

MODERN
HERITAGE
BETWEEN
Venice, 4-5th May 2021
CARE
AND RISK

Edited by Maria Bonaiti, Sara Di Resta

I
-
U
-
A
-
V

BEMBO OFFICINA EDITORIALE

The International Conference “Modern Heritage between Care and Risk” (Venice, 4-5th May 2021) was held at Università Iuav di Venezia, in collaboration with Fondazione Le Corbusier and Docomomo Italia. The event offered an opportunity for an international exchange on crucial issues of documentation and preservation of the 20th century architectural heritage in a time of rapid social, cultural and political changes. The first day has been dedicated to “Ahmedabad. Laboratory of Modern Architecture”, a site-manifesto threatened today by the demolition of relevant dormitories of the Indian Institute of Management by Louis I. Kahn. The second day has been dedicated to “Living the Architectural Preservation. Modern Houses in the Conservation of 20th Century Heritage”, focused on recent conservation/restoration works of Modern authorial houses and neighbourhoods. The proceedings collect selected papers presented by international researchers and architects involved in the fields of History of Architecture and Architectural Preservation.

Maria Bonaiti is a Full Professor in History of Architecture at Università Iuav di Venezia. In her research Bonaiti investigates twentieth-century architecture, focusing on post-World War II architecture in Europe and the United States, with particular emphasis on the debate that develops around the complex relationship established in those years between modernity and tradition. Among her publications are the monograph *Louis I. Kahn 1901-1974, Electa, Milano 2012*, and *Le Corbusier in India. Villa Sarabhai, Ahmedabad, 1951-1956, Electa, Milano 2021*.

Sara Di Resta is Associate Professor of Architectural Preservation at Università Iuav di Venezia. Her research activities are focused on the preservation of 20th-century heritage, with particular attention to the conservation of modern building materials. She is the author of more than 70 publications including the volumes “Le forme della conservazione. Intenzione e prassi dell’architettura contemporanea per il restauro” (2016) and “Materiali autarchici. Conservare l’innovazione” (2021). She is currently member of the executive committee of SIRA - the Italian Society of Architectural Conservation/Restoration and Docomomo Italia.

ISBN 9788831241601



Edited by Maria Bonaiti, Sara Di Resta
with the collaboration of Elena Sofia Moretti

Scientific board: Maria Chiara Tosi (Presidente), Marco Bertozzi, Massimo Bulgarelli,
Antonella Cecchi, Pippo Ciorra, Luca Monica, Anna Marson, Fabio Peron, Raimonda
Riccini

Managing editor: Raimonda Riccini

Editorial coordination: Rosa Chiesa, Maddalena Dalla Mura

Editorial board: Matteo Basso, Marco Capponi, Olimpia Mazzarella, Michela Pace,
Claudia Pirina, Francesco Zucconi

Art direction: Luciano Perondi

Editorial design: Federico Santarini, Vittoria Viale

Web development: Giovanni Borga

Layout automation: Roberto Arista, Giampiero Dalai, Federico Santarini

All the essays are released with license Attribution-NonCommercial-ShareAlike 4.0
International (CC BY-NC-SA 4.0)

The figures supporting the essays in this book respond to the practice of fair use
(copyright act 17 USC 107 e art 70 of law n. 633/1941) being aimed at critical historical
commentary and teaching

2022, Venezia

Research seminar held under the patronage of Docomomo Italia and SIRA - The Italian
Society for Architectural Conservation/Restoration. Proceedings published with the
contribution of the Department of Architecture and Arts (Università Iuav di Venezia).

For all of Le Corbusier's work: Fondation Le Corbusier / SIAE

ISBN: 9788831241601



MODERN HERITAGE BETWEEN CARE AND RISK

Bembo Officina Editoriale



CONTENTS

- 10 Modern Heritage between Care and Risk
Maria Bonaiti, Sara Di Resta
- 14 PART I. AHMEDABAD. LABORATORY OF MODERN
ARCHITECTURE
- 16 Architects and Patrons: Gira and Gautam Sarabhai
Elisa Alessandrini
- 36 Between Modernity and Tradition. Le Corbusier's Villa
Sarabhai
Maria Bonaiti
- 60 Between Indian Tradition and Corbusian Modernity: The
Case of the Villa Hutheesing Shodhan
María Candela Suárez
- 80 "L'argent est autre, le climat est autre, l'âme est autre". Le
Corbusier Sanskar Kendra Museum in Ahmedabad
Elena Sofia Moretti
- 104 Le Corbusier's Architectural Work, an Exceptional
Contribution to the Modern Movement, a Serial and
Transcontinental Inscription on the World Heritage List
Bénédicte Gandini
- 118 Steel like straw. The Case of the Indian Institute of
Management in Ahmedabad Designed by Louis I. Kahn
Alessandra Rampazzo

- 140 Conservation Plans for Modern Architecture: The Case of IIM. A Conversation with Brynda Somaya
Alessandra Rampazzo, Brinda Somaya
- 154 Ahmedabad: Architecture within Spirit and Body
Giovanni Leone
- 178 PART 2. 'LIVING' THE ARCHITECTURAL PRESERVATION.
MODERN HOUSES IN THE CONSERVATION OF 20TH
CENTURY HERITAGE
- 180 *Introduction*
- 182 Inhabiting the Fragilities of Modern Heritage
Sara Di Resta
- 202 Innovative Conservation Policies for 20th-Century
Architectural Heritage
Ugo Carughi
- 218 *Research Studies and Restoration Works*
- 220 Restoring the Interiors of Le Corbusier's Apartment-studio:
Conserving Intimacy
Bénédicte Gandini
- 242 Carlo Scarpa, the House for Loredana Balboni in Venice
Roberta Martinis, Francesco Magnani
- 264 The Restoration of Villa Saracena
Paolo Verdeschi

- 282 *Inhabitants*
- 284 Conservation vs Musealization. Notes for an anthropology
of Inhabiting the Modern Heritage
Andrea Canziani
- 306 Dialogue as an Action of Preservation
Giorgio Danesi
- 322 Learning from the Inhabitants. A Conversation with
Giovanni Vergani and Hannia Gomez on Casa La Scala
(Villa Bloc) and villa Planchart
Sara Di Resta, Hannia Gomez, Giovanni Vergani
- 340 *Art and Vision*
- 342 My House is a Le Corbusier
Cristian Chironi

1 MODERN
HERITAGE
BETWEEN CARE
AND RISK

MARIA BONAITI, SARA DI RESTA

In 2021, the Università Iuav di Venezia, in collaboration with Fondation Le Corbusier and Docomomo Italia, hosted the International Conference “Modern Heritage between Care and Risk” (Venice, 4-5th May 2021).

The event offered an opportunity for an international exchange on crucial issues of documentation and preservation of the 20th-century architectural heritage in a time of rapid social, cultural and political changes.

The first day has been dedicated to “Ahmedabad. Laboratory of Modern Architecture”, a site-manifesto today in danger due to the threat of demolition of relevant dormitories of the Indian Institute of Management by Louis I. Kahn. One of the most industrious and modern cities in the Indian state of Gujarat, Ahmedabad is a unique laboratory of architecture. Alongside the historic walled city with its superb examples of Mughal architecture, the city is home to essential works by some of the leading masters of the 20th century such as Le Corbusier and Louis I. Kahn, as well as works by contemporary architects such as Balkrishna Doshi and Charles Correa.

This excellence in architecture was made possible thanks to the presence in Ahmedabad of a cultured and enlightened industrial class committed to promoting and supporting

industrial activity without forgetting the local cultural tradition, whose characteristics are offered as a foundation on which to build a renewed national identity.

The proposed interventions, some of which are the result of recent research work undertaken by the Università Iuav di Venezia, reconstruct Ahmedabad's cultural, entrepreneurial and architectural landscape. The interventions focus on the nature and role played by patrons, such as Gira and Gautham Sarabhai, as well as by masters such as Le Corbusier and Louis Kahn.

The second day has been dedicated to "Living the Architectural Preservation. Modern Houses in the Conservation of 20th Century Heritage", focused on recent conservation/restoration works of authorial houses and neighborhoods of 20th-century. Modern architecture has involved radical changes in the way of housing and living that are now part of the legacy of 20th-century. These changes embody not only aesthetic and functional features, but political and social transformations that still define some aspects of Modern life. From the exclusive authorial villas to the large-scale housing programs, this legacy gives today a multi-faceted and polysemic heritage which poses still unsolved issues for conservation.

The understanding of how to deal with this legacy represents a crucial challenge in social, cultural and political context unceasingly changing, which is endangering the material conservation of these buildings. From the technological obsolescence caused by the rapid changes of current demanding standards, to the shifting of tangible and intangible values of this heritage, the cultural relevance of preserving the buildings emerges, as well as the active role in conservation played by the owners and inhabitants. The contributions outline an outlook of research, including international academic studies in the fields of architectural preservation, anthropology and art, and the

documentation of recent restoration works carried out on relevant 20th-century houses.

The proceedings collect recent studies and researches carried out by the Iuav research unit “HeModern – Heritage, Culture and Modern design” and by international researchers and architects involved in the fields of History of Architecture and Architectural Preservation.

Università Iuav di Venezia

ClusterLAB “HeModern – Heritage, Culture and Modern Design”

Members: P. Faccio (coordinator), C. Balletti, A. Bassi, L. Berto, M. Bonaiti, G. Bruschi, A. Dal Fabbro, S. Di Resta, B. Gandini, P. Grandinetti, F. Guerra, G. Jean, A. Maggi, G. Marras, R. Martinis, F. Peron, M. Pretelli, M. Rossetti, A. Saetta.

PART 1.
AHMEDABAD.
LABORATORY
OF MODERN
ARCHITECTURE

2 ARCHITECTS AND PATRONS: GIRA AND GAUTAM SARABHAI

ELISA ALESSANDRINI
Architect

The subject of this paper is about the work of the Indian architects Gira and Gautam Sarabhai, a sister and a brother particularly noted as patrons of many architectures in the city of Ahmedabad, but still little known as architects.

This is a short extract from my PhD thesis ^① developed in 2009-12 based on archival documents traced in Ahmedabad, US. and European archives in a research that enlightens their pivotal role in the modernization of entire India. Along with the other members of their family, they were visionary actors in Ahmedabad, a city that became a laboratory of new architectural ideas.

Gira (1923-2021) and Gautam (1917-1995) Sarabhai, two of the eight siblings of a well known textile family of industrialists, belonged to the first Indian generation of architects of the postcolonial era. They were born in the years 1910-20, the same generation as Doshi and Correa. However, the Sarabhais distinguished themselves among the others to be extraordinary skillful in interweaving a wide net of national and international relations with the most famous architects and artists of the moment which led to fruitful cultural exchanges for all parties involved. The Indian young generation had the opportunity to work and relate to Western

modern masters in a unique dialogue from which the evolution of postcolonial Indian architecture arose.

I would like to emphasize the active role of the young Indian architects who invited their masters to India in order to establish deep connections that would have brought to representative buildings to their city.

The decades 1940-60 are the historical context, when the most important political figures were Prime Minister Nehru and Gandhi. We know that the Sarabhai family was particularly connected to both Nehru and also Gandhi who used to live in an *ashram* in this city just across the river, not far from the Sarabhai house. Especially the women of this family, such as Mridula, Gira's older sister, and Anasuya, Gira's aunt, were deeply involved in the struggle for Independence in close contact with Gandhi. On the other hand, Vikram Sarabhai, Gautam's young brother, a scientist with a doctorate in Physics at the University of Cambridge, was in close contact with Nehru for the foundation of new Institutes of research in the city of Ahmedabad ●, which was crucial for the country's development pursued by both. All the Sarabhai members, extraordinarily brilliant and erudite entrepreneurs, invested in the field of scientific research and education to build and raise a new modern nation. In early 1947, Vikram patronized two institutes of scientific research, the Physical Research Laboratory (PRL) and an Institute related to the textile industries (ATIRA), both designed by the young Indian architect Kanvinde who had just returned from his studies with Gropius at MIT. Vikram was also decisive for the foundation of IIM in the city of Ahmedabad instead of Mumbai where it had initially been planned. This project was commissioned to Louis Kahn thanks to the newborn National Institute of Design (NID) by Gira and Gautam Sarabhai.

The Sarabhais founded and sponsored numerous other schools in their city, such as the montessorian Schreys School and the Darpana Academy of Performing Arts.

Therefore, they played a key role in founding new buildings for education which became the testing ground of a new architectural language (fig. 1).

Thus, in the years 1940-60, Ahmedabad became the beating heart of ideas, experiments and encounters that had no equal in India. For this reason, it can be considered the cradle of postcolonial Indian architecture. Among the most famous projects of these years, born of the cultural exchange between the masters and the young generation, there are the Gandhi Memorial Museum by Correa, the School of Architecture by Doshi, and the National Institute of Design (NID) by Gira and Gautam Sarabhai. These buildings can easily match the works realized in Ahmedabad by Le Corbusier and Kahn.

Let's focus on the architects of the Sarabhai family, Gira and Gautam, and proceed in chronological order.

In the first years of the 1940s, Gira and Gautam Sarabhai along with some other members of the family moved to New York to boost the Calico market, one of the most important textile industries of India. Once they arrived in the USA, Gira and Gautam planned to search for an American architect who had already been working for big industrialists. Hence, they met the Kaufmann family and connected with F. Ll. Wright in order to have both a working experience in his studio in Taliesin West and to design together a Calico shop for the city of Ahmedabad. Therefore, Gira Sarabhai moved to Scottsdale, Arizona, to work with the master. The intense exchange of letters between Gira and Gautam gives evidence that the Calico Mills Store was the result of their program and ideas together with Wright's expertise and creativity.

Unfortunately, the multistory Calico store, which was supposed to be placed in the city center of Ahmedabad, was never realized. Designed on seven levels, the avant-garde shop would have included a catwalk for fashion shows, a large screen for projecting images, an art bookshop, a

restaurant and an observation roof with garden, and even a system of loudspeakers to play music on all levels. As a result, it should not have been a simple store, but a sophisticated boutique where fashion, art and architecture should have blended in a unique space.

The drawings of the building show the cantilevered terraces with lots of nature, and the use of *textile blocks* in the facade probably to adapt to the hot climate but also to make the front appear embroidered like the Calico textiles. Unfortunately, the municipality never approved this project that required a great amount of iron which lacked in India. Nevertheless, Wright's lesson had been learned and translated into the subsequent projects the Sarabhais developed. For example, in the Calico Administrative Office ● nature played a very important architectural role as reflected in the use of the surrounding gardens outside as well as inside, with small water basins in multiple levels with slight differences in height on the ground floor which are treated with stones and pebbles, and even brick walls that seem to draw a texture similar to embroidered textiles. Also in the design of the Calico Mills, the influence of Wright is clear. In a picture of an interior published in a Calico pamphlet ④ we can see "dendriiform" pillars that recall those of Johnson Wax Building, which are the same columns admired by Le Corbusier who sketched them in his *Carnets* when he arrived in Ahmedabad in 1951 ●.

From a very early age, Gira and Gautam collaborated with a great number of western artists and architects and this attitude had been advantageous from several points of view: for the Calico industries, for the modernization of the city and even professionally for Gira and Gautam as architects.

When they were in the USA, they most likely met also Le Corbusier for the first time, and with him they remained in touch. Then, some years later they invited him to Ahmedabad to design a Museum and a villa for Manorama

Sarabhai. We can infer that from the exchange of letters kept at the Fondation Le Corbusier, since the summer 1950 Gira was thankful to Le Corbusier for the book he sent her ●. Moreover, Le Corbusier's high esteem and confidence towards Gira emerges from their long exchange of letters as well as his admiration for all the members of the Sarabhai family who were very passionate about art and architecture. Maybe this was the reason why Le Corbusier accepted all the works in this city. Gira and Gautam learned a lot from him, and his teaching is visible in their subsequent main project, the NID.

Gira and Gautam's projects are the synthesis between their design ability and manufacturing capacity, and their understanding of modern architecture learned directly from the Masters.

Since the early '50s, Gautam, a mathematician and investigator of new forms and materials, became aware of the geodesic domes by Buckminster Fuller in the USA, and along with his sister Gira, decided to realize a small traveling and demountable Calico shop with the aim to display fabrics, do fashion shows, and promote the Calico items all over India. As early as 1956, Gautam started to experiment with the construction of small geodesic domes ●. The encounter with Fuller allegedly took place in Bombay in April 1958 when also the designers Charles and Ray Eames where in India to study the foundation of the first Institute of Design in the country ●. On that occasion they developed together an itinerant Calico shop, called "Calicloth dome" with the shape of a geodesic dome, 100 feet in diameter, with a tubular structure and fabric that provided covering. This framework, then dismantled, had been captured in one of Charles Eames' pictures stored at the Library of Congress ●. In the same year, Gautam erected a second geodesic dome in Delhi without Fuller's help. This dome too was 100 feet in diameter, and it was considered a better variant from a technical point of view. In a picture

kept by Gautam and sent to Charles Eames, he wrote that he was proud to be able to use less pipe and fabric and to have managed a structure faster to assemble and disassemble^⑩. Therefore, at the end of 1958, two traveling geodesic domes, “Cali-cloth Dome”, hit the road from Delhi and from Bombay to promote the Calico items with the slogan *fashion comes to town*^⑪.

At the end of this experience, Gautam and Gira decided to realize a permanent shop in the city center of Ahmedabad in the same plot where Wright’s store should have been built.

Therefore, the Sarabhais designed a two-story shop: a basement constituted by a big hall without pillars in the center, but using truss girders (the first space of this kind realized in India), and a first floor covered by a geodesic dome of 50 feet in diameter supported by 5 poles with a very thin wooden shell overlaid by copper^⑫. Gautam succeeded in reducing the thickness of the wood components as well as the iron structure with the aim to use as little material as possible.

Therefore, they managed to adapt the form of the Fuller geodesic dome in a smart and elegant way with less expensive materials. Finally, the white deep lettering “Cali-Shop” fixed in vertical on a lateral wall, with a font designed by photographer and graphic designer Ernst Scheidegger at the invitation of Gira, represented a finishing modern touch. In the ‘90s, the shop was abandoned and in 1997 the dome collapsed after a storm. A legacy of their clever work has been lost (fig. 2).

It is curious to notice that in the same year, when the Sarabhais encountered Fuller in India, he had just been hired by the Indian Government to realize a traveling geodesic dome that would have displayed all over India the exhibition *Design Today in America and Europe*, which had been organized by MoMA^⑬ in New York in order to show the best western home design in the main cities of India and

stimulate an initiation of this kind of industry in the country. Was it a mere coincidence?

Obviously not.

In fact, the capable entrepreneurs of the Sarabhai family, always ready to promote their Calico brand, were at the same time dedicated to study the evolution of Indian handcrafts into modern design, and also to preserve the traditional craft work especially in the textile field. At this point, we should move forward to another chapter of the Sarabhais history, the one that sees their commitment to study the local heritage and craft.

In 1948, as soon as Gira and Gautam came back from the States, they designed the first Museum dedicated to Indian textile arts, The Calico Museum of Textiles, which was inaugurated by Nehru in February 1949⁽¹⁴⁾. Unfortunately, this architecture has been destroyed too, nevertheless, from the few images published in the magazines of those years, we can see that it was a cutting-edge Museum with a modern facade with well balanced vertical and horizontal lines, big luminous lettering, and a unique attention to the layout and display of the items. Not only the Museum exhibited the most precious fabrics but it also promoted the research and the protection of those Indian ancient traditions⁽¹⁵⁾. To this purpose, Gira got in touch with the main experts in the textile field and started a collaboration with the Victoria&Albert Museum in London, as well as the Ulm and Basel Schools. The Calico Museum of Textiles (1948-49), one of the first building realized in Ahmedabad by Gira and Gautam, turned out to be the seminal project for the birth of industrial design, and a catalyst for new encounters.

In fact, thanks to this Museum, in 1955 the Sarabhais were employed by the MoMA (New York) to showcase their traditional cloths in the exhibition *Textile and Ornamental Art of India* in order to promote Indian arts and crafts in the States⁽¹⁶⁾. Therefore, thanks to the Calico Museum and the MoMA, the Sarabhais started a new incredible adventure

aimed to study in depth and defend Indian traditional handcrafts.

In 1955, the Sarabhais for the first time got in touch with the designers Charles and Ray Eames, which marked the beginning of a deep and everlasting friendship that led to the foundation and construction of the first National Institute of Design (NID) in Ahmedabad including its cultural projects. The dialogue between the four actors was remarkable for all of them. The Eameses were interested in Indian spirituality, colors and tradition, and also in the impact of technology on them. The Sarabhais received support and good advice on the new Institute of Design, and in turn they offered great hospitality and their deep knowledge of Indian culture. All the letters I have found in the Library of Congress Archive demonstrate the intense exchange of ideas related to NID foundation as well as the important exchange of gifts such as film, chairs, toys, textile and also sincere mutual esteem.

Let's summarize the long history that led to the design of NID. After their first encounter with the Sarabhais in 1955, only in 1958 the Eameses were appointed by the Indian Government to travel to India and study handicraft. The result was *The India Report*, a significant text in which the Eameses wrote the cultural project of the first Design School in India, its goals, the relationship between students and teachers, the *learning by doing* methodology and even the features of the building.

It follows that NID was not a simple school but rather an institution for education, research and practice at the service of the Nation with production laboratories useful to society¹⁷. This cultural agenda made NID unique in the national and international panorama. Interestingly, the Eameses were not the only advisors of NID foundation. Other designers were also consulted such as Ernst Scheidegger, Vilhelm Wohlert, and even Gio Ponti.

After six years of gestation, in 1961 the Institute was finally founded in Ahmedabad, and in the absence of a proper building, it was based on the last floor of Le Corbusier's Museum of Art, a landmark also commissioned by the Sarabhai family. In the following years, Gira and Gautam Sarabhai conceived one of their most significant projects: the NID headquarters.

The building was the result of a study that aimed to combine spatial flexibility to contemporary construction methods in consideration of local material, craftsman's skills, and a desire for innovation.

NID is a compact building, three stories high, in which modularity is clear due to its unit structure.

Set opposite Le Corbusier's Museum, just like this one, it is made of bricks and concrete *pilotis* that form a structural squared grid to guarantee security in case of river floods, which generates a free, multifunctional ground floor sheltered from the sun and the rain.

As we can see from the coverage plan (fig. 3), only a portion of the project has been realized (the one in gray color). The Institute could have been enlarged by adding modules like in a *mat-building* ⁽⁹⁾. The ground floor is versatile and autonomous with few walls and slight difference in levels, areas with fountains, white pebbled gardens and filtered light that recall Wright's design (figs. 4-5). The first floor is the main level with double height laboratories. The modular structural unit that is repeated in the complex is 12.3 x 12.3 m, with three pillars per side, three floors high, a slab on the first floor and a shell roof. Similar to Indian pavilions, this unit allowed for a quick construction and at the same time experimented with the use of different materials for the shells, from ferrocement to bricks and concrete, with only the last one completely made of bricks. Gautam's aim was to reduce the use of iron and concrete and to realize at least one shell in bricks.

Ultimately, considering that Gira and Gautam Sarabhai invited the best professors as consultants, and the most talented International masters to teach young Indian students and professors, we can deduce that NID became a laboratory of Indian excellence in design, art and architecture in the city of Ahmedabad, which developed into the cradle of postcolonial architecture. Hence, NID was not a mere school of design, but also an Institute of research at the service of the Nation, and this is why the Government commissioned NID to perform many assignments to such as the exhibition *Nehru his life and his India* in 1965, which was realized by the Sarabhais, the Eameses and their students. In this cultural exchange between East and West at NID, we also find the renowned IIM project by Louis Kahn who was invited by the Department of Architecture to design IIM together with NID students and young architects of the city of Ahmedabad such as Doshi, Raje and Kapadia.

Another interesting building they designed in Ahmedabad is the B.M. Institute of Mental Health (1963-64), which in 1977 was enlarged with the help of the German engineer Frei Otto, who was also invited to teach at NID. Gautam and Otto tested a very thin ferrocement roof with an elegant fascinating curved shape.

In conclusion, in the quest for an international network of contacts, Gira and Gautam and the whole Sarabhai family were brilliant in securing the best figures in a miraculous network of relationships in the United States, Italy, France and Switzerland. They managed to coordinate different views of a new India that was simultaneously cutting-edge and rooted in ancient tradition.

Thanks to their different love for all the arts and to the new Institute of Design that needed partnership with open-minded masters, they called renowned artists such as Calder, Noguchi, Cage, Rauschenberg and Cartier-Bresson. There is a long list of guests who arrived to Ahmedabad invited by the Sarabhais, even scientists such as Homi

Bhabha and C.V. Raman, and politicians like Maulana Azad and Sarojini Naidu, philosophers and educators such as Rabindranath Tagore, Maria Montessori and many other intellectuals. In their house, called the *Retreat*, surrounded by an idyllic nature on the outskirts of the chaotic city, peace and creativity must have been particularly inspiring since every guests was grateful for the hospitality, exchange of ideas and even presents.

I would like to conclude by mentioning Alexander Calder's art. He too was invited by Gira Sarabhai in 1955 to work at the *Retreat* in a creative advantageous exchange for both. Calder realized eleven *mobiles* and donated them to the Sarabhai family. Among these, one called *Happy Family* really impressed me. It is a *mobile* with eight white hanging circles that represent the eight children of Ambalal Sarabhai, the father, who is probably represented by the red figure, and Saraladevi, the mother, most likely the yellow star or the sun. It is a representation of the Sarabhai family, a group of unique incredibly charismatic visionaries enlightened like this star, united in the modernization of their Nation and leaning forward like this aerial sculpture, and also particularly bright and happy as in the title of Calder's work.



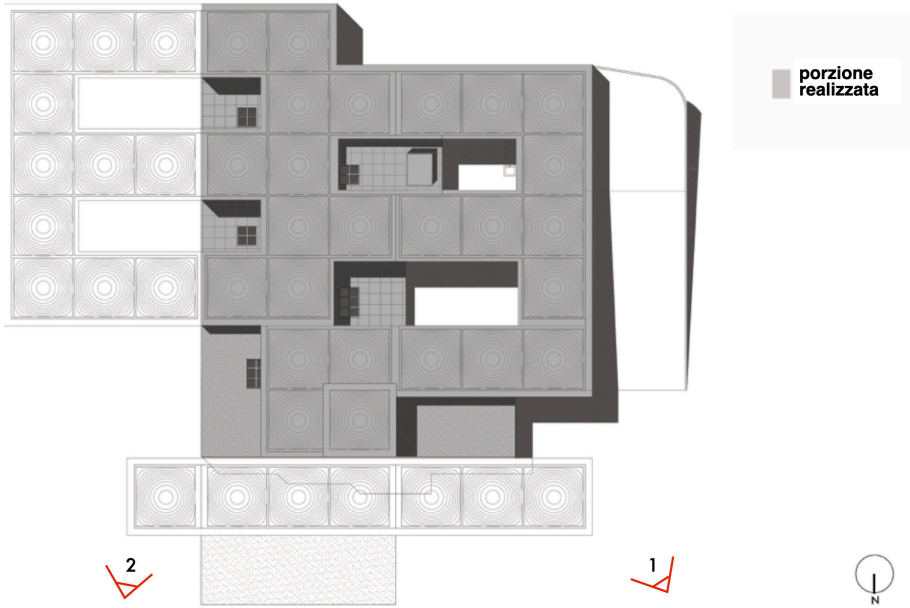
COMMITTENTI	ARCHITETTI	PROGETTO	ANNO
 <p>Ambalal Sarabhai Saraladevi Gossalia</p>	Gautam e Gira Sarabhai	Calico Museum of Textile	1948-49
 <p>Vikram Sarabhai</p>	Achyut Kanvinde Achyut Kanvinde Balkrishna V. Doshi Bernard Kohn Louis Kahn	Physical Research Laboratory Ahmedabad Textile Industry's Research A. Community Science Centre Indian Space Research Organization Indian Institute of Management	1947-54 1947-54 1966 1969-72 1962-74
 <p>Vikram Sarabhai Mrinalini Swaminathan</p>	Gira Sarabhai Achyut Kanvinde	Villa per Vikram e Mrinalini Sarabhai Darpana Academy of Performing Arts	1947-50 1958-62
 <p>Gautam Sarabhai Gira Sarabhai</p>	Frank Lloyd Wright Le Corbusier Gautam e Gira Sarabhai Gautam e Gira Sarabhai Gautam e Gira Sarabhai Gautam e Gira Sarabhai Gautam e Gira Sarabhai	Calico Mills Office (non realizzato) Sanskar Kendra Museum Darshan Apartments Cali-Cloth Travelling Dome Cali-Shop B.M. Institute of Mental Health National Institute of Design	1946 1951-59 1953-54 1956-58 1962 1963-64 1964-68
 <p>Manorama Chimanbhai</p>	Le Corbusier	Villa Sarabhai	1951-56

fig. 1. The Sarabhais, patrons and architects



fig. 2. Cali-shop. (© Elisa Alessandrini, 2009)



UNTO ARCHITETTONICO - ridisegno dell'autore

fig. 3. National Institute of Design coverage plan drawn by the author. The portion realized is in grey



fig. 4. National Institute of Design ground floor. (© Elisa Alessandrini, 2011)



fig. 5. National Institute of Design ground floor. (© Elisa Alessandrini, 2011)

ENDNOTES

①: Alessandrini (2012).

●: In 1954, they together inaugurated the new complex building of Physical Research Laboratory in Ahmedabad, founded in 1947 and operative in the historical premises of the Sarabhai House, called *Retreat*.

●: *Calico pamphlet* (n.d., presumably 1961, p. 66-67), designed by Ernst Scheidegger, concept by Gira Sarabhai, spiral binding, picture of Administrative Office Building in Baroda or Mumbai. Ernst Scheidegger showed me this pamphlet when I met him in his home in Zurich, August 2011. There is another Calico pamphlet, comparable to this one, I found in Ahmedabad in 2010 with similar pictures: *Calico since 1880* (n.d., presumably 1980) designed by Shilpi Advertising Limited.

④: *Calico pamphlet* (n.d., presumably 1961, p. 13 and p. 26), interior of a Calico Spinning Department.

●: Le Corbusier. (1951), E23-678, Fondation Le Corbusier (from now on FLC), Paris, France.

●: Sarabhai, G. (1950, July 13). [Letter to Le Corbusier]. Correspondance (R3-2-355), FLC, Paris, France.

●: Sarabhai (1968, p. 72-75).

●: Neuhart, J., Neuhart, M., Eames, R. (1989, p. 232-233).

●: Eames, C. (1980, June 15). [birthday card to Buckminster Fuller with pictures he took, including his geodesic dome in Bombay in 1958]. Work of Charles and Ray Eames, Library of Congress, Washington DC, US.

⑩: Sarabhai, G. (1958, November 15). [Letter to Charles Eames]. Work of Charles and Ray Eames, unprocessed files consulted by the author in October 2011, Library of Congress, Washington DC, US. In the letter Gautam wrote to Charles Eames: "Dome 2: Here is a photograph of the

new dome we built – it has the same diameter at the base as the first one which you saw (100 feet), but uses an easier constructional technique, the total length of pipe used is half that of Dome 1 and the number of intersections a third. The area of the fabric is reduced by 30%. It takes only half as long to erect and dismantle as the first one”.

⑪: *Calico pamphlet* (n.d, 1961?, p. 49).

⑫: Cadot (2004, p. 131-139).

⑬: Drexler (1958).

⑭: Goetz (1949).

⑮: In doing so, the Sarabhai put also their Calico industry at the peak of a secular Indian tradition. See: Williamson (2016).

⑯: Wheeler (1956).

⑰: Sarabhai and Sarabhai (1969).

⑱: Alessandrini (2011, p. 799-807).

BIBLIOGRAPHY

- Alessandrini, E. (2011). National Institute of Design: un'architettura moderna nell'India postcoloniale. In *Proceedings 1st International Congress Architectural Design between Teaching and Research*. (799–807). PolibaPress.
- Alessandrini, E. (2012). *Ahmedabad. Laboratorio di architettura moderna. Il National Institute of Design (1961-68) fra contatti internazionali ed echi della tradizione* [phdthesis]. Alma Mater Studiorum - Università di Bologna. <https://doi.org/10.6092/unibo/amsdottorato/4715>
- Cadot, P. (2004). Calico Textile Shop, the Doomed Dome, India. *Docomomo Journal* (13), 131–139
- Drexler, A. (Ed.). (1958). *Design Today in America and Europe*. The Museum of Modern Art
- Goetz, H. (1949). Calico Museum of Textiles at Ahmedabad. *MARG*, 3(4), 57–61
- Neuhart, J., Neuhart, M., & Eames, R. (1989). *Eames Design. The Work of the Office of Charles and Ray Eames*. Harry N. Abrams. Harry N. Abrams Inc. Publishers
- Sarabhai, G., & Scheidegger, E. (1961). *Calico Pamphlet*
- Sarabhai, G. (1968). Calicloth Dome. *L'Architecture d'Aujourd'hui* (141), 72–75
- Sarabhai, G., & Sarabhai, G. (1969). *National Institute of Design. Documentation 1964-69*. NID Publication
- Shilpi Advertising Limited. (1980). *Calico since 1880*. The Ahmedabad Manufacturing and Calico Printing Co
- Wheeler, M. (1956). *Textile and Ornaments of India*. The Museum of Modern Art
- Williamson, D. (2016). *Modern Architecture and Capitalist Patronage in Ahmedabad, India 1947-1969* [phdthesis]. New York University

3 BETWEEN
MODERNITY AND
TRADITION. LE
CORBUSIER'S VILLA
SARABHAI

MARIA BONAÏTI
Università Iuav di Venezia

When Le Corbusier arrived in Ahmedabad in March 1951, he was far from imagining that in this city, just north of Mumbai, he would give form to his most enigmatic masterpieces: a museum (Sanskar Kendra, 1951-57), the Millowners' Association Building (1951-57) and two villas (Villa Shodhan, 1951-57 and Villa Sarabhai, 1951-56).

These buildings have seldom been investigated in a historiographical perspective and have remained on the margins of the main events of contemporary architecture. Probably this is because they remain in the shadow of the more publicized and outstanding venture that engaged Le Corbusier starting from 1951 in the construction of Chandigarh, the newly founded capital of the State of Punjab^①. Villa Sarabhai, the subject of this discussion, is particularly difficult to access since it is located inside the large property of the Sarabhai

family in the exclusive residential area of Shahibag, a few kilometers north of the old town.

Manorama Sarabhai, the client, who had a strong personality and was a member of one of the most powerful families in Ahmedabad, played a leading role in the narrative of the design and construction of the villa. The Sarabhais belonged to the entrepreneurial elite of the city, whose fortune was linked to the cotton textile industry. They were part of an enlightened, cultured bourgeoisie committed to promoting and supporting industrial activity without forgetting the cultural specificity of their country. The awareness of the potential of an economic growth aimed at taking India towards modernity, without sacrificing the value of tradition, was typical and at the same time the most controversial aspect that characterized the entrepreneurial class of Ahmedabad to which Manorama belonged ●. Widow of Suhrid Sarabhai, mother of two children, and curious about contemporary Western art, Manorama commissioned her house from Le Corbusier in November 1951 on the occasion of his second visit to Ahmedabad ●. From the very first meetings with the architect, Manorama emerged as a demanding client committed to designing a home that would accommodate the rhythms of life and deep-rooted customs while imposing herself as a vigilant guardian of tradition. Le Corbusier returned to Ahmedabad the following March bringing with him the first design proposals. At the Fondation Le Corbusier two drawings with annotated corrections that were made just after that crucial meeting with the client are preserved ④. This documentation is useful for understanding the particular nature of the relationship that tied Le Corbusier to Manorama, who guided with a firm hand the various phases of the design of the villa whose solutions were the result of a close, and at times exhausting, debate between architect and client ●.

Nearly hidden in the lush tropical vegetation, the house presents forms that are assimilated to the local

cultural context. Still it distinguishes itself from the type of Shodhan house – “the reincarnation of Villa Savoye turned upside down” ● – and its sculptural monumentality. Crossing the park of the estate, a service block consisting of a garage, servants’ quarters and kitchen, delimits the access area to the house. The main body of the villa is marked by a sequence of brick vaults set on oversized reinforced concrete beams and brick walls. Load bearing parallel walls are interrupted by various sized openings which allow the creation of a continuous spatial system. A two bay space separates the two units that make up villa Sarabhai and connects the front of the house to the internal garden where a refreshing small swimming pool is located and the villa opens with ample verandas. While the sequence of the vaults is concealed in the solution of the elevations, the interiors display a series of rooms permeable to air and light where space is the real protagonist of the composition (fig. 1). Heavy wooden doors, perforated by regular geometric openings, close the rooms towards the garden in the hottest hours, but when the evening approaches, the doors open again to let in the air and the view. Therefore, the verandas become suggestive thresholds of shade. By alternating simple brickwork solutions and white or brightly colored plastered partitions – in blue, green, red and yellow – the internal walls of the villa resonate with the texture of the surfaces of the vaults in exposed bricks, and with the black stone slabs of the flooring. The polychromy of the domestic spaces is balanced by the austerity of the external walls whose construction stands out for the primitive brutalism of the workmanship of materials such as brick and exposed reinforced concrete. This is a recurring characteristic of Le Corbusier’s latest works, but it achieves a particular strength in what was built in Ahmedabad. The elevations of Villa Sarabhai appear measured by the modules of metal formwork – which use was widespread in Ahmedabad – that generate rough surfaces which reverberate with the exposed

bricks (fig. 2). These are used almost with tactile pleasure in the partitions that separate verandas, loggias and internal rooms. A similar materiality matches the expressive force of plastic inserts with an unprecedented primitivism – real *objets trouvés* – such as the oversized gutter that marks the entrance to the villa, the gutter spouts that give rhythm to the elevations and the steep staircase leading to the swimming pool slide.

Completed in 1956 and recognized as the most *Indian* of the architectures realized by Le Corbusier in Ahmedabad, Villa Sarabhai poses significant interpretative questions, the answers to which are probably to be sought in the set of circumstances intrinsic to the design and construction of the villa. In fact, the house designed by Le Corbusier for Manorama is problematically located within the architect's production, and even though it echoes contemporary works, it reveals significant deviations.

When considering the model proposed for Villa Sarabhai, it is possible to trace clear lines of continuity with what Le Corbusier designed up to that moment. Vaulted roofings are in fact found, between the thirties and forties, in a succession of solutions for Mediterranean dwellings, from the agricultural estate Peyrissac at Cherchell in Algeria to the complex Roq et Rob at Roquebrune-Cap Martin. Moreover, particular affinities are found in the Maisons Jaoul, whose construction preceded by only a few months what was then developed in India, and anticipated the solution of the Catalan vault ●. If the overall structure of Villa Sarabhai appears consistent with the contemporary work of Le Corbusier, at the same time we can observe a significant *cross-fertilization* with specifically local solutions. As documented in the correspondence, it was Manorama who suggested continuous modifications and adjustments, and directed the architect in defining the details of spaces adjusted to accommodate a fashion suitable to the Indian lifestyle. And this is an aspect that returns to characterize

different scales of the project. For example, the presence of connecting bays evokes the function performed in traditional architecture by the so-called *chowk*, which also distinguishes the urban palace of Sarabhai. These are internal courtyards designed to ensure adequate ventilation to the rooms and at the same time they connect service and representative areas in common to the different units that comprise the private part of the house. In a similar way, the connecting rooms that separate the two units that make up Villa Sarabhai act as a hinge between the quarters of Manorama's son and the living area in common with the quarters of the mother which develop on the upper floor ●.

The impression is that from the first drawings the plan of the villa takes shape sourcing different architectural references which see typical spaces of traditional architecture translated into recognizable figures of the language of Le Corbusier. The result is a real *creation of a tension* between different cultural models. For example, while echoing the models of the Unité d'habitation of Marseilles and of the La Tourette convent the verandas that open their front towards the garden appear completely transfigured in Manorama's house. In fact, the loggias stand out as real threshold spaces – places of transition between inside and outside conceived to protect from the extremes of the weather and allow, at the same time, the circulation of air and light.

Space and its free flow between the rooms of the house is actually the protagonist of Villa Sarabhai, which is described as a “meandering house” ● by Balkrishna Doshi, one of the most attentive witnesses of Le Corbusier's encounter with India. The space, he recalled, “flows simultaneously in different directions” ⑩ and reveals an unprecedented relationship between inside and outside. Le Corbusier's ability to modulate the spaces of Villa Sarabhai may be considered an original reinterpretation of traditional Indian architecture, which he observed with curiosity during his many stays in India as documented in the

pages of the *Carnets* ⑩. In fact, since his first Indian passages he scrupulously took note of the impressions he acquired by the architectural landscape that was revealed by what he saw. What impressed him was precisely the lack of solid walls to define the facades of the houses which were marked rather by a sequence of deep verandas and porches. The succession of loggias, which gives rhythm to the elevations of Villa Sarabhai, betrays the tension with which Le Corbusier redesigned known elements of his vocabulary adapting them to the site. A close observation of the villa at different scales, from the plan to the architectural details, allows us to recognize in the *cross-fertilization* the principle that distinguishes the design. Even the solution of the garden roof, conceived to offer shelter from the summer heat in the hot monsoon nights, reflects modes typical of traditional architecture to conform to the customs of life of which Manorama was the vigilant guardian. And so it is the roof-terrace, a true manifesto of Le Corbusier's architecture, which in Ahmedabad is transformed into a new space as the result of a process of adaptation of forms typical of the *civilisation machiniste* to ways of life assimilated from the local culture.

In the attempt to understand the actual role played by Le Corbusier during the construction works and the intentions placed into the *cross-fertilized* solutions of which the architecture is a document, an essential source is constituted by the correspondence from the worksite between Ahmedabad and the Parisian studio, that was exchanged almost weekly. This was made possible by the presence in Ahmedabad of Jean-Louis Véret, a young French architect selected by Le Corbusier to follow the Indian worksites ⑪. Véret arrived in Ahmedabad on June 7, 1953, and remained there until January 1955 when he was replaced by a then very young Doshi. In his first assignment as director of works, Véret sought a ceaseless recounting with Paris and the correspondence became an irreplaceable tool in directing the

various phases of construction. Véret's main interlocutors were Le Corbusier and two of the firm's collaborators, Jacques Michel and Balkrishna Doshi ⁽¹³⁾. In most cases the letters were accompanied by explanatory notes and quick sketches that literally guided Véret through the realization of the building, such as the composition of the formwork of the beams, the details for their correct construction, and the description of the executive techniques suitable for the installation of the brick walls. However, the inevitable time lag between sending the requests to Paris and the arrival of the answers was in some cases the cause of misunderstandings causing Véret's great frustration. One example is the design of the formwork of the beams that was not approved by Le Corbusier but already in place when the information from the studio in rue de Sèvres arrived in Ahmedabad, which led to the extreme decision to demolish "three beams and the corresponding exterior wall" ⁽¹⁴⁾.

The detailed analysis of the correspondence has provided the understanding of the crucial role played by the worksite of the Maisons Jaoul which was started in Paris some months before the one in Ahmedabad ⁽¹⁵⁾. In particular, it is the Catalan vaulted solution of Villa Sarabhai that recognizes in the Maisons Jaoul its own specific model as once again documented by the correspondence which was particularly frequent during the construction of the roof ⁽¹⁶⁾. The Parisian worksite, followed among others by Michel and Doshi, was mentioned several times as an example. For instance, the arrangement of the electrical system and ventilation as well as the arrangement of the internal beams and the solution of the laying of the bricks. In this regard, the correspondence reveals how the irregular and imperfect masonry that distinguishes Villa Sarabhai was not at all the spontaneous outcome of the construction practices of local craftsmen, but rather the result of precise instructions carefully issued by the studio ⁽¹⁷⁾.

All things considered, the impression is that the Maisons Jaoul was deemed as a sort of real laboratory where Le Corbusier and his collaborators experimented with single design solutions which were then recommended to the more difficult to access Indian site. As mentioned, this happened at different scales of the project, from the vaults to the ceramic coverings, leaving very little spontaneity or accidentality in the Manorama house, which on the contrary took shape with the same care and artifices found in the most famous Parisian houses.

In the light of what has been reconstructed so far, how should we look at Villa Sarabhai? How can we interpret that clear expression for the “taste for the rustic”¹⁸ as in the Maisons Jaoul, and which appears to take shape independently of geography and building inclinations?¹⁹

Like the Maisons Jaoul, Villa Sarabhai can be interpreted as a manifestation of the new brutalist aesthetics that ran through Le Corbusier’s work from the forties onward taking over from the “polished and cellophanized”²⁰ forms of the *civilisation machiniste*. This explains the care given to the detailed plastic solutions as well as the poetics of materials that characterize the spaces of the Indian “small house”²¹.

However, the real narrative of the building process shows how the house of Manorama cannot be interpreted in the same way as one of the many Mediterranean villas of Le Corbusier. It is not to be considered a copy of what was more comfortably built in Paris. On the contrary, in spite of the affinities and even the repetitions of motifs and solutions which can be considered at the origin of the supervision of the building site, Villa Sarabhai is the expression of a slow process of traditional assimilation which forces the formal experimentation started in Paris.

In this regard, another valuable source for delineating the events of the villa are the photographs of the worksite taken by Véret between 1954 and the end of 1955²². There are more than 200 photographs today kept in the Véret

archives that document on a monthly basis the progress of work in the various worksites of the buildings designed by Le Corbusier in Ahmedabad. This material, mostly unpublished, allows a close observation of the buildings during their making. Some photos of Villa Sarabhai caught significant dissimilarities between what had been built and what was indicated in the plans. The main differences concern the service nucleus of the villa consisting of the kitchen block and the garage. The rooms of the latter, for example, appear rotated by 90° with respect to what was indicated in the plans published in the pages of the *Œuvre Complète*, where the solution presents a succession of bays parallel to those of the main house. This was a modification already traced by Véret in a sketch dated July 7, 1953 and later confirmed by a drawing dated December 26, 1953²³. This discordance can be interpreted as the extreme manifestation of a principle of variation which pervades the narrative of the villa both in its design phases and in its construction as a result of exhausting negotiations between architect and client.

That process did not cease with the end of the works when Le Corbusier had no longer any control. Indeed, the villa experienced continuous and progressive adaptations to life starting from the fans placed under the vaults at the end of the construction works – to the architect's total disappointment – to the addition of copper overhangs to the gutter spouts, whose brutal plasticity characterizes today the elevations of the house.

Regardless of the metamorphoses that the work underwent once it was immersed in the passage of time, from the earliest stages of design Villa Sarabhai became a document of the openness of Le Corbusier's work to a multiplicity of cultural influences, so far neglected in the name of laws whose universal value came into sharp crisis in particular in his Indian work.

Signs of unprecedented openness are the friendships developed by Le Corbusier during the months when he was engaged in the construction of Villa Sarabhai. Just to list a few, some examples are the bond established with the Sardinian sculptor Costantino Nivola – thanks to whom he came close to the work of Bernard Rudofsky – and the deep understanding that connected him with Minnette de Silva ⁽²⁴⁾. The first woman to establish herself as an architect in Sri Lanka in the aftermath of its independence, Minnette de Silva met Le Corbusier on the occasion of the Ciam conference in Bridgewater in 1947, where the young Sri Lankan participated as a representative of the Indian group MARG ⁽²⁵⁾. The friendship with de Silva, documented by a dense correspondence, part of which is now preserved at the Fondation Le Corbusier in Paris, developed in the years when Le Corbusier was working in India, between Chandigarh and Ahmedabad ⁽²⁶⁾. In these years, thanks to Minnette de Silva, Le Corbusier experienced a further and surprising encounter with the Asian country. The relationship that connected the two architects raises the question of the complexity of being together of distant languages and worlds. On the one hand, de Silva hoped to be able to open up the contemporary debate to a cultural complexity that had been ignored until then. On the other hand, the Indian continent appeared to Le Corbusier as an opportunity to stage the crisis of an entire season of architecture, then powerless in the face of the complexity of the historical passage it was called upon to interpret. The *cross-fertilized* forms of Villa Sarabhai tell the story of the effort made to keep in relation what one would like to separate ensuring, as witnessed in the project documents, the resistance of a comparison that is created through differences and continuous “divides” ⁽²⁷⁾.

In the light of the above, the impression is that Villa Sarabhai is not at all like a “small house” ⁽²⁸⁾ aimed at satisfying a luxurious and geographically isolated client.

Interpretable as a masterly example of Le Corbusier's mature work, the villa represents rather a document of a crucial historical passage that took shape in Ahmedabad to narrate, together with the cultural specificity, the second half of the twentieth century and its crises.



fig. 1. Le Corbusier, villa Sarabhai, Ahmedabad, Inde, 1951-1956, interior view. (© Manuel Bougot)



fig. 2. Le Corbusier, villa Sarabhai, Ahmedabad, Inde, 1951-1956, partial view of the front towards the inner garden. (© Carlo Fumarola)

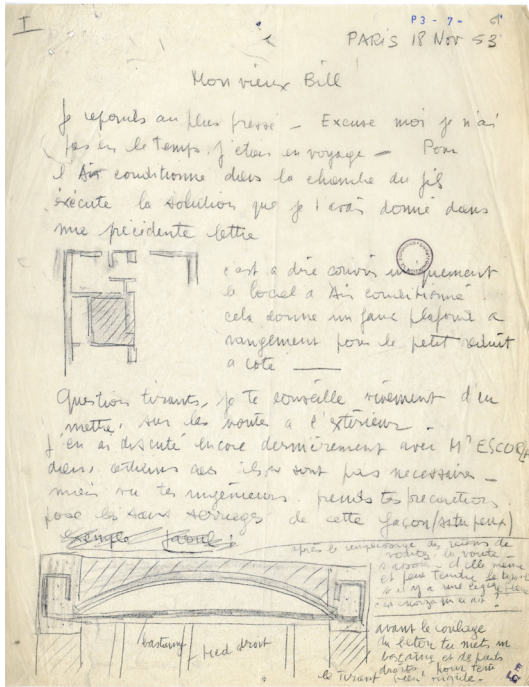


fig. 3. Letter from J. Michel to J. L. Vêret, November 18, 1953 (P3-7-69). (© Fondation Le Corbusier / SIAE)

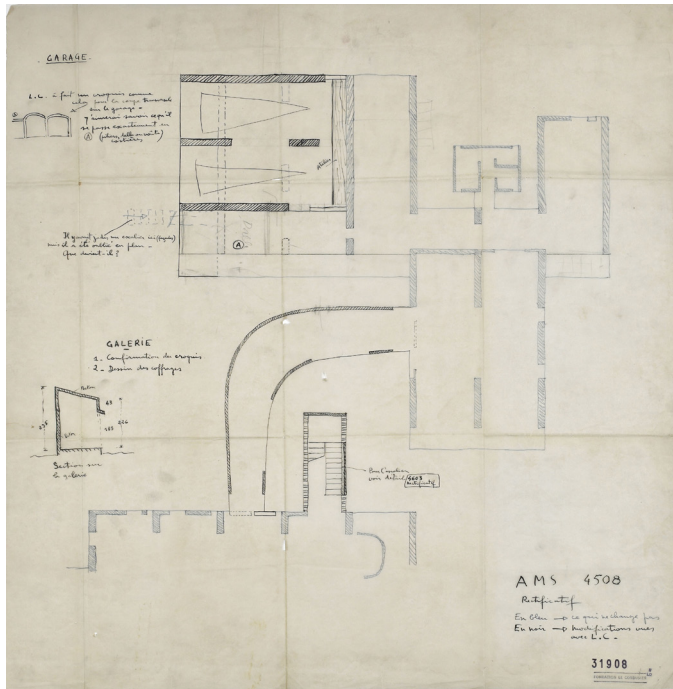


fig. 4. Floor plan sketch of the garage and gallery (FLC 31908).
(© Fondation Le Corbusier / SIAE)

ENDNOTES

①: This paper summarizes issues and topics more broadly discussed by Bonaiti (2021a). Fundamental contributions are: Serenyi (1983) and Curtis (1986). Among the most recent works that offer a peculiar interpretation of Villa Sarabhai, see in particular: Ubbelohde (2003), Suarez (2006), Masud (2010), Gargiani and Rosellini (2011, pp. 361-372) and Williamson (2016, pp. 385-412). In addition, the testimonies of Balkrishna Doshi, met by the author in his studio in Ahmedabad in February 2018, are essential: Doshi (2012a), Doshi (2012b) and Doshi (2012c).

●: On the figure of Manorama Sarabhai, on the Sarabhai family and in general on the role played by Ahmedabad's business elite see in particular: Pandya (2002), Nanda (1991), Mehta (2005), Alessandrini (2012), Leone (2013) and Williamson (2016, pp.118-275). Also, Mrinalini Sarabhai's autobiography (2004) is an indispensable work. As Williamson (2016) explains, architecture, with forms that balance modern universal aesthetic and local culture became a powerful "tool" in representing the "small group of textile millowners and their families, who dominated the city economically and politically" (p. 26). The role entrusted to art as a useful tool in the process of development of the city and its social fabric was recognized by the entrepreneurial class of Ahmedabad even before the arrival of Le Corbusier and it was at the origin of the birth of several cultural institutions including the Ahmedabad Textile Industry Research Association (ATIRA), directed by Vikram Sarabhai, whose building was significantly designed in 1951 by Achyut Kanvinde.

●: Le Corbusier arrived in Ahmedabad for the first time in March 1951. In fact, the architect was invited to visit

Ahmedabad with the task of designing a new museum with a letter dated March 10, 1951, sent to Simla where Le Corbusier had been staying for a few days while he was engaged in the preliminary phases of the Chandigarh plan. Gautam and Gira Sarabhai, Manorama's brother-in-laws, were among Le Corbusier's main interlocutors in this first phase of the Indian projects. Kadri, M.B. (1951, March 10). [Letter to Le Corbusier]. Musée Ahmedabad-(Inde), 1956 (P3-4-15), Fondation Le Corbusier (from now on FLC), Paris, France. See also: Sarabhai, G. (1951, March 23). Proposal for the Municipal Museum of Ahmedabad. Musée Ahmedabad-(Inde), 1956 (P3-4-16), FLC, Paris, France. After arriving in Ahmedabad, Le Corbusier was asked to design, in addition to the new city civic center, two private villas. One, never built, was for the mayor Chinubhai Chimambhai, the other one was for Surottam Hutheesing, and later sold to Shodhan. In November 1951, during his second stay in Ahmedabad Le Corbusier was appointed to design, in addition to the villa for Manorama, also the new headquarters of the Millowners' Association. See Bonaiti (2021a, pp. 11-12).
 ④: Le Corbusier. (1952, March 7). AMS 4400. Villa de Mrs. Manorama Sarabhai, Ahmedabad-(Inde), 1951, (6676), FLC, Paris, France; Le Corbusier. (1952, March 7). AMS 4401. Villa de Mrs. Manorama Sarabhai, Ahmedabad-(Inde), 1951, (6678), FLC, Paris, France.

●: When compared to other works of the same years by Le Corbusier, the project of the villa is documented by a limited number of drawings. An indispensable tool for retracing the events of the design and construction of the villa is the correspondence, particularly rich and detailed, between the site and the Parisian studio, and between Le Corbusier and Manorama Sarabhai. See in particular: Sarabhai, villa-Ahmedabad (Inde), 1951, P3-5 (153-309) and P3-7 (1-237), FLC, Paris, France; Shodhan, villa-Ahmedabad (Inde), 1951, P3-5 (1-152), FLC, Paris, France; Correspondance, Sarabhai Gira, R3-2 (331-335), FLC, Paris, France.

●: Doshi (2012a, p. 16).

●: See in particular: Maniaque (2005). On the use of brick vaults on the designs and works of Le Corbusier see also: Serenyi (1965), von Moos (1971), Kartik (2007), Papillaut (2011, pp. 190-196), Bonaiti (2021a, pp. 15-18) and Bonaiti (2021b).

●: As Williamson (2016) explains: “Le Corbusier essentially updated the chowk for the suburbs, not open vertically like a traditional chowk, but open longitudinally to take advantage of the breeze and views of the secluded landscape” (p. 410).

●: Doshi (2012a, p. 14).

⑩: Doshi (2012a) concluded: “Very different from the Jaoul houses [...] This house purposefully denies its own existence. It is indescribable in terms of spaces. It is like a sponge, porous toward the garden” (p. 14).

⑪: Le Corbusier (1950-1954, E18-343 and E21bis-497).

⑫: Since July 1953, Véret was simultaneously following the construction of all the buildings designed by Le Corbusier, dealing on a daily basis with economic, bureaucratic and technical problems. For the overall role played by Véret in Ahmedabad, see: Bonaiti (2021a) and Rampazzo (2021).

⑬: As is well known, Le Corbusier used to entrust each project to one or more collaborators, who he delegated for keeping contacts with clients and companies, granting them varying degrees of autonomy. In this regard, see in particular: Loach (1992) and Maniaque (2005, p. 70).

⑭: Véret, J.L. (1953, October 15). [Letter to Michel]. Sarabhai, villa-Ahmedabad (Inde), 1951 (P3-5-196), FLC, Paris, France.

⑮: Maniaque (2005).

⑯: Michel, J. (1953, November 18). [Letter to Véret]. Villa Shodhan, villa Sarabhai, palais des filateurs- Ahmedabad (Inde), 1951-1954 (P3-7-69), FLC, Paris, France.

⑰: Bonaiti (2021a, pp. 29-31).

⑱: Sottsass (2017, p. 148).

⑲: An attentive observer of Le Corbusier’s work is James Stirling (1955), who in a fundamental essay published in

“Architectural Review” recognizes the similarities between the Maisons Jaoul and the Indian architectural context emphasizing with rare lucidity the profound difference that separates these works from the villas of the twenties (Bonaiti, 2021a, pp. 16-18).

⑳: Sottsass (2017, p. 148).

㉑: Sarabhai, M. (1952, February 13). [Letter to Le Corbusier]. Sarabhai, villa-Ahmedabad (Inde), 1951 (P3-5-246), FLC, Paris, France.

㉒: Fund Véret-SIAF/Cité de l’architecture et du patrimoine/ Archives d’architecture du XXe siècle, Paris, France. Thanks to Bénédicte Gandini for reporting the Fund. The photographic collections are dated July 1953, February/March 1954, April 1954, August 1954, October 1954, November 1954, January 1955.

㉓: The drawings are respectively: Le Corbusier. (1953, July 7). AMS 4508 Revision-Garage. Villa de Mrs. Manorama Sarabhai, Ahmedabad-(Inde), 1951 (31909), FLC, Paris, France; Le Corbusier (1953, December 26). Plan de garage and Kitchen. Villa de Mrs. Manorama Sarabhai, Ahmedabad-(Inde), 1951 (6723), FLC, Paris, France. There is a further sketch – AMS 4508 Revision-Garage/Gallery, Villa de Mrs. Manorama Sarabhai, Ahmedabad-(Inde), 1951, (31908) FLC, Paris, France – undated and presumably earlier than the July 7 drawing, which shows the same changes indicating them as “approved by LC”. Together with the rotation of the garage bays, drawings FLC 31908 and FLC 31909 report for the first time the connecting passage between the house and the kitchen with brick masonry, as it will then be actually built. In a letter to Le Corbusier, dated July 9, 1953, presumably referring to sketch FLC 31909, Véret wrote: “Vous receveret aussi les dernières modifications pour le garage. La place de l’escalier d’accès au toit reste à fixer”. A survey of the garage and some areas of the villa is currently underway.

㉔: Bonaiti (2021a, pp. 32-40).

②5: On the figure of Minnete de Silva her autobiography is fundamental: de Silva (1998). See also: Dissanayake (1982), Lee and Chakraborty (2012), Siddiqi (2017) and Akter (2018).

②6: Correspondance, Silva Minnette de, R3-4 (2-70), FLC, Paris, France.

②7: Jullien (2016).

②8: Sarabhai, M. (1952, February 13). [Letter to Le Corbusier]. Sarabhai, villa-Ahmedabad (Inde), 1951 (P3-5-246), FLC, Paris, France.

BIBLIOGRAPHY

- Akhter, A. (2018). *Modernism and Identity in the Indian Subcontinent: A Sketch of Minnette de Silva and her Works* [phdthesis]. University of Cincinnati
- Alessandrini, E. (2012). *Ahmedabad. Laboratorio di architettura moderna. Il National Institute of Design (1961-68) fra contatti internazionali ed echi della tradizione* [phdthesis]. Alma Mater Studiorum - Università di Bologna. <https://doi.org/10.6092/unibo/amsdottorato/4715>
- Bonaiti, M. (2021a). *Le Corbusier in India. Villa Sarabhai, Ahmedabad, 1951-1956*. Electa
- Bonaiti, M. (2021b). Tema e variazioni. Un laboratorio di architettura in India. Le Corbusier, Balkrishna Doshi, Louis I. Kahn. In F. Lenzo (Ed.), *"Per avermi sognato un gran tesoro"*, *Studies in Honor of Giovanna Curcio* (pp. 19-24). Campisano editore
- Curtis, W. J. R. (1986). *Le Corbusier: Ideas and Form*. Phaidon
- De Silva, M. (1998). *Minnette de Silva: The Life and Work of an Asian Woman Architect* (A. de Vos, & S. Sirivardana, Ed.). Smart Media Productions
- Dissanayake, E. (1982). Minnette de Silva: Pioneer of Modern Architecture in Ceylon. *Orientations*, 08(13), 40-51
- Doshi, B. V. V. (2012a). *Le Corbusier and Louis I. Kahn. The Acrobat and the Yogi of Architecture*. Vastu-Shilpa Foundation
- Doshi, B. V. (2012b). *Le Corbusier. The Indian Incarnation*. Vastu-Shilpa Foundation
- Doshi, B. V. (2012c). *Le Corbusier's Work: A Personal Reading*. Vastu-Shilpa Foundation
- Gargiani, R., & Rosellini, A. (2011). *Le Corbusier: Béton Brut and Ineffable Space, 1940-1965*. EPFL Press
- Jullien, F. (2016). *Il n'y a pas d'identité culturelle*. Édition de L'Herne

- Kartik, K. (2007). Story of the Monol: Le Corbusier's Vaulted Structures. In (Eds.), *Celebrating Chandigarh* (pp. 403–410). Jaspreet Takhar Editor
- Le Corbusier. (1981). *Carnets 2, 1950-1954*. Electa
- Lee, R., & James-Chakraborty, K. (2012). Marg Magazine: A Tryst with Architectural Modernity. *ABE Journal* (1). <https://doi.org/https://doi.org/10.4000/abe.623>
- Leone, G. (2013). Ahmedabad. In M. Biraghi, & A. Ferlenga (Eds.), *Architettura del Novecento: Vol. 2* (pp. 7–16). Einaudi
- Loach, J. (1992). L'atelier de Le Corbusier. *Monuments historiques* (180), 49–52
- Maniaque, C. (2005). *Le Corbusier et les maisons Jaoul: projets et fabrique*. Picard
- Masud, R. (2010). *Language Spoken Around the World: Lessons from Le Corbusier* [master's thesis]. Georgia Institute of Technology
- Mehta, M. (2005). Gandhi and Ahmedabad, 1915-20. *Economic and Political Weekly*, 40(4), 291–299
- Moos, S. v. (1971). *Le Corbusier: l'architecte et son mythe*. Horizons de France
- Nanda, V. (1991). Urbanism, Tradition and Continuity in Ahmedabad. *Mimar* (38), 26–36
- Pandya, Y. (2002). *The Ahmedabad Chronicle, Imprints of a Millennium*. Vastu-Shilpa Foundation
- Papillault, R. (2011). *Chandigarh et Le Corbusier: création d'une ville en Inde, 1950-1965*. Éd. Poiesis-AERA
- Rampazzo, A. (2021). *Ahmedabad e Parigi. Come Le Corbusier costruì villa Sarabhai*. Electa
- Sarabhai, M. (2004). *Voice of the Heart: An Autobiography*. HarperCollins India
- Serenyi, P. (1965). Le Corbusier's Changing Attitude toward Form. *The Journal of the Society of Architectural Historians*, 24(1), 15–23
- Serenyi, P. (1983). Timeless but of Its Time: Le Corbusier's Architecture in India. *Perspecta* (20), 91–118

- Siddiqi, A. I. (2017). Crafting the Archive: Minnette De Silva, Architecture, and History. *The Journal of Architecture*, 22(8), 1299–1336
- Sottsass, E. (2017). *Per qualcuno può essere lo spazio*. Adelphi
- Stirling, J. (1955). From Garches to Jaoul: Le Corbusier as Domestic Architect in 1927 and 1953. *The Architectural Review* (118), 145–151
- Suarez, M. C. (2006). La Villa Sarabhai de Le Corbusier. In (Eds.), *Le Corbusier plans 1950-1951: de l'idée au projet: Vol. 10* (pp. DVD).
- Ubbelohde, M. S. (2003). The dance of a summer day: Le Corbusier's Sarabhai house in Ahmedabad, India. *Traditional Dwellings and Settlements Review*, 14(2), 65–80
- Williamson, D. (2016). *Modern Architecture and Capitalist Patronage in Ahmedabad, India 1947-1969* [phdthesis]. New York University