

TWO WORKS BY SOL89

HOLLOW COMPACTNESS

SUMMARY:

The SOL89 office, formed by María González and Juanjo López de la Cruz, is where they carry out their professional activity since the year 2000, once they completed their studies at the School of Architecture of the University of Seville. Since then, they combine their professional practice with teaching and research, undertaken with intensity and rigor, and regarding a few substantial constants. Either by means of new buildings or through interventions in existing ones, they delve into matters concerning the relationship between public and private spaces -intermediate areas-, thick envelopes, or the ability to use the section in order to characterize space and light in architecture. However, the article focuses on two early works: the Andalusian Institute of Biotechnology in Seville (2001-2007) and the Exhibition and Congress Centre of Ayamonte (2004-2014). Both projects share formal and material similarities, such as precast concrete enclosures, although they respond to different project strategies that could be summarized as the following actions "to stack" and "to sculpt".

KEYWORDS: SOL89, to stack, to sculpt, free section, compactness

The office SOL89, formed by María González and Juanjo López de la Cruz, starts its professional activity with the change of the century and in a very specific geographical framework: Andalusia. Nevertheless, its architecture does not fall within the usual parameters of what could be called "Andalusian school" and its vernacular abstraction, characterized by scarcely perforated whitewashed simple volumes.¹ The team demonstrates a constant experimentation that is translated into unitary but complex geometries, characterised by thick yet hollowed out enclosures and elaborate cross sections that are based on the strategy of "arranging the floor plan in order to disarrange the section", in the words of the architects themselves.² However, the following lines focus on two early works: the Andalusian Institute of Biotechnology in Seville (2001-2007) and the Exhibition and Congress Centre of Ayamonte (2004-2014). They are both facilities, with complex programmes and comparable surfaces, which share common geometric, spatial, material and constructive attributes: the compact shape similar to a prism resulting from the intensive occupation of the site, the important role of the section as an internal organization procedure, the great use of large format prefabricated concrete panels for the external enclosures, and the *on-site* concrete portico-framed structures.³ Nevertheless, the architectural operations that are carried out in order to achieve these results are diverse and show us two complementary ways of thinking and building architecture.

Architectural works

The Andalusian Institute of Biotechnology ⁴ is located on the tertiary site of the Universal Exhibition of 1992, and functions both as a research centre and as a place that gives assistance to patients. It is a blind prismatic volume that has a rectangular base (48x25 m), four floors above the ground and two basement levels that house services and car parks. The substratum absorbs the unevenness and irregularities of the ground floor, which houses the access areas, as well as the entrance to an assembly hall that can operate independently. The strict enclosure of corrugated concrete panels (12x1,10m, thickness =12cms), only altered by punctual tribunes, encloses an introspective interior space with a clearly organised floor plan. Two longitudinal strips, as if they were cushion spaces, house the circulations: patients on one side and staff on the opposite one. In contrast, the core of the floor plan is organised with the alternation of transversal strips and enclosed spaces – rooms-, with a roof -terraces- or without one -courtyards-. This layout creates three concatenated internal voids that have variable heights, which visually and diagonally connect all of the floors and at the same time provide the interior with the adequate light and ventilation. The *on-site* concrete portico-framed structure responds both to the longitudinal strips with porticoes of a scarce span and a small edge, and to the transversal strips by means of bridge-beams of a 14-metre-span and a 1-metre-edge. (Fig. 01, 02)

The Exhibition and Congress Centre of Ayamonte ⁵ is located on the fluvial route that starts at the Guadiana and connects to the marshes and salt planes which are characteristic of the place. This border situation between what is urban and what is natural determines the proposal that parts, on the contrary of Seville, from a clear extrovert vocation, in which the building becomes a vast roof that aims to give value to the natural heritage of the marshes by means of a lateral opening and a panoramic view. The programme keeps within a prismatic shape with a rectangular base (75x35m) once more, this time only virtually. The exterior faces of the setback planes that define the volume evoke a prism in which the diverse parts of the programme can be appreciated. This

fractured enclosure built with white prefabricated panels (2x3,30m, thickness =14cms) generates an important void, as if it were a covered square, around which the auditoriums -for 1300 and 300 persons-, work rooms and exhibition spaces are organized. The access to the square takes place from the north face -the urban one- and by means of a great ramp. The rooms on the ground floor –exhibition spaces and services- stand out as a great podium, which allows raising the access level and thus enjoying the distant views towards the marshes. (Fig. 03, 04)

Architectural operations

One of the main documents that explains both buildings is *the section*. In fact, the spatial conception of the projects is a constant in the career practice of the architects, which is especially reflected in the definition of the vertical cuts that also tend to define the image of the buildings. In the Pre-School Education Centre of Ayamonte (2003-2005), a fractured roof profile connects the street level to a park in the rear, in such a manner that the user passes under spaces that have different heights, flat and inclined roofs, and through delicate latticework. The discrete discontinuous profile of the Pre-School Centre is exaggerated and radicalized in the complicated intervention of the Virgen Macarena Hospital of Seville (2007-2011). The extension of the hospital cafeteria is carried out via a new volume which is alien to the existing building, although partially confined between its floor slabs. The extension expands towards an attached courtyard and dilates in floor plan and section, characterizing the living areas with vigorous inclined roofs and new entries of light. In a similar manner, The Catering School of Medina Sidonia (2007-2011), fruit of the intervention in the old slaughterhouse of the town, parts from an elaborate roof now confined between the existing potent perimeter walls. The roof, with a mismatching reverse and obverse side, “enables to illuminate the space between the walls and stands on end in order to house the kitchen of the Catering School, the layout is splattered with courtyards that function as ventilation shafts”.⁶ (Fig. 05)

In the buildings of Seville and Ayamonte that we are addressing, the sections -both longitudinal and transversal- suggest that an action of emptying or excavating the apparent volume defined by the construction limits has been undertaken. Nevertheless, the work procedures carried out on the vacuum are not the same. The architects themselves, in the course of the “V Congress of White Architecture” of the Polytechnic University of Valencia in April 2012, used two verbs to explain both projects and clarify their operational differences: *to stack and to sculpt*,⁷ that is, overlapping one thing over the other, and undertaking a carving or subtraction work on a material. Both actions approximate architecture and craftsmanship, and suggest the interest of the authors to confer constructive consistency and plausibility by means of an almost manual work on the materials.⁸ Materials that manipulated with skill manage to elevate solids of a discontinuous structure, that is to say, porous volumes that house space and light. (Fig. 06)

In Seville, the building is formalized “by means of the superposition of floor plans that possess the same porosity but that are distributed in different ways”.⁹ The programme is organised by uses on different floors, which have the circulation strips in common. Nevertheless, the voids on each level vary position, depending on the convenience determined by the interior rooms, so that the section turns out to be a consequence and not a starting point. It is the work of stacking horizontal substrates carefully, of which result the spatial, light and visual richness of the courtyards and terraces. For this reason,

the "free section" depends on a varied yet rigid-layout of the floor plan. Not in vain, as already pointed out by Colin Rowe, the freedom of the modern plan –the open plan- is matched by the equidistance of the floor and the ceiling, or what is the same, to a limited section; and vice-versa, so it is only through interlocked and fixed -paralysed- floor plans that freedom in section can be achieved.¹⁰

In contrast, a cross section through the covered square is one of the initial drafts of the project of Ayamonte, in which "the scale of the marsh landscape puts pressure on the building and hollows it out".¹¹ The sharpness of the roof and its perceptive separation as an independent plane, the aerating of the access floor plan -*piano nobile*- and the construction of the ramp, or the punctual subtractions of the corners of the apparent prism suggest operations that do not depend exclusively on the decisions taken on the floor plan. These operations, furthermore, undermine the integrity of the prismatic volume from the start, initiating a path in which two basic ways of conceiving architecture overlap: conceived as a prismatic box or as a composition of interrelated planes. In the same way that occurs in the Educational Training Centre of Cabildo de Palmete (Seville, 2006-2009), the building is given a double condition of open and closed, convex and concave, in which the limit between what is public and what is private fades away –, this also takes place on the ground floor of the Andalusian Institute in Seville-.

Final considerations

In "Paradigms of the end of the century: fragmentation and compactness in recent architecture"¹² and "Strong forms: architectural values of a decade",¹³ Rafael Moneo and Juan Antonio Cortés, respectively, try to shed light on what has been the architecture of the end of the XXth century and beginning of the XXIst. Both coincide in posing two major aspects. The first would be formed by those architectures characterized by what is broken, discontinuous and fragmented, while at the same time unstable, fluid and formless. The second, perhaps less common, is defined via the concepts of "compactness" and "strong form". Moneo understands "compactness" as regular and enclosed forms that coexist with freely-laid-out interiors.¹⁴ Cortés refers to "strong form" when regarding projects that have an overwhelming physical and material presence in which continuity and variation, formal clarity, and perceptive and geometric complexity are combined. The architectural design carried out in SOL89 participates in this second vision, but with its own accent, which situates Andalusian architecture in the panorama of the best recent architecture.

¹ See: *Arquitectura Viva*. El sur siguiente: abstracción y mestizaje: proyectos andaluces de ahora. Madrid: Avisá, 1999, number 68. [The Rising South: abstraction and crossbreeding: Andalusian projects nowadays].

² Conversation with the authors, May 2015.

³ It should be clarified that in the case of Ayamonte, the vast sharp roof that covers the whole project is solved with a metallic framework.

⁴ SOL89 together with Francisco González and Salvador Méndez.

⁵ SOL89 together with Miguel Ángel Francisco.

⁶ Project report (<http://sol89.sol89.com/2010/10/escuela-de-hosteleria-en-matadero.html>).

⁷ SOL89 has also used both terms as pedagogical strategies for a few subjects at the Architecture School of the University of Seville. The course 2012-13 of "Architectural Design 1" had for title "Actions", and was based on four exercises under the epigraphs: Stacking, Subtracting, Folding and Entwining.

⁸ Gottfried Semper, German architect and theorist of the nineteenth century, is one of the first to establish a clear relationship between the "art of space" -architecture- and the four original and basic constructive arts: ceramic, fabric, joinery or carpentry and stonework or masonry; these give place to elemental constructive operations: moulding clay, weaving threads, assembling bars and stacking blocks. See: ARMESTO, Antonio (ed.). *Escritos fundamentales de Gottfried Semper: el fuego y su protección*. Barcelona: Fundación Arquia, 2014. [Fundamental writings by Gottfried Semper: fire and its protection].

⁹ Project report (<http://sol89.sol89.com/2010/10/instituto-andaluz-de-biotecnologia.html>).

¹⁰ ROWE, Colin. "Las matemáticas de la vivienda ideal". En: *Manierismo y arquitectura moderna y otros ensayos*. Barcelona: Gustavo Gili, 1978, p. 18-19. [The Mathematics of the Ideal Villa and Other Essays, 1976].

¹¹ Project report (http://sol89.sol89.com/2010/10/centro-de-exposiciones-y-congresos_10.html).

¹² Lecture given at the School of Design of Harvard University in February 1998, and published in the Harvard Design Magazine, in the Summer of 1998, p. 71-75. Text subsequently collected in *El Croquis*, Rafael Moneo 1967-2004, number 20+64+98, 2004, p. 650-659

¹³ CORTÉS, Juan Antonio. "Formas fuertes: valores arquitectónicos de una década". *El Croquis*. Las Mejores Obras de Principios de Siglo, 2011, número especial. ["Strong forms: architectural values of a decade". *El Croquis*. The Best Works of the Beginning of the Century, 2011, special number].

¹⁴ It must be noted that the procedure of compactness, which has associated the preponderance of the almost exclusively blind exterior walls, is especially appropriate for those programmes - museums, convention centres, research centres- that, for their own nature, do not need to behave in a transitive manner towards the exterior. Both in the Andalusian Institute of Biotechnology of Seville, as in the Exhibition and Congress Centre of Ayamonte, these conditions are met, to a greater or lesser extent.