

CHINESE BRUTALISM TODAY

CONCRETE AND
AVANT-GARDE
ARCHITECTURE

Alberto Bologna

ORO
EDITIONS

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To Cinzia and Adele...
to the time we can spend together

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FOREWORD. DIALOGIC CRITICISM FOR CONTEMPORARY CHINESE ARCHITECTURE PIERRE-ALAIN CROSET

In this book, Alberto Bologna proposes to observe the condition of contemporary architecture in China from an original point of view. He narrows down the scope of its critical analysis to a few exemplary buildings made of exposed concrete built in the last twenty years and reveals, with a thorough investigation, their expressive qualities and construction reasons. He starts from the material skin of the buildings and proceeds backward, digging gradually in this surface to discover how the construction choices related to the use of concrete are associated with compositional, symbolic, poetic, and sometimes even political motivations of a small group of avant-garde Chinese architects.

Why does he limit the analysis to concrete and examine so few examples? China is the world's largest producer and consumer of concrete, which has been for many years an essential material to create new cities and infrastructures in unprecedented quantity and rapidity in the history of humanity.¹ It may indeed seem paradoxical that avant-garde designers want their uniquely expressive works to be related with this material typically associated with quantity production. Bologna explores this seeming paradox in depth and how important and decisive the different methods of concrete implementation are in relation to the significant differences between standard usage of the material in the construction industry² and the highly experimental research by these few architects that has led to new aesthetic qualities of the exposed material.

A second paradox, no longer founded on quantity or quality but on the global and local dichotomy, sees this new generation of avant-garde Chinese architects using concrete not as a symbol of transnational modernity, but on the contrary as an instrument of affirmation of an architectural language of which a specific character of "Chineseness" is recognizable. As Bologna writes:

The common denominator seems to be the desire to appear as openly Chinese outside of China, but with buildings built in China ... as the search for an architectural identity through a focus on the tectonic process.³

The construction history of concrete and the critical reflection on tectonics are at the heart of Bologna's path as an architect and scholar. He was one of my first students at the First Faculty of Architecture of the Politecnico di Torino in a Design Unit dedicated to exposed concrete.⁴ On this occasion, the students had to design a monolithic building entirely made of exposed concrete. Later, he graduated with me with a thesis dedicated to the project for a new headquarters of the Gottfried Semper Archive in Zurich, where his passion for historical research was associated with his design talent. Following his doctoral thesis,⁵ Bologna has established himself in a few years as an original and rigorous scholar of construction history, devoting particular attention to the relationships between construction techniques, structural shapes, and design procedures in the reinforced concrete architecture of Pier Luigi Nervi and Dante Bini.⁶

Thanks to these skills, Bologna managed to start an original research path in a completely new context for him—China—with an approach decidedly shifted from the construction history of the twentieth century toward the critical analysis of the more recent works. The idea for this book was born in 2017 when he started to work as an assistant professor of Architecture and Urban Design at the Politecnico di Torino (Department of



I. Jiakun Architects (Liu Jiakun, Tian Shen, Wang Xi, Liu Su, Yang Ying, Li Yihuan, Wang Kailing, Mao Weixi, Li Jing), Suzhou Imperial Kiln Ruins Park & Museum of Imperial Kiln Brick, Yuyaoan, Yuanhe St, Xiangcheng District, Suzhou, Jiangsu Province, 2012–2016. External view (PAC, 2017).

II. Jiakun Architects (Liu Jiakun, Wang Lun, Zhao Ruixiang), Luyeyuan Stone Sculpture Art Museum, Yunqiaocun, Xinminchangzhen, Pixian, Chengdu, Sichuan Province, 2001 (design), 2002 (construction). Museum interior (PAC, 2017).



Architecture and Design), an experience that encourages Bologna and gives him the opportunity to carry out research in China in close collaboration with Tsinghua University. How does one begin research in a world so distant geographically and culturally from his or her own? After a systematic examination of magazines to familiarize with the overall framework of the architectural production in China in the last twenty years, Bologna realized there was “a clear interest by Chinese architects in the use of exposed concrete, instrumental in the genesis of a peculiar avant-garde architectural language closely linked to the territory in which they work.”⁷ Once we recognize this widespread interest, how can we avoid the arbitrary choice of examples and contextualize the critical interpretation of individual works?

Firstly, the dense critical apparatus of the book shows how the author managed to create in quite a short time a rigorous and updated informative overview of the production conditions in contemporary China and how design practice is profoundly influenced by these conditions: the organization of the concrete industry, the role of developers and an emerging class of private contractors, the significant differences in the technical preparation of local workers, the peculiar professional structure of architects who work divided between large State Design Institutes and a few independent offices, and the role of universities and magazines in cultural promotion.

Secondly, Bologna acknowledges with exceptional intellectual clarity how difficult it is for a Western observer, completely unaware of the Chinese language, to interpret cultural, symbolic, and ideological reasons motivating the action of Chinese architects: how to avoid the risk of an excessively Eurocentric interpretation? One of the preferred methods is to refer to Chinese scholars who possess, thanks to training or academic experience, a “dual culture”—Eastern and Western—which makes them experts in the art of transnational and transcultural dialogue. Among the most significant texts quoted by the Author is Jiawen Han’s important book *China’s Architecture in a Globalizing World: Between Socialism and the Market*,⁸ in which we can read a quote that places correctly the context of “regional hybrid modernity” of present China where some architects are emerging with a critical resistance against the standardization and repetitive processes that negatively characterize the process of urbanization:

The majority of architecture in Chinese cities is losing its Chinese character. Many architects in China are increasingly losing their distinctive flavour. In the middle of this phenomenon of homogeneity, a rising generation of Chinese architects has begun to thrive on something different. ... They are the new wave of architects

who resist the simulacra practice. They not only aim to sell their works to the public and entertain the public, but their work has an ethical and aesthetic value.⁹

Against the background of this “new wave innovative architecture” emerging, as Jiawen Han rightly calls a phenomenon that has been described as “contemporary Chinese experimental architecture” or “avant-garde architecture,” Bologna brings into play refined critical instruments to reconstruct the design and construction process of a series of exemplary buildings that demonstrate the “ethical and aesthetic” value of the work of the selected architects. He considers the building as the main document to analyze and interpret, and consequently as the primary source of information, with the same methodological rigor underlying his previous research dedicated to the figure and buildings of Pier Luigi Nervi. Bologna had to travel across China—from Beijing to Chengdu, from Shanghai to Ningbo, from Suzhou to Hangzhou—to visit the buildings and develop a very rich iconographic apparatus, which contributes decisively to the originality of the book: not only its own photographs, many of which are concrete surfaces details, but also construction details and construction drawings that are rarely published in specialist magazines, enrich the book.

This critical approach based on the direct experience of built space owes much, in my opinion, to Kenneth Frampton’s¹⁰ *tectonic studies*, of which we know how deeply influenced the emergence of the *new wave* of contemporary Chinese architects. Bologna’s research questions are borne from the direct experience of visiting the buildings followed by discussion with many of these prestigious avant-garde architects such as Cui Kai, Gong Dong, Zhang Ke, Li Xinggang, Qi Bin, Song Yehao, Zhang Li, and Bing Lin, who agreed to collaborate directly with the Author in the form of lengthy interviews and making unpublished materials available. This critical dialogue with the buildings and their authors presupposes that Bologna has overcome the position of observer and interpreter, typical of a construction history scholar, to experience the form first-hand and to empathize with the designer’s work. The Author explains properly how the common interest for tectonics has been the privileged instrument to overcome cultural barriers and to avoid critical interpretations excessively linked to his own mindset:

Starting from technical and construction issues, it was possible to open a dialogue that led to a better understanding of the various phases of the creative process followed by the architect in relation to the stimuli received from the client, the

various negotiations that took place during the phases that led to the endorsement of the project by the Design Institute and the municipality, the technical limits that he had to face during the building site and the added value that he was able to grasp for the final architectural definition of his building.¹¹

Basing his research work on a principle of critical dialogue—between the observer and the work, between the work and its author, between the architects and the technical intermediary bodies, between the developers and the state bureaucratic apparatus—Bologna seems to refer to the methodological lesson of the *Dialogic Criticism* of Mikhail Bakhtin,¹² even if he does not mention it explicitly: to understand the meaning of contemporary Chinese architecture it seems essential to take into account the mutual game between different points of view, considering the architectural work as a “polyphonic” narrative structure. Among the numerous cases analyzed in the book, I would like to illustrate only two that clearly show the originality of this critical approach.

The first case concerns a series of works carried out by Liu Jiakun between 2002 and 2017. Although in this case Bologna has not been able to dialogue directly with the architect due to linguistic difficulties, he proposes a very convincing interpretation of the ways in which Liu Jiakun uses “tattooed” concrete surfaces resulting from the impressions left by woven bamboo mats—placed at the bottom of the formwork—and crowns obtained from a formwork made of bamboo canes as distinctive features of his more representative architectures. The use of bamboo in the formwork results in interesting plastic effects that evoke in a discreet and refined way the *Chineseness* of the intervention. Bologna also sees all the manufacturing defects in the concrete mixture due to a process of implementation by “local” workers who are inexperienced in the methods, but this apparent imperfection becomes an opportunity to evoke, as in a distant echo, the critical voice of Reyner Banham and the ethical and aesthetic category of the *New Brutalism*¹³ that is also recalled in the title of this book.

The second significant case concerns the possibility of significantly improving the quality of the realization through direct control of the building site by the designer. Bologna discusses several examples of very recent projects that seek to obtain a polished exposed concrete surface free of imperfections that are reminiscent of international examples, and which risk losing the quality of expression that is typical of a Chinese identity. He, therefore, mentions the example, considered unsatisfactory, of the Long Museum in Shanghai (Atelier Deshaus, 2014), characterized by a beautiful structure made of juxtaposed umbrellas that could have been better achieved with a polished plaster finishing, to which he opposes the paradoxical case of JNBY headquarters in Hangzhou, the first building in China designed by Renzo Piano that will be completed in 2020 using prohibitively expensive human power and materials from Italy to obtain a high-quality exposed concrete. Instead, he promotes the Mu Xin Museum in Tongxiang, designed by Bing Lin of OLI Architecture PLLC (which has offices in Shanghai and New York), as a particularly successful building that demonstrates the possibility of a “third way” between the “totally indigenous” (and unsuccessful) approach of Atelier Deshaus and “Renzo Piano’s totally xenophilos approach,” a way that is probably “the only one that can be applied today in China to give justice, through the use of a local construction company, to spaces that are strictly dependent on the conception of surface treatment.”¹⁴ However, to achieve this brilliant result, Bing Lin not only had to act as a designer but also put into play all his plural and international experience to play a role in the training and education of the construction company thanks to visits to exemplary building sites abroad and the advice of US specialists in architectural concrete and mix design.

In this “dialogue with the Chinese colleagues,” Bologna does not limit himself to collecting information, data, and documentation needed to write detailed “microstories” of single architectures, but as an architect, he wonders about the *design practice* of these “other and distant” colleagues. What is the future like for the new generations of Chinese architects? This question cannot be dissociated from the one regarding the future of the professional status of architects in China, as pointed out by Jiawen Han at the end of his previously mentioned book:



III. OLI Architecture PLLC (Bing Lin, Hiroshi Okamoto, Fabian Servagnat, Steve Hopkins, Po Chen, Dongshin Lee, Muzhi Chen, Michael Zhao, Grace Kim, Michael Pryor, Remi Bun), Mu Xin Art Museum, Wuzhen, Tongxiang, Jiaxing, Zhejiang Province, 2013–2014 (design), 2014–2015 (construction). Detail of concrete surface finishing (AB, 2018).

I think the focus will be placed on the developments of architectural practices. For example, whether the rise of an independent professional practice in China can be associated with integral control of the design process, and whether the rise of an independent professional practice would enable technological pathways of relevance for the building environment in China will be studied in the future.¹⁵

Bologna perhaps does not answer directly to these relevant questions, but his book has the merit of inaugurating a new way of conceiving the criticism of contemporary architecture in China, starting from the materiality of the buildings and the analysis of the conception and realization process. By reading this book, other scholar-architects will find the stimulus to investigate significant questions such as:

How will the production structures and regulations governing the work of the architect in China evolve?

Will it be possible for avant-garde architects to continue to design and build using *low-tech* technologies and hyper-crafted ways of designing and building?

What effect will present and future research have on the production of best-performing concrete obtained with less energy consumption and more attention to the principles of the circular economy, and, in particular, what will be the developments resulting from the innovation of industrial prefabrication techniques?

Is it possible to use similar methods to investigate the use of other materials besides concrete such as bamboo or wood in contemporary Chinese architecture related to the issues of local identity and construction process control?

I, therefore, hope that this book can be recognized in the coming years as a *seminal study*, thanks to a *cross-fertilization* of methods and procedures coming from *construction history*, *architectural theory*, and *contemporary Chinese studies*.

Milan–Brescia, May–June, 2019

1 The Author quotes Vaclav Smil’s well-known study, *Making the Modern World. Materials and Dematerialization*. Chichester: John Wiley & Sons, Ltd., 2014, which shows how China has produced and consumed more concrete in three years from 2008 to 2010 than the US during the entire 20th century.

2 For example, the generalized use of a cast-in-place skeleton frame of 8.4 x 8.4 meters which often reduces the work of the architects to the mere design of the exterior building skin.

3 Alberto Bologna, *Chinese Brutalism Today. Concrete and Avant-Garde Architecture*. San Francisco: ORO Editions, 2019, 38, 41.

4 Design Unit (with Gianfranco Cavaglià, Nuccia Maritano Comoglio, and Simonetta Pagliolico, 2003–2004, first semester), “Materials and architectural quality”: “An exhibition and documentation center for exposed concrete,”: architectural designs were developed with a 1:1 scale experimentation of concrete samples with variations in the coloring, granulometry, and surface appearance with the use of different types of formwork.

5 Alberto Bologna, *Pier Luigi Nervi negli Stati Uniti, 1952–1979. Master Builder of the Modern*

Age. Firenze: Firenze University Press, 2013.

6 Alberto Bologna, “‘Structural art’ in Nervi & Bartoli’s Industrial Architecture (1949–1971),” in Jeannette Kuo (ed.), *Space of Production. Projects and essays on rationality, atmosphere, and expression in the industrial building*. Zurich: Park Books, 2015, 90-97; Roberto Gargiani and Alberto Bologna, *The rhetoric of Pier Luigi Nervi. Concrete and ferrocement forms*. Lausanne, Oxford, New York: EPFL Press Routledge, 2016; Alberto Pugnale and Alberto Bologna, “Dante Bini’s Form-Resistant Binishells,” in *Nexus Network Journal. Architecture and Mathematics*, Vol. 19, No. 3, 2017, 681-99; Alberto Bologna, “Toward Aesthetics and Technology in Building: Pier Luigi Nervi and the Clever Construction of An Ephemeral Success in the United States,” in Cristiana Chiorino, Thomas Leslie and Elisabetta Margiotta (eds.), *Pier Luigi Nervi, Aesthetics and Technology in Building. The Twenty-First-Century Edition*. Champaign, IL: University of Illinois Press, 2018, 47-70.

7 Bologna, *Chinese Brutalism Today*, cit., 283.

8 Jiawen Han, *China’s architecture in a globalizing world: between socialism and the market*. London and New York: Routledge,

2018. Jiawen Han graduated at Dalian University of Technology (China, 2010) and holds a PhD in architecture from the University of New South Wales (Sydney, 2014). She is currently a lecturer at the Department of Architecture at the XJTLU (Suzhou, China).

9 Ibid., 37.

10 Kenneth Frampton, *Studies in Tectonic Culture. The Poetics of Construction in Nineteenth and Twentieth Century Architecture*. Cambridge-London: The MIT Press, 1995. The Chinese edition was published in China in 2007 (China Building Industry Press), with a translation of Wang Junyang.

11 Bologna, *Chinese Brutalism Today*, cit., 285.

12 Mikhail Bakhtin, *The Dialogic Imagination: Four Essays*. Edited by Michael Holquist and translated by Caryl Emerson and Michael Holquist. Austin, TX: University of Texas Press, 1981.

13 Reyner Banham, “The New Brutalism,” in *Architectural Review*, No. 708, December 1955, 354–61.

14 Bologna, *Chinese Brutalism Today*, cit., 224.

15 Han, *China’s architecture in a globalizing world: between socialism and the market*, cit., 167.

In this thoroughly researched and carefully argued book, Alberto Bologna explores the material and cultural roots of the particularly Chinese approach to “Brutalism,” a term more often misunderstood than carefully examined. The essence of this approach is both practical and production-based; this book shows how the application of these principles in a Chinese context arises from a long artisanal tradition of building and thinking about building. Bologna’s incredibly deep research reveals that the particular relevance of Brutalism to Chinese contemporary architecture has profound roots in not only economics, but in an empirical approach to architectural theory that contrasts with that of the West.

THOMAS LESLIE, IOWA STATE UNIVERSITY, USA.

In this highly-illustrated work on China’s recently-built architecture, Alberto Bologna offers a detailed and fascinating examination of how concrete has been deliberately used by two generations of Chinese architects to articulate a distinctive cultural identity. What is remarkable is the fact that concrete plays an increasingly multi-dimensional role in structural, aesthetic, and social solutions in response to specific challenges of construction technique, budget, and program. This book is an invaluable source for scholars, professionals, and students interested in the subject matter.

GUANGHUI DING, BEIJING UNIVERSITY OF CIVIL ENGINEERING AND ARCHITECTURE, CHINA.

Brutalism, a term, movement, and style that for half a century has been commonly discussed and is believed to be important, is today hotly debated and highly contested, particularly because of its wide application to architecture that has arisen in countries outside the territories ravaged by World War II: countries in South America and Asia. If not forced to “make do with what was immediately at hand,” the “as found” of Peter and Alison Smithson, what would give rise to a brutalist architecture, not only in the post-war decades but today? Surely not forms alone. Of course, materials come into play (concrete, rammed earth, bricks, and cement blocks, for example), but no less important are techniques of construction and the professional interplay of architects, clients, craftsmen, engineers, and public officials who play key roles in the dramas narrated in this book. Key topics of design are vividly adduced—precision, roughness, “constructive imperfection,” and ornament—as are exemplary buildings from the last twenty years. The account of the “brutal” surfaces that result in *Chinese Brutalism Today* is exceedingly well-informed, nuanced in its arguments, beautifully illustrated, and exceptionally profound; a real delight to read and sure to become the definitive study of its subject.

DAVID LEATHERBARROW, UNIVERSITY OF PENNSYLVANIA, USA.

Chinese Brutalism is an original concept raised by Alberto Bologna to describe a current trend in Chinese architecture in exposed concrete. Coming from the tradition of Le Corbusier and Louis Kahn, architects today in China are designing with full respect to the spirit of the time, fighting with clients and builders to obtain refined details through their knowledge of local craftsmanship, always driven by a traditional Chinese sense of elegance. What is further highlighted well within Alberto Bologna’s book is how these striking architectures are being built with extremely limited budgets.

SONG YEHAO, TSINGHUA UNIVERSITY, CHINA.

China is the largest consumer of cement and concrete in the world, the use of which has peaked in the first two decades of the twenty-first century. Used for the construction of extensive infrastructure and buildings, over the last twenty years renowned Chinese architects have been working in and studying the constructive limits and spatial and superficial effects of exposed concrete. In the process, they have created a wave of avant-garde architecture in China. *Chinese Brutalism Today* investigates the compositional, formal, and ornamental reasons for this architecture and its different surface finishes, from rough to smooth. This new wave of Chinese Brutalism is, in large part, a regional evolution and development closely linked to local construction processes and the available labor force. The finished tectonics represent not only a way to read the architecture, but also reveals the complex decision-making processes and planning that led from the conception to construction of these buildings.

Alberto Bologna is an assistant professor of architecture and urban design at the Department of Architecture and Design (DAD), Politecnico di Torino, and fellow of the China Room research group.

