

# Education, Design and Practice – Understanding skills in a Complex World

AMPS, Architecture\_MPS; Stevens Institute of Technology  
New Jersey / New York: 17-19 June, 2019

## HESTNES FERREIRA BETWEEN EUROPEAN TIMELESSNESS AND NORTH AMERICAN CLASSICISM

Author:

**ALEXANDRA SARAIVA**

Institution:

ISCTE-IUL, DINÂMIA 'CET-IUL, LISBOA<sup>1</sup>, PORTUGAL; UNIVERSIDADE LUSÍADA NORTE  
– PORTO<sup>2</sup>, PORTUGAL

<sup>1</sup>INTEGRATED RESEARCHER,<sup>2</sup>ASSISTANT PROFESSOR

### INTRODUCTION

Raúl Hestnes Ferreira (1931-2018) belonged to the fourth generation of modern Portuguese architects who received their diploma between the 1940s and 1950s. After graduation, his experiences, studies, and surveys made him a unique character among his fellows and a key-figure to understand the national debate, particularly in the second half of the 20th century.

This article aims to emphasize the importance of staying in the United States as a student and architect, having Louis Kahn as his most excellent teacher, which was crucial to his career as an architect in Portugal.

The American experience allowed Hestnes Ferreira to understand the significance of the ancient Mediterranean culture and the extension of the idea of 'monumentality' according to Kahn's thoughts. After returning to Portugal, in 1967, this awareness was crucial to develop architecture conceived from conventional technological processes, sensitive to accessible knowledge, to place, matter, and proportion, providing to a certain extent the restoration of some social foundations of architecture.

The article, based on ongoing postdoctoral research, which aims to study Hestnes Ferreira's archive, donated to the Marques da Silva Foundation Institute (FIMS).

### EUROPEAN KNOWLEDGE VS. UNITED STATES EXPERIENCE

Between 1957 and 58, Hestnes Ferreira traveled through Scandinavia, trying to understand Aalto's architecture and Nordic production. This moment was not only an opportunity to frame a possibility to overpass the crisis of the modern movement but also a chance to figure out a key for intervening in his own country. At the time, Portugal was under Salazar's dictatorship. His studies on architecture extended from the early 60s on at Pennsylvania University, where he developed a master's degree. This venture drove him to meet Kahn, whom he collaborated within Philadelphia.

His drawings, letters, models, and memories have been fundamental pieces to define a map of the theoretical bases of Portuguese architecture after the Carnation Revolution of 1974.

In Finland, Otto Meurman's Urbanism classes and those of Heikki Siren on Architecture Studio at the Finnish Institute of Technology in Helsinki were important to realize that urbanism depended not only on the relation of buildings to one another but also on their relationship with the city as a whole, as well as it is economical and social issues.

In March 1960, Ferreira's knowledge of Finnish Architecture led to the invitation to hold a conference and the publication of an article in the magazine *Arquitectura* during the Finnish Architecture

# Education, Design and Practice – Understanding skills in a Complex World

AMPS, Architecture\_MPS; Stevens Institute of Technology  
New Jersey / New York: 17-19 June, 2019

Exhibition<sup>1</sup>. Hestnes Ferreira refers to the importance of this exhibition as one of the few "events capable of contributing to the elucidation of a non-specialized public" to find out about the "importance of the modern architectural movement and the vast field architects have for their achievements"<sup>2</sup>. In the article, Hestnes Ferreira describes the atmosphere of the exhibition, where there was a recreation of a universe that suggested the Finnish landscape, as a way of understanding the nature of that architecture.

In the United States of America between February and March 1962, he attended the Department of Architecture and Urban Studies at Yale University. Ferreira attended History of Modern Architecture classes, lectured by Vincent Scully, Urbanism by Tunnard, and developed a project in Architecture Studio, with Paul Rudolf, with Woods (of the Parisian firm Candilis, Woods and Josik, former collaborators of Le Corbusier) and Wu.<sup>3</sup>

Then, as a student of master's in architecture Department of Architecture and Urban Studies at the University of Pennsylvania, he attended classes of Architecture Studio, directed by Louis Kahn, with the support of Norman Rice and Le Ricolais. Attended the History of Cities classes by E. A. Gutkind; Urban Structures by Holmes Perkins; Urban Sociology by Chester Rapkin; Concrete Structures by August E. Komendant and Landscaping by Georges Erwin Patton. Also attended weekly lectures by Lewis Mumford, Holmes Perkins, Mac Harg, Burle Max, Charles Eames, and Crane, among others, significantly increasing his knowledge about Urban Planning.

The previous knowledge of world history and his experience centered on Europe and the contact that Hestnes Ferreira had with the architecture of Northern Europe, in particular with Finland, Sweden and Norway, were the subject of conversation. In addition to the work done for the subject of History and Theory of Gutkind, Hestnes Ferreira translated, at his request, some texts into English about Portuguese architecture.

Architectural culture, and respect for the constructive tradition of older civilizations, was one of the reasons why Louis Kahn, invited Hestnes Ferreira, to his collaborator. During the research, in one of the many interviews I conducted with Ferreira, he confided that he considered that North American students lacked the knowledge and experience of the tradition of ancient cultures, referencing, for example, Rome and Greece. The fascination with the constructive Greek and Roman tradition was common to both architects.

During the period when he worked at Louis Kahn's office, between 1963 and 1965 in Philadelphia, he took part in projects. Like: in the Plans of the Governmental Centers of Pakistan in Dacca and Islamabad; the National Assembly Buildings in Dhaka and Islamabad; in the Main Hospital in Dhaka, as lead architect; at the College of Administration in Ahmedabad, Indian Union; and the project for the Art School in Philadelphia (not built). This astonishing academic career was decisive in his later approach when he returned to Portugal, leading him to divide his own professional practice into two areas: firstly, Architecture and secondly Physical and Urban Planning.

After returning to Portugal in 1966, Hestnes Ferreira shares some thoughts on the American city in the national magazine, *Arquitectura*, number 91, dividing the article into five points: "Conflict and Dilemma", "Dispersion and Increase of Suburban Life", "The current situation of large cities", "Needs for structural reforms for urban planning", "The city, technological evolution and location of cultural centers" and "Leisure and remodelling urban life".<sup>4</sup>

The following year, Hestnes Ferreira published in the same magazine, number 99, an article on "The aspects and currents of American architecture," where he demonstrates the need to adapt cities to the new experiences and demands of modern society. Reflecting on the importance of urban planning, and

# Education, Design and Practice – Understanding skills in a Complex World

AMPS, Architecture\_MPS; Stevens Institute of Technology  
New Jersey / New York: 17-19 June, 2019

the intervention of sociologists, geographers, and anthropologists in the teams of designers other than planners and architects.<sup>5</sup>

## **KAHN'S IDEAS FOLLOWED BY HESTNES FERREIRA**

The American experience allowed him to realize the significance of the ancient Mediterranean culture and the extension of the idea of 'monumentality' developed by Louis Kahn.

As an architect, Hestnes Ferreira investigated his own projects, which were used by himself as case studies to rehearse new typologies, material techniques, and light capacity on space definition. These architectural fundamentals were essential tools for him to understand human behavior and the capacity of modern architecture in establishing connections with the legacy of the ancient past. The sense of 'monumentality' apprehended from Kahn, potentiated Ferreira's investigations about a certain sense of eternity, clearly characterized in the durability of his architecture and in its resistance to the cadence of time. Hestnes Ferreira pursued those principals through the complexity of his graphite drawings, encompassing his gestures and his own body in the same process of his projects' conceptualization.

When he returned to Portugal in 1967, this sensibility was crucial, in developing an architecture conceived from standard local technological processes, with a sense of popular knowledge, geographic implications, local materials, and building proportions, providing, in a certain sense, the restoration of some social foundations of architecture.

The design, the order, and the form are for Hestnes Ferreira, concepts that are interrelated and complementary, in the will to overcome the conceptual process. In Ferreira's works, ancestry, tectonics, and geometry are inseparable. The materials are chosen following the formal and expressive potentials of each site and integrating the value of time and the way each material behaves throughout the life expectancy of the building. By making the construction system apparent, he simplified each work, eliminating any element that may confuse its reading. Ancestry is one of the qualities of his works, originated by his interpretation of a long time.

His architectural practice was intense and can be understood by the constant triangulation between Mediterranean and Scandinavia architecture and Kahn's work, in search of the essence of architecture. Hestnes Ferreira's first project (Fig.1), while still a student, was a single-family housing project for his father. One of Hestnes Ferreira's architectural icons. An example of the influence of Finnish architecture and the constructive Portuguese Southern tradition. With few resources, but with particular details, he obtained a consistent and timeless work.

Even today, the house belongs to the architect's family and continues to maintain its role as a meeting point for all. In the picture, we see his father, the writer José Gomes Ferreira and his wife Rosalia Castro, taken in 1961.

# Education, Design and Practice – Understanding skills in a Complex World

AMPS, Architecture\_MPS; Stevens Institute of Technology  
New Jersey / New York: 17-19 June, 2019



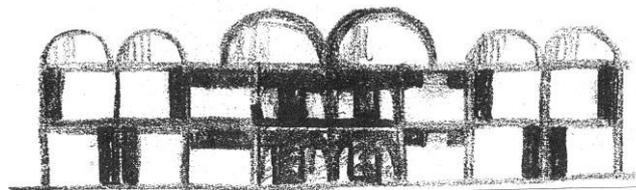
*Figure 1. José Gomes Ferreira House, Albarraque, 1960-1961.  
[credits: Marques da Silva Foundation, RHF archive]*

## **Design| Order| Form**

Both architects take the program as part of the conceptual process and argue that the architect must be able to reprogram and not merely respond to a specific program.

Kahn defined drawing as circumstantial, order as what determines appearance, and the form as something that does not exist materially, something that can be seen as a preform.

Drawing, order, and form, for Hestnes Ferreira, were concepts that interrelate and complement each other to overcome the conceptual process.

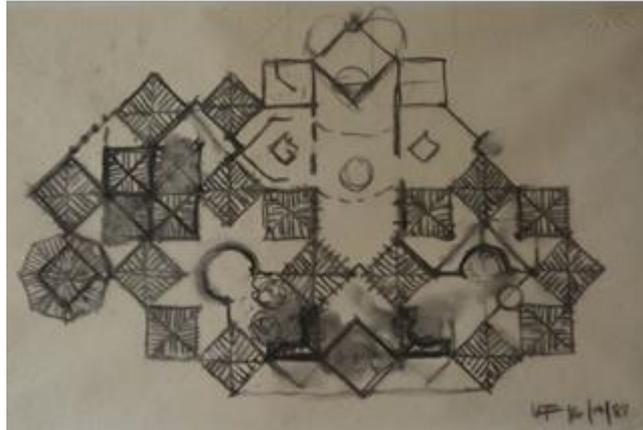


*Figure 2. Ferreira sketch, Beja Youth House, Beja, 1976-1978.  
[credits: Marques da Silva Foundation, RHF archive]*

The Beja Youth House (Fig.2) is an iconic project in Portuguese architecture, both for its understanding and definition program, as well as the ability to capture the best of traditional architecture. Hestnes Ferreira intended to give the building a festive character, the development of this work coincided with a moment of collective euphoria, after April 25, 1974. Ferreira design this project to youth, through the creation of spaces that would provide participation and youth collaboration. However, in this project, Hestnes Ferreira bet on the monolithic character of the building, he underlines the formal simplicity by dimension and position gave to each opening. The proposed materiality contained only traditional materials helping to simplify the final image of the building.

# Education, Design and Practice – Understanding skills in a Complex World

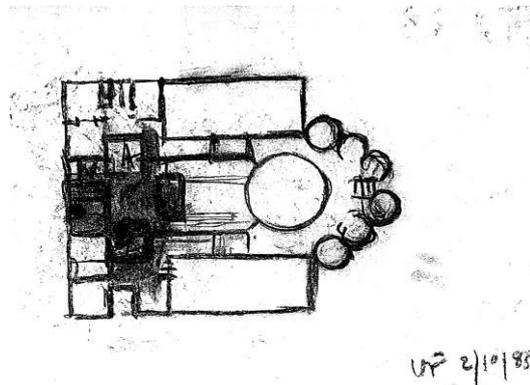
AMPS, Architecture\_MPS; Stevens Institute of Technology  
New Jersey / New York: 17-19 June, 2019



*Figure 3. Ferreira sketch, Bento de Jesus Caraça Library, Moita, 1989-1997.  
[credits: Marques da Silva Foundation, RHF archive]*

In Bento de Jesus Caraça Library, the geometric layout is the strong point of its design. The planimetric composition of this building results from the use of the square and its repetition by rotation and symmetry, characteristic of the Mediterranean architecture. (Fig.3)

The inclusion of two patios, one attached to the adults' reading area and another in the children's reading area, underlines the constructive tradition of Southern architecture. The rhythmic repetition of the entire structure of the building helps to demarcate the different reading and service, giving the unit a unitary character. Each space is directly related to the target audience; in the way, it defines the scale of the building and the furniture.



*Figure 4. Ferreira sketch, Moita Court, Moita, 1988-1994.  
[credits: Marques da Silva Foundation, RHF archive]*

In the Moita Court (Fig.4), limiting programmatic issues, as imposed by the Portuguese Ministry of Justice, the architect maintained the same language and concepts. Ferreira's design the Library and the Court for the same location, but they were later built in different areas in Moita and at different times. In this work, Hestnes Ferreira opts for the use of marble for the total covering, obtaining a monolithic character.

Another of the concepts that can be associated with the conceptual program is the essence. For Hestnes Ferreira and Louis Kahn, this is a core concept of all his works. Each architectural work must

# Education, Design and Practice – Understanding skills in a Complex World

AMPS, Architecture\_MPS; Stevens Institute of Technology  
New Jersey / New York: 17-19 June, 2019

be simplified, allowing to eliminate any element that may confuse its reading, to achieve its purest aspect.

Both understood design, order, and shape as part of the formal development process, where geometry and formal hierarchy allow us to define the character and essence of the project.

In the same relation defined by Kahn, Hestnes Ferreira also conditioned geometry to the use of simple figures (square, triangle, and circle), finding in his projects the elementary and clarity of the forms and relations he establishes between them, as well as the ability to hierarchize the spaces.

The use of regular geometric figures is similar. These conceptual sketches allow a close reading of the result of each building.

## Dialoguing with Function

Functionalism in architecture has always been one of the points that most concerned architects, especially those of the early twentieth century.

Kahn defined the function as a direct relationship between need and used while assuming the importance of the need for space and its construction, not interfering with its definition. So, refers to "...; spaces and their consequent form as buildings should emerge from a broader interpretation of uses, but rather than the fulfillment of a specific program of functioning."<sup>6</sup>

Hestnes Ferreira shared this concept with Kahn and emphasized the importance of functionality, not only as of the ability of a given space to guarantee use but also by how that space can validate and influence the proposed use, with the definition of form, materials and the elements.



*Figure 5. José Gomes Ferreira School, Benfica, 1976-1980.  
[credits: Marques da Silva Foundation, RHF archive]*

In the José Gomes Ferreira School, the ability to create "city" from an empty landscape, gives meaning to different spaces, interior and exterior, dialoguing with different functions. The cylindrical volumes balance the parallelepiped volumes topped by a rounded balustrade.

# Education, Design and Practice – Understanding skills in a Complex World

AMPS, Architecture\_MPS; Stevens Institute of Technology  
New Jersey / New York: 17-19 June, 2019

Hestnes Ferreira stated, “For me, the functionality of a space is always important; I always try to create spatial relationships in my works, accentuated by geometric and dimensional contrasts, of light, of materials.”<sup>7</sup>

Functionality and function, when analyzed in the context of housing, are not usually changed over time. However, in the course of the modern movement, dwellings assumed the free plan as the identifying element of the modern movement. Both Louis Kahn and Hestnes Ferreira have not identified with this movement, although they introduced and rethink spaces as a function of light, never minimize the relation between function and necessity.

The courtyard is a shared space in the history of architecture, and its use is usually associated with a central point of the building. This characteristic determines and reinforces the idea of centrality and symmetry, either formally or conceptually. Both in Kahn's work and Ferreira's work, the inclusion of courtyards, whether internal or external to the building, is recurrent.

Kahn's relationship to function does not in itself reveal functionalism since the form is neither defined nor determined by function. For us, Kahn's architecture is formalistic, the choice of form does not depend solely on function, but it is recurrent in his architecture to choose similar shapes in different projects.

## Between Light and Shadow

For Kahn, the light would become a fundamental element in the creation of the architectural work - a creative element by its very nature, like a presence-creating element. There are emblematic phrases that contribute significantly to the construction of the theme of light in his work: "A building begins with Light and ends with shadows," and "The sky is the roof of a square" and "A room without natural light is not a room."

Kahn presented two conferences, the first 'Architecture: Silence and Light' was held on December 3, 1968, at the Solomon R. Guggenheim Museum, and was subsequently published in 1970 by the Guggenheim Museum, *On the Future of Art*<sup>8</sup>. So the second conference entitled 'Silence and Light' has presented at the Architecture School of the Swiss Federal Institute of Technology in Zurich on February 12th, 1969's, and later published<sup>9</sup>, and it is mandatory for anyone intending to understand the binomial light and silence according to Louis Kahn.

As Alessandra Latour (2003) states, I also consider that for Louis Kahn, words had the same power as his drawings and works in conveying images about the conception of the world and philosophy.

Büttiker (1993) defined seven modeling elements (curtain; northern light, direct light, broken light, horizontal movable panels, vertical movable panels, leaf for ventilation) and the corresponding symbology in order to compare and systematize forty-nine works by Louis Kahn. This research was undoubtedly an added value for the understanding and systematization of the importance that light had for the work produced by Louis Kahn.

For Giurgola (1981), Louis Kahn's professional career is marked by a constant search for the essence of architecture through five constants repeated throughout his works. The composition and integrity of the building; respect for materials; the spatial module as the essential element, where repetition determines the design; light as a constructive factor; and the relations between the different architectural elements.

Leland M. Roth underlines the importance that Louis Kahn assigns to light 'it has the property of creating powerful, psychological responses and contains a precise psychological effect.'<sup>10</sup>

# Education, Design and Practice – Understanding skills in a Complex World

AMPS, Architecture\_MPS; Stevens Institute of Technology  
New Jersey / New York: 17-19 June, 2019

António Juaréz states that Louis Kahn 'associates light with a color, a predominant tonality of the reflections of the materials'<sup>11</sup> always taking into consideration materiality with space.

Louis Kahn's concern was defended many years later by Campo-Baeza, who considered the duality between matter and material. This search had already been felt and proclaimed by Kahn, both in his writings and conferences, as well as in his works. 'Light is matter and material (From the materiality of LIGHT)'.<sup>12</sup>

Hestnes Ferreira also shares the same references as Louis Kahn, as in his works, the control and the presence of Light is one of the most important and significant points in his way of designing and constructing, '...light, is fundamental; it is the spatial key of a building. Can assert that there are two types of light, one that guarantees the functionality of space, and the secret light that gives spaces, especially those most hidden, the effect of the unexpected.'<sup>13</sup>



*Figure 6. Faculty of Pharmacy, University of Lisbon, 1979-1997.  
[credits: Marques da Silva Foundation, RHF archive]*

It is in the Faculty of Pharmacy project (Fig.6) that Hestnes Ferreira explores the concepts of silence and light more concretely. The different solutions result from the function proposed for each space, enabling each space of unparalleled quality and simplicity.

'Silence and Light' is a binomial created by Louis Kahn around the time of the middle of his career, and it prevailed until the end. For Kahn, the immeasurable is the force that drives the creative spirit toward the measurable, the Light. Therefore, it establishes the relation between these two concepts; silence represents what does not exist, and light represents what does.

Hestnes Ferreira never spoke explicitly regarding the concept of silence, but we can draw an analogy with the definition given by Louis Kahn. Hestnes Ferreira's architecture, characterized by homogeneous spaces, valued by light and materials. The simplicity and neutrality of spaces, realized by the absence of ornamentation and by the simplicity and clarity of shapes, determine the silence, a presence in his works. Membrane walls, light, simple shapes, scale, and materials are design strategies to achieve silence. The combination of these strategic elements determines and appeases correct

# Education, Design and Practice – Understanding skills in a Complex World

AMPS, Architecture\_MPS; Stevens Institute of Technology  
New Jersey / New York: 17-19 June, 2019

acoustic enclosures, while at the same time stimulating our perception. The perception of architecture is more assertive and subtle when the senses (vision and hearing) work together in harmony.

A triad defines the nature of Hestnes Ferreira's works: the openings that receive and transmit light; the materials - decisive elements for the characterization and that have different levels of presence and express the way the buildings interact with the Place; and finally the resulting color.<sup>14</sup>

## CONCLUDING REMARKS

Hestnes Ferreira's remarkable and vital contribution to Portuguese architecture was recognized by Coimbra University on the 30th of September 2007, when he awarded the degree of Doctor Honoris Causa. He is an honorary member of the Portuguese Institute of Architects (2010) and owns the renowned and award-winning professional practice.

Hestnes Ferreira's architecture fits into the tradition of the Modern Movement, which emphasizes fluid spatial organization and free formal composition. It finds common ground with the design practices of the 1960s, both nationally and internationally, promoting a return to the values of history and tradition. However, along with a critical reflection on some modernist concepts, as to functionality, plastic expression, and construction. Hestnes Ferreira expresses in all his works a taste for the constructive authenticity of materials, such as Kahn. Its architecture is integrated within the geographical context, always considering the physical and cultural aspects.

## FUNDING

This article is part of the ongoing postdoctoral research, entitled The Monumentality Revisited - Hestnes Ferreira, between European Timelessness and American Classicism (1960-1974), supported by the FCT through a partnership with the reference (SFRH / BPD / 11868/2015), based at Instituto Universitário de Lisboa (ISCTE-IUL), DINÂMIA'CET-IUL, Lisboa, Portugal

–

## REFERENCES

- 
- <sup>1</sup> Architects like Aalto, Meurman, Kivinen, Lindgren, Kraström, Ervi, new generation of Ahola took part in this exhibition, as well as those directly linked to the architecture school: Siren, Kraks, Tröm and Petäda
  - <sup>2</sup> Ferreira, Raúl Hestnes. "Exposição de arquitectura finlandesa na SNBA." *Arquitectura* 67 (1960): 60-61
  - <sup>3</sup> Saraiva, Alexandra. *A Influência de Louis Kahn na obra de Hestnes Ferreira*. Coruña: Universidad de Coruña, 2011: 285
  - <sup>4</sup> Ferreira, Raúl Hestnes. "Algumas reflexões sobre a cidade americana." *Arquitectura* 91 (1966): 1-8.
  - <sup>5</sup> Ferreira, Raúl Hestnes. "Aspectos e correntes actuais da arquitectura americana." *Arquitectura* 98 (1967): 148-155.
  - <sup>6</sup> Latour, Alessandra. *Louis I. Kahn. Escritos, Conferencias y Entrevistas*, El Croquis Editorial: Madrid, 2003: 78
  - <sup>7</sup> Saraiva, Alexandra. *A Influência de Louis Kahn na obra de Hestnes Ferreira*. Coruña: Universidad de Coruña, (2011): 301
  - <sup>8</sup> Latour, Alessandra. *Louis I. Kahn. Escritos, Conferencias y Entrevistas*, El Croquis Editorial: Madrid, 2003: 260-267
  - <sup>9</sup> Latour, Alessandra. *Louis I. Kahn. Escritos, Conferencias y Entrevistas*, El Croquis Editorial: Madrid, 2003: 244-257
  - <sup>10</sup> Roth, Leland M.. *Entender la Arquitectura: sus elementos, historia y significados*, Editorial Gustavo Gili, SA: Barcelona, 2005: 77
  - <sup>11</sup> Juárez, António. *El Universo imaginario de Louis I. Kahn*, Colección Arquíthesis núm. 20, Fundación Caja dos Arquitectos: Barcelona, 2006: 89

# Education, Design and Practice – Understanding skills in a Complex World

AMPS, Architecture\_MPS; Stevens Institute of Technology  
New Jersey / New York: 17-19 June, 2019

---

<sup>12</sup> Campo Baeza, Alberto. *A Ideia Construída*, Coleção Pensar Arquitectura, Caleidoscópio: Lisboa, 2004: 15

<sup>13</sup> Saraiva, Alexandra. *A Influência de Louis Kahn na obra de Hestnes Ferreira*. Coruña: Universidad de Coruña, 2011: 302

<sup>14</sup> Saraiva, Alexandra. *A Influência de Louis Kahn na obra de Hestnes Ferreira*. Coruña: Universidad de Coruña, 2011: 175

## BIBLIOGRAPHY

Büttiker, Urs. *Louis I. Kahn: Light and Space*, Birkhäuser: Basel, 1993

Campo Baeza, Alberto. *A Ideia Construída*, Coleção Pensar Arquitectura, Caleidoscópio: Lisboa, 2004

Ferreira, Raúl Hestnes. "Exposição de arquitectura finlandesa na SNBA." *Arquitectura* 67 (1960): 60-61

Ferreira, Raúl Hestnes. "Algumas reflexões sobre a cidade americana." *Arquitectura* 91 (1966): 1-8.

Ferreira, Raúl Hestnes. "Aspectos e correntes actuais da arquitectura americana." *Arquitectura* 98 (1967): 148-155.

Giurgola, Romaldo, Mehta, Jaimini. *Louis I. Kahn*, Martins Fontes: São Paulo, 1981

Juárez, António. *El Universo imaginario de Louis I. Kahn*, Colección Arquithesis núm. 20, Fundación Caja dos Arquitectos: Barcelona, 2006

Latour, Alessandra. *Louis I. Kahn. Escritos, Conferencias y Entrevistas*. El Croquis Editorial: Madrid, 2003

Lobell, John. *Between Silence and Light: Spirit in the Architecture of Louis I. Kahn*. Shambhala: Boston, 2008

Roth, Leland M. *Entender la Arquitectura: sus elementos, historia y significados*. Editorial Gustavo Gili, SA: Barcelona, 2005.

Saraiva, Alexandra. *A Influência de Louis I. Kahn na obra de Hestnes Ferreira*, Tesis doctoral, Universidade da Coruña, 2011.