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Question and Symbol: Challenges for a Contemporary Bell Tower

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Abstract: Historically, bell towers have been religious and architectural symbols in the landscape that summoned the faithful to celebrations and fulfilled a crucial territorial significance task. This function was assumed by the towers of some universities. The real need of the University Francisco de Vitoria to build a bell tower for its new chapel and to be significant both for its campus and the city is the pretext to investigate the need for this element in the current context through an academic exercise with architecture students. Traditionally, the religious autority proposed a concrete celebration space. In this case, architecture students were commissioned to propose a contemporary response for the new bell tower of their university campus through a Design Workshop. The workshop result raises interesting questions about what the architecture of a bell tower should be like in the XXI century, the relationship with public space, the construction of a landmark on an urban scale, the need to respond to both the city and the immediate environment at its different scales, the obsolescence of elements such as clocks or bells, and, above all, the relevance of symbols and the way that architecture raises questions in the contemporary landscape.

Keywords: bell tower; university; symbol; project workshop; contemporary architecture

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1. Introduction

Few architectural types have such a defined form as bell towers, whose original purpose was to raise the bells to a place where they could be heard and seen from afar. However, what began as a practical function of house bells was transcended to become an accurate social mechanism, becoming loaded with cultural and architectural symbolism (Gatty 1848; Gómez Martínez 1997). We know that people's way of relating to the world gives rise to diverse expressive and architectural forms, which originate precisely in the anthropological dimension of each epoch (Aymá González 2003). Its typological evolution has been reflected throughout history, not only in architectural trends but also in social and even spiritual ones, up to the present time. The decision of the Francisco de Vitoria University to build a bell tower on its university campus seems like the perfect pretext to review, from a contemporary perspective, the current relevance of this type of construction and its challenges: to make a stop along the way to reflect, from a genuine and concrete need, on the current relevance of an architectural type that has been so important throughout history. The reflection is not only theoretical but also practical and project-related. Although the building type "bell tower" requires a minimum historical and theoretical framework, the reflection is made from the project's practice through a university workshop with students of the UFV and future users of the building. Thus, from the concrete reality of the dialogue between the client and architect, it may be possible to outline some of the challenges facing bell towers today.

2. Origins and Mission: The Project Workshop—Reflections Through the Process of Projecting

In 2023, the Francisco de Vitoria University decided to tackle the construction of a new bell tower adjacent to its university temple, a recently constructed building. Although of apparent architectural interest, it is not identifiable as a church from the M-40, one of Madrid's ring roads, perhaps the point at which the University is most visible. The bell tower, however, aspires to transcend this mere necessity to endow the element with a much deeper meaning and, at the same time, to open a reflection, which crystallises in this work, on the relevance of bell towers in contemporary sacred architecture and their relationships with public space and the sense of belonging.

The Francisco de Vitoria University, through its leaders and when facing the project of the new bell tower, decided to entrust its future users, the students of architecture of the university, with a contemporary response to the proposed problem. As a university, it sought to generate new knowledge through architectural projects, understanding this to be the discipline's primary and original research method (Campo Baeza 2017; Ferrer 2009; Rivas 2009; Hernández Sampieri 2002). It was decided to carry it out through an Architectural Project Workshop in the form of a vertical workshop, involving all 2nd and 4th year students in mixed groups of five people over three weeks of intense work (Table A1, Appendix A), with intermediate juries in which the property always had a voice. In a final session, the university authorities attended the presentation of the different groups of projects. Among the projects presented, one was chosen for further development and adaptation. The location would be next to the University Church, and the maximum height allowed by the regulations is 25 m.

The main objective of the workshop, that is, of the project for the new bell tower, made explicit on the first day by the university authorities was the need to build a symbol: a reference to the city and to the interior of the campus itself, both to signify a religious building whose external appearance does not explicitly reveal its condition and to reaffirm an identity. The unavoidable references were the Church of Santa María de Caná by Fernando Higueras and that of San Pedro Mártir by Miguel Fisac, because they considered the property to have adequately responded to the problem of the construction of a religious and identity landmark next to the motorway, the same situation as the university, and because they were outstanding works by two undisputed masters of Spanish architecture with a great deal of influence on the School of Architecture.

The need to identify the new landmark as a religious symbol was stressed, but just as the university does not close its doors to non-believers, and in the context of open reason, the fundamental axis of the UFV, the new bell tower had to be an element that made "the invisible visible, that communicated a transcendence, that raised questions"[1]. In addition to its symbolic function towards the exterior, the university's rector emphasized the importance of building a space for congregation and a point of reference on campus.[2] The university itself, aware of the history of the "bell tower" element and of the historical moment we live in, raised the debate from the beginning: the commission itself is a manifesto of the challenges of a contemporary bell tower.

In its first sessions, the Workshop began with an important theoretical load, the visit to the churches of Fisac and Higueras, the contextualization of the type, understanding and analysis of the place, study and presentation of references and background to, and only from the second week, work on the project's architecture.

The study then contextualises the three challenges formulated by the university—the bell tower as a space for congregation, its symbolic function, and its relevance today—and the two proposed references with a situation similar to that of the University Church, to then analyse the results obtained in the workshop.

3. Context: Challenges for a Contemporary Bell Tower

3.1. Vertical and Horizontal Public Space: The Congregation

The first function of bell towers, and the origin of their birth, was to summon people to prayer; mark the time; and announce events, celebrations, and catastrophes; acting as social mechanisms of public communication and, therefore, builders in themselves of community (Aymá González 2007). The history of bell towers has been extensively studied, and numerous, very detailed studies on their origin and development refer to that historical development, although it is not the subject of this article (Price 1983; Frost 1995; Alcolea 1972; Gatty 1848).

In the Christian tradition, from the 9th century onwards, it became common to hang small bells from churches, attached by small wooden structures called 'turriculas', integrated into the churches (Arnold and Goodson 2012). Over time, bells became more prominent in the Middle Ages' soundscape, leading to a change in their structure (Ivorra Chorro 2002). The particular condition of bell towers and their original function, to amplify the sound so that it could reach as far as possible and to support the weight of the bells and their acoustic reverberation, meant that the typology of bell towers was a direct consequence of their acoustic and structural needs, as numerous studies show (Ansay and Zannin 2016; Alvarez-Morales and Martellotta 2015; Smith and Hunt 2008). In addition, this structural necessity gave rise to a very characteristic image in the landscape. Their robust and slender construction stood out against the urban or rural landscape, becoming an unavoidable visual and acoustic reference, a place for everyone (Corbin 1998; Frost 1995). In a way, the original bell towers were erected as a public space at a height, even if they were not habitable in themselves.

The bell towers defined a territory that they made habitable to the rhythm they set (Frost 1995; Alcolea 1972). They signalled a space that was not only physical but also symbolic, temporal, and hierarchical. The ringing of the bells marked the time of the community, and the ringing of prayers at dawn, midday, or dusk delimited the day. The tolling of the bells for the dead communicated sex, age, social status, or belonging to a neighbourhood or brotherhood (Llop i Bayo 2020). Processions, funerals, and the passage of a procession through a place were marked by special tolls that explained to the community that something important was happening in the shared space. They were even of great importance in preventing and announcing catastrophes and fires (Azanza López 1998; Baldan 2014). Thus, the language of bells built and reinforced a community, relating it simultaneously to a common constructed element: the bell tower (Alcolea 1972; Llop i Bayo 2020).

Eyes, ears, and people all responded to the call of the bell towers that promised a meeting place at their feet. Attached to the churches, the centre of city life in the Middle Ages, this vertical and virtual public space was always associated with a horizontal meeting space to accommodate a large number of people; the very architectural structure of the church brought together all the faithful in a space that often extended beyond the walls of the building to create squares and open areas that were quickly taken over for markets or different public events (Merzlyutina 2023). Thus, little by little, cities were configured from vertical landmarks that signalled horizontal public spaces. The bell tower stands as a sign of a place of congregation, of community: you know that at its foot, you are most likely to find people. They also encouraged encounters by establishing themselves as a reference point (Español 1999).

The architectural structure of the bell tower—the tallest, the most slender, the point of reference, the most incredible display of structural prowess—imposed on the average height of the city faithfully fulfils a role of absolute reference in people's lives. The actions of the inhabitants close to the bell towers changed according to what the bells marked: rarely

has an architectural element been so important, so decisive in people's lives (Corbin 1998; Ivorra Chorro 2002). It is therefore not surprising that this resulted in the identification of places with their bell towers, which became symbols of what united that community: a shared faith in a specific place that builds a particular identity (Feld and Brenneis 2004).

3.2. The Symbolic Function

The prominence of bell towers in urban and rural landscapes meant that, over time, these elements became beacons that transmitted the power of the church or municipality that built them and their presence in the life of the community in which they were built (Price 1983). Intricate designs and the aspiration to reach for the sky inspired fear and reverence, reflecting devotion or dominance and building a community identity. Their symbolic character became predominant, and little by little, the cities filled with towers, each one taller than the last, in a race for dominion of the sky that was, in reality, the aspiration of dominion on earth (Gómez Martínez 1997; Chueca Goitia 1947; Norberg-Schulz 1980). Not surprisingly, town halls, palaces, and universities adopted the tower as a symbolic element or as a sign of dominance, power, or distinction, giving rise to incredible landscapes, many of which have been destroyed due to their structural weaknesses. Power needed to be reflected in the heights (Price 1983).

The perversion of the domination of space finds a paradigmatic case in in Venice (Figure 1) San Gimignano, the Tuscan town famous for its 14 (which became 72) medieval towers, most of them built between the 12th and 14th centuries as a way of demonstrating the power and wealth of the families who erected them. The competition between the different noble families to build ever taller and more ornate towers resulted in a vertical urban landscape that was a symbol of status but also a defensive and surveillance system, becoming a focus of conflict (Giorgi and Matracchi 2019). It is interesting to see how, when the tower loses its function as a bell tower or symbol for the community and becomes a symbol of power, the architectural type of the tower goes from being a public place to a guardian of the private: it is to be seen for its defence and no longer has an associated public space beyond the courtyards of castles and palaces, although, in reality, it was nothing more than another way for people to congregate.

Figure 1. Friedrich Bernard Werner. *View of Venice*, which currently has more than 150 bell towers. Source: *Venetia. Le immagini della Repubblica*, 156, II/II; Cassini, 79. Nr.cat: Cod 7637. N° de ref. del artículo 11,574.

From the Middle Ages onwards, the bell towers and steeples of town halls and churches became focal points in people's lives, establishing spaces for congregation and centrality based on the dominance and power of the various ecclesiastical and civic authorities. Their ornamentation evolved, and the towers came to express the identity of the cities. The cross, which crowned the bell towers, became part of the structural design of the tower and a means of visual evangelisation in the Romanesque period (Focillon 1972), symbolic additions in the Gothic period that were intended to signify victory over evil (Bony 1983), or symbols of Christian domination in later centuries (Norberg-Schulz 1980). With its structural development and vertical aspiration, the Gothic style was the perfect trigger for the proliferation of these structures that changed the urban landscape forever (Price 1983).

"*You can tell what makes a society by knowing what its tallest building is*"[3], said the American anthropologist, historian, mythologist, writer, and university professor Joseph Campbell (Campbell 1988). If we follow this criterion, we can easily see through architecture what is most important, what structures each society, and how it changes over time. With the passage of time and the emergence of urban planning regulations, in many places, aware of these buildings' physical imprint and historical relevance, it became forbidden to build any structure higher than them so as not to eclipse their presence (Campbell 1988). Over time, government buildings and later skyscrapers belonging to large companies began to compete for that importance in the skyline of their cities (Sudjic 2011).

3.3. The Need for the Bell Tower and Its Problems Today

Today, the role of bell towers in contemporary culture is in crisis (Foulds 2016). Beyond their heritage value, the reality is that their primary function, calling people to prayer or ringing the bells, is in question. Many studies have explored the subject of the bell tower as a soundscape and its value (Suárez et al. 2015; Schafer 1994; Schwartz 1995; Llop i Bayo 2020), and, currently, with more vigour through bell ringer societies (such as Campaners or The Whiting Society of Ringers), but the reality is that in many places, there are already restrictions and even bans on their use (Parker and Spennemann 2020), including in the Town Hall of Pozuelo itself, where the university is located, and it has been shown that on numerous occasions they are a nuisance (Parker and Spennemann 2020; Brink et al. 2011). Sound is, therefore, not a reason for building a bell tower.

However, it can make sense today. Price argues that the transformation of bell towers today is a sign of resistance, serving as symbols of identity (Price 1983). The arrival of modernity meant a break with the traditional language of sacred architecture (Aymá González 2007)[4]. Tafuri (1968) argues that, due to stylistic fragmentation, architecture can no longer communicate universal values on its own. Different churches no longer resemble each other; their use and importance are not necessarily deduced from their formal appearance. Numerous studies have analysed the dynamics of sacred language in Spain (García-Asenjo Llana 2016; Fernández Cobián 2000; Fernández Cobián 2009; Delgado Orusco 2013; Delgado Orusco 1999). In this context, the need for a bell tower for the new Francisco de Vitoria University temple becomes clear. There are several reasons for this need. One of them, perhaps the most obvious and the trigger, is the result of one of the problems of sacred architecture since the 20th century: churches, since the liberation of styles resulting from the Modern Movement and the avant-garde, are no longer so easily identifiable as such, but often fall into the category of 'singular buildings' (García-Asenjo Llana 2016; Fernández Cobián 2000). This has endowed architecture with memorable places and constructions, many of them renouncing symbolic value in favour of a sensorial approach to architecture (Martínez-Medina 2013), but on the other hand, it has sometimes meant a certain disconnection with society, which sometimes needs symbols and familiar

places (Gómez Segade 1985). The role of bell towers has often been that of a bridge between society and contemporary architecture, and in the worst case scenario, a crutch that allows, like Venturi's 'I am a Monument' poster (1972) (Figure 2), churches to be recognised as such.

Figure 2. Drawing for "Recommendation for a Monument" from *Learning from Las Vegas* (Venturi et al. 1972).

Ignacio Vicens, one of the leading experts in contemporary sacred architecture in theory and practice, argues that today's society could do without symbols of the past that refer to unnecessary functions, such as bells, which are dispensable. However, they do have a function for the users because they make them connect with the tradition of their religiosity and help the faithful to appropriate a contemporary architecture not recognised in the collective memory (Vicens y Hualde 2012). Miguel Fisac expressed a similar view when he said that the bell tower in his churches was intended to emphasise the religious significance of the building (Delgado Orusco 2009), acting as a bridge between the past and the present (Price 1983).

The bell tower is, therefore, an element of religious visibility, with the enormous importance that this entails for the community of believers, often living in an urban invisibility that implies a loss of identity (Esteso and Martín-Andino 2022). Strategies for visibility, therefore, involve either the uniqueness of the architecture or, on many occasions, the height and significance of the bell tower of the churches (García-Asenjo Llana 2016; Vicens y Hualde 2009). Sacred architecture needs to raise its hand to get noticed among all the others (Campbell 1988), and that element that rises on the horizon to be seen by everyone at all times is used to show the founding origin of the institution.

The university intends to make the new temple the focal point of the campus, like the old universities, thus hearkening back to the historical origins of the building. It is clear, as mentioned above, that it makes no sense today to focus the debate on the relevance of bells and their historical function of communication and marking the passage of time in the internet age or to focus it on the competition for height, striking geometry, or large dimensions in the style of Campbell. However, it does seem necessary to recover the symbolic function of the bell tower in order to 'redefine the meaning' of a place, according to Aymá González (2007) or Vicens y Hualde (2009).

As a distinctive architectural element of the Christian church, the bell tower has a key symbolic significance. The church is a sacred space for the gathering/congregation of the community, and the bell tower is an element that signals this (Frost 1995). It distinguishes it from a homogeneous and standard environment. "*It implies identification with the place of special significance and the ability to radiate to the surrounding environment*" (Aymá González 2007). The presence of the bell tower refers to the 'founding of a place'. In a way, the architectural construction of the bell tower is equivalent to the construction of identity. It is the symbol that

gives a building visible identity and meaning. That is the starting point for rethinking the bell tower as a contemporary typology, and from that starting point, the University Francisco de Vitoria's commission to its students to design a new bell tower is approached.

3.4. Close References: From Fisac to Higueras

From the start of the commission, the university considered the unique position of the existing temple. The university's specific location, next to the M-40 motorway, links this project with two other highly relevant ones, as they were designed by masters very close to the university and with two locations very similar to that of the new UFV bell tower: two examples of 20th-century bell tower solutions next to the motorway, with the function of standing out over the territory, by two exceptional architects—Miguel Fisac and Fernando Higueras.

Introducing the car into our lives, replacing walking, has changed our ability to observe architectural detail as we move around. Jan Gehl, the renowned architect and urban planner, explains in his book, *Cities for People* (Gehl 2013), how the car's introduction has affected how we perceive and experience the city. According to Gehl, the speed at which we move in a car limits our ability to observe and enjoy the urban environment. When we travel by car, the experience becomes faster and more superficial, preventing us from appreciating the details and interactions that occur in urban life. This has once again led to a tall, simply-shaped building, such as a bell tower or a clock tower, becoming a first-rate iconic architectural element. The UFV knows that most people will identify the church and the university when they drive along the M-40. It aims to make its mark in the same way as the two leading examples proposed, which are in the same situation and are outstanding examples of architecture: the Theologate of San Pedro Mártir by Miguel Fisac and Santa María de Caná by Fernando Higueras.

The first is the bell tower of the Theologado de San Pedro Mártir complex of the Dominican Fathers, built by Miguel Fisac in 1955 (Figure 3). It is an architectural complex of rational architecture in brick and exposed concrete. It consists of a church—which presides over the complex—and a series of convent pavilions organized around a common garden as a cloister. It was built on an isolated plot on the city's outskirts, which has now become a busy access to Madrid from the north (A1 as a continuation of the M-30) and by the M-40 ring road, from where the bell tower stands out as a visual landmark.

The bell tower is a free-standing tower 51 m high "attached" to the rear façade of the church. With a square ground plan, 5.75 m on each side, it comprises 16 white reinforced concrete pillars, 50 × 50 cm in section, and a helical concrete ramp that links them and rises to the crown level. The tower is topped by a 12 m high sculptural element, a lattice of twisted steel tubes supporting a cross and two bells. The concrete Greek cross, 3.5 m on a side, houses two neon tubes on each side to illuminate it at night (Cabañas Galán 2014).

Fisac's bell tower is intended to be a sculptural landmark, a visible attraction from the road and, at the same time, from the inner cloister of the building (Delgado Orusco 2009). On the contrary, the bell tower goes completely unnoticed from the outside space surrounding the building. The tower's pillars touch the ground, but it is not accessible. It is fenced with a gate, and the interior ramp rises 4 m from the ground via a walkway that connects to the church's main building, from which it is accessed.

At the opposite end of Madrid, on the M-40 ring road, stands the bell tower of the church of Santa María de Caná by Fernando Higueras, built in 1999. Two 40 m towers joined at the top make up the monumental entrance portico to the church, which rises above the building and its surroundings, becoming a visual landmark (Crespo Díaz-Meco 2020).

The Higueras bell tower is part of the monumental façade of the building (Figure 4). It is an architectural element that solves several functions, as it not only houses the staircase

and the bells but also builds the threshold and the entrance to the temple, and, especially, it is the presentation of the building to the city. The Higueras church is located at a crossroads of wide streets, generating ample urban space. The height of the bell tower facade of Higueras responds to the scale of the place; it has the function of "finishing" and presenting a singular building, building the front and the perspective of a square, with a clear intention of monumentality and visibility but also with the intention of recovering a certain traditional vision of the bell towers. "*Hopefully, the towers will be finished, and the storks will return to Pozuelo*", Higueras wrote in 1998 (Higueras 1998).

Figure 3. San Pedro Mártir from the highway. Photo by Luis Argüelles. Source: Fondo documental DOCOMOMO Ibérico.

Figure 4. Santa María de Caná, by Fernando Higueras. Photo: Håkan Svensson from Wikimedia Commons.

While Fisac's tower is a symbol of a religious building of rational aesthetics, a continuous visual claim from inside the building and from afar, Higueras's bell tower, above all, builds a public and monumental space. Both projects are outstanding visual references, especially from the M-40 that connects them, and dialogue with the small and the large scales at the same time.

4. Discussion of the Workshop Results

An analysis of the results of the workshop, the fruit of an enormous collective effort of listening, work, planning, thought, and dialogue, can help to shed light, once the problem has been contextualised, on the challenges facing the design of a bell tower today and the different ways of tackling it. The research carried out from the practice of the project assumes architectural practice as an experimental method of knowledge on which to conclude later.

For the analysis of the results, the three questions formulated by the owners are addressed, together with a series of topics specific to the typology of the bell tower or that emerge from the proposals presented. From the specific answers, conclusions can be drawn that help to contextualise the problem and future lines of research regarding such a characteristic typology (Figure 5) (Table A2, Appendix B).

4.1. The Space Generated

The first type of space generated by the bell tower proposals is the exterior space around the bell tower, which is historically important and often associated with important places in the city (Aymá González 2007; Corbin 1998; Price 1983). All vertical structures must land on the ground. Although this is a mandatory issue in all vertical elements, some of the proposals work on the public space generated around the tower, emphasising the relationship between that horizontal public space and the vertical one. How does a bell tower reach the ground? How does the square meet the tower? What can a vertical element offer to the campus space, to the students, and to the existing chapel? The work on the space surrounding the bell tower has some provocative proposals, such as the creation of agoras (7, 11); assuming the condition of a proper meeting place as in the classical urban typology (Alan) or spaces that exceed the primary demand of the university but that are committed to offering added value (8); working in these cases with the height of the square, modifying the ground from which one is born and offering an important load of mystery; and understanding that it is typical of sacred architecture, beyond whether or not it is strictly obligatory (Fernández Cobián 2000). The other strategy for working with the exterior space is based on the fragmentation of the architecture, proposing habitable interstices (2, 4, 5, 9). In all cases, there is a reflection on the urban and nearby scale of the campus, understanding that a landmark like this changes the dynamics of occupation of the university space (Galvez-Nieto et al. 2023) based on the creation not only of a symbol, which already implies an important regenerative power (Valdez and Romero-Guzmán 2022), but also of a recognised and concrete public space.

Furthermore, many projects generate their own, almost individual, interior or exterior space. This space, which did not form part of the initial programme, opens up an interesting debate and transcends the central commission, being one of the discoveries of the workshop's work. Can one speak of interior spatiality in a pre-eminently symbolic element designed to look outwards? Can bell towers be hybrid, multifunctional, or places of observation? (Price 1983). Practically all the projects have images of the close-up scale or these generated spaces for the lived proximity, not only as signage for a place. Even those in which the cross predominated as a centre and motif are concerned with generating habitable spaces, as if architecture were incapable of renouncing them (1, 2, 4, 7, 11).

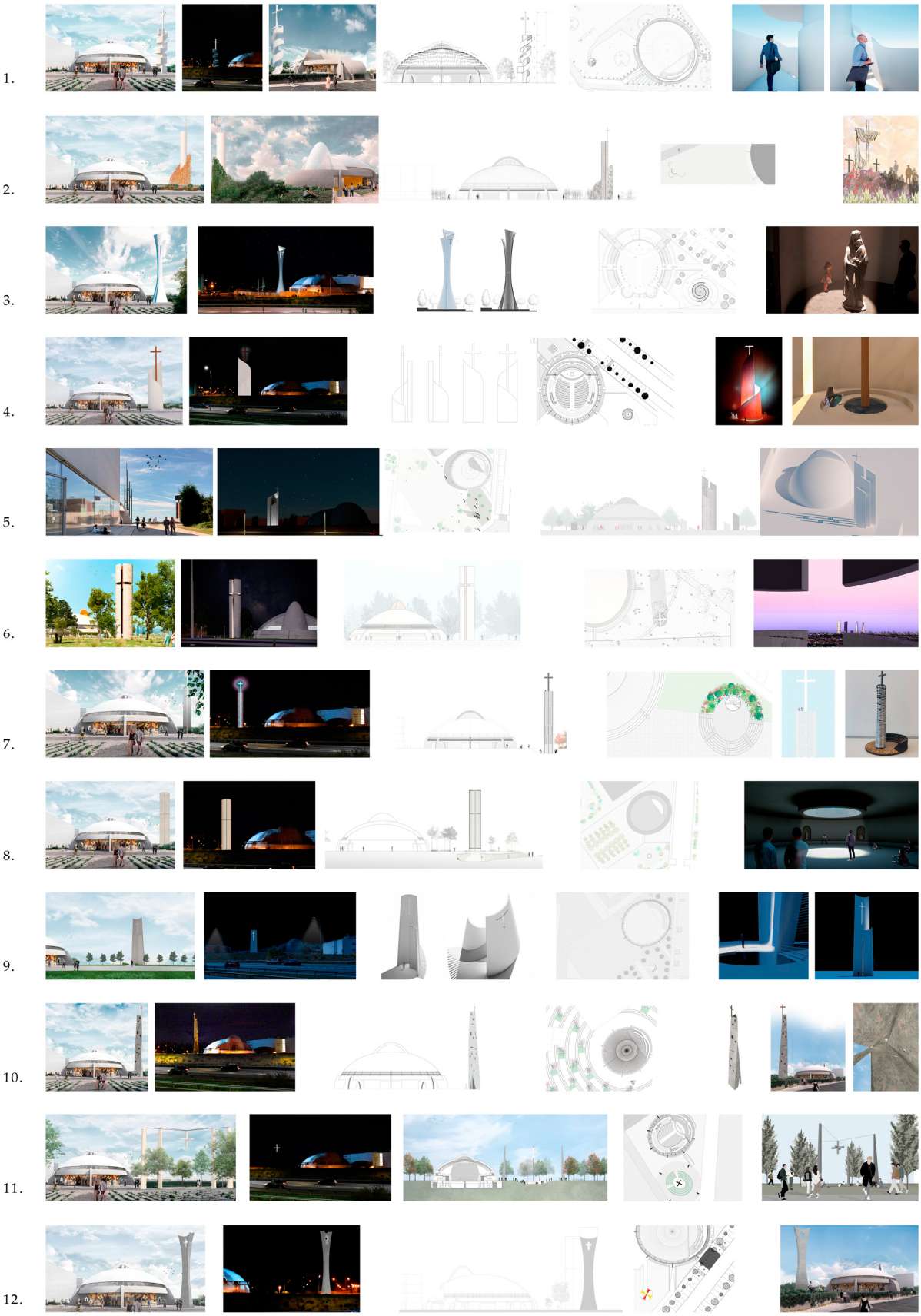

Figure 5. The bell towers proposed by architecture students for the new bell tower of the UFV. Projects Authors are described in the Table A2, Appendix B.

On the one hand, some projects raise the possibility of 'inhabiting the bell tower'. The tower generates a useful, habitable, and commonly used interior space. From this point of view, it is proposed to recover the historical functions of the tower, such as looking out from a height (6), although initially with a defensive character (Frost 1995; Price 1983); the ascending route (1, 6, 7); or to generate an interior space for contemplation or transcendence, even having almost the character of a chapel (2, 3, 4, 10).

4.2. The Symbolic Function vs. the Original Function

Analysing the results of the work, it is striking that they all incorporate the symbol of the cross, the Catholic religious symbol par excellence[5]. The cross still survives in a world where symbols have gradually lost significance in favour of experiences. It stands out as a recognisable symbol and as almost the only symbol capable of transmitting the Christian message today (Barrie 2012). The desire to convey that it is a Catholic university undoubtedly influenced the decision. However, it is significant that, in the end, all the proposals were 'forced' to incorporate the symbol, even if only discreetly on some occasions. Neither bells, which were hardly present in some projects, nor clocks (directly disappeared), elements typical of bell towers, endured (Azanza López 1998). With the survival of the cross, the communicative and symbolic function seems to have won the battle even against the sensoriality of the 20th and 21st centuries, which seemed to be ending all kinds of symbolism in favour of a more phenomenological, or at least more abstract, approach (Martínez-Medina 2013). As in the bell towers of Higueras and Fisac, which were previously studied, the cross is the highest point of practically all the proposals and constantly linked to the Catholic tradition (Norberg-Schulz 1980; Focillon 1972). If, as early as the 12th century, the cross was favoured over any other symbol for crowning the bell tower, we can affirm that the power of the symbol has endured over time (García-Asenjo Llana 2016).

The nocturnal artificial lighting, present in all the proposals, represents a contemporary contribution to the bell tower and the confirmation of its position on the motorway, its need to stand out even at high speed by standing out against the surrounding landscape, and being able to be understood at a glance. Studies into the restoration of bell towers today have offered a new perspective on this, pointing to the need for significance and illumination at night so that their function does not become obsolete in a world where 24 h count (Cicala 2024; Price 1983). The importance of the bell tower appears as an urban landmark, also at high speed, in a function typical of the 20th and 21st centuries, establishing itself as a symbolic element in modernity (García-Asenjo Llana 2016).

4.3. The Construction of a Monument: About the Architectural Language

The construction of the symbol has been approached using two main strategies, which coincide with the approaches to modern architecture stated by Frampton (1995), where the function is overwhelmed by material and constructive expression. Applied to the workshop results, the choice of materials and their use define their presence in the landscape, seeking different paths of contemporary monumentality. The two strategies or trends defined by Frampton are tectonic, where architecture emphasises its construction, its materiality, its physical presence, and the creation of space, and representative or symbolic (Frampton 1995), in which the expressive charge is left to the symbol, in this case, as we have seen, the cross.

In the first group, which we will call tectonic, the expressive charge lies in the architecture, the tower, its geometry, its slenderness, and its materiality (3, 5, 6, 8, 9, 10, 12). They propose an architectural element as a monument or a visual reference. Their main aim is to signpost a place using a monumental element that can be seen and distinguished both from the campus itself, from a distance, and from the road in a way conceptually

similar to Higueras' Church of Cana. The forms are defined and are mainly constructed from solid materials that underline the sculptural condition of the bell tower, with significant variation in its vertical development (3, 5, 9, 10, 12) and that when it is more straightforward, cylindrical (6, 8), it is because it encloses a unique space but which, in turn, gives the tower a significant presence. In this way, tectonics is a physical assemblage of materials and a symbolic language based on the construction itself, materiality, and even sensuality (Frampton 1995; Pallasmaa 1996). The debate surrounding these proposals raises the need to incorporate elements such as crosses or bells to give meaning and identity to the architectural monument, which has value in itself.

A second strategy is to give prominence to the symbol of the cross, entrusting it with the entire symbolic burden (1, 2, 4, 7, 11). This strategy would be representative or symbolic (Frampton 1995), in which the concrete image and the cultural or ideological burden of the architectural form are prioritised. The function of the bell tower is then produced directly: once the need for bells has been overcome, their symbolic function remains, but this is sufficient to give meaning to an environment beyond form (Norberg-Schulz 1980). The architecture then appears as the minimum structure to sustain it (1, 7, 11) and to shelter it (2, 4). Here, a dialogue appears between the architectural element and the symbol that crowns it, as well as the hierarchy and the proportions between the shaft and capital, as in the classical orders. The materiality in these cases never competes with the symbol, which is respected from a distance by showing its pre-eminence. This stance would be more conceptually related to Fisac's proposal in Dominicos. However, in its most abstract way, it could be linked to some of Jencks' (1977) postulates, in which architecture needs symbols to have meanings. The appearance of vegetation (2) or braids (7) and cables (11) emphasise this idea, even in those of more robust materiality (1 and 4), in which the most solid parts are always at a significant distance from the cross. For Jencks (1977), this architectural strategy would function as a double code, communicating with the recognisable past and the contemporary present.

4.4. Veredict

After the presentations, on the day of the final jury, comments were heard from university authorities and prestigious guest architects. Although they were satisfied with all the projects presented, two caught their attention. The first was the number 5 (Figure 6), which was composed of a series of screens that offered different views depending on where you were looking from (motorway, campus, surroundings, etc.). The project recovered some classical elements (the bells within its walls and the measurement of time based on the changing shape of the shadow depending on the time of day) and, at the same time, offered a mysterious and contemporary image in which there was a certain ambiguity in terms of the extension, height, and number of elements capable of engaging in a dialogue with the spectator.

The other project chosen, which was the starting point for the final design of the new bell tower, was number 11 (Figure 7): four masts oriented along the cardinal axes supporting a floating cross over an agora delimited by the four masts. Surprising in its typological dissolution, the proposal barely maintained the functions of representation and congregation, proposing a new architecture for a bell tower to the point that it can hardly be called such.

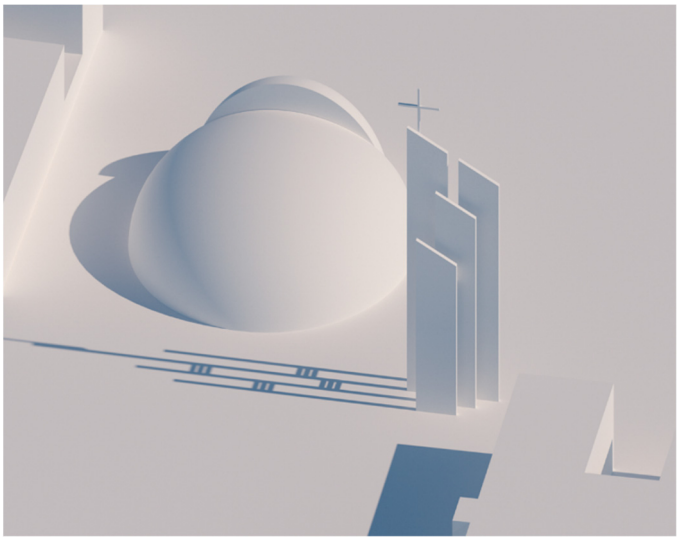

Figure 6. Project nº 5. Authors: Alfonso Cecilia, Belén Goday, Vanesa Ivanova, Pablo Hernández, and Myriam de Mesa.

Figure 7. Project nº 11. Authors: Marta García, Pablo Heras, Santiago Collar, Krystian Janosz, and Isabel Úrbez.

5. Conclusions

The collection of bell towers exhibited here invites a reflection on the symbolic function of architecture and especially on the relevance of recovering it in a typology such as the bell tower. Aldo Rossi, in *The Architecture of the City* (Rossi 1966), would include bell towers in what he calls 'permanent typologies': forms that are maintained over time because they have acquired meaning within the collective memory of the city and therefore have been invested with symbolic significance. Even though they have lost their original function (Vicens y Hualde 2012; Foulds 2016; García-Asenjo Llana 2016), assuming that they have lost their role as a sound call to prayer, the bell tower as a typology continues to be relevant in the need for churches to communicate with the faithful (Vicens y Hualde 2012; Delgado Orusco 2009; Aymá González 2007), that is to say, a specific semiotic relationship is established with the spectator (Jencks 1977). The workshop experience reinforces the fact that, in some way, the function of the bell tower has been redefined: what initially appeared as an architectural consequence of a functional and structural problem (Ivorra Chorro 2002), that is to say, its representativeness, has become the centre of its function, establishing itself as a field of experimentation on how contemporary sacred architecture can construct an identity, be a visual reference, and adapt to the challenges of the present without losing

its relationship with history, with the symbolic, and with the faithful themselves (Vicens y Hualde 2012; Fernández Cobián 2009).

Through the UFV workshop, the bell tower somehow materialises the profound relationship between architectural construction and the construction of identity. It shows how the 'bell tower symbolically recalls with its presence the possibility of founding a place in the face of a fluid and amorphous environment' (Aymá González 2007). Moreover, how architecture is capable of always giving more than is asked of it: an interior or exterior space, a sense of scale, an unexpected question, a solution to problems that one did not even know existed, and always a specific idea of community, of encounter, of a habitable place for people. A role that bell towers have played from the beginning as mechanisms of social cohesion is by marking the time and space of the community (Corbin 1998; Llop i Bayo 2020), and, in the contemporary context, they can mean, through new architectural forms, a reconsideration of their role in public space, promoting interaction and identity, and transcending the religious to become functional, urban, and symbolic landmarks at the same time (Price 1983).

In this sense, it is important to highlight the projects chosen by the client (5 and 11), which are very different from each other, with two radically different architectural approaches (one more tectonic and the other more symbolic) but which explicitly work with something that was demanded at the beginning by the Rector of the university: the concept of mystery, the raising of questions. The first (5) from its form gives rise to a changing image, with a dynamic image. The second (11) is through the dissolution of typology and the development of gravity. In the architectural conception of both, the distant view of the motorway is fundamental, as shown by a lesson learned from the bell towers of the nearby masters Fisac and Higueras.

The sacred architecture of the bell tower today stands as a questioner and finds its success insofar as it is capable of confronting the viewer with a transcendence that appears reflected as an enigma (Ramos Alderete 2021; Adorno 1970), establishing a singular relationship between architecture and person in which the symbol is not enough (Breitschmid and Olgiati 2019), but rather a questioning, sensorial experience is also offered: the symbolic is renounced, taken only to its foundation, the cross, in favour of a direct, formal, honest, and, in a way, spectacular relationship with the spectator, who is capable of being moved (Martínez-Medina 2013).

Significantly, the 'winning' project proposes maximising the two main requirements—a reference symbol and a public space—but dispenses with the architectural typology of the 'tower', which in itself historically conveyed meanings related to transcendence, identity, and power (Norberg-Schulz 1980). One wonders if this is the essence of the modern bell tower. Having been purified to the maximum, in an exercise of constructing the bare minimum to give a place new meaning, only the cross, the square, and the mystery remain: a symbol, a meeting place, and something that connects them and that is not entirely understandable but which, nevertheless, is capable of connecting and of welcoming people around a place and a faith—the true meaning of bell towers today (Vicens y Hualde 2012).

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Appendix A

Table A1. Students who authored the projects: The project number is related to Figure 5.

Nº Project	Authors
1	Daler Álvarez, Francisco Serrano, Juan Carlos Rodríguez, Esmeraldo Chinguto, Aina Romero, and Elsa Narganes.
2	Ana Pascual, Gabriela de los Reyes, Sofía Morán, Marcelina Owono, Andrea Baños and María Cervera.
3	Jaime Lombardía, Cristina González, Pablo Martínez, Seppe Hooybergs, Ignacio Casanova, and Alberto de Wachter.
4	Miguel Casquero, Melissa Córdova, Araceli Ferrá, Ulises García, Marcos Herrera, Gonzalo Martín.
5	Alfonso Cecilia, Belén Goday, Vanesa Ivanova, Pablo Hernández, and Myriam de Mesa.
6	Gonzalo Sánchez, Pol Fernández, Marcos González, Camila López, and Javier Lozano.
7	Rosalía Peiró, Jorge García, Carlota Muñoz, and Pedro Méndez.
8	Ignacio Segura, Gabriel Mascaraque, Beatriz Capitán, Marta Tejerina, and Jaime Andreu.
9	Ignacio Pardo, Javier Hernández, Fiorella Alberti, Elena Pérez, Rodrigo Gómez, and Paula Real.
10	Jaime Parra, Elisabeth Gutiérrez, Daniel López, Lucía Gómez, and Paula Vidal.
11	Marta García, Pablo Heras, Santiago Collar, Krystian Janosz, and Isabel Úrbez.
12	Marina del Barrio, Aura Mahecha, Andrés Gonçalves, Gabriela Serrano, Marc Jabrega, and Teresa Pardo.

Appendix B

Table A2. Taxonomy of the projects according to the main questions proposed by the university: The project number is related to Figure 5.

Question	Topic	1	2	3	4	5	6	7	8	9	10	11	12
The space generated	Public space		x		x	x		x		x		x	
	Own space	x	x	x	x		x	x			x		
The symbolic function	Cross	x	x	x	x	x	x	x	x	x	x	x	x
	Bells					x							
Architectural language	Tectonic			x		x	x		x	x	x		x
	Symbolic	x	x		x			x				x	

Notes

1 Remarks by UFV Rector Daniel Sada on the first day of class, Tuesday, 12 September 2023.

2 See note 1 above.

3 The original full quote is "It takes me back to when these spiritual principles informed the society. You can tell what is informing a society by what the tallest building is. When you approach a medieval town, the cathedral is the tallest thing in the place. When you approach an eighteenth-century town, it is the political palace that's the tallest thing in the place. And when you approach a modern city, the tallest places are the office buildings, the centres of economic life." (Campbell 1988, pp. 118–19).

[4] "If in ancient times it was possible to distinguish a building by its specific shape or by specific elements (bell tower, orientation . . .), today it is almost impossible because "everything seems or wants to mean everything. This aspect results in a trivialization and homogenizing levelling of certain architectural elements." (Aymá González 2007).

[5] "The top of the bell tower should be a cross rather than any other symbol", according to David García-Asenjo in his doctoral thesis, referring to the secretariat of the Spanish Episcopal Commission for Liturgy, Environment, and Art (García-Asenjo Llana 2016).

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