

Wood and Domestic architecture in Aalto's work: Some influences on Portuguese Architecture

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1. Introduction

This article proposes an interpretation of the Portuguese experience on wooden architecture taking in account the concept of *envoltura/wrapping* (Caters 2007: 89) and the influence of Alvar Aalto's work in the Portuguese architectural scene in the fifties of the twentieth century.

In that period, a conjunction of favorable factors such as the *National Survey on Popular Architecture*, the access to international magazines that gave particular attention to the Japanese and the Scandinavian realities, and the impact of a Portuguese architecture magazine, named *Arquitectura*, contributed to a new look at traditional materials according to an approach that moves from the imitation of the traditional buildings to treating them as *materia* incorporated into a transformation process in order to produce an adequate space to contemporary man.

This tendency generated a unique moment in the Portuguese architecture characterized by the coexistence of the generalized use of concrete and, at the same time, the integration of highly skilled craftsmen such as carpentry.

2. The selection of the four houses

In order to establish a parallel between the Aalto's contributions and the Portuguese architecture, taking in account the presence of wood in conformation of the exterior form and the characterization of an atmosphere on interior space, this study analyzes two houses in Finland, and two houses located in Portugal.

Aalto House in Helsinki (1935-36) and *Villa Mairea* in Noormarkku (1938-39), are by Finnish architect Alvar Aalto (1898-1976), and were designed in the thirties. The houses in Portugal, *Holiday House* in Ofir (1956-58) by the Portuguese architect Fernando Távora (1923-2005) and *Boa Nova Tea House* in Leça da Palmeira (1958-63) by Álvaro Siza (b.1933), were both built in the fifties.

The experimental nature of the *Aalto House* regarding the use of wood, especially in the exterior, as well as its specific program, which determined how the materials were interconnected, lead to *Villa Mairea*.

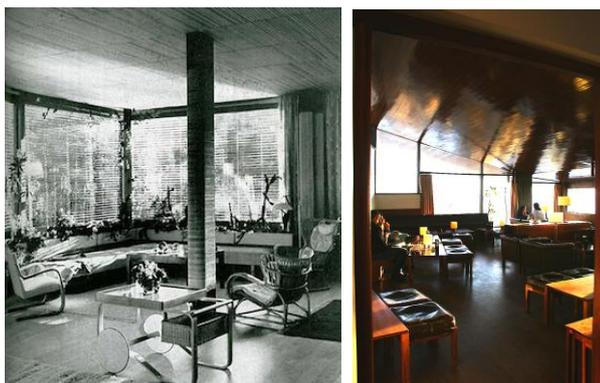
Similarly, although from a different perspective, the construction of the *Holiday House* in Ofir represented the first sign of the coexistence of Nordic influences simultaneously with an approach to vernacular Portuguese architecture in 1950s. This work was an essential forerunner to the *Boa Nova Tea House*, without which it would never have been made.

The inclusion of *Aalto House* and the *Holiday House* in Ofir into this work is justified by the fact that both had an experimental nature and were relevant in the development of the use of certain materials, particularly wood, as well as by their influence on architectural expression in the later works.

There is emotion, these impressions (...) there is this impression in the skin and spirit that is not on the computer, at least for now. The atmosphere - just like to identify certain qualities of architecture - is actually something that, rather than intangible, could be invisible, not possible description.¹

Álvaro Siza, 2007

Most of the analysis was performed with regard to *Villa Mairea* and *Boa Nova Tea House* since, and in my opinion, there is a certain similarity in the *atmosphere*² of the spaces due to the undeniable presence of wood as the predominant material.



Villa Mairea's living-room and Boa Nova Tea House's bar L'Architecture d'Aujourd'hui n. 29, 1950, p.23 and photography by Ana Isabel Costa e Silva 2012.

3. The influence of regional cultures

In the book *Space, Time and Architecture* (1941), Sigfried Giedion (1888-1968) included a chapter, which incorporated the work of the Finnish architect Alvar Aalto. At that time, Giedion stated that, simultaneously to the construction of iron and concrete, it was at the hands of Alvar Aalto together with the wood producers that brought this material back into the limelight, revealing its potential in relation to architectural expressiveness and its technological transformation.

In 1950, the French magazine *L'Architecture d'Aujourd'hui* published Giedion text in its issue number 29, translated and accompanied by images and texts on the work of the Finnish architect. It was exactly this issue (number 29) that a young architecture student called Álvaro Siza would acquire on the recommendation of architect Fernando Távora, his professor at the Porto School of Fine Arts.

The influence of Alvar Aalto's work on Álvaro Siza's architectural *oeuvre* is a fact accepted and recognized by this Portuguese architect. Even if Siza has never mentioned the *Villa Mairea* in particular as one of the most influential works in its production, we think that *Villa Mairea* has been crucial for the specific project development of the *Boa Nova Tea House*, although in an indirect way.

Seeing the photographs of the issue number 29 of the magazine *L'Architecture d'Aujourd'hui*, complementing it with the site visit, it is possible an approach between the *Villa Mairea* and *Boa Nova Tea House*. In their interiors, unique relationships were created between the material and light. The use of the material, although implemented differently in each house, reflects a refined work at two levels of architectural practice: project design and construction work.

Moreover, at that time, a conjunction of favourable factors drew attention to the use of wood, taking advantage of its expressiveness, and had followed the interest on looking ways *outside the epicentre of modern architecture*, to what Kenneth Frampton called '*Critical Regionalism*'. Both themes – the influence of an author in another's work, combined with the presence of wood in the space – resulted in the choice and analysis of the selected houses for this work.

4. The individual at the centre and the importance of detail

Precisely in 1950, the Portuguese magazine *Arquitectura*, published part of an Alvar Aalto article, entitled *The Humanization of Architecture*, which provided information as to some of Aalto's concerns³.

Considering the architecture's concept *envoltura/wrapping*, associated to a *methodical accommodation to the circumstances*⁴ the starting point of Aalto architecture design is the human being, his emotions and the forms of natural elements (Aalto 1940: 334), in the alignment of Gunnar Asplund practice. The material's role followed this alignment where the main goal was to find the quality of space to come up with the comfort of human beings.

The aim of integrating "old" materials, like wood, with "new" materials, like reinforced concrete, with special attention to the detail, can be seen in the fifties' architecture of Fernando Távora and Álvaro Siza, in order to create spaces that were centred on the individual.

We understand that this approach tried to answer to the need to build an architectural practice with complementary ideals in view of the assumptions and recommendations of the *Modern Movement* towards a specific discourse representing Portuguese culture. This approach led us to the perception of a phenomenon that occurred in this decade in Portugal, previously experienced abroad (Montaner 2001: 20), based on the use of traditional materials in order to expand and complement Modern Architecture language.

5. A details' analytical reading as an approximation method

In order to understand the use of wood in Portuguese architecture, an analytical work was made based on the comparison of four study cases to find similarities and also less obvious relationships, avoiding an analogy work that would involve a relationship of similarity previously equated with the objective of their contraposition.

Methodologically, we found that the site visits to the four works became operative and even the recognition of certain fundamental concepts, seized *a priori*, later influenced and informed our view. The space experience became a reading work with a different focus on several materials.

In a design project and its execution, the complex problems arise where is the need do establish the relationships between the different building elements (Paricio 1985: 43). But it is precisely there that both architects, Alvar Aalto and Álvaro Siza, find reasons to draw accurately in every detail pursuing and confronting all the constraints, where every detail has always a rational explanation (Giedion 1982: 617). Nothing is proposed at random although the path they took to reach the solution does not require or seek any authority among the various surrounding circumstances created on the design plan.

In a reality where everything is significant, since the structural elements to the door's handle, a details' reading was organized that also covers general aspects to be able to understand the relationships that arise where and how the material is treated at different architectural elements.

6. *Aalto House* in Helsinki and *Holiday House* in Ofir

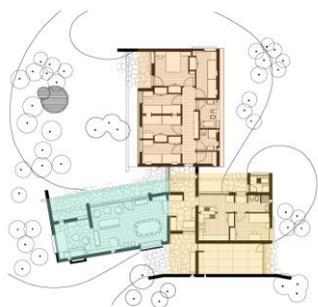
Regarding the use of wood as a cladding element, the *Aalto House* represents the first approach in individual housing program that, along with other works, had a direct consequence on *Villa Mairea*.

The *Aalto House* combine two distinct programs - the Aalto family home and the couple's office. The dual program is expressed in the form and in the exterior cladding of the house. On the outside of the family home volume, the presence of wood is processed as a cladding, in a combination set of reduced thickness and width dark wooden strips, placed in vertical direction.

Wooden cladding tested in *Aalto House* was also proposed in *Villa Mairea* in order to hierarchize certain spaces. In both, Alvar Aalto combined two different tones of wood, a darker tone on the facade and a lighter tone in the windows and doors frames and balcony guards of outdoor spaces.

From the *Holiday House* in Ofir remained, among many other things, '*the desire to reconcile certain values of our architectural tradition with the possibilities offered by the materials of our time*⁵'. Thus, conjugating whitewashed stone walls, leaving the texture of the material visible with wooden roof trusses made in a different manner to traditional construction practices. The wooden ceiling joist replaced by a steel cable changes our reading of the roof's slope in the space.

Álvaro Siza interprets the *Holiday House* in Ofir as a *work in close liaison with regional tradition, while simultaneously representing an approximation to a Nordic modern spatial structure* (SIZA 1987:186). In the floor plan we see a combination of three volumes with distinct functions. The North entrance is placed at the junction of the living room volume with the services one (kitchen, garage, room service, laundry), in a discrete way. The third volume, perpendicularly aligned with the other two, has the biggest openings to east.



Plan of Holiday House in Ofir. Drawing by Ana Isabel da Costa e Silva 2012.

Outside, the living room volume along with the rooms' volume forms a concave space that with the placement of a circular piece of concrete combined with a slight elevation of the land surrounding creates a protected outdoor space. We found something similar at *Villa Mairea*, where the combination of the swimming pool, integrated into a concave space provided by the house's L-shape, along with a very slight elevation of the ground ending with a small wooden fence, created a outdoor space that is the core of the house, where intimacy and comfort exist.

It is from Fernando Távora that Álvaro Siza inherited this interest in study the detail in a close relationship with the entire building. In the fifties, these architects' work demonstrated the existence of highly skilled carpenter craftsmen. *The treatment of wood in Siza's work is particularly impressive as it recognizes and uses the craft of boat builders, widespread in northern Portugal* (Fleck 1999:35). The plans designs are delicate and full of detail. So it is with *Holiday House* in Ofir and *Boa Nova Tea House* in Leça da Palmeira.

7. The *Boa Nova Tea House* and the *Villa Mairea*

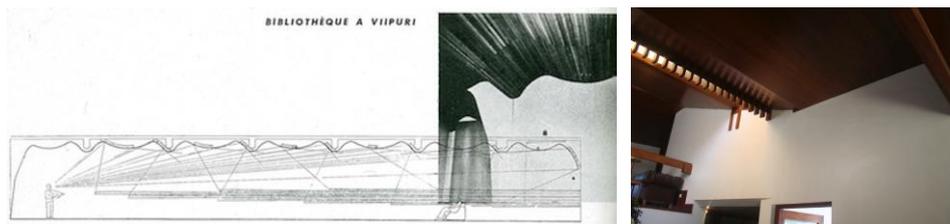
The constructive aspects of the *Boa Nova Tea House* in Leça da Palmeira are based on a mixed structure, combining a concrete framework with stone walls. Towards west, facing the sea, the wall structure has been dematerialized into concrete pillars. On the walls, while the striped concrete walls and pillars were left visible without any kind of cladding, stone walls were whitewashed both in the outside and inside.

The building's roof uses a concrete structure and wooden cladding – African wood named *Afzélia*. In public spaces, like the restaurant and bar, the concrete beams cannot be seen because of the roof wooden cladding, but they remain visible in the service areas. The significant presence of the concrete beams in the services' areas is provided by the relationship between the shape and height of the beams and the reduced floor-to-ceiling height of the space.



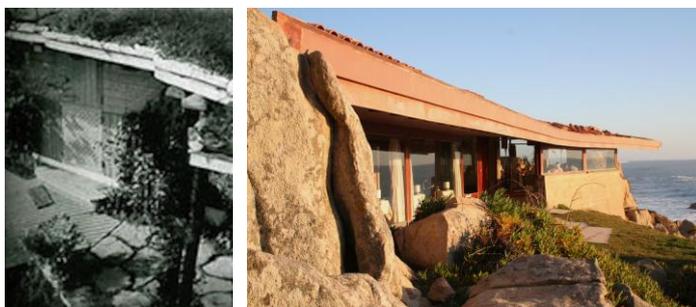
Interior of service areas and public areas of Boa Nova Tea House. Photography by Ana Isabel Costa e Silva 2012.

Inside, the presence of wood is in the noble areas. Wood cladding on the underside of the slabs was also used in *Villa Mairea* creating a certain thermal, acoustic and visual comfort. With regard to this particular issue, looking *Boa Nova Tea House*, regarding Alvar Aalto works, particularly the *Viipuri Library auditorium*, come to mind.



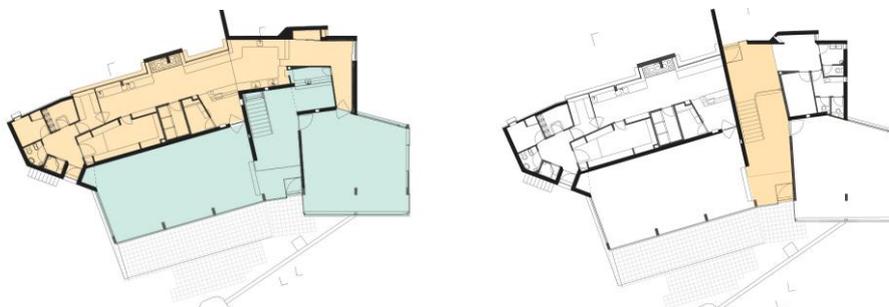
Roof cladding: Viipuri Library auditorium and Boa Nova Tea House's entrance. *L'Architecture d'aujourd'hui* n. 29, 1950, p.12 and photography by Ana Isabel Costa e Silva 2012.

Outside on the roof, the presence of wood marks the horizontality of the building through two fascia boards that make the eaves. The two wooden fascia boards on top of one another, occasionally interrupted by the whitewashed walls (cover up the gutter elements externalized through gargoyles), emphasizes the horizontality of the facade and again *Villa Mairea* come to mind.



The roof finishing with wooden fascia boards in *Villa Mairea* and in *Boa Nova Tea House*. *L'Architecture d'aujourd'hui* n. 29, 1950, p.23 and photography by Ana Isabel Costa e Silva 2012.

From the outside, the *Boa Nova Tea House* is composed of a merger of two elongated, slightly twisted volumes rising up from natural stones by the sea, demanding for unity. With the two delicately twisted areas, Álvaro Siza creates the entrance and forms a recessed area with a small covered terrace.



Plan of *Boa Nova Tea House* in *Leça da Palmeira*. Drawing by Ana Isabel da Costa e Silva 2012.

Inside, the space was divided into three structural spaces: the entrance, the bar and the restaurant. Among the programmatic and formal division of the interior, the entrance is located asymmetrically in relation to the whole building.



Entrance: Villa Mairea and Boa Nova Tea House. Image from *L'Architecture d'Aujourd'hui* n. 29, 1950, p.22 and photography by Ana Isabel Costa e Silva 2012.

The way in which the entrance is placed shows the architect's clear intention to propose a construction according to circumstances of the site. This space works on two floors in continuity with the entrance of the building in the higher elevation, and the element of distribution to the public rooms and exterior, in the lower.

The importance of the entrance in the whole is highlighted by the way it is treated in respect of levels, materials and light. In the higher level, this space acts as a break element to the presence of sea, and seems to domesticate its presence in the interior. It is from the lower level that movements between the two public rooms are generated and again returns the presence of the sea, which by their programmatic nature has a *festive* character. Álvaro Siza brings certain virtuosity to the treatment of wood, the use of skylights and the supporting service spaces, since he uses wood in its *various dimensions*.

Also, in *Alvar Aalto's buildings the entrance is never pompously decorated, but unostentatiously welcomes the person in* (Jetsonen 2005: 9). At the *Boa Nova Tea House*, the relationship of the various elements is done harmoniously in a way that attracts and directs the individual movement as it happens in *Villa Mairea*.



Stairs: Villa Mairea and Boa Nova Tea House. Image from *L'Architecture d'Aujourd'hui* n. 29, 1950, p.21 and photography by Ana Isabel Costa e Silva 2012.

The design of the space motivates the design of the wooden furniture. Some details related to the comfortable use of space are materialized, for example, at the telephone's location, which reminds us of the careful design of the entrance columns of *Villa Mairea*. The fact that there are no sharp edges in the furniture brings Nordic designs to mind, attentive to human use.

The design of the stair guard changes at the upper entrance level without any wooden poles and finds its support through the use of a wooden piece between the wall and the guard.

The treatment of the ceiling in the *Boa Nova Tea House*, tried to take advantage of the placement of the building in that particular place, where the difference in height at ground floor level as well as the skylights through the ceilings level were carefully thought out.

To accommodate the services regarding climate control inside the building, Siza proposed empty spaces by drawing strips of wood, working on both their size and direction in the dining room ceiling. In the bar and restaurant space, the furniture was designed to accommodate air conditioning devices, a theme reminiscent of *Villa Mairea* where Alvar Aalto managed to reconcile the design of building elements as a series of non-transparent plans to accommodate the house's climate control system.

Álvaro Siza performed systematic wooden furniture demonstrating his ability to operate at the design plan where detail definition appears but also shows his need to be on-site, improving what was previously defined (Llano, 1996:49).

The window frames, in the south and east facades, appears over the concrete walls but, facing the sea, the restaurant and bar window frames, when opened, slide downwards and change the interrelationship between indoors and outdoors. That interrelationship is reminiscent of the living room connecting to the outer area of the pool at the *Villa Mairea*.

The *Boa Nova Tea House* windows frame design retrieves the accurate dimensions of Nordic design. In this way, care has been taken to draw resistant and protected elements.

8. Final thoughts

*'Alvar Aalto is one of those architects who we link to the Finnish landscape, the lakes ... and to the traditional materials: wood and the existence of very good wood craftsmen to work it. As in Portugal in those years also – with the difficulty in using cement - there were good craftsmen, and I believe that was one reason for the great influence of Alvar Aalto in the fifties.'*⁶

Álvaro Siza, 2007

Alongside with that national cultural ambiance felt in Portugal by that time, Alvar Aalto's work gives a particular importance to the use of traditional materials, particularly wood, as an interior and exterior cladding element.

In his works, particularly in the domestic building, Alvar Aalto used this material breaking the traditional use of wood in Finland (in a structural way) taking advantage of the material's expressive capacities in the space's conformation.

In the architecture of both, wood does not try to stand out because of a structural clarity, but is associated to an idea of space looking for the comfort of man, in which the human being is central to the project's concerns and design decisions.

In Alvar Aalto's opinion, it takes time for materials to make an impact on human culture (Jetsonen 2005: 8). The two projects demonstrated, in each of the two different countries, certain eclecticism in the treatment of materials at the service of spatial comfort, where wood induces unpredictable values that broaden the country's culture.

If, on one hand, *Villa Mairea* proposed wood as a cladding element with a certain care in the thickness and width of the wooden parts and its connections, creating a look of a *fragile architecture* (Pallasmaa 2000:78), in a culture marked by the use of wood as structural element where the simplicity of means were a feature, on other hand the *Boa Nova Tea House* reveals the use of strong wooden parts and the use of uncut material in the interior space, bringing out the idea of a material of great value, in a country where the use of wood was a sign of less durable and ephemeral construction.

Therefore, these two buildings – *Villa Mairea* and *Boa Nova Tea House* – represented an enlargement in their countries culture on building construction, regarding the use of wood that became a strong influence on architectonic production of later generations.



Boa Nova Tea House and wooden traditional fisherman house in Portugal. Photography by Ana Isabel Costa e Silva 2012.

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- ¹ SOMOZA, Manel, Álvaro Siza. *Conversas no Obradoiro*, Coleção Arquitectura, Verlibros Editorial. Ourense:2007, p.131.
- ² Concept used by Álvaro Siza to refer certain qualities of architecture production. M. Somoza, *Álvaro Siza. Conversas no Obradoiro*. Verlibros Editorial. Ourense: 2007, p.68.
- ³ *Arquitectura* n. 35, Lisboa, 2ª série, Agosto | Setembro de 1950.
- ⁴ 'Methodical accommodation to the Circumstances' is an expression used by 1941 Alvar Aalto's article entitled "Architecture in Karelia". Stanford Anderson used it to characterize the Alvar Aalto' methodology that works the confrontation of propositions and circumstances forming a result not predicted. ANDERSON, S, "Aalto and the Methodical accommodation to circumstance," Alvar Aalto in seven buildings: interpretations of the work of an architect, Museum of Finnish Architecture, Helsinki, 1999, p.144.
- ⁵ *Arquitectura*, Lisboa, 3ª série, nº 59, Julho de 1959.
- ⁶ SOMOZA, Manel, Álvaro Siza. *Conversas no Obradoiro*, Coleção Arquitectura, Verlibros Editorial. Ourense, 2007, p.88.

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