks*, translated by Ralph Manheim (Princeton: Princeton University Press 1955), 178-179.

²²⁴ Plato, *Timaeus*, 8.

²²⁵ Pujols in Descharnes, 241.

²²⁶ The Nativity façade was completed between 1891-1900. The construction on the towers lasted between 1901-1926 and therefore coincided with the work at Mallorca cathedral between 1904-1914. For a chronological list of Gaudí's work see Martinell, 478-480.

²²⁷ Alain Corbin, *Village Bells*, 96: "The territory circumscribed by the sound of the bell obeyed the classical code of the beautiful- the schema of cradle, nest, and cell. It was an enclosed space structured by the sound emanating from its centre. The bell tower was supposed to be situated in the middle of the auditory territory."

²²⁸ Maragall, "Campanas," ["Bells"], 1911 in *Obras Completas*, Vol. 2 (Barcelona: Editorial Selecta 1961) 316: "El campanero es el verbo de todo esto: es el artista, el poeta, el vocero, el músico de la vida popular, y las campanas su instrumento."

²²⁹ Gaudí in Bergós, 267: "In the Holy Family Church, all is providential; its location in the centre of the city, and in the centre of the plain of Barcelona; the church is the same distance from the hills as it is from the sea, from Sants and from Sant Andreu, and also equidistant from the Besos and Llobregat rivers."

²³⁰ Bergós, 78.

²³¹ Pujols in Descharnes, 241.

²³² Vitruvius, 137.

²³³ Gaudí, "Ornamentation, August 10, 1878," in Martinell, 463: "Returning to the exterior character of religious buildings we can say, in respect to placement: Being surrounded with private or public buildings and all the rest, it should have a plaza in front of the entrance. Our cities have a great deal of outdoor life, and as a consequence the church should have greater richness than the other buildings, and also in relation to other times when the particular circumstances required less dignity."

²³⁴ Le Corbusier, *My Work*, translated by James Palmes (London: The Architectural Press 1960) 186. Description of the Philip's Pavilion, Brussels World Fair, 1958. As if suggesting Gaudí's influence on Le Corbusier, César Martinell includes a photograph of the Pavilion along with a caption that reads, "Philip's Pavilion for the Brussels World Fair, 1958 by Le Corbusier (from *La Poeme Electronique*, *Le Corbusier*." See Martinell, 195.

CONCLUSION

²³⁵ Sir Charles Waldstein (1856-1927), *Patriotism-National and International, an Essay* (London: Longmans Green 1917), 111.

²³⁶ Joscelyn Godwin, *Harmonies of Heaven and Earth*, 78.

²³⁷ Dalí, Preface in Descharnes. The etymological root of the word Gaudí is "festive joy." Chaucer, in *Cantebury Tales* c.389, uses *guade* in the sense of a 'specious trick'. In old french, *gaudére* meant to rejoice. The Latin, *gaudium*, means gladness, joy. Only in English does the word mean vulgar or "bad taste" in its usage as *gaudy*, *gaudily*, *gaudiness*. See Skeat, *Etymological Dictionary of the English Language* (Oxford: Clarendon Press 1910), 236. "The noun use of *gaudy* meaning a feast or festival, usually marked by frivolity (1561), is found with reference to a college event at Oxford or Cambridge." From Robert Barnhart, *Dictionary of Etymology* (Bronx: H.W. Wilson 1995), 311.

²³⁸ Casanelles, 78.

²³⁹ Josep Carner's description of Gaudí architecture as poetic creation. Castellanos and Lahuerto, 182.

²⁴⁰ Martinell, 109-110. These were the excited words of a "modest man who for 25 pesetas went 52 times a year to wind three clocks" after seeing the first tower completed.

²⁴¹ Maragall, "El Templo que Nace," ["The Temple is Being Born"] *Artículos 1893-1903*, 130: "¡Oh encanto de la formación indefinida! Yo comprendo que el hombre que mas ha puesto de su vida en la construcción de ese templo no desee verlo concluído, y legue humildemente la continuación de la obra y su coronamiento á los que vengan despues de él. Bajo esa humildad y esa abnegación late el ensueno de un místico y el refinado deleite de un poeta. ¿Porque, hay algo de más hondo sentido y algo más bello al fin, que consagrar toda la vida á una obra que ha de durar mucho más que ella, á una obra que han de

consumirse generaciones que aun están por venir? ¡Qué serenidad ha de dar á un hombre un trabajo de esa naturaleza, qué desprecio del tiempo y de la muerte, qué anticipo de la eternidad!"

²⁴² Nietzsche, Friedrich. "Aphorism 295," in *Beyond Good and Evil*, translated by Walter Kaufmann (New York: Vintage Books 1966), 233-234 and 236.

²⁴³ van Hensbergen, 58. Slogan for the cooperative at Mataronesa attributed to Gaudí.

ILLUSTRATIONS

Cover: Bergós, 266.

1. Martinell, 64.
2. *Antoni Gaudí 1852-1926* (Barcelona: Imprenta Hispano-Americana, S.A. 1985), 125.
3. Martinell, 79.
4. Casanelles, plate 1.
5. J. B. Armengol, *Temple Sagrada Família* (Barcelona: Editorial Escudo de Oro, S.A. 1999), 14.
6. J. M. Carandell, *El Temple de la Sagrada Família* (Barcelona: Triangle Portals 1997), 81.
7. Armengol, 102.
8. Carandell, 39.
9. Bergós, 267.
10. Carandell, 86.
11. Martinell, 89.
12. J. E. Ciriot, *Gaudí* (Barcelona: Editorial RM 1966), 23.
13. Carandell, 80.
14. Joan Sole, *Catalan festivals and Traditions* (Barcelona: Generalitat de Catalunya 1992), 3.
15. Martinell, 320.
16. Harry Biber, "Illustrated Medieval School Book of Bede's *De Natura Rerum*," in *Journal of the Walters Gallery* (Vol. 20, 1966-57), 74.
17. Hildegard of Bingen, *Scivias*, translated by Hart and Bishop (New York: Paulist Press 1990), 137.
18. Bergós, 111.
19. A) & B) Martinell, 301 & 306.
20. Sole, 4.
21. Mark Burry, *Expiatory Church of the Sagrada Família* (London: Phaidon, 1993).
22. A) & B) H. L. Lorimer, *Homer and the Monuments* (London: Oxford University Press 1950), 212 & 213.
23. César Martinell, *La Sagrada Família* (Barcelona: Ayma, S.I. Editores 1952), 65.
24. Colin B. Bailey, *Gustav Klimt* (New York: Harry N. Abrams 2001), 93.
25. Burry. Detail of figure 21.
26. Athanasius Kircher, *Musurgia Universalis*, Rome, 1650 (Hildesheim: Georg Olms Verlag 1970), 14.
27. Martinell, 421.
28. Albert F. Calvert, *Spanish Arms and Armour* (London: John Lane 1907), plate 155.
29. *Antoni Gaudí*, 125.
30. George Collins, *The Drawings of Antonio Gaudí* (New York: Sterling Roman Press 1977), plate 15.
31. Martinell, 292.
32. Gabriele Morrione, *Gaudí: Immagine e Architettura* (Rome: Edizioni Rappa 1979), 55.

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33. M. G. Wosien, *Sacred Dance –Encounter with the Gods* (New York: Thames & Hudson 1992), 125.
 34. Morrión, 55. Detail of figure 32.
 35. Carandell, 58.
 36. Carandell, 60.
 37. George Collins, *Antonio Gaudí* (New York: George Brazillier 1960), plate 44.
 38. Kerrison Preston, ed., *The Blake Collection of W. Graham Robertson* (London: Faber & Faber 1952), figure. 22.
 39. Ignasi de Solà-Morales, *Gaudí* (New York: Rizzoli 1983), 171.
 40. J. Castellanos & J. J. Lahuerta, *Gaudí: Images et Mythes* (Rodez: Editions du Rouergue 1992)
 41. Martinell, 465.
 42. Xavier Güell, *Antoni Gaudí* (Barcelona: Editorial Gustavo Gili S.A. 1997), 16.
 43. Collins, *The Drawings*, Plate 15.
 44. Ibid, plate 15. Detail of figure 43.
 45. *Antoni Gaudí*, 115.
 46. Descharnes, 42.
 47. Percival Price, *Bells and Man* (New York: Oxford University Press 1983), 159.
 48. Postcard. Museu de Montserrat.
 49. Martinell, 185.
 50. Descharnes, 217.
 51. J. G. Serrano, *L'Obrador de Gaudí* (Barcelona: Ediciones UPS, S.L.1996), 35.
 52. <http://www.mbira.org/instrumental.html>
 53. Ibid.
 54. Ibid.
 55. *Antoni Gaudí*, 88.
 56. Edward Young, *The Complaint, and the Consolation; or Night Thoughts*, 1797 (New York: Dover 1975), 16.
 57. Bergós, 49.
 58. Michael Raeburn, ed., *Homage to Barcelona, The City and its Art 1888-1936*. (London: Hayward Gallery 1985), 34.
 59. Ibid, 34.
 60. Descharnes, 181.
 61. Cirlot, 2.
 62. Martinell, 430.
 63. Sweeney & Sert, 153.
 64. Raeburn, 301.
 65. *Antoni Gaudí*, 301.
 66. J. M. Carandell, *Park Güell, Gaudí's Utopia* (Barcelona: Triangle Postals 1998) 85.
 67. J. J. Lahuerta, *Antoni Gaudí- Arquitectura, Ideologia y Política* (Madrid: Electa 1993), 299.
 68. Armengol. 110.
 69. Wosien, 39.
 70. Armegol, 102. Detail of figure 7.
 71. Martinell, 106.

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