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Abstract

Fantasy – understood as a fiction, an extravagance, or a reverie – is often perceived as being at odds with reality, a way of eluding its own contingencies, with reality and fantasy arguably existing in different spheres. But fantasy is also perceived as being intertwined with reality for always being rooted in it, with reality and fantasy accordingly being distinct from each other only on the surface.

This paper aims to discuss the fantasy that would seem to pervade some of the design drawings made by the architect Álvaro Siza Vieira. Siza Vieira has always relied on the drawing to immerse himself in and to amble through the architectural objects as they are being defined. Many of the said drawings establish a more immediate relationship with what they purport to represent; others, on the contrary, deliberately avoid such a relationship – reality instead appears altered, if not to say distorted, often being populated with weird figures, as if the architectural object being defined were part of a fantasy. Nevertheless, these drawings also allow for an understanding of their objects, and the place of fantasy in Siza Vieira’s design process is one deserving of assessment.

With a nod to the title of one of his books, perhaps one can say that Siza Vieira finds in fantasy a way ‘To Imagine the Evidence’ of his architecture.

Keywords: Siza Vieira’s design drawings; Siza Vieira’s design process; architectural fantasies; architectural drawing

1. The Drawing and the Fantasy of Architecture

Architects have long found in fantasy a means of speculating about architectural ideas, extending the scope of their imaginary beyond a more immediate relationship with reality. Some of the said speculations – arguably those that are most well known – often take on radical forms, actual utopias, asserting themselves as manifestos, sometimes even without any objective of concretisation; others remain private thoughts, personal reveries, driven by just the circumstantial pleasure of imagining them.

One should bear in mind that the activity of designing architecture has always run, and still does, concurrently to the activity of fantasising architecture, even if the latter seems more evident from the dawn of the Italian Renaissance onwards.

Reflecting on the relationship between fantasy and architecture involves, however, a need to reflect on the value that representation has for such a relationship – the term ‘representation’ being used in the broadest sense. Gänshirt (2007), as cited below, does not explicitly refer to architectural fantasies, but his words support reflection about that particular value of representation. Furthermore, fantasies may

be thought of as being the outcome of a design process.

The design tool is such a central issue because ideas, thoughts and visions cannot be conveyed directly; they can be expressed only with the aid of “tools”, “instruments” or “media”. We have to communicate our ideas through gestures, by talking about them, drawing them, writing them down or presenting them in some other way. (Gänshirt, 2007, p. 81)

It is also worth considering that from the outset, i.e. even before the possibility of allowing ideas, thoughts and visions to be conveyed, it is through the very possibility of definition that representation provides space for them.

Of all the different tools, the drawing has understandably long been the favoured one, becoming not only a handy way to convey speculations about architecture but also and above all a vital constituent instance for such speculative possibilities.

Drawing offers an unbounded surface for speculative possibilities, and is limited only by graphic technique and imagination. [...] **[V]isionary drawings** push the boundaries of imagination beyond the normative constraints of physicality. The architecture depicted through these drawings is not limited by considerations of gravity, function, scale, or materiality. They conjure, present, and anticipate worlds previously unbuilt and unimagined. (Fraser and Henmi, 1994, p. 148)

The relationship between the fantasy of architecture and the drawing proved to be a mutually profitable one: by connecting itself with the drawing, the fantasy could assume the possibility of both concretisation and dissemination; by connecting itself with the formulation of a fantasy, the drawing could overcome a rigid instrumental condition. Architectural fantasies became inextricable from the drawing, with the drawing concomitantly emerging as the locus for the definition of fantasies. This has always been a very much appreciated particularity of the drawing.

The elaborate, constructed nature of visionary drawings manifest imaginary worlds which cannot exist in any other realm except through drawing. Such drawings represent more than the shapes of an intended object; they evoke a

sense of light, atmosphere, monumentality, texture, and intent. In this sense, a drawing represents an author’s entire world, nascent in the imagination. Once drawn, this world *is*, it exists, it has presence. (Fraser and Henmi, 1994, p. 158)

This unique relationship between the fantasy of architecture and the drawing would have certain consequences as far the definition of the architectural objects thus imagined is concerned, however, with the construction dimension of said objects eventually being overlooked if not even overtly ignored.

Some of the churches experimented with by Leonardo da Vinci (1452-1519) in some axonometric drawings, for instance, show a lesser degree of attention paid to the feasibility of construction. “Leonardo was free to indulge his *fantasia*” (Ackerman, 2002, p. 69), as the designs in question did not have to respond to ecclesiastical functions. In fact, Leonardo “was generally indifferent to the structural viability of his designs” (Ackerman, 2002, p. 69). Far more radical is the work of Étienne-Louis Boullée (1729-1799), in asserting a definite alienation from the construction dimension of architecture. His designs are conceived from the outset beyond the bounds of the possibility of realisation, with the technical requirements resulting from their possible construction being ignored. The design exists as a compelling image, a fantasy, engendered above all to impress whoever sees it. The drawing becomes the actual work of the architect.

It is, to put it plainly, absolutely fundamental to Boullée’s designs that they remained *tableaux*. Boullée’s architectural theory was a radical extrapolation of then current ideas, which had lost contact with reality. (Kruft, 1994, p. 161)

By existing as drawings, architectural fantasies could, in a certain way, dispute the place of architecture when actual realisation thereof was not possible.

The fact that drawing is only an analogue of the building [...] allows for architectural ideas that might not be realisable either because of cost or the lack of certain technologies to be presented. The history of speculative and fantastic architecture is long and honourable. (Brawne, 2003, p. 97)

As already mentioned, the importance of architectural fantasies is often perceived as residing in the capacity of such fantasies for conveying singular worlds, thus extending the scope of the architects' imaginary beyond a more immediate relationship with reality. In this way, fantasies constitute referential images informing the invention of architecture. They matter because of their evocative power. That is the case with the architectural visions elaborated by Antonio di Pietro Averlino, known as Filarete (c. 1400-c. 1469); Giovanni Battista Piranesi (1720-1778); Étienne-Louis Boullée; Le Corbusier (1887-1965); Antonio Sant'Elia (1888-1916); Yakov Chernikhovthe (1889-1951) and other Russian Constructivists; Hugh Ferriss (1889-1962); Ron Herron (1930-1994); Lebbeus Woods (1940-2012); and Archizoom Associati (1960s-1970s); to mention only a few.

However, the importance of fantasy can also be perceived at a more intimate level, with the architects eventually finding in fantasy an instance for appraising their ideas through a design process.

2. The fantasy of reality – on the design drawings of Álvaro Siza Vieira

2.1 The place of fantasy in Siza Vieira's work

The work of the architect Álvaro Siza Vieira (1933-) continues to make an impression, thanks to its permanent experimentation in terms of modelling of spaces and the built volumes that enclose them; the constant reinvention of references and models that permeates it; the mastery of the whole – a whole that is always complex, even in works on a smaller scale – and attention to detail; the heterogeneity of his designs; and also the sense of unity that emanates from them, the paradoxical and intense, or poetic, expression of his identity.

It is a work that is fed by a permanent

availability in relation to the world, as Siza Vieira himself affirms in a conversation with Domingo Santos (2008, p. 11):

I am not self-confined. I feel as though I am part of what is going in the architecture world, where I notice a lot of ideas and diversification. [...] I must say that I have never worked in isolation, and the language of my architecture has all the dependencies, to varying extents, on what is happening at the moment.

And that finds in continuity its own foundations, as Siza Vieira also confirms in the same conversation (Domingo Santos, 2008, p. 11):

I think that the basis of my work is continuity – a continuity which naturally has run parallel to the events and novelties in the architectural world: new materials, new technical possibilities and above all, the numerous issues regarding the way we think about cities.

The readings of the work of Siza Vieira have consolidated the ties that link him to Le Corbusier, Adolf Loos (1870-1833), Bruno Taut (1880-1938), J. P. Oud (1890-1963), Alvar Aalto (1898-1976); and also to Frank Lloyd Wright (1867-1959) and James Stirling (1926-1992) (Figueira, 2008, p. 34). Many of these relationships are indeed highlighted by Siza Vieira himself in some of his writings (Siza, 2009). Even when they show themselves to be very direct, featuring in some case even as deliberate citations, these relationships are constantly given new meaning by being the object of new and very personal syntheses.

It is in architecture in particular that Siza Vieira has based his design work, to which his many travels have significantly contributed. One should highlight one of his specific convictions here, which Alves Costa appears to have identified well:

Siza believes, as we do, in the continuity of architectural culture, and in particular that of his work. Ironically, he therefore considers himself conservative. (Costa, 2008, p. 38)

Conversely, architectural utopias and visionary designs do not seem to sustain his architecture. Indeed, Siza Vieira does not seem to preoccupy himself with imagining or creating them¹.

¹ Despite the apparent distancing on the part of Siza

Vieira from architectural speculation, his work has

One of the intrinsic characteristics of his work is that it always has realisation as a built and habitable reality as its own horizon.

Determining the necessary concept for each construction from the standpoint of space, structure, and the organization of the materials [...] constitutes, regardless of the circumstantial models, the theme of his entire output, which grows richer in its poetics and the clarity of its meanings. (Costa, 2008, p. 35)

Even when the design object is not intended to be realised, it is its hypothetical built existence that provides the vision for Siza Vieira in his defining of it. An example for this is the Museum for Two Picassos, an imagined design project for the exhibition 'Visiones para Madrid: cinco ideas arquitectónicas' [Visions for Madrid: Five Architectural Ideas], in 1992. The museum – a pavilion to be located in the city's Parque del Oeste – was designed to exhibit two works by Pablo Picasso (1881-1973); *Guernica*, painted in 1937; and *Pregnant Woman*, a sculpture from 1950². Utopia – in this case, that of modernity – is present in his work, without question, but as something that is now in the past; it is in opposition to utopia that contemporaneity finds its own configuration. As an inherent trait, "Siza's architecture occupies the place of "crisis". Because there is no ideology – that is, what Roland Barthes defined as something dominant [...] – our customary space is one of crisis" (Figueira, 2008, p. 25).

One can, thus, justifiably ask the question as to the place of fantasy in the work of Álvaro Siza Vieira.

As pure speculation of ideas of architecture, ambiences and spatial forms, untied from any possible realisation, fantasy does not seem to be considered either as a reference for

invention in his works or as an object of his drawings. However, many of the unique features that run through his oeuvre could be said to reveal the presence of fantasy. Alongside individuality and the unprecedented, Costa (2008, p. 35), indeed identifies fantasy as something Siza Vieira aspires to right at the beginning of his career.

In Siza Vieira, fantasy is not an instance that is parallel to reality, and much less is it the antithesis thereof. On the contrary, fantasy is rooted in reality, and it is as reality that fantasy is desired and its realisation is advanced. Fantasy is realised in reality; it exists as a built thing. It contributes by giving meaning to architecture; it confers exceptionality upon it.

Fantasy comes to the fore in the permanent reinvention of references, the deliberate exploration of paradoxes, the plasticity of the solutions – from the unstable-looking volumes on the ramped galleries of the Iberê Camargo Foundation building in Porto Alegre, Brazil (1998-2008); to the cut-away and recessed ceilings of the Mimesis Museum in Paju-si, South Korea (2006-2010); and to the sculpted staircases in diverse volumes of the International Museum of Contemporary Sculpture in Santo Tirso, Portugal (2010-2016), which are full of details bordering on the capricious (Fig. 1); to mention only examples from recent works. But it is always a fantasy that is built, as part of a whole, giving to the work its full meaning and deriving from the work its own meaning. "It is the serenity and beauty of the whole construction that enables us to settle our doubts, and this always happens" (Costa, 2008, p. 39).

been readily absorbed into the universe of fantasy in the drawn form. Robocoop, an urban art duo from Italy, which has been active since 2012, has included parts of Siza Vieira's works – from the Portuguese Pavilion in Lisbon (1995-1998) and the Iberê Camargo Foundation in Porto Alegre, Brazil (1998-2008) – in the *Vedute di Roma* by Piranesi. Robocoop's "aim is to document the architecture world comparing it to the past [...] with a provocative and reflexive approach" (Robocoop, n.d.).

² The 'Visions for Madrid: Five Architectural Ideas' exhibition was organised as part of Madrid's European Capital of Culture programme in 1992. A number of architects were invited to propose designs for a location in the city chosen by them (Siza, 2000). Siza Vieira returned to the design project for the Museum for Two Picassos, in collaboration with Carlos Castanheira (1957-), for the Art Pavilion at Saya Park, Gyeongsangbuk-do, South Korea (Carlos Castanheira Architects, 2018). The building is due to open in 2019.



Fig. 1: Stairs of the International Museum of Contemporary Sculpture, in Santo Tirso, Portugal. Siza Vieira, 2010-2016. Photo: João Morgado – Architectural Photography, 2016.

2.2 Drawing in fantasy

Reflecting on the place of fantasy in the work of Siza Vieira necessarily means considering the drawing, given that it is in the drawing that he to a large extent bases his relationship with the world and, accordingly, the creation of architectural objects. This has been widely recognised, including by Siza Vieira himself, from the outset: “I depend greatly on drawing and sketching, from the beginning”, he stated in a recent conversation with Faria (2016, p. 58)³. The drawing engenders the fantasy that permeates many of his works. Even so, it is a fantasy of a value that is different to the fantasy considered so far herein, given that the fantasy sought by Siza Vieira in the drawing may be more removed from an immediate relationship with reality.

Fantasy is a prominent element in his frequent self-portraits, where, for example, he appears as a Don Quixote-like figure.

Using a subtle irony, these drawings seem to represent [...] his *alter ego*, the heroic version of a character riding a horse, brandishing his sword against the adversities menacing architecture. (Amado Lorenzo, 2017, p. 149)

³ Siza Vieira also attaches great importance to models, turning to them from the early stages of

But fantasy also emerges in the drawings in which he observes the world, those produced for the pure pleasure of doing so: “[t]hat is the sort of drawing I find most attractive”, as he often states, here in the aforementioned conversation with Domingo Santos (2008, p. 57). Fantasy emerges as Siza Vieira becomes part of the drawing – it is a common feature for him to include his hands, almost always holding a cigarette, the sheet of paper he is drawing on and even the pen he is drawing with in his drawings. Siza Vieira becomes an observer of himself observing the world, allowing himself to become enveloped in a game of representations. Fantasy also emerges through the fact that these drawings are peopled with impossible faces, strange figures, transfigured bodies – sometimes winged and suspended in the space. And, finally, it also emerges, in the dizzying speed that characterises how some of the drawings are produced, motivated more by an urgency to register fascination for the world than by concerns with establishing a retinal relationship with the visible worlds.

Suddenly the pencil or *Bic* begins to fix images, faces in the foreground, faded profiles or luminous details, the hands which draw them. Lines, at first timid, rigid, lacking precision, later obstinately analytical, at moments vertiginously definite, free until drunkenness; later tired and gradually irrelevant. (Siza, 1988, p. 15)

These different forms of expression of fantasy at times co-exist in one and the same drawing. At any rate, these drawings seem to come into being more as a reflex of an interior universe and, therefore, the imagination, than as a simple registration of the observed reality, if such a registration was ever really the intention.

It is possible to identify all these singularities in some of Siza Vieira’s design drawings, perhaps contradicting the more immediate expectation as to the clarifying role that such a register such as a drawing should have. Architectural objects, when they are being defined, also at times seem to be drawn by Siza Vieira as if they were part of a fantasy. In

each design project onwards (Robbins, 1994, p. 152).

the imagined wanderings carried out through perspectival views, the drawing strays itself way from reality, with the object it purports to represent appearing altered, if not to say distorted, often being populated with weird figures (Fig. 2).

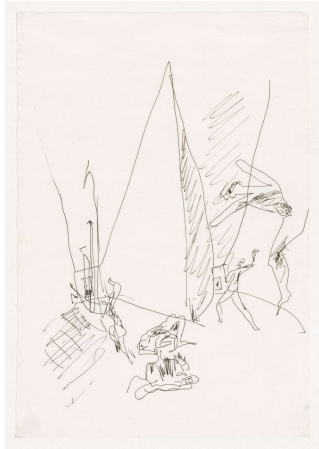


Fig. 2: Sketch perspective for the Museum for two Picassos, in Madrid, Spain. Siza Vieira, 1992. Ink on paper. 300 x 210 mm (ARCH400986). Álvaro Siza fonds, Canadian Centre for Architecture. Gift of Álvaro Siza. © Álvaro Siza.

As with the questioning of the place of fantasy in Siza Vieira's work, it is likewise fair to ask the question of the place that fantasy has in his design thought, when he entrusts the drawing with the development of his own thought.

In contrast to the drawings made just for pure pleasure, those produced in the context of a design project are bound to guarantee control of the definition of reality. Rigorous fixation – both formal and geometric at the

same time – of the object to be designed is required. Nevertheless, the drawing must be able to bring to the fore, and out of a state of lack of definition, the non-quantifiable qualities of the spatial universe that is being created; the tensions that permeate it; the clarity of the games of shade and light that animate it; the unexpected details that punctuate it. All this is aimed at by Siza Vieira in the drawing when he confronts the creation of an architectural object.

In Siza Vieira, the drawing becomes one with the design, emerging, to use the words of Gregotti (in Siza, 2000, p. 9), as his own very personal form of writing.

I believe there is no more appropriate word than this for defining the continuity between the drawing that describes his approach to the places; the *raison d'être* of the forms as a whole; the thought process behind them; and the design that modifies and reorganises them in accordance with a hypothesis, i.e. in accordance with a drawing.⁴

But Gregotti (in Siza, 2000, p. 9) also points out:

for Siza drawing is not a language in and to itself; it is all about taking measurements, registering the internal hierarchies of the place that is observed, the desires it creates, the tensions it induces; it is about learning to see the questions it raises, and making them transparent and penetrable. Finally, it is about searching, by means of the writing in the form of a drawing, for a series of resonances that progressively function as parts of a whole, that maintain the identity of the reasons for their contextual origins, but at the same time are organised into sequences, paths, calculated pauses that are aligned by means of discreet differences towards a necessary but not explicit process of diversity, of the writing of the spaces and the forms of the design project.⁵

⁴ Own translation. Original text: “Nenhum vocábulo, creio, é mais apropriado do que este para definir a continuidade entre o desenho que descreve a sua aproximação aos lugares, a razão de ser das formas em conjunto, a reflexão que as elabora, e o projecto que as modifica e reorganiza segundo uma hipótese, isto é, segundo um desenho” (Gregotti in Siza, 2000, p. 9).

⁵ Own translation. Original text: “Contudo, o desenho não é para Siza uma linguagem autónoma;

trata-se de tirar as medidas, de fixar as hierarquias internas do lugar que se observa, dos desejos que ele suscita, das tensões que induz; trata-se de aprender a ver as interrogações, a torná-las transparentes e penetráveis. Trata-se por fim de procurar [...] uma série de ressonâncias que progressivamente funcionem como partes de um todo, que mantenham a identidade das razões da sua origem contextual mas que ao mesmo tempo se organizam em sequências, percursos, paragens

And that writing is revealed not only in the form of sketches, given that the technical drawings also construct it, as Gregotti (in Siza, 2000, p. 9) makes clear as well.

It is worthwhile returning to the intimate relationship Siza Vieira has with the drawing to examine the place in his design thought of the fantasy that emanates from some of his drawings.

The continuity that Gregotti (in Siza, 2000, p. 9) identifies, from the drawing with which Siza Vieira approaches the places to the drawing with which, based on hypothesis, he fixes his design, should be extended to the drawings through which Siza Vieira makes his observations of the world. These drawings too are his writing, considering that, when he is producing them, Siza Vieira approximates and fixes that which he is observing. The extension of this continuity can be explained by the adoption of the same way of looking at things in both cases, more than by any manifest similarity of expression between the two types of drawing. As Fraser and Henmi (1994, p. 124) put it:

[h]is drawing of a commission and his drawing of a travel scene could be interchangeable. They seem to demonstrate not only the same way of drawing but also the same way of looking.

When one assumes the extension of the continuity, as argued by Gregotti (in Siza, 2000, p. 9), that which the two forms of drawing are fixated on is shown to be one and the same thing, given that, in the end run, Siza Vieira is looking for the same thing in architecture, regardless of whether he is observing it or designing it. It is no surprise that all that which Gregotti (in Siza, 2000, p. 9) identifies in Siza Vieira's use of the drawing when bound to the design process can also be found in its entirety when the drawing serves the merely pleasurable purpose of observing

calculadas, que se alinham através de diferenças discretas na direcção de um processo de diversidade necessária não ostentada, de escrita dos espaços e das formas do projecto" (Gregotti in Siza, 2000, p. 9).

⁶ Own translation. Original text: "A maior parte dos meus desenhos obedece a um fim preciso: encontrar a Forma que responda à Função e da

the world: the 'taking of measurements'; 'registering the internal hierarchies of the place that is observed'; 'the desires it creates and the tensions it induces'; and the search for 'resonances organised into sequences, paths, calculated pauses', etc... The images he creates in one case encounter the images constructed in the other, crossing imagination with memory, and lived experience with desired experience. Herein, in this to and fro of images provided by the drawing, is rooted his creative research, as Curtis (1999, pp. 24-25) explains: "[i]mages seem to float in his mind establishing a web of relationships to the [design] problem".

It is Siza Vieira himself who best reflects the presence of these two forms of drawing in his work, in a small text – almost a poem – on drawing from 2001:

Most of my drawings follow a precise objective: to find the Form that responds to the Function and frees itself from the function – and the effort – opening itself up to an unpredictable destiny. / Whether simultaneously or not, another drawing emerges "on the side". / A drawing that is pleasure, absence, pause, crosses with another, for we never distance ourselves entirely from anything. [...] Free of restraint, the other drawing leads to the conscious drawing (Siza, 2009, p. 273)⁶

With their incongruity as a constant, the figures in apparent movement with which Siza Vieira peoples his design drawings prove useful in understanding the spaces he seeks to define, as he states in the conversation with Domingo Santos (2000, p. 59):

The inclusion of people in that sort of drawing has nothing to do with the problem of scale, which sometimes is not even real, but it does have to do with the influence of those foreseeable movements by people on the final architectural form. They are drawings that deal with the way things flow until they become

função se liberte – e do esforço – abrindo-se a imprevisível destino. / Simultaneamente ou não, "ao lado", surge outro desenho. / Desenho de prazer, de ausência, de repouso, cruza-se com o outro, pois de nada nos alheamos por inteiro. [...] Liberto, o outro desenho conduz ao desenho consciente" (Siza, 2009, p. 273).

architecture.

So, there is nothing contradictory in these drawings; no paradox to be found in them.

3. Finding in fantasy a way 'To imagine the Evidence' of the architecture

Returning to Siza Vieira's own thoughts on this matter (Siza, 2009, p. 273), the drawing in which he imagines the world emerges alongside the drawing through which he observes the world at his pleasure, one drawing being nourished by the fact that the other freeing itself.

It would, perhaps, be impertinent to insist on fantasy as a distinctive mark of some of the design drawings of Siza Vieira. But if one does insist on the affirmation of fantasy, it should not be regarded as a deviation, but as an instance in which the design thought encounters a possibility of clarification.

With a nod to the title of one of his books (Siza, 2000), perhaps one can say that Siza Vieira finds in fantasy a way 'To Imagine the Evidence' of his architecture.

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Bibliographical References

- Ackerman, James. (2002). *Origins, Imitations, Conventions: Representation in the Visual Arts*. Cambridge, MA; London, England: The MIT Press.
- Amado Lorenzo, Antonio. (2017). Los autorretratos de los arquitectos. *EGA Expresión Gráfica Arquitectónica*, 22(29), 146-155. doi: 10.4995/ega.2017.3353
- Brawne, Michael. (2003). *Architectural Thought: the Design Process and the Expectant Eye*. Amsterdam, Netherlands; London, England: Elsevier.
- Carlos Castanheira Architects. (2018). *Saya Park Art Pavillion*. Retrieved February 21, 2019, from <https://www.carloscastanheira.pt/>
- Costa, Alexandre. (2008). Scandalous Artisticity. In Jorge

- Figueira (Ed), *Álvaro Siza Modern Redux* (pp. 33-40). Ostfildern, Germany: Hatje Cantz Verlag.
- Curtis, William. (1999). Notes on Invention: Alvaro Siza. *El Croquis*, (95), 22-31.
- Domingo Santos, Juan. (2008). The Meaning of Things: a Conversation with Alvaro Siza. *El Croquis*, (140), 7-59.
- Faria, Eduarda. (2016). *Inside a Creative Mind: Vol. 4. Álvaro Siza Vieira*. Lisbon, Portugal: Fundação Calouste Gulbenkian.
- Figueira, Jorge. (2008). Álvaro Siza. Modern Redux. Being Precise, Being Happy. In Jorge Figueira (Ed), *Álvaro Siza Modern Redux* (pp. 25-31). Ostfildern, Germany: Hatje Cantz Verlag.
- Fraser, Iain and Henmi, Rod. (1994). *Envisioning Architecture – an Analysis of Drawing*. New York, NY: Van Nostrand Reinhold.
- Gänshirt, Christian (2007). *Tools for Ideas: an Introduction to Architectural Design*. Basel, Switzerland; Boston, MA; Berlin, Germany: Birkhäuser.
- Krufft, Hanno-Walter. (1994). *A History of Architectural Theory: from Vitruvius to the Present*. New York, NY: Princeton Architectural Press.
- Robins, Edward. (1994). *Why Architects Draw*. Cambridge, MA; London, England: The MIT Press.
- Robocoop. (n.d.). About. Retrieved February 20, 2019, from <https://robocoop.net/Info>.
- Siza, Álvaro. (1988). Travel sketches. In *Álvaro Siza: esquisos de viagem* (p. 15). Porto, Portugal: Documentos de Arquitectura.
- Siza, Álvaro. (2000). *Imaginar a evidência*. Lisbon, Portugal: Edições 70.
- Siza, Álvaro. (2009). *01 Textos*. Porto, Portugal: Civilização Editora.