

El granero de la memoria. De las analogías en la obra de Eduardo Souto de Moura

// The grain store of memory. On Analogies in Eduardo Souto de Moura's work



La obra de Eduardo Souto de Moura se basa en la construcción de relaciones entre el lugar y la tectónica de la arquitectura. Descubrió en la reconversión de un granero en Gerês y en el proyecto del hotel en Salzburgo dos estrategias proyectuales de especial relevancia en su obra: el hórreo o *espigueiro* y el silo. La combinación de ambos da lugar a otro tipo tradicional: la casa *minhota*. Combina estas tres tipologías tradicionales con obras arquitectónicas pretéritas o contemporáneas para lograr una obra única y personal. La obra de Breuer es una referencia constante en la trayectoria de Souto de Moura, cuyo método de trabajo se basa en la duda metódica y las analogías.



Eduardo Souto de Moura's work is based on the construction of relations between the tectonics of his architecture and place. He discovered in the conversion of a barn in Gerês and in the hotel project in Salzburg two design strategies of special relevance for his work: the barn structure or *espigueiro* and the *silo* (bulk storage structure). The combination of both gives rise to another traditional type: the *casa minhota*. He combines these three traditional typologies with past or contemporary architectural creations in order to achieve unique and highly personal work. Breuer is a constant reference in Souto de Moura's trajectory and the working method of the former is based on methodical doubt and analogies.

Analogías, arquitectura tradicional, BREUER, construcción, paisaje, SOUTO DE MOURA

Analogies, traditional architecture, BREUER, Construction, Landscape, SOUTO DE MOURA



«To tell the truth, I have been carrying these notions around with me for some time now. Notes which I took in October 1944 are proof of this; but due to one of these strange quirks of the soul, which novelists know only too well, it had lain hidden in this ever-bountiful grain store which we call memory» (Green 2015).

In the work methods of Eduardo Souto de Moura there can be found two constants; the first is his approach to the project from a very special and personal standpoint – from methodological doubt (Adrião and Carvalho 2006): he questions what he has constructed or what he is designing to find the best possible project. Thus, in this way history becomes transformed into another part of the project material (Correia 2016): Souto de Moura continually analyses past or present projects, projects that are both near and far and he reconstructs them to generate something new. The second constant of his method can be described as references by analogy. He recognises the importance of both the copy and the appropriation of the work of others (Bandeira 2011) and adjusts these features to the construction systems at his disposal, to place, to the client and to the programme (Miranda, Pimentel and Treno 2013). He comes to references convinced that similar problems would give rise to analogous construction solutions and systems. Design is a “manifestation of intelligence while designing from scratch shows a clear lack of intelligence because it means losing a whole legacy of available information” (Pais 2000). When he reworks the projects of others, he brings to life his own version of those, based on an analogous reading of the images at his disposal. His “copy” goes much further than that of the form which is never an *a priori* one: his analogous images do not represent the final image he is looking for but, rather, they confirm a decision which had been previously taken (Merí de la Maza 2012a). It is in precisely this way that all the analogies contained in this present article should be understood.

This working method brings about a heterogenous production which makes the task of classifying it a difficult one for critics (Molina 2019). Both memory and material are the two axes which trace and consolidate the coordinates of his work (Fernández-Galiano 2018a). His work arises from an approach to truly disciplinary questions and by not being “carried away” by any kind of dogmatism (Correia 2016). The following themes recur again and again:

- Constructive material nature (Merí de la Maza 2012a). Souto de Moura is more interested in the construction of the relationship between place and the tectonics of his buildings than in the sincerity of construction. He introduces calibrated changes in the place to make it suit the architectonic expression of the construction systems (Correia 2016). He reveals the truth of construction by means of a lie. (Grande 2009, Rojo de Castro 2005).
- The dissolution of the limit (Merí de la Maza 2012) through various project strategies such as carpentry from floor to ceiling or vegetable tints (Daniele 2003).

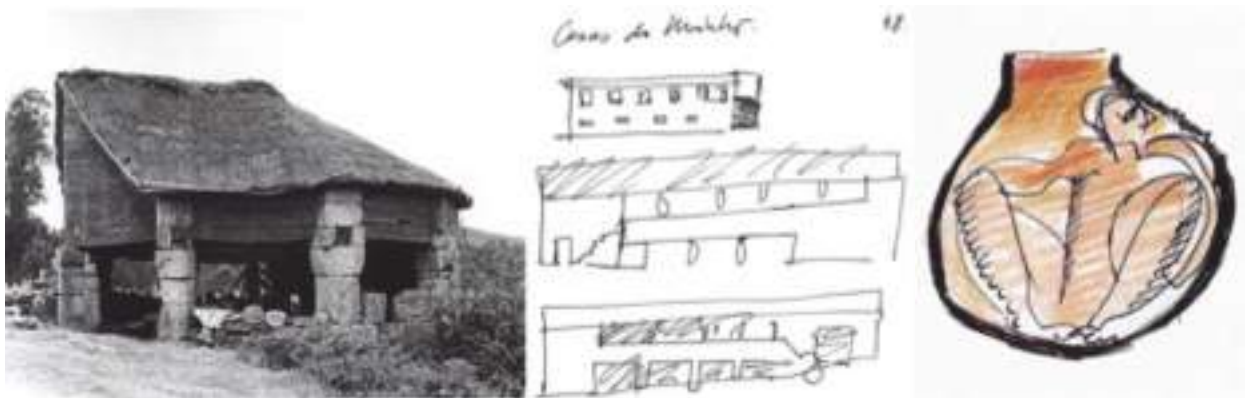


FIGURE 01 » Left. Unknown. *Espigueiro*.

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[Consulted: 15 August 2024]. Centre.

Souto de Moura, Eduardo. *Casa minhota*.

Source: Sérgio Koch de Araújo. Right.

Fehn, Sverre. Drawing of a Vessel. Source:

Santiago de Molina.

- Superimposing and working with diverse, opposing or different systems of construction and succeeding in giving a sense of unity to the building (Leoni 2003).

Souto de Moura combines these themes with traditional types and thus he achieves work which is rich in both tone and complexity, and which combines the *Inquérito à Arquitectura Regional Portuguesa* (1961) with works of modern and contemporary architects.

1*

Of grain-stores and *casas minhotas*

Volumes of the *Inquérito* can be found together with other books on traditional Portuguese architecture in Souto de Moura's office in his study (Quintáns 2019). Souto de Moura recognises the importance of the *Inquérito* to recover basic questions which have been forgotten (Adrião and Carvalho 2006) and he has recourse to it in search of inspiration (Maluenda and Encabo 2023). He uses three traditional types which are really two—the third can be understood as the combination of the first two—the barn or *espigueiro*, the *silo* (bulk storage system) and the *casa minhota*. He fuses them with other references by analogy and adjusts them to their surroundings, to the construction systems and to the programme.

The barns or *espigueiros* (fig. 01) are grain-stores which recline on columns, and these protect them from rain and from rodents. They are usually long narrow constructions set on the threshing floor or on the paved floor; they can also be found linked to the living space.

The *silo*, bulk storage space (fig. 01) is a buried grain-store, a cavity which has been excavated in the ground—originally in the form of a cylinder or a vessel—and it is plastered with burned clay to reinforce its walls. In this present article the term *silo* is used as an analogy between the buried grain-store and the stereotomy operation of excavation of the surrounding land which prepared it for the tectonics of the architecture.

The walls in the Minho area, in the north of Portugal, emerge from the ground and they become part of the topography as they blend in with it. The ground

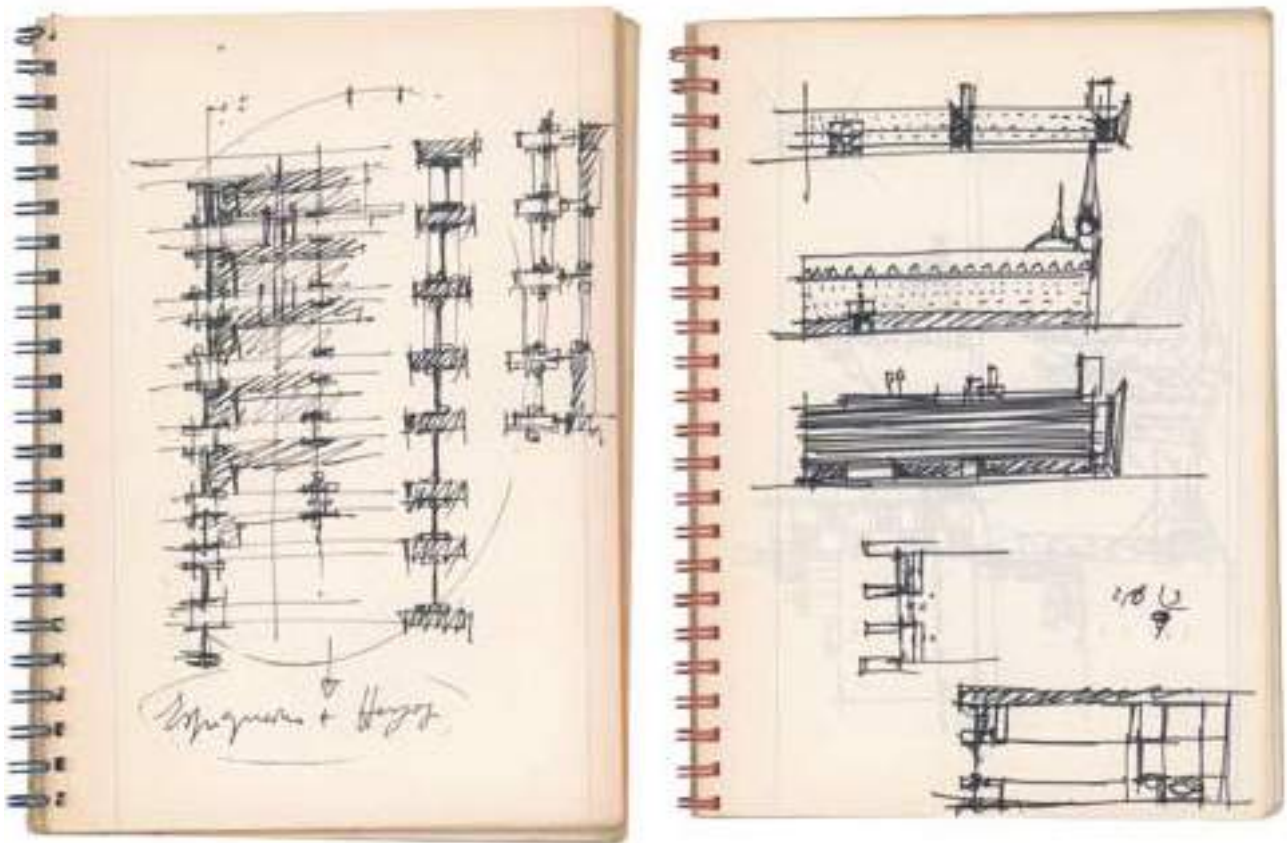


FIGURE 02 » Upper: Herzog & De Meuron, Ricola Storehouse in Laufen. Source: Herzog & De Meuron. Lower left: Souto de Moura, Eduardo. Sketch of the façade of the second version of the hotel in Salzburg, c. 1989. Source: Architecture House, Matosinhos. Lower right: Souto de Moura, Eduardo. Studies of the façade of the second version of the hotel in Salzburg, c. 1989. Source: Architecture House, Matosinhos.

floor of the *casas minhotas* (fig. 01) hidden behind the wall which contains the earth, used to house the wine stores and the farming implements. The house itself on the first floor rises on these walls; the rooms are turned towards an open gallery or a *veranda*, and one can reach these by means of an external staircase. In this present article the *casas minhotas* are defined as a superimposition: a barn or an *espigueiro* which leans on the hidden house behind a wall —and windows reveal its existence—, and it is assimilated to a *silo* in the manner we referred to above.

Souto de Moura spent the summers of his childhood in his grandmother's home, a *casa minhota* (Koch de Araujo e Silva 2013). He uses his memory — his autobiography— as yet another tool for his project, as Aldo Rossi shows— from whom he took the analogous concept and fitted it to his own purposes. Alvaro Siza and Fernando Tavora are also present but not in the sense of direct transpositions but rather as mutual direct insinuations (Esposito and Leoni 2003), as reciprocal influences or, as Tavora comments as “a common house or cathedral of architecture” (Esposito and Leoni 2003) not only as regards the building to which he was dedicating his studies, but, rather, as a means of relationship, as such used to be found among medieval architects. (Molina 2019). The three Portuguese architects look at architecture and landscape in a personal way, they define the project slowly and they test it against the programme, the construction systems and the material (Dorigati 2008).

Here Souto de Moura applied the strategies of the barn, the storage area and the *casas minhotas* to his work in the 1980s. This was the beginning of his creative maturity which would reach new heights in the years to follow.

2*

The barn or *espigueiro*

Souto de Moura set forth a strategy based on the traditional type of barn or *espigueiro* in the second project which he presented to the Town Council in 1989 —after winning the international competition which had taken place in 1987— for the construction of a hotel on a triangular plot of land with the Salzburg Mountain behind it (Trigueiros 2000). The new hotel, which was a regular prism of exact geometry, and a very rigorous construction resolves the limit between the city and its natural surroundings. A sketch with a handwritten note —“*Espigueiro* +Herzog” (fig 02)— reveals the references by analogy the very same year that both architects met when they were visiting Professors in Harvard (Adrião and Carvalho 2006). This note refers to Ricola's Storehouse of Herzog & De Meuron (Laufen, 1986-1987) (fig. 02). Built on an old quarry it also has the stacking of wood as its reference, tectonic constructions on stony elements which raise them up from the ground and thus protect them from the damp. They placed in opposition a technologically advanced construction on the steep side of the quarry, and they expressed the material quality of the façade using traditional materials —zinc and wood— in an innovative way.

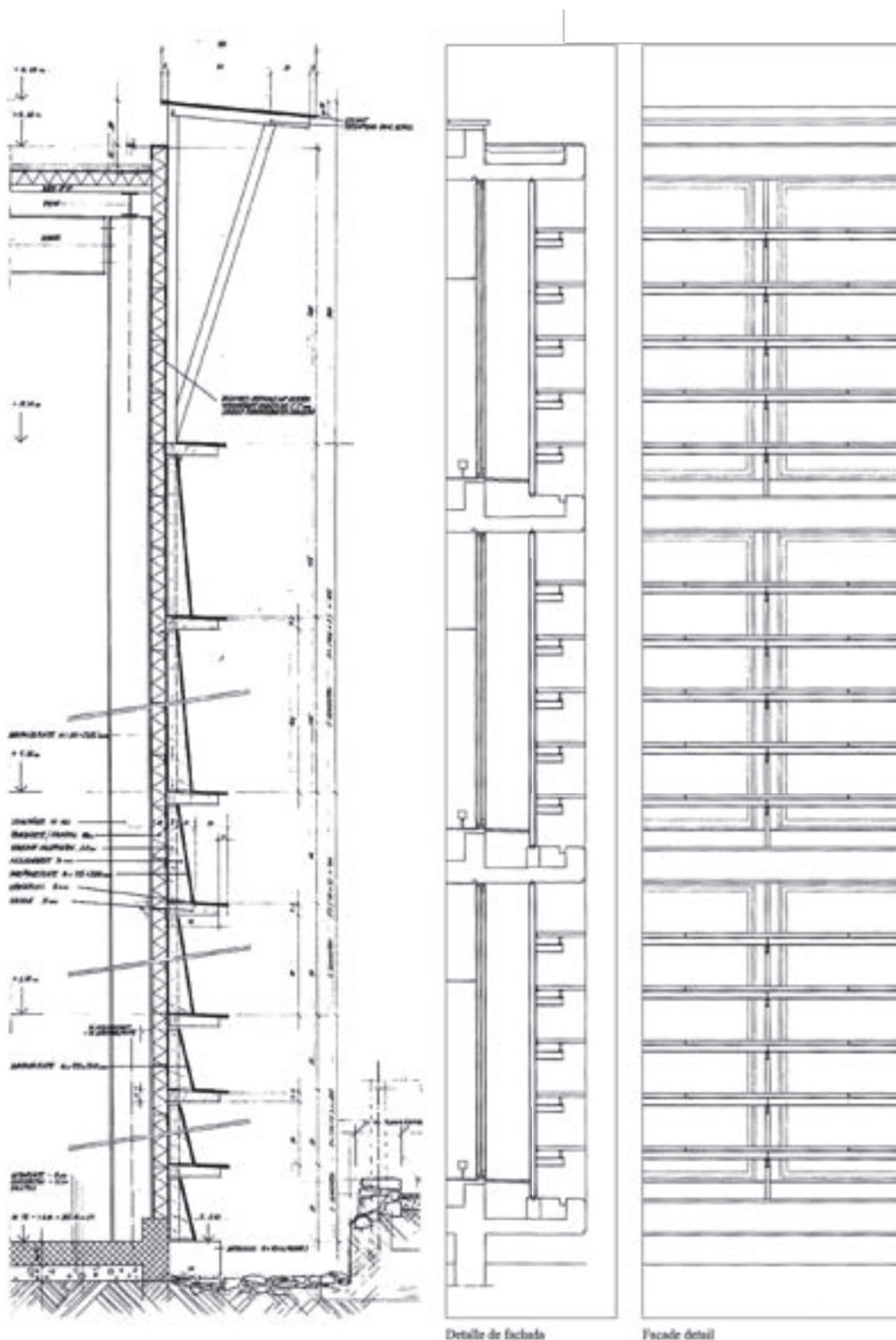


FIGURE 03 » Left. Herzog & De Meuron.
Façade of the Ricola Store in Laufen.
Source: Herzog & de Meuron. Right. Souto
de Moura, Eduardo. Façade of the Faculty
of Geological Sciences, University of
Aveiro. Source: Eduardo Souto de Moura..



FIGURE 04 » Upper. Souto de Moura, Eduardo. Proposal presented for the second version of the hotel in Salzburg, c. 1989. Source: Architecture House, Matosinhos. Second. Ferreira Alves, Luis. Faculty of Geological Sciences, University of Aveiro. Source: Luis Trigueiros. Third. D'Athouguia, Ruy. Second version of the Nazaré Inn, 1958. Source: Graça Ribeiro Correia Ragazzi. Below. Ferreira Alves, Luis. School of Hostelry and Tourism, Portalegre. Source; ArchDaily.

The hotel, the constructive system of which almost became an obsession (Esposito and Leoni 2003) is based on a barn or an *espigueiro* raised up by means of the successive piling of strips of stone on to steel profiles which modulate the free height of the storeys and the height of the carpentry work, and this generates anisotropic and identical façades, two by two (fig. 02). There is another version of this second project of the Salzburg hotel which was taken up again in the Geological Sciences Faculty of the University of Aveiro (1990-1994) where the references by analogy are as much the store of Herzog & De Meuron as the second version of the Inn at Nazaré (1958) of Ruy d' Athouguia (Ribeiro Correia Ragazzi 2020) (fig. 04).

The reference by analogy between the façades of the store and the Geology Faculty is clear: horizontal elements —plaques of zinc or strips of red marble respectively— lean on cantilever elements which are supported by a sub-structure, and these adhere to the main structure. While the sub-structure of the store is made of wood and the main structure is made of steel, Souto de Moura reinterprets the *brise-soleil* with a substructure of IPN steel profiles and a structure of seen concrete (fig. 03).

The reference by analogy to the Pousada de Nazaré reveals the inmost motivation for the Faculty — namely an architecture which is both atemporal and anonymous, an artefact which is constructed based on a clear idea of order where the most important elements are organisation, the quality of spatial characterisation and the means of overcoming the special features of the programme (Ribeiro Correia Ragazzi 2020). If the *Pousada* generates a tension between nature and the artifice, the Faculty collaborates in the construction of the image and the scale of the campus (fig. 04). He takes up again the reference by analogy of the *Pousada* of d'Athouguia in the project of the School of Tourism and Hostelry (Portalegre, 2004-2011) (fig. 04). The cantilever, as in the *Pousada* reinforces the image of the artifice which is in equilibrium with nature and the reference by analogy of a tectonic construction which is the barn or the *espigueiro*. On the side of the industrial buildings which have been recovered, the façade is hidden, anonymous and sparse: it blends in with the scale of the street and gives greatest importance to that which existed there before.

He gathered together and reworked all these matters in the non-constructed project of the Olivetti Ideal Bank (1993) (fig. 05): a barn leaning on four supports of concrete which housed the communication centres and the toilet facilities, and this situated in an urban environment. The façades are reminiscent of the *strickbau* construction system. The glass ground floor is situated slightly below the gradient and it connects visually with the storage barn in the basement. Each floor has a different response to the programme and these are expressed around a patio and a tree which was there 'previously'. That which is of greatest importance is the organisation of the space and the construction system, as in the block of houses in the Rua do Teatro (Oporto, 1991-2001) and in the three housing units in Lieja Square (Foz do Douro, Oporto, 1992-1995): each storey has the same programme on the same surface but with different distribution.



FIGURE 05 » Upper Left. Eduardo Souto de Moura. Model of the Olivetti Ideal Bank, 1993. Source: Rita Capezzutto. Upper Centre: Llobregat Ruiz, Sergio. Project of the Olivetti Ideal Bank, 2020. Source: Sergio Llobregat Ruiz. Upper Right: Unknown. *Strickbau* system. Source: Silvia Ombellini. Second row. Souto de Moura, Eduardo. Sketch for proposal A of the Braga stadium, 2000. Source: Architecture House, Matosinhos. Third row. Souto de Moura, Eduardo. Model of the Multiuse Pavilion of Viana de Castelo. Source: Architecture House, Matosinhos. Lower. Jacobsen, Arne. Sports Pavilion of Landskrona. Source: Pol Martin Carbonell.

The *silo* (bulk storage barn) and the *casa minhota*

The second type, that of the bulk storage barn, was discovered by Souto de Moura while reconverting a grain store in Gerês (1980-1982), where some of the characteristics of his later work appear: his fascination with ruins and the stereotomy operation to clear the terrain which prepares the location to receive the architectural tectonics. In that case the empty space already existed. The intervention was limited to the insertion of the refuge between the granite walls of the grain store after the removal of the covering and the first floor (Ordóñez-Castañón and Cunha Ferreira 2024).

The architect applied the principle of the bulk storage barn in the Vilarinha Annexes (Oporto, 1984-1988) (fig. 06). This intervention recovers the construction tradition of the north of Portugal, namely that of the house hidden behind outer walls—as in houses in Quinta da Batoca, in Baião and in Moledo—and it takes as image by analogy the Breuer/Bratti house (New Canaan, Connecticut, 1951) of Marcel Breuer and Herbert Beckhard (fig. 06). These dwellings are barely revealed except by a few openings in the granite walls which modulate and correct the terrain to make a place of preexisting artificial orography more natural (Angelillo 2000), in a construction which anticipates the house in Moledo (Moledo do Minho, 1991-1998), which will be analysed in a later section of this article.

Souto de Moura proposed his own version of the third traditional type,—the *casa minhota*— in the house in the Quinta da Batoca (Braga, 1989-1994), where he found ruins which he refused to rebuild. He explains this project as the superimposing of a *casa minhota* and the Berlin pavilion of the brothers Luckhardt (Hannover, 1950-1951) (Trigueiros 2000), if indeed the *casa minhota* is understood *per se* as a superimposition. In reality he concealed two construction systems which he announced in the vestibule where the main staircase is to be found. His sketches refer to the superimposition of the system Dom-ino and the walls of stonemasonry, a reference by analogy to the stone house (Tavole, 1982–1994) of Herzog & De Meuron (fig. 07). In actual fact the analogies go much deeper and speak of the recovery of construction traditions of Tavole and Braga: living spaces with no predefined use, the absence of passageways, built with local stone and having a platform on which the house is supported.

FIGURE 06 » Left. Ferreira Alves, Luís. Annexes in Rua da Vilarinha. Source: Luiz Trigueiros. Right. Massello, David. Breuer/Bratti House. Source: David Massello.



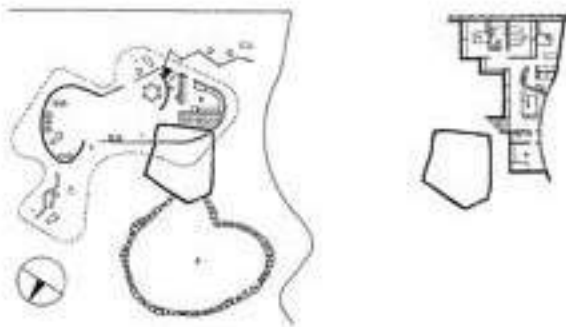
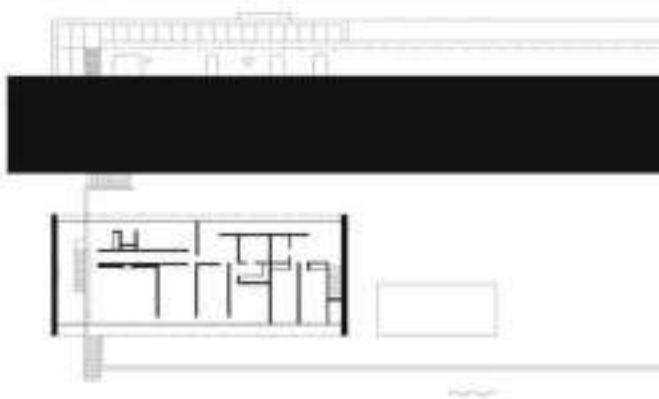
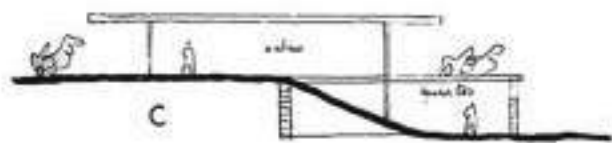
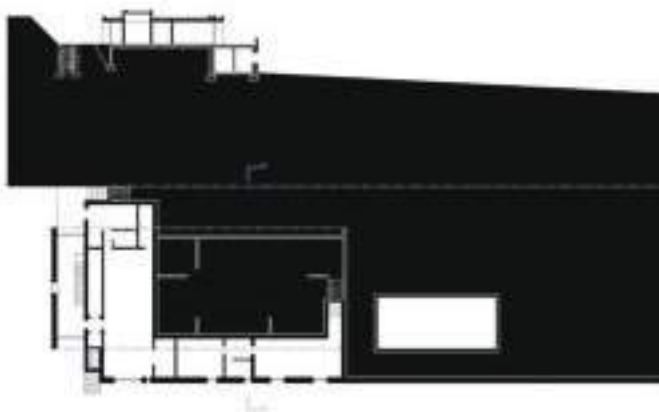
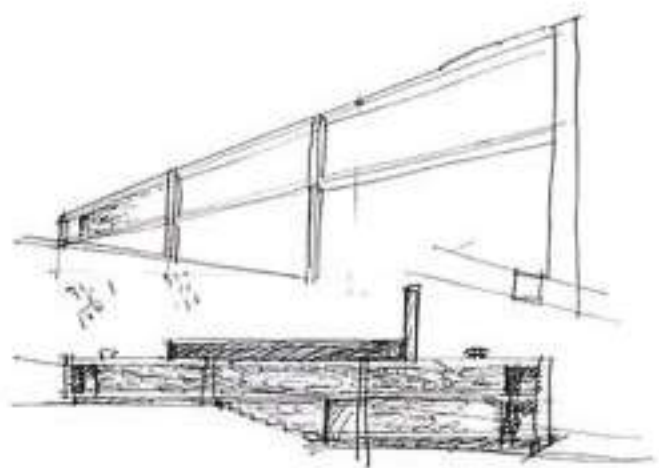


FIGURE 07 » Above left. Spiluttini, Margherita. Stone house in Tavole. Source: Herzog & De Meuron. Above right. Souto de Moura, Eduardo. Sketch of the house in the Quinta da Batoca. Source: Sérgio Koch de Araújo. Lower left. Author. House in la Quinta da Batoca. Lower right. Niemeyer, Oscar. Casa das Canoas. Source: Fernando Aliata.

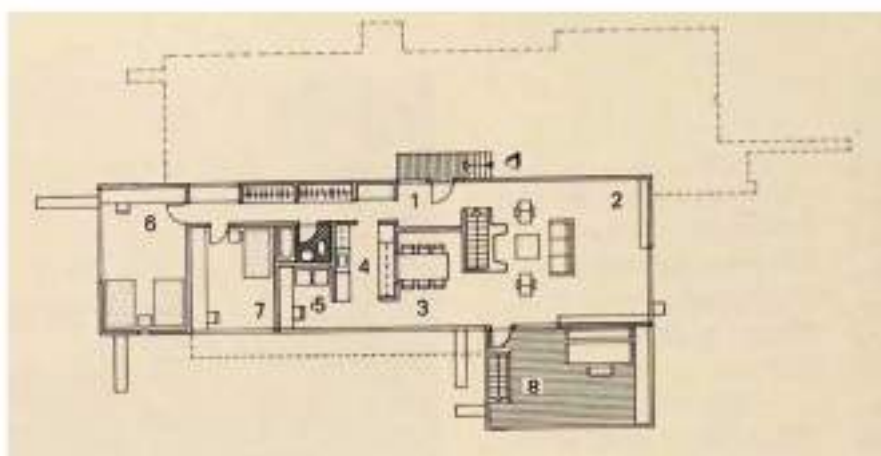
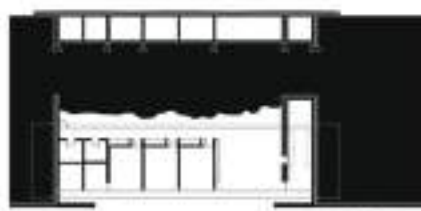
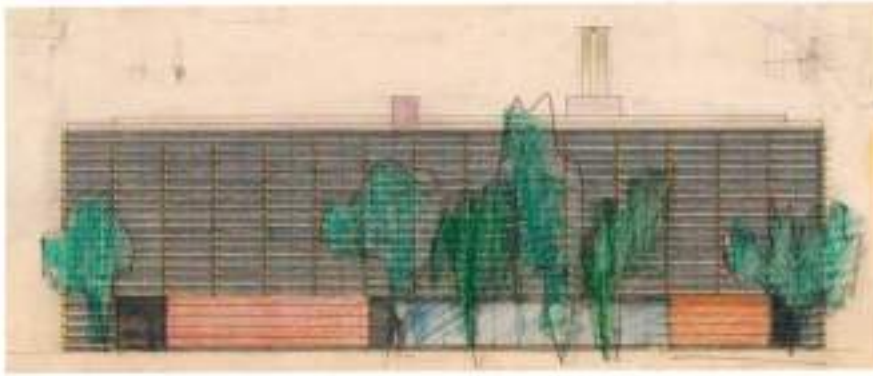


FIGURE 08 » Upper left. Souto de Moura, Eduardo. Sketch of the house in Moledo. Source: Architecture House, Matosinhos. Upper right. Stoller, Ezra. Starkey House. Source: David Masello. Upper centre left. Author. Working project for the house in Moledo. Lower centre left. Author. Constructed version of the house in Moledo. Lower. Breuer, Marcel and Beckhard, Herbert. Breuer House/Robeck. Source: David Masello. Upper centre right. Souto de Moura, Eduardo. Elevation of the house in Moledo. Source: Eduardo Souto de Moura. Lower right. Schnall, Ben. Levy House. Source: David Masello.

The other reference by analogy in the House of the Canoas (Río de Janeiro, 1953) of Oscar Niemeyer (fig. 07), who took advantage of the unevenness of the terrain to build a tectonic platform — where the bedrooms and the private areas of the house are situated— and over that he set a glass box with a cement covering which is supported on metallic pillars. The upper storey is transparent and has views both of forest areas and out on to the horizon. The stair which links the floors to each other is supported on a preexisting rock which anchors the construction to the place, and it makes the architecture resemble nature more and at the same time it makes nature seem more artificial. The ground floor of Quinta da Batoca, which makes use again of the bulk storage barn of the Vilarinha Annexes, is constructed like a concrete box hidden behind the stone wall and it contains the garage and the service areas — but without any passageways. Movement is channelled on the first floor by means of a passageway in the rear façade but this is not the only space which allows movement throughout the house: the public rooms and the main bedroom are joined by means of sliding doors which close against the main façade and thus are evocative of the *verandas* of the *casas minhotas* and of the carpentry of the Carlos Veires house (Povoa de Vazim, 1973-1976) of Álvaro Siza. The structure of the upper floor, as in the house das Canoas, is mixed: cement and pillars of steel. (fig. 07).

Souto de Moura took all these questions that have been previously dealt with to their greatest point in the house in Moledo (Moledo do Minho, 1991-1998), and this project began with the suggested placing of a barn leaning on the walls of the *socalcos* (Fernández-Galiano 2018b) (fig. 08). This initial proposal can be read as a reference by analogy to the Starkey house (Duluth, Minnesota, 1954-1955) of Breuer (fig. 08).

Souto de Moura discovered that it was necessary to reconstruct the terrain, and he opted for the construction of a hidden barn behind the walls of the *socalcos* (Fernández-Galiano 2018b), and this in turn led him to change the covering of the house in Moledo and make it an autonomous element, or, rather, a fifth façade (Fernández-Galiano 2011). This decision relates by analogy the house in Moledo with the House das Canoas of Niemeyer in a redesigning of the house in Quinta da Batoca (fig. 07). Souto de Moura merged the two floors of the Brazilian's structure and of his one floor in the house, thus offering opposing views of the broken rocks —with a forest in the case of Niemeyer—and the horizon. The preexisting minerals anchor this proposal to the place, and they introduce into the project the tension between the natural and the artificial (fig. 08). The other reference by analogy is the Breuer/Robeck house (New Canaan, 1945) of Breuer and Beckhard (fig. 08). The similarity between the floor of the house in Moledo and the upper floor of the Breuer/Robeck house really stands out: both have a kind of *veranda* in the main façade—an inner one in the Breuer/Robeck house and an outer one in the Moledo house— which connects the common spaces. The terrace of the Breuer/Robeck house materialised by means of a pavement of granite stones which contributes to the dissolving of the limit between inner and outer (Merí de la Maza 2012b) (fig. 08). The other reference by analogy between these two houses is the structural composition: both achieve an equilibrium between the extremes of the prism (fig. 08). Breuer and Beckhard made the extremes of the prism of the upper floor seem to move upwards, while Souto de Moura was



content just to have the cover move upwards at a tangent above the terrain to reveal the presence of the house. By cover is understood the abstraction of a barn on a plane leaning on the terrain and these convert the house in Moledo into a reformulation of the *casa minhota*.

It is possible to consider two other projects as deriving from the *casa minhota*, in other words, as *espigueiros* resting on tectonic podiums or, in keeping with the terminology of this present article, the combination of barns and large storage spaces. Here we refer to the Burgo Complex of Offices (Oporto, 1991–2007), an evolution and a materialisation of the second project presented for the hotel in Salzburg, and the Pallaresca Complex (Santa Coloma de Gramenet, Barcelona, 2004–2011); the reference by analogy for the latter is Breuer's project for the One Charles Center (Baltimore, 1960) (Koch de Araújo e Silva 2013) (fig. 09) – which was not built.

4★

Reformulating the barn and the large storage area. In search of new ways

The superimposition or the combination of the barn and the large storage area –the stereotomic excavation which prepares the terrain for the tectonic expression of the building – undergoes an innovative redefinition in the Municipal Stadium in Braga (2000-2004). Souto de Moura received together with the commission the plans of a previous project which engineers and a landscape designer had developed. (Mateus 2004).

FIGURE 09 » Upper left. Souto de Moura, Eduardo. Project presented for the second version of the hotel in Salzburg, 1989. Source: Architecture House, Matosinhos. Upper right. Souto de Moura, Eduardo. First version of the Burgo Complex of Offices. Source: Architecture House, Matosinhos. Lower left. Pegenaute, Pedro. Pallaresca Complex. Source: Pedro Pegenaute. Lower right. Breuer, Marcel. One Charles Center. Source: Sérgio Koch de Araújo.

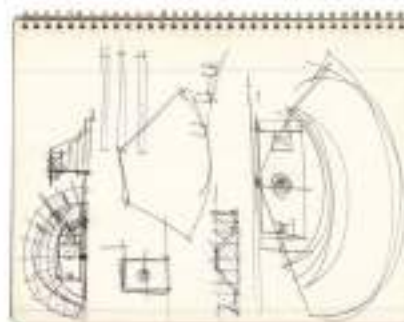
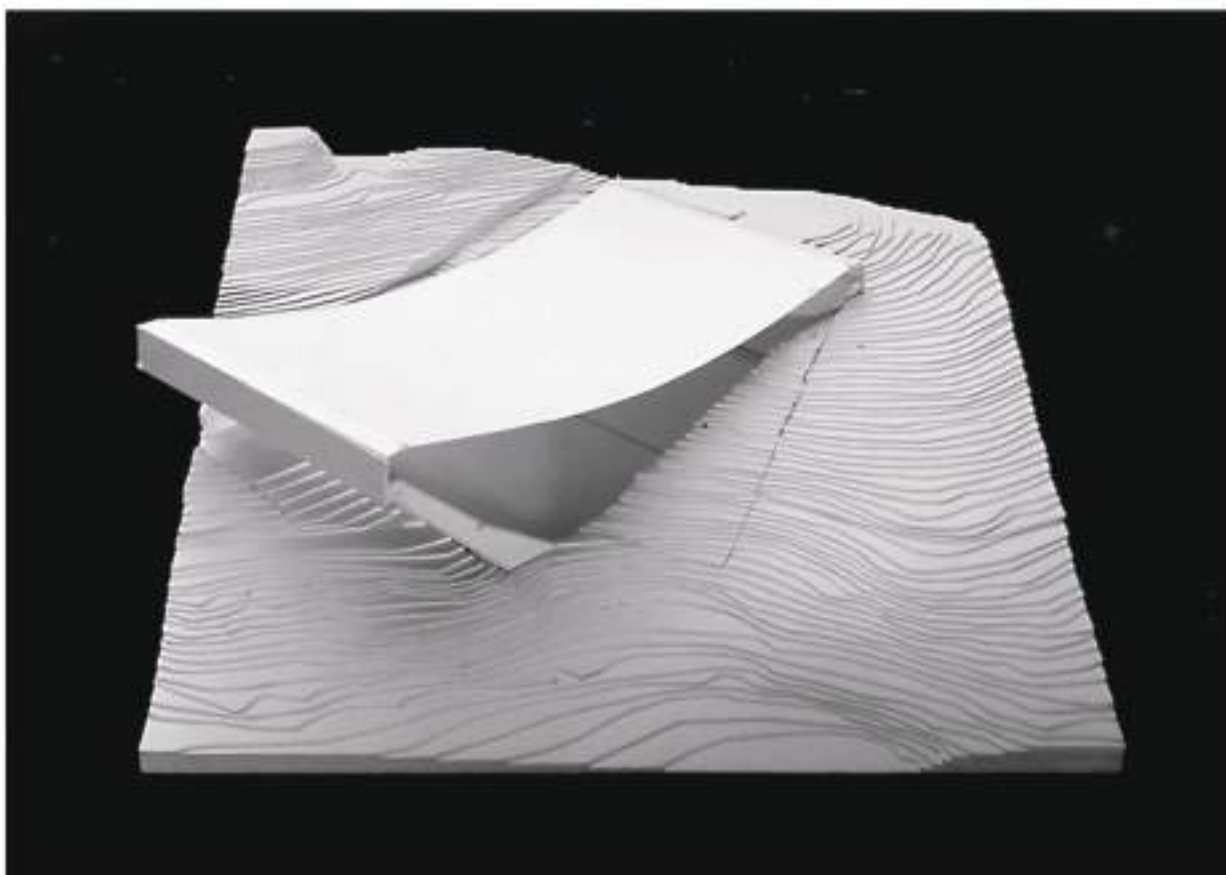
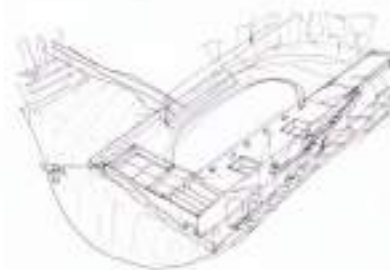
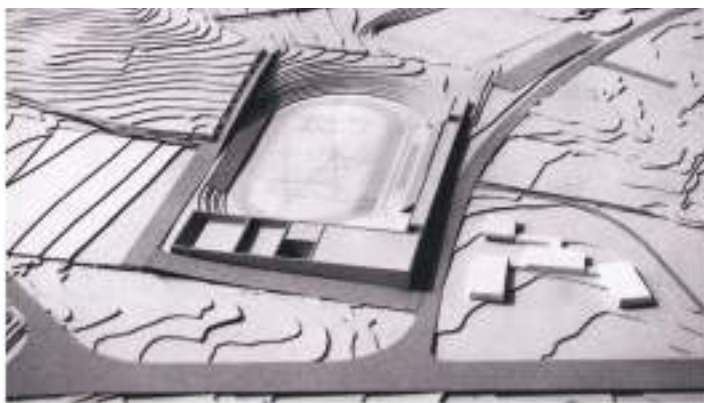


FIGURE 10 » Upper left. Souto de Moura, Eduardo. Model of the Municipal Stadium in Evora, c 1997. Source: Antonio Esposito and Giovanni Leoni. Centre. Meri de la Maza, Ricardo. First model of the Municipal Stadium in Braga, 2000. Source: Private Archive of Ricardo Meri de la Maza. Lower left. Unknown. Bemposta Dam. Source: Iberian Docomono. Lower centre. Kleanthous, Dimitios. Epidaurus Theatre. Source: Dimitros Kleanthous. Lower Right: Souto de Moura, Eduardo, Sketch of the Municipal Stadium in Braga, 2000. Source: Architecture House, Matosinhos.

In an abandoned quarry – beside the proposed space he discovered the place to build a stadium which he brought to life with only two bench areas and a roof like that of the Lisbon Expo of Siza (1998) (Merí de la Maza 2012a), and this supposed a huge risk. In parallel he developed two basic projects: proposal A, very similar to the one that was finally built and proposal B, which was developed in the documentation he had been given.¹

In a certain sense proposal B returns to the *casa minhota* (fig. 05). It is a stereotomic excavation which takes advantage of the original topography to create four seating areas which surround the play area covered by an *espigueiro*: a regular prism which contains the upper seating areas and which was raised on four pillars at the ends which contain the communication hubs. The Olivetti Ideal Bank and the Sports Pavilion (Landskrona, 1956-1965) of Arne Jacobsen (Koch de Araújo e Silva 2013) provided the references for this project (fig. 05). He submitted both projects at a meeting in his study to be decided by the Major, Mesquita Machado. The rest is history. Proposal B it must be noted, did not go to waste: it was recovered by the architect for the Multi-use Pavilion (Viana do Castelo, 2000-2013) (fig. 05).

The antecedent for proposal A can be found in the project (which was not built) for a football stadium in Évora (1997) (Guilherme 2016) (fig. 10), where he reinterpreted the combination of the stereotomic and the tectonic or of the barn and the bulk storage area in a totally innovative way. Two seating areas (one on the long side and the other behind the goal posts) support each other above the slope in the stereotomic operation of cutting into the ground; the other two seating areas both have prismatic volumes of a tectonic nature. The cover of the side seating area follows the slope of the terrain thus achieving its complete integration into the area. The Évora stadium which closes in a U formation, opens out towards the countryside beyond the stereotomic slope of the curve through a vegetal filter (fig. 10).

Souto de Moura considered to be fundamental in the Braga stadium that there should be opposition between the bench area supported on the slope and the flight of the one on the east and these were given a visual equilibrium by the third construction system: the roof (Merí de la Maza 2012a) (fig. 10). The tangential areas and the lightness, as materialised by the articulations (Nozza 2012) also gave a sense of unity to this project and to the two construction systems – prefabricated in the seating area to the west and *in situ* to the one in the east – and these were made from one and the same material – reinforced concrete (Merí de la Maza 2012a). The seating area in to the west of Braga which takes as its reference the Theatre of Epidauros (Esposito y Leoni 2003, Nozza 2012), was going to be achieved by cutting the rock into the form of seating areas in a stereotomic construction which proved impossible due to the complexity of the circulations (Nufrio 2008) (fig. 10). Under this seating area there occurred a kind bulk storage area: a Piranesian space which, as in Moledo, looks towards the mountains and places in opposition the cut natural rock and the artificial rock, which is prefabricated concrete. A tectonic podium generated the square which gives access to this seating area.

The east seating area of Braga is the tectonic element which faces the false stereotomy of the opposite seating area. Souto de Moura found it difficult to

¹ Testimony of Ricardo Merí de la Maza made on 23 September 2020 and of Carlo Nozza, 7 October 2020.

calculate the scale of the stadium. Together with Carlo Nozza and the engineers, Souto de Moura visited the dam —*barragem*— of Bemposta (Mogadouro, Bragança), which the architect took as a reference by analogy for this seating area (fig. 10). From this reference they learned and took the scale and the construction systems. The sheets which conform the buttresses or transversal walls of the east seating area are 1 meter thick and are 7.5 meters apart, the same measurements as were found in the dam and which are confirmed by the structural calculations of the stadium.¹ Souto de Moura, whose architecture is nourished by historical sources, took the engineering to a whole new level —and in so doing he greatly impressed Donald Judd— in architecture. (Fernández-Galiano 2018b). And architecture, when it is truly taken up by the collective —and that is the case of the Braga Stadium—, becomes a work of art. (Adrião y Carvalho 2006).

5★

Conclusions

In the 1980s Souto de Moura focused on constructing his own memory and on works that were based on the barn, the bulk storage system and on the *casas minhotas*. This period marked the beginning of his creative maturity which would reach its peak at the end of the 90s and at the beginning of the new millennium and would include works of very different scale but which all had the same conceptual and constructive intensity such as can be found in the house in Moledo and in the Municipal Stadium in Braga.

References by analogy form one of the essential characteristics of his methodology. Projects of his own and those of others, which have been hidden away in some corner of the grain store of his memory, come to the forefront during the process of a project and this continues throughout the entire work. He blends traditional architecture with contemporary architecture, place and constructive systems in order to construct unique and personal works which he tries to keep anonymous (Esposito and Leoni 2003) and he is ever the untamed rebel regarding any attempt to catalogue his work in a superficial way.

The site is the other material of his projects. He fixes his work firmly to place; he interprets the latter in a subjective way, he reconstructs it while giving full potential to that which was there before, or he invents such things to establish relations between the place and the building. Generally speaking, he opts for barn projects in urban environments; the latter form a part of the construction of the scale and of the image of the surroundings. Concern for the ordering and the overcoming of any special features of the programme is of the utmost importance. The bulk storage projects are characterised by the construction of a relationship between the place and the tectonic expression of the buildings by means of the construction of the place itself. The combination of both types reveals the fusion of both intentions in a single project.

Seneca called his library an *horreum* —a barn—. The grain store of Souto de Moura's memory is not so much a storehouse but rather a library which contains previous knowledge which he then reconfigures to construct works which are both unique and personal. As he progressed in his profession, Souto de Moura was not satisfied with the use of the traditional types of barns or *espigueiro*, or the bulk storage unit and the *casa minhota*; he reconstructed

² Testimony of Carlo Nozza, 7 October 2020.

them and reformulated them in accordance with his intentions, with the necessities of the programme, with the constructive systems and with his interpretation of the place. The use of traditional types in the work of Souto de Moura has undergone an evolution with the passing of time. It has been shown that the *casa minhota*, which recurs in the work of Souto de Moura may be understood as a combination of the traditional types of barns and bulk storages system. He combines these two types of construction with references by analogy to works of other architects and he achieves totally new and surprising projects as he reconstructs these through the available systems in each situation.

In a totally innovative way, he reformulated the *casa minhota* seeing this as the fusion of both the tectonic and the stereotomic in the Municipal Stadium of Braga, where he uses as references by analogy the dams of the Douro, the theatre at Epidauros and the roof of the Expo in Lisbon of Álvaro Siza. Souto de Moura becomes a kind of alchemist who blends traditional types and past and recent references with present construction systems of engineering and the place he is interpreting, and he reconstructs those so that they are in keeping with the tectonics of his architecture. Thus, he gives a new meaning to the ancient saying: “*Our gold is not the gold of the common herd*”

Souto de Moura returns again and again to that grain store —be it the barn or the bulk storage system— of his memory, to that “Visual Neufert”(Daniele 2003) which he constructs based on his travels, on his reading, on cultural influences and on the works of architects, both near or far in time and space. One can find references to the work of Breuer in Souto de Moura’s work as far back as the 1980s with projects such as the Vilarinha Annexes and right up to the first decade of the 21st century with the Pallasca Group, and passing by the house in Moledo, one of the most widely published projects of the Portuguese architect.

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