Although the cubic house has a wide genealogy at a global level, this project starts from very specific local references, hard to guess through images: the brick masonry tradition of the Paraná basin (both in Argentina and Paraguay), the structural compression logics characteristic of this constructive system and, mainly, the work of Jorge Scrimaglio in Rosario which this project not only advances but also tributes.
Building regulations for the city of Rosario require the use of 12-meter high load bearing brick partition walls. This was the starting point for a research on masonry and the ordinary brick as a basic constructive unit.

The decision of working with exposed brick follows a contextual continuity with the city’s architecture, taking advantage of the skills achieved by local bricklayers in masonry techniques and the good quality maintenance of its surface over time.

Design research finds its most immediate reference in Jorge Scrimaglio’s work in Rosario during the 60s and 70s, who in turn had been infused by countless anonymous examples of local brick construction as well as in the
organic tradition of modern architecture. Particularly, his Alorda house is a clear example of employing the traditional bearing brick wall as a modular system, working under sheer compressive strength.

This three-story residence prioritizes a compact footprint that frees most of the plot, while adapting to an urban district with increasing heights. Three walls running perpendicular to the street are the structural elements that define two different sized bays housing the dwelling spaces. A stairway parallel to the facade connects all three levels. Perforated brick walls close both the front and rear of the house.

All walls are monolithic, 45 to 30 cm thick and without any interior or exterior thermal insulation, achieving the necessary comfort conditions through its mass and an impermeable cement mortar. Wet areas are built with the same bricks, now enameled, while the ceilings keep the exposed concrete slab. There are no plastered or painted surfaces in the house.

A series of studies on the different types of brickwork and their possibilities of perforation as regards their structural logic defined the adoption of an English bond pattern for each dividing wall as well as the facade. The north elevation was built with the minimum amount of materials possible in order to maintain the wall’s bearing capacity and stability while allowing for a better
connection between the house’s interior and exterior. In this bond, loads are transmitted following an oblique line of approximately 45 degrees and its span possibility is proportionally the highest (35% transparent, 65% opaque). The bond – understood as a logical system – is translated into a digitally modeled algorithm that recreates the system’s laws accepting the modification of variable external parameters (such as site, bricks or joints between them, real dimensions and so on), so as to perform the final adjustments between the abstract diagram and its actual site.

There are no walls or windows, instead a minimal building unit is repeated in different patterns and regulated according to requirements of structural stability and natural light. The selected material is thus structure, enclosure, openings, finishing and inherent decoration, all at once. **ARQ**
Detalle mampostería armada sobre vanos. Sobre las juntas verticales de los vanos más grandes se agregan armaduras de hierro de 6 mm de diámetro. Las cargas estructurales que bajan en diagonal son derivadas en zigzag sobre el vano, hasta encontrar una ruta continua hasta el suelo.
Planta segundo y tercer nivel (hiladas 79 y 95) / Second and third level plan (courses 79 and 95) E. / S. 1:200

Planta cuarto y quinto nivel (hiladas 123 y 139) / Fourth and fifth level plan (courses 123 and 139) E. / S. 1:200
LEYENDA / LEGEND
1. Fe Ø 6 mm, c/ 5 hiladas / every 5 courses
2. Fe Ø 6 mm, refuerzo en encuentros de muros / steel reinforcement at wall encounters
3. Fe Ø 6 mm, refuerzo en esquinas / steel reinforcement at corners
4. Fe Ø 6 mm, distribución de cargas sobre grandes aperturas / load distribution on larger spans
Faced with the extinction of traditional lifestyles, as new technologies are optimized and buildings measured in terms of fashion, efficiency or performance, regional building techniques and models are fading away. In this context, the project dives into the practices and imaginaries of Rosario-based brick production, taking up on the by-now classic dialectic pair global/local by combining digital manufacturing and craft techniques.

The subtraction operation performed by local architect Jorge Scrimaglio at his Alorda house, designed and built between 1968 and 1973, is the project’s direct reference: a compact, massive bulk of bricks that, when hollowed, shows the different ways in which masonry works under compression. A generation later, Arraigada pushes forward Alorda house’s initial statement by posing the question of the minimum amount of material necessary to build an enclosure, maintaining the brick walls capacity to support loads while simultaneously optimizing its possibilities of transparency.

With this restriction as a starting point, the project undertakes a line of research that, by introducing parametric tools and digital models, brings the structure to the limit of its possibilities. At the same time, however, the dwelling’s small scale supports craft forms of construction, accounting for a local manufacturing culture that maintains its ability to provide quality results beyond the terms of a mere economic profit.

The result is a simple volume with a complex surface, which accepts the alleged emancipating role of new technologies while it resists engaging contemporary models of production and consumption, albeit only in its constructive dimension. ARQ