ROUTLEDGE RESEARCH IN ARCHITECTURE

POST-WESTERN HISTORIES OF ARCHITECTURE

PILAR MARIA GUERRIERI
AND MARCO BIRAGHI

ROUTLEDGE

Post-Western Histories of Architecture

This book seeks to provide an alternative post-Western perspective to the history of contemporary architecture. It puts forward detailed critical analyses of various areas of the world, including Europe, Latin America, Africa, China, Australia, India and Japan, where particular movements of architecture have developed as active 'political acts'.

The authors focus on a broad spectrum of countries, architectures and architects that have developed a design approach closely linked to the building context. The concept of context is broad and includes various economic, social, cultural, political and natural aspects. In all cases, the architects selected in this book have chosen to view context as an opportunity. However, each architect has considered certain specific aspects of context: some have been very attentive to the social context, others to material aspects or typological issues, and still others to aspects related to political visions or economic factors. The analysis critically highlights interesting, creative and respectful design approaches towards local conditions, such as sustainability in Nordic Europe, climate-conscious design in Africa, and the 'bottom-up' sensitivity of India. The book's main aim is to retrace, through both theoretical arguments and case studies, the debate that focuses on politics and the environment. Thanks to its valuable examples, this book strives to make a conscious contribution to establishing a bulwark against the current 'flattening-out' processes that architecture is experiencing.

This book will be of relevance to researchers, teachers and students interested in the history of architecture, architecture and planning and post-colonial studies.

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Post-Western Histories of Architecture

Pilar Maria Guerrieri and
Marco Biraghi

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Foreword

In order to modernise the built environment in developing countries, images of the architecture and cities of the Western world are used by local professionals and decision-makers to create an aura and formulate strategies for architecture and urban development. The power of this aura is enhanced as much by the tangible evidence of modern development as by intangible values that are inculcated in the classroom. In professional education, the transference of these intangible values takes place through courses of History, Theory and Criticism (HTC).

HTC, therefore, becomes a potent tool in defining the quality of locally built environments. It can either reinforce the tangible evidence of Western development or thoughtfully mediate its consequences on the local habitat, depending on the objectives that the courses set for themselves. To be an effective instrument for societal welfare, the objectives of HTC should, ideally, evolve through a process of critical self-reflexivity in response to imperatives of local political, economic, social and environmental contexts: the ground realities of the built environment provide a litmus test for evaluating the effectiveness of HTC.

In India, for instance, its ineffectiveness is a matter of concern. Architecture and cities are being transformed to mimic the images of modernity from the Western world. In the process, valuable architectural and urban heritage is being scrapped and replaced to make buildings and cities 'world-class'; the imperatives of economics invariably trump social or cultural values in defining strategies for urban redevelopment, while the natural environment is routinely regarded as an impediment to achieve the objectives of development. These ideological biases foreground the weak culture of HTC that has been unable to engage with the complex predicament of modernising traditional societies, which are compounded by the wages of civic neglect due to a lack of both managerial and financial resources.

The Nigerian novelist, Chinua Achebe, once articulated the predicament of modernising his country by quoting an old African proverb: "Until the lions have their own historians, histories of the hunt will glorify the hunter". What he meant was that until Nigeria developed locally rooted, self-reflexive strategies of modernisation, it would continue to follow the tropes of the

coloniser's 'civilising mission'. But this predicament has also been studied by philosophers. Paul Ricoeur, in his essay *Universal Civilizations and National Cultures,* posed the problem by asking: "How to become modern and to return to sources; how to revive an old, dormant civilization and take part in universal civilization […]".[1] Yet, it has seldom been critically examined by architects and urban planners, particularly in developing societies, where its problems are manifest most palpably in the built environment that they imagine and design. Their intellectual certainty in the efficacy of mimicking models of Western architecture and urbanism remains unruffled even when, Sisyphus-like, they engage with the complex and seemingly intractable problems of the contemporary built environment, a certainty that can be traced, in part, to their professional education in general, but to the courses of HTC, in particular, that glorify 'universal architectural modernism'. The political roots of such a faith in universalisation have not been critically questioned.

The significance of *Post-Western Histories of Architecture*, by Pilar Maria Guerrieri and Marco Biraghi, is that it critically questions Western models of Eurocentric architectural modernism, combatively stating that: "The aim of this book is to provoke a crisis in the Eurocentric view, and to look critically at the capitalist model and the processes of globalisation, examining the consequences in the field of architecture". Today all countries, to varying degrees, aim to modernise their habitats, whether by building new or rebuilding old buildings and sites: the question, in each country, whether developed or developing, is whether it can be achieved without compromising local cultural authenticity. This question is probably more consequential for post-colonial societies; for them, therefore, the propositions undergirding the objectives of this book are particularly provocative and timely.

Both the folk wisdom of the African proverb and the dilemma of modernisation highlighted by Ricoeur bring into focus the post-colonial quandary in architectural education, particularly in the teaching of HTC. In essence, it primarily promotes architectural modernism as it evolved in the West, which, pace Ricoeur, was the product of 'technics, tools, politics and economics', the four pillars of 'civilisation', that developed in Europe and North America and became identified as the International Style – broadly referred to as Eurocentric or Western modern architecture. It is rooted in the philosophical and cultural milieu of the West, which, when viewed critically through the lens of the historical experiences of post-colonial societies, segued from the architecture of the colonisers, and its dissemination through the many powerful forces of globalisation could therefore be read as perpetuating the tropes of the colonial 'civilising mission'.

The genealogy of architectural modernism is questioned by this book, but it is seldom questioned either in the classroom or by disciplinary discourses that take place in post-colonial societies; one of the roots of this failure can be traced to the enculturation that takes place in the teaching of HTC. This enculturation is unsurprising because the texts of HTC are the canonical texts of architectural modernism that glorify Eurocentric or

Western modernity, which students are taught second-hand. They absorb its tenets as gospel; and in praxis, this indirect learning enables post-colonial architects (and urban planners) to be considered 'progressive' and 'modern'. As William Curtis noted: "The dissemination of this degraded version of design occurred in a number of ways […] in which some sort of modern architecture seemed either relevant or unavoidable […] through the brainwashing of post-colonial elites (native born but foreign-educated) with Western images and ideas which were upheld as 'progressive' counter-agents to an earlier era of 'backwardness and stagnation'".[2]

Two points need elaboration regarding the dissemination of the ideals and ideology of architectural modernism to the former colonies, which, ideally, should have been flagged in the courses on HTC. First, the concepts are invariably misapplied because the conditions that generated architectural modernism and sustained its evolution in the West do not exist in post-colonial societies, whose rapid transformation is being mediated by different demographic, economic, social and cultural forces; second, and consequently, the potentials of their historically rooted cultural values and assets are exorcised to create 'modern' local habitats. The rampant and seemingly intractable problems of the built environment that characterise most cities in the Global South are a testament to this glaring mismatch. Of course, there are diverse and complex reasons for this failure, but what gets elided in both public and professional discourses is the strong causal relation between what is taught in the classroom and the strategies of modernisation in the field.

Equating modernisation with Westernisation is also tendentious for the sociology of the profession because architects and urban planners in post-colonial societies become handmaidens to a Westernised elite, oblivious to the needs of 'the other half'. Ironically, this propensity is contrary to the original promise of architectural modernism; not surprisingly, in a democratic polity, administrators and politicians have rushed to fill the void by formulating unsuitable habitat policies and dictating contingent development initiatives that professionals ignore, thus further eroding their agency.

From this perspective, the significance of formulating appropriate and context-based HTC becomes evident in order to dismantle the hegemony of Eurocentric architectural modernism and assert the redemptive potential of the post-colonial profession. However, increasing awareness of problems of climate change and those of social and economic inequities makes this task a universal concern. *Post-Western Histories of Architecture* must be viewed in this light. It identifies "architectural movements built around a close relationship with politics, the need to build a strong identity and to create strong roots through principles linked to the traditions of the place" and evaluates "the unique experiences of certain architects and their works within a larger framework, reconstructing meaning in the light of political, economic and contextual aspects". This empirical approach offers salutary lessons not only to post-colonial scholars and professionals but to critical thinkers in other

parts of the world as well. Guerrieri and Biraghi have examined 111 case studies and categorised them into 8 genres of context-specific architecture, from Europe to India, Africa to Latin America, Japan to China and all the way to Australia, thus taking into account the plurality of experiences and viewpoints regarding modern architectural practice. These region-specific strategies take into account social and cultural forces, local geography, as well as the availability of resources that define the concept of *genius loci*, the spirit of the place. Such a strategy has enabled them to retrace the contemporary architectural debate around the concept of 'critical regionalism' and to extend it by engaging with the concept of modernity in a more nuanced manner, thereby foregrounding alternatives to the central narratives of Western modernism.

The rationale of the eight regional contexts they have identified is premised on the close link that the history of architecture has had with a wide range of political, social and cultural issues, which in turn has necessitated the need to examine a variety of regional contexts that produce architecture. This perspective upturns canonical historiography of architectural modernism that uses Eurocentric modernism as its context and looks at local architecture through that lens to identify variations that are remarkable. 'Critical Regional' architecture is thus viewed as an architectural 'variation' of Eurocentric modernism rather than as a series of independent entities. The book, therefore, provides a grist to the mill to reform HTC and mitigate the problems of the built environment. Instead of universal modernism, it promotes the virtues of the polyglot nature of architecture, which is responsive to the local contexts to resolve local problems of the habitat.

Guerrieri and Biraghi have used the master's tools to dismantle the master's house to compellingly – and provocatively – contest the canonical historiography of architectural modernism. They define the contours of context-generated regional architecture by purposefully focusing on the unique experiences of those architects whose works have demonstrated an ability to sensitively respond to the local context and resolve local habitat issues at key historical moments: Italy, after World War II in the midst of reconstruction; India, after independence from Great Britain in 1947; Japan, following the bombing of Hiroshima and Nagasaki, and surrendering to the Allied forces; China, after Mao Zedong and during its economic revival under Deng Xiaoping; Africa, during the period of decolonisation; Latin America, in the time of revolutions; countries of northern Europe, following growing awareness of climate change and the need for environmental sustainability; and, the response in Australia to its environment and to Aboriginal cultures. Such historiography examines a time of transition in each of its identified contexts, when "some architects have designed architectural works that are not just 'buildings' but also 'political statements'", thereby transforming "not only the physical environment but also the production methods of a system, in particular of the capitalist system". The message in

the authors' post-Western history of architecture is that the 'good' architect aspires to be what Walter Benjamin called a 'producer', in other words, he/she brings about and produces change rather than being a supplier, who produces 'things'.

This message valorises the more 'progressive' criteria of examining the role of 'context' and 'tradition' as generators of architectural modernism. Context and tradition in this book refer to "cultural and material layers that over time have consolidated their characteristics in a place". This is particularly important for post-colonial societies, where Eurocentric modernism advocates that in order to be modern, local professionals must valorise a 'universal and international' language of form whose vocabulary should have the universal sanction. One perspective opens the door to developing multiple – including Indigenous – modernities, while the other to closing it and adopting universal or Eurocentric modernity to engage with the contemporary issues of the habitat. One offers an intellectual incentive for local historians to write their histories, while the other continues to glorify the 'hunt' and the 'hunter'.

Multiple modernities and contemporariness is conceptually a potent and ideologically rewarding intellectual tool to understand the diversity of architectural production around the world. It could enable 'post-Western' HTC to construct a more authentic template to understand architectural production that is grounded in local contexts by examining how, on the one hand, local architectural production was dependent on Eurocentric architectural modernism, but on the other, how the many acts of resistance to those dependencies have enabled local architects to explore alternate, context-specific architectural strategies. *Post-Western Histories of Architecture* shows the way to structure this new way of understanding architectural modernism.

A.G. Krishna Menon
New Delhi
19 December 2022

Notes

1 Paul Ricoeur, *'Universal Civilizations and National Cultures'*, in *History and Truth* (Evanston: Northwestern University Press, 1965), 271–286.
2 William J.R. Curtis, *Modern Architecture since 1900* (Englewood Cliffs, NJ: Prentice-Hall, Inc., 1983), 356.

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1 Architecture as a 'Political Act'

International political tensions, natural tragedies, such as epidemics and earthquakes, as well as mass migrations, have all caused many of the critical situations in our world today. And the history of architecture is inextricably intertwined with what happens in the world. A history of architecture that is aware of its responsibilities must necessarily be viewed in relation to the present context. Indeed, the development of a critical consciousness inevitably comes through an 'awareness' of what happens around us. It should come as no surprise, therefore, to see how a 'green ideology', which also involves architecture, has emerged in response to the effects of global climate change (ranging from pollution in cities to rising temperatures). However, while architecture (and the architect) reacts to the stimuli coming from current society, history (and the historian) has the task of providing a critical analysis of such 'reactions'. The historian's task is, therefore, to provide a far-from-simple historical evaluation of events that are often very recent events, as well as a 'denaturalisation' of such events, thereby aiming to reveal the ideological 'veneers' shrouding them. It is in this context – and with such an awareness – that we have decided to write *Post-Western Histories of Architecture*.

The parameters of time and space are essential and intrinsic to the historical discipline, whatever the 'object' of its attention. History, by its very nature, always deals with the past: whether a recent or a distant past, it is always the past. History cannot be made out of the future, and only with extreme difficulty can it be made out of the present, and only in the prospect of the present becoming the past.

When talking about the past, we inevitably read it in the light of our present experience. It is always an interpretation of the events belonging to the past seen from a present-day awareness, a present-day point of view. The history of architecture is inevitably the result of the particular point of view of the historian, and indeed, historians live in a sort of double time period: on the one hand, immersed in the 'objects' of the past that they study, and on the other, in the present-day world where they live. What has happened in history must serve to re-read what is happening today, with an added awareness. The intention of this book is, therefore, to analyse the architecture of

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the recent past, more or less from World War II onwards, in order to try to understand how the situation today has been shaped by history.

There are many ways to observe architecture, and it is essential to consider different points of view in order to navigate through its history, whether recent or distant. Bringing together the increasingly widespread processes of fragmentation of knowledge into a single unit is the task of the architectural historian, though it must be done without losing sight of the overall complexity. Fragmentation, in fact, tends to make phenomena lose meaning, and it is important to make every effort to bring meaning to the overall sense and not just to some of the phenomena. A further aim of this book, which is in no way a secondary aim, is to re-examine the unique experiences of certain architects and their works within a larger framework, reconstructing meaning in the light of political, economic and contextual aspects.

Just like history, geography is never neutral and always carries a point of view. Indeed, history and geography are two complementary disciplines, defining time and space. Cartography has always been one of the many forms of power and a way of exerting it. Maps are a testing ground for the ideology that has generated them; they are bearers of deformations, partial and subjective representations, even when they attempt (or perhaps refuse) to be complete and objective. And the type of cartography determines the type of possible deformation. Any representation in map form, because of the very nature of its interpretation, is a 'more truthful' or 'less truthful' view of reality; in other words, it interprets the situation to a lesser or greater extent. For example, the distortion given by the Mercator map of the world makes it clear how the Flemish cartographer of the 16th century applied his Western point of view to the map, putting Europe at the centre and giving greater resonance to the northern hemisphere of the world. In contrast, the German scholar Arno Peters, within the context of the process of decolonisation, drew up a map of the world in 1973 that has tried to correct the distortions of the Mercator map, aiming to provide a 'real' map of the globe that respects the actual sizes of countries. Nevertheless, Peter's map, despite its noble intentions, is not free from all distortions and confirms the subjective and critical nature of cartography. It is, therefore, important to be clear that geography is a cultural construction in the same way as history.

It is obvious that many existing architectural histories, especially those of a general character, have usually focused on the history of Western architecture, where the notion of the 'West' becomes much more of a political concept than a physical idea. This book distances itself from such an approach and deals with a variety of cultural and geographical contexts, ranging from Europe to India, Africa to Latin America, Japan to China and all the way to Australia, taking into account the plurality of experiences and viewpoints about architecture. A criticism of the current conception of architecture and a distancing from the ideology that conforms to today's Western world lies at the basis of this study. Architecture is always a subjective issue, and it is not

easy to accept a critical re-reading of a time-honoured point of view, but this is the aim put forward by this book.

In the age of digitalisation, a cumulative taxonomic approach without any critical insight is pervasive. In an ever-more conformist world, Google provides us with the information we need at each and every moment. We are, in fact, chock-full of information, but rarely are we given a critical point of view. Anything that provides a 'critical analysis' provokes a crisis in the established order and requires a choice to be made. The capitalist mode of production sits in a dynamic (and at times precarious) balance between development and crisis. Development has been the driving force for the capitalist mode of production since the 19th century. To appreciate this, we just need to look at the assembly line, so well exemplified in *Modern Times* by Charlie Chaplin, which highlights the simplification of processes: a simple gesture is learnt – and repeated – without any need for an overall view of the whole system. The capitalist system clearly shies away from crisis, but development inevitably encounters 'obstacles' in its path, even if they are not to be considered as entirely negative. Crisis is an integral part of development because the system improves when difficulties have to be faced, in the same way, criticism is an essential part in improving what has been criticised. The aim of this book is to provoke a crisis in the Eurocentric view and to look critically at the capitalist model and the process of globalisation, examining the consequences in the field of architecture.

While on the one hand, the historian is the expression of a point of view, on the other hand, the historian has always had the aspiration to be the holder of a more universal knowledge (in a position of enlightenment). A 19th-century example of objectification and totalisation of history is the *Chronological Chart of Ancient, Modern and Biblical History* by Sebastian C. Adams published in 1871, which creates a very long figurative table encompassing the entire history of the world. Many such universal histories go back to the 19th century. Another attempt to tell the history of the world in an all-embracing manner – a veritable immense effort of synthesis – is *Synchronoptische Weltgeschichte* by Arno Peters, published in 1952. Our upcoming designer of the map referred to earlier lists all world events synchronously, in tables where different contexts and disciplines are listed in chronological order, in an attempt to overcome the logic of a Eurocentric approach to history. Driven by a universal resolve – a truly 'worldwide' resolve – the more recent *Phaidon Atlas of Contemporary World Architecture* (2004) brings together and illustrates a significant number of architectural works scattered around the world. Yet, while aspiring to be as 'complete' and multicultural as possible, the atlas actually presents a tendentious predilection for American and European buildings, which to a certain extent, also reflects a situation of objective historical relevance.

The histories of architecture written in the 20th century had clear Eurocentric orientations. The famous *A History of Architecture on the Comparative Method* by Banister Fletcher (first published in 1895 but updated and

reprinted numerous times during the 20th century) presents a clearly positivist approach. On the one hand, the book aims to draw a parallel between different architectural histories, while on the other hand, it divides a plural history into 'historical styles' (particularly Western) and 'non-historical styles' (Indian, Japanese, Chinese, etc.). Fletcher gives due importance to the architecture of a significant section of the non-Western world, including those styles that were ignored at the time, but he includes them as 'non-historical styles', a reductive and highly contradictory expression. At the beginning of the book, there is a tree of styles, a throwback to the great 19th-century philosophical constructions, with its roots – representing the geographical, religious, historical and cultural aspects that lie at the base of architectural works – and a trunk with its branches, corresponding to the various histories of architecture, based on a chronological and hierarchical pattern.

Contemporary historiography has produced countless architectural histories that give particular attention to Western contexts. Among the best known are *A History of Western Architecture* by David Watkin, *Architecture Nineteenth & Twentieth Century* by Henry-Russell Hitchcock, *An Outline of European Architecture* by Nikolaus Pevsner, *Storia dell'architettura moderna* by Bruno Zevi, *History of Modern Architecture* by Leonardo Benevolo, *Modern Architecture* by Manfredo Tafuri and Francesco dal Co, *A Critical History of Modern Architecture* by Kenneth Frampton, and *The Future of Architecture Since 1889: A Worldwide History* by Jean Louis Cohen. Among the exceptions that have looked at other parts of the world with a pluralist intention, it is important to mention *Modern Architecture Since 1900* by William Curtis and *A History of Architecture: Settings and Rituals* by Spiro Kostof.

The histories of architecture listed above have mainly featured architects of European and American origins. There are, however, rare cases of books that have tried to make significant moves away from the Western point of view. One attempt to move in this direction came with the book *Global History of Architecture* by Francis D.K. Ching, Mark Jarzombek and Vikramaditya Prakash, in which a chronological analysis was conducted starting from the ancient period of early civilisations through to contemporary times, taking a parallel, step-by-step approach to all countries in the world. Another book that concentrated on the international context, taking a more recent timeframe for its analysis, is *A Critical History of Contemporary Architecture 1960–2010* by Elie G. Haddad and David Rifkind. This latter book has the merit of critically embracing many contexts throughout the world, although the fact that it was put together by many different authors means that there is a lack of a common thread and overall sense in the focus of the book.

Obviously, there are partial or 'local' histories of architecture relating to various contexts in the world: specific histories of the architecture of India, China, Japan, Australia and African or Latin American countries. In addition, for each context, there are also histories referring to specific historical periods, architectural movements or monographs about individual architects.

While acknowledging the existence of a more specific and fragmented knowledge, *Post-Western Histories of Architecture* attempts to reconstruct a collective viewpoint, going beyond the processes of fragmentation while remaining fully aware of the risks involved. The frames of reference in this book are the histories of architecture that have tried to provide brief overviews of the overall picture.

Post-Western Histories of Architecture re-reads the history of architecture with a post-Western approach, focusing on national and international projects and architects who have taken the local context of their country as a tool to counteract the processes of directly importing foreign or imposed cultural models. The case studies in this book have been selected because of specific aspects (whether they relate to the architects themselves or to their works) that are intended as a reaction against an imported architecture that is inspired by Western models or models stemming from globalisation. 'Bottom-up' movements of particular interest have developed in Europe, India, China, Japan, Australia and Latin America, using their 'context' in a broad sense as a starting point for the design. The countries taken as case studies provide examples of architectural movements built around a close relationship with politics, built around the need to create a strong identity and a 'rootedness' through principles linked to the traditions of the place.

A crucial aspect is a relationship that exists between the imposition of Western styles, which has taken place in various parts of the world, initially as a result of colonialisation and then of globalisation, and the response that locally based architects have produced starting from 'bottom-up' practices and the founding principles of their own culture. Local reactions to the importation of foreign models and the consequent forms of cultural hybridisation are what this book aims to investigate. Indeed, the 'context' of each place has always been a powerful shield against a cultural levelling-out and uniformity. Therefore, all the buildings presented here have some connection with the question of identity, an identity that embraces the idea of context as the cornerstone of its recognisability.

This book aims to highlight the close link that the history of architecture has had with the widest range of political, social and cultural issues. It analyses a selection of contexts and architectural styles from key historical moments of time: Italy after World War II and in the midst of reconstruction, India after independence from Great Britain in 1947, Japan after the atomic bombs at Hiroshima and Nagasaki and after surrender to the allied forces, China after Mao Zedong and during its economic revival under Deng Xiaoping, Africa during the period of decolonisation, Latin American countries during the period of revolutions, and countries of northern Europe after the emergence of an awareness of climate change and new policies of environmental sustainability. In these contexts of transition, some architects have designed architectural works that are not just 'buildings' but also 'political statements', often able to change not only the physical environment but also the production methods of a system, in particular of the capitalist system.

In this sense, Antonio Gramsci is a significant point of reference with his concept of 'philosophy of praxis', developed from his readings of works by Benedetto Croce and Giovanni Gentile, and especially Karl Marx, and expressed in his *The Prison Notebooks*[1] where an inextricable combination of philosophy and politics is put forward, both in theory and in practice.

The idea of transforming thought into action, breaking away from the ideology of the ruling class – on the basis of what Gramsci referred to as a split that leads to acquiring an awareness of one's role in history – is one of the kingpins of Gramsci's thinking. Such a view led to the need to build an alternative mainstream approach that, by its very nature, is necessarily plural. Indeed, being able to change the *status quo* implies many people making an effort to come together and share ideas. The concept of overcoming the dominant ideology and the idea of creating an alternative mainstream approach can be recognised in most works of architecture and in most of the thinking of the architects presented in this book.

In this context, it is also interesting to mention the thinking of the German philosopher Walter Benjamin, in particular his 1934 essay *The Author as Producer* where he distinguishes between the two ways that people using their intellect can relate to their work and the world of production they are involved in. On the one hand, they can be 'suppliers' to the system, enabling the system to continue and to move forward, or on the other hand, they can be 'producers', in other words, those who are able to change the system from the inside, because they know how it works. The intellectual's task is to change the way of production from the inside, changing the way things are produced (even in regards to fairly marginal aspects), altering the rules of the game through small technical actions, not in any formal or artificial way.

On numerous occasions and in various contexts, architecture – with its tools – has been able to transform the political 'landscape', going far beyond simple aesthetics. Such transformations have never been carried out as individual acts, as single works of an architect, but as collective actions shared by the community. The 'good' architect should, therefore, always aspire to be a 'producer', in other words, to strive to bring and to produce change, not just to produce 'things'. And in the same way, the historian should always aim to re-read the established points of view through a process of re-assessment and criticism. For all of these reasons, this book is not devoted to analysing mainstream architecture, but instead, it aspires to highlight architecture that may be 'minor' or 'niche' architecture, that may even be 'problematic architecture' due to its political commitment, but that is always of great interest and inspiration because of its intellectual standpoint.

Note

1 Antonio Gramsci, *Quaderni dal Carcere* (Turin: Einaudi, 1948–1951); translated as *The Prison Notebooks* (New York: Columbia University Press, 2011).

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2 A Dialogue with Tradition
The Case of Italy

'Pride in Modesty' As an Operating Model

Is there any way to react to the spread of culturally mainstream architectural models that tend to establish themselves on an increasingly conformist international landscape? Is it possible to counteract such a spread at a local level without giving in to a form of isolationism?

In order to try to respond to these questions, the situation in Italy can provide an interesting and worthwhile starting point. The fact that we are starting with Italy should not be considered in any way as a superficial Italy-centric approach (which would be not only wrong – or very wrong, in a certain sense – but it would also suggest a blindly Eurocentric attitude). Instead, Italy is the ideal starting point because of its distinctiveness and, in some ways, because of its 'unique' condition.

In particular, after the Second World War, Italy followed its own path towards modern architecture, displaying a distinct sensitivity towards aspects relating – in one way or another – to the culture of a place. Places often have strong connotations, as is the case of very many of Italy's cities (Rome, Florence, Venice, but also Parma, Ferrara or Matera, to give just a few examples) or large tracts of Italian countryside (the Aosta Valley, Tuscany or Sicily, for example), or even specific social-geographical contexts, such as popular culture or rural culture. Such a sensitivity, when it is effectively – or materially – able to become a 'dialogue' with tradition, is never a question of simply adhering to traditions, or at least not in the best cases when a decisive and indelible modern intent is kept alive. In other words, this is not something comparable to a 'traditionalist' approach, even less so to a 'localistic' approach, when such terms imply something locked in a certain separatism without any exchange of ideas with others. In the case of Italian architecture, the dialogue with tradition is not a muted exchange where there is no debate or interaction with others. Instead, what this dialogue aims to set up is a fertile exchange with what is part of the country's history and what belongs to wider horizons: in other words, the modern scenario that began to become established in Europe from the 1920s onwards, and that Italy has not in any way been impervious or insensitive to. Indeed, Italy has put its own slant on

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the message on the basis of those specific values that characterise and distinguish the country.

In order to appreciate how Italian architecture has been able to establish a sort of basic accord between local culture and international culture, we need to go back to the years between the two wars. In fact, in 1933, the art critic and art historian Lionello Venturi published an article entitled *Per la nuova architettura*[1] in the *Casabella* magazine. In his article, he tried to identify what he considered the "common basis in the approach of those involved in new architecture", in other words, "the desire for simplicity, the aversion for all exterior embellishment, or in a nutshell, [...] the pride in modesty". This last phrase was taken up by Giuseppe Pagano who made it into the true 'common basis' for assessing modern architecture, both international and Italian architecture, using the phrase in various situations.[2]

But what does 'pride in modesty' actually imply? The expression is clearly an oxymoron, in that 'normally' pride stems from splendour, lavishness or exceptionality. Instead, what Pagano defines as "'current' architecture"[3] provides the true source of pride. It is this that "should be the usual end product", it should involve "modest objectives and modest results", displaying "with utter clarity, honesty, financial rectitude and, above all, good urban manners".

The incarnation of such virtues is the architecture produced by Pagano himself (the buildings that provide the layout of Via Roma in Turin are – from this point of view – a perfect example) along with the 'Italian rural architecture' that Pagano had photographed and collected together (with the assistance of Gualtiero Daniel) in an exemplary exhibition held at Milan's Triennale gallery in 1936.[4] With its 'pride' in its modesty, its inherently poor, practical, unembellished and therefore basic style, Italian rural architecture is able to appear 'modern' in Pagano's eyes. And despite variations throughout the many regions of Italy, for Pagano, Italian rural architecture is ready to provide a model that is far from the empty rhetoric of Italy under Fascism.

This implies a coming together of two different approaches. On the one hand, there is a more 'abstract' modern style, intentionally freed from any local roots and directly grafted onto the most advanced set of currents in European architecture; on the other hand, there is a rooted and localised tradition, the fruit of long cycles of civilisation, of experience slowly laid down in forms that can be traced back to Italy's regional heritage. And it is this coming together of these two different approaches that inspire the best works of modern Italian architecture from the second half of the 1930s. Examples are the farmhouses of the Castello estate at Torrevecchia Pia, Pavia, 1937, by the young Mario Asnago and Claudio Vender, or the anti-tubercular dispensary at Alessandria, 1936–1938, by Ignazio Gardella, or even the Casa Malaparte on the Isle of Capri, 1938–1943, that is the result of a not clearly defined working relationship between the writer Curzio Malaparte, who commissioned the building, and Adalberto Libera.

The 'Italian Path' to Modern Architecture

All of this – starting from the early post-war years – was to lead to a very unorthodox re-reading of modern architecture by many Italian architects. And it is from this perspective that we must approach the Casa del Viticultore (wine-grower's house) at Castana near Pavia, 1944–1947, again by Gardella. A similar, though slightly different viewpoint also takes us to the INA-Casa Tiburtino public housing district in Rome, 1949–1954, by Ludovico Quaroni, Mario Ridolfi, Carlo Aymonino and Mario Fiorentino, or to the Unità di abitazione orizzontale (horizontal housing unit) in the Tuscolano part of Rome, 1950–1954, by Libera, mentioned previously. The former is an attempt to adapt solutions and 'acquisitions' from modern European architecture to contexts – such as the outskirts of Rome, where Pier Paolo Pasolini set his novels[5] – that only with great difficulty, or almost impossibly can be considered as places to make a clean sweep of things, to put in place 'ideal' projects. In reality, such neighbourhoods have always been seen as contexts full of their own 'character' but also 'blots' on the urban landscape. As a result, the urban layout that was given to such areas has no regular right angles; there would be no 'Cartesian geometry' for the .Tiburtino! Instead, the road layout reflects the size of the neighbourhood and its community, in the same way, that the pitched roofs and the perforated brick walls recall unassuming rural contexts. The use of diversified forms is functional in that it creates a mixing effect and – at least in part – a spontaneity. While improved living conditions are always the main goal, at the same time, there is an aim to provide a context in which the neighbourhood can recognise itself and identify itself. It should come as no surprise, therefore, that Quaroni and others really insisted on having many areas for mingling (the stairs, the landings): shared spaces, living spaces.

In the case of the Tuscolano neighbourhood, instead, Libera preferred a different model, rebutting the idea of a high concentration of buildings of high-density living, as found in many public-housing neighbourhoods in those years. Instead, Libera went for low-rise residential units for around 1,000 inhabitants. His courtyard houses at different angles allow residents to enjoy the best outlooks, while the multi-storey block with outdoor landings has a reinforced concrete frame. Together, the complex provides a fragment of a possible residential area able to provide a sense of the individual as well as collective identity, its horizontality opening up the kind of social interactions to be found in a village. This is a true example of 'social' architecture, perhaps even 'socialising' architecture.

The wealth of approaches – but also the marked common intention – of Italian architecture in those years is indirectly but significantly endorsed by two monograph issues of the French magazine *L'Architecture d'Aujourd'hui* published in 1952 and 1953.[6] From the work of Edoardo Gellner in the Dolomites to that of Luigi Cosenza in the Naples area, Italy as a whole was caught up in a wave of renewal that was not insensitive to the idea of localisation

but with a distinctly modern spirit. This can also be seen in projects that, due to their location and size, may be more difficult to view in such a light. This is the case of the Harar district on the western outskirts of Milan. Here the co-ordinators of the project were Luigi Figini, Gino Pollini and Giò Ponti, with the contribution of many other architects, including Piero Bottoni, Gigi Gho' and Vito Latis. The apparent (and perhaps real) disparity of political leanings of the various figures is not only passively evident in the strong polarisation of the project, acting as an intrinsic limitation, but it also became its strong point in that it was a controlled and self-aware undertaking. No reconciliation was made between the long perpendicular ribbon buildings of rationalist origin – in line with a model that takes its cue from the urban works of a pre-war Le Corbusier, though slightly reworked – and the small, almost rural residential units placed diagonally in the spaces between the ribbons. The result is a cohabitation of two ways of thinking and two ways of 'making' architecture, which is apparently incompatible yet manages to give an original layout to the district, providing a way of life that is both metropolitan and community-based.

Thus, through a series of attempts to find solutions, an effective 'line of approach' emerges. Although it in no way aspires to be an 'overall' model or a truly exportable approach, it would come to be seen as a recognisably 'Italian route' to modern architecture. It is a route that clearly does not lead in a single direction since it can include works that are very dissimilar one from the other, such as the Borsa Merci (commodity exchange) in Pistoia, 1949–50, by Giovanni Michelucci, the Pirovano mountain refuge at Cervinia in the Aosta valley, 1949, by Franco Albini (but also and for different reasons, the INA office building in Parma, 1950–54, by the same architect), just to give a couple of examples.

In all of these cases – and in many more that could be put alongside them – the common denominator precisely is the 'sensitivity' for a position, which 'response' to the environmental conditions that temper modern abstraction so that it becomes something more concrete, more material and more 'sited'. And this is what made other projects equally 'possible', including the Torre Velasca in Milan, 1951–58, by BBPR, the Treasury Museum at the San Lorenzo cathedral in Genoa, 1952–56, by Albini, and the Casa alle Zattere, Venice, 1958–62, by Gardella. These are all 'cases' where the approach is to adapt the language of tradition to uses and solutions that are unmistakeably modern and up to date.

The 'Philosophy of Praxis' in Rebuilding

This approach cannot be considered a generalised method for all the various contexts that Italian architecture was to operate in, and an easily objectifiable and functional 'character' did not emerge. There was, nevertheless, a common denominator stemming from the need of the most committed part of Italy's architectural community to find an identity for a country that, in

the aftermath of the Second World War, had witnessed not only the destruction and horrors of war but also a lengthy period of oppression during the 20-year-long Fascist era.[7] And this was the driving force for many of the architects involved in the country's 'rebuilding'. It was not just a simple desire to rebuild what had been damaged or destroyed by warfare, but it was more an attempt to give life to a nation based on radically different principles. Such an attempt was evidently challenging in that it was, at times, beyond the powers of those who strenuously worked to achieve unity and overcome differences. In this context, the first principle that was called into question was that of land ownership, as urged by the Architetti Riuniti group practice on the occasion of the drawing up of their Piano AR for Milan.[8] In fact, as early as January 1946, Ernesto Nathan Rogers had written: "It's a matter of creating a style, a technique and a moral compass, as terms of the same function. It's a matter of setting up a company".[9] It was a total, huge commitment that architects sensed the difficulties of and that they tried to face up to by forming associations and working together in various ways from joint research to the organisation of debates on aspects of common interest and also the sharing of design projects. This phenomenon was particularly relevant from a cultural and political point of view (particularly when compared with the situation today, when such a mindset would be unthinkable), and involved the Architetti Riuniti group (Franco Albini, Lodovico Belgioioso, Piero Bottoni, Ezio Cerruti, Ignazio Gardella, Gabriele Mucchi, Enrico Peressutti, Mario Pucci, Aldo Putelli, Ernesto N. Rogers) already mentioned, as well as the Movimento di Studi per l'Architettura, the movement formed in Milan in 1945 (whose first members were Albini, Bottoni, Irenio Diotallevi, Gardella, Mucchi, Peressuti, Marco Zanuso and others, followed by Belgiojoso, Giancarlo De Carlo, Eugenio Gentili Tedeschi, Franco Marescotti, Giulio Minoletti, Giancarlo Palanti, Rogers, Giovanni Romano and many more) and the Associazione per l'Architettura Organica, the association established in Rome also in 1945 at the behest of Bruno Zevi (with its members including Carlo Aymonino, Leonardo Benevolo, Edoardo Detti, Luigi Figini, Adalberto Libera, Giovanni Michelucci, Gino Pollini, Ludovico Quaroni, Leonardo Ricci, Carlo Scarpa and Giuseppe Samonà).

The tendency of architects of this period was to come together to create a common front and thereby to try to acquire not necessarily a dominant position, but at least a greater strength in numbers to put forward ideas and positions, in the hope they could be implemented. Within this blueprint, it is worth mentioning the contribution made by two groups of young architects, both under the auspices of Franco Marescotti, a reference point for those who felt the urgent need to transfer their political commitment into architectural activity. Even before the war, Marescotti had eagerly explored aspects such as building standardisation and prefabrication as applied to public housing. From the mid-thirties, he was the co-owner of a professional studio in Milan, along with the civil engineer Irenio Diotallevi. And it was with Diotallevi and Giuseppe Pagano that Marescotti developed a project for a horizontal city

(*città orizzontale*) for Milan, 1939-40. The project was particularly interesting due to its radical nature, though this meant that it fell foul of the idea of making the most of the surface area. A member of the Italian Communist party since 1945, Marescotti, after breaking off his working relationship with Diotallevi, founded the Studio Sociale di Architettura, devoting himself principally to developing co-operative social centres on the outskirts of Milan.[10] The most famous and most 'complete' of these is the Centro Sociale Cooperativo Grandi e Bertacchi built between 1951 and 1955, which comprised not only residential facilities at particularly low cost but also areas for socialising, a library, a restaurant, a cinema and other shared amenities. It was a true centre of social, political and cultural enlightenment for the whole of the very run-down district that lacked the amenities provided by the centre. The idea was that of a bottom-up integrated society that, through shared operations, aimed to influence its surroundings.[11]

But it was with the Cooperativa Architetti e Ingegneri in Reggio Emilia (CAIRE) and with the Collettivo di Architettura in Milan that Marescotti achieved his most significant results, albeit indirectly. It was, in fact, through the work of these groups of young architects that his interest in co-operative movements found true fulfilment. The CAIRE (Antonio Pastorini, Eugenio Salvarani, Antonio Rossi, Osvaldo Piacentini, Aldo Ligabue, Silvano Gasparini and Franco Valli) was established in 1947, having already worked alongside Marescotti and Diotallevi on research that led to the publication of their book *Il problema sociale costruttivo ed economico delle abitazioni*.[12] In addition, some members of the future group had also been asked to carry out an urban survey by Franco Albini to determine the living conditions in the city of Reggio Emilia as part of the groundwork for the city's urban plan that Albini himself, along with Giancarlo De Carlo and Luisa Castiglioni, first drew up in 1948–49.

Despite belonging to different political areas (Christian Democrats, Socialists, Communists, Liberal-Socialists and Liberals), young Emilian architects and civil engineers decided to work together as a co-operative, a particularly common and popular type of organisation in their region, but never before used for 'brainwork' activities, such as for civil engineers and architects. But their co-operative was to be, by its very statute, their only professional point of reference, completely excluding outside private commissions. Likewise, the statute also prohibited members of the group from taking on active political roles within local administration so as to avoid 'conflicts of interest' with public administration. The projects that the CAIRE developed in the following years (including the project for the Saint Gobain district competition in Pisa, 1951 (not implemented), the INA-Casa San Donato housing district in Bologna, 1955–56, and the Nebbiara housing unit near to Reggio Emilia, 1957) were focused on giving particular emphasis to the human dimension, to public spaces, to 'adapting to the environs' and to a rootedness in local features. At the same time, there were projects such as that for the office building of the Lega Nazionale delle Cooperative in Rome, in 1952, that wavered

between expressing a forthright structural 'muscularity' in its reinforced concrete and an almost 'decorative' use of bricks visible in the infill panels, the latter element leading Reyner Banham to include this building – wrongly – in the Neoliberty 'category', thereby putting it among those buildings accused of making an alleged Italian retreat from modern architecture.[13]

Although it is not strikingly different, the Collettivo di Architettura has certain important distinct features. Made up of students and graduates from the architectural faculties of Milan and Venice universities, the collective was established in 1949.[14] Many of its members (including Vincenzo Montaldo, Giorgio Morpurgo, Achille Sacconi, Novella Sansoni, Mario Silvani and Alessandro Tutino, with Virgilio Vercelloni joining them in 1951) belonged to the Ho Chi Min Communist cell operating within the Milan Polytechnic University; it should come as no surprise that the collective's statute required compulsory membership of the Communist party. In addition, the statute established the pay level for the members of the collective, putting it on a par with that of the salary of an ordinary worker; the role that the members held was described as *architetto condotto* (community architect), taking inspiration from the *medico condotto* (community doctor) practising in Italy in the first half of the 20th century and providing free treatment to those who couldn't afford medical care. Similarly, architects of the collective provided their services with a 'social spirit' in the proliferating context of the outskirts of the city of Milan, and in particular, in the Milan hinterland. It was in the suburban hinterland towns that – unlike the approach taken by CAIRE members – the members of the Collettivo di Architettura held various political offices, from the mayor to councillor, strategic postings that enabled the collective to obtain and manage numerous commissions assigned to them.[15] Emblematic examples (though not at all significant from an aesthetic point of view) of these collective efforts can be seen in the housing for the Cooperativa Edificatrice Bollatese in Bollate, 1953–63, where what prevails is the attempt to give shape to a 'civil society', albeit in the outskirts, seen as the construction of a 'normality' provided with amenities. And the Collettivo di Architettura aimed to provide those same 'amenities' in terms of school buildings, such as the nursery school and elementary school in Rozzano, 1963–66, or the middle school in Buccinasco, 1965–68, both expressions not only of a correct approach to function, but also the desire that the buildings could play a key role for the whole community, thanks to the meeting rooms that could be used outside school hours as a centre for the whole neighbourhood.

The Architecture of Participation

Alongside the experience of the CAIRE and the Collettivo di Architettura, it may be worth including the 'case' of Giancarlo De Carlo. Like Pagano in the mid-1930s, De Carlo also curated an exhibition about spontaneous Italian architecture (with Giuseppe Samonà and Ezio Cerutti) at the ninth Triennale in Milan in 1951. And again, De Carlo, this time along with Carlo Doglio

and Ludovico Quaroni, three years later was to curate an exhibition of urban planning at the tenth Triennale. This latter exhibition clearly shows how the curators were being pulled towards involving inhabitants in local decision-making and in discussions about planning choices. Indeed Quaroni (together with Michele Valori, Federico Gorio and Piero Maria Lugli) had experimented with a first form of 'participation' from 1951 onwards, during the planning of the Villaggio La Martella, built close to Matera to house inhabitants moved out of Matera's *sassi* (cave dwellings) after they were declared unfit for human habitation. But it was De Carlo himself (who in 1954 drew up plans for a part of the Spine Bianche district at Matera) who started the most convincing experiments with 'participative architecture'. This was particularly significant in the Villaggio Matteotti in Terni, 1969–75, a deservedly renowned operation, not only for successfully providing a 'fragment' of high-quality post-war architecture as well as a project with a strong identity and unity (even if the part destined for public facilities was never built), but also because the architect decided to open up the planning process to the users.

Even if participation played a particularly important role in this project, it was only one of the conditions that De Carlo stipulated for the client, Terni steelworks, before accepting the project he had been offered. It is interesting to note De Carlo's position towards his 'client' in this case and how there is an abyss in comparison with the approach taken by most of his contemporary colleagues, as well as almost all architects working today. In order to understand De Carlo's exact position, we simply need to read what he wrote to be able to follow through with the Terni experience.[16] During the Fascist period, on the very south-eastern outskirts of the city of Terni, a workers' housing district had been built for those employed by the steelworks. The situation of urban degeneration in the district, the lack of facilities and the systematic lack of links with the city had prompted the steelworks' management to intervene: "Management was inclined to sell the homes to the occupants and to rid itself once and for all of the need to fork out large sums for maintenance, or even worse for redevelopment. The workers' council, on the other hand, was in favour of razing the whole area to the ground and rebuilding residential facilities as envisaged by the city's urban plan. After lengthy discussions with no resolution to the irreconcilable situation, management decided to hand over the problem to an architect, in other words to someone who would be able to resolve the matter from a purely technical, indisputable point of view".[17] From this passage emerges the ingenuous recognition – or rather the carefully calculated recognition – of the architect as a 'technical' figure. In this sense, the steelworks clearly expected to find someone for that role who would be able to carry out such a task in an objective, quantifiable and 'scientific' manner, a perfect 'incarnation' of what the client expected to be a 'supplier' for its system. Instead, the chosen architect was to disregard such expectations: "And, as the architect, I straightway realised that if I were to cut the Gordian knot instead of loosening it, I would be taking on a questionable role at the service of a power I didn't like".

Giancarlo De Carlo devised five different hypotheses for action, providing a wide range of solutions. One idea involved a complete redevelopment of the old village without changing its original make-up but providing it with the necessary facilities for the community and fully renovating the residential buildings. Another option involved replacing the original building fabric with a system of tower blocks similar to the blocks already used in other operations by the Terni steelworks. Another hypothesis entailed constructing a system of buildings in line with public housing projects found throughout Italy in those years. Two last options involved two possible systems of buildings comprising three overlaid levels inside which series of linear buildings were foreseen including residential accommodation, facilities directly related to the houses, as well as walkways for pedestrian movement. "Each of the five alternatives came with a list describing the pros and cons relating to the various points of view that were possible to consider".[18] But above all: "The five alternatives were presented and accompanied by a note where the architect stated an interest in developing the project and therefore accepting the appointment, but only if the final choice fell on the fourth or fifth solution: the steelworks could, instead, carry out the first three directly, or turn to other professionals who felt able to share such approaches".

So, far from putting himself completely 'at the service' of his clients, ready to accept their requests as a simple 'supplier',[19] De Carlo set out the conditions on the basis of which he would be ready to accept the project. Such requests were not of an economic nature but simply the conditions that he believed were the best for the project itself, in other words, the best for the people who would then make use of the buildings. The concept – and the practice – of 'participation' stems specifically from such assumptions. And in light of this: "The duty of the planner is no longer that of churning out finished, pre-set solutions, but of extracting solutions from an ongoing exchange with those people who will be using the planner's handiwork".[20] It, therefore, implies a 'process', not simply a plan.[21]

But the question of participation also opens up other prospects that De Carlo developed only in part. For example, it also implies the 'management of power' that is intimately bound up with architecture. De Carlo writes: "Participation exists when everyone is involved equally in the management of power, or – perhaps to put it more clearly – when power no longer exists because everyone is directly and equally involved in the decision-making process".[22] De Carlo's idea, in the wake of his anarchic Communist leanings,[23] was that of a kind of 'dissolution of power' through power sharing. In actual terms, it seems that what he really wanted to question above all was the role of the architect, down to its very roots: "The prospect that appears particularly interesting to me is that of taking architecture away from architects and putting it in the hands of the people who use it".[24] In his eyes, it is the architect who can and must renounce his or her natural role as 'author' (in other words, his or her 'auctorial' role) in order to make the project truly exploitable by its users.

But if the architect can reach a point of renouncing this role and, through participation, make architecture "less and less the representation of the person designing the buildings and more and more the representation of those who use it",[25] this can only take place if the architect has carried out a form of 'liberation', freeing himself or herself in a parallel way from the client. In fact, it is clear that clients cannot be compelled to be sensitive to the needs of the users, and neither can they be forced to listen carefully to the users' point of view. When this happens, in fact, it is to be considered a lucky exception rather than a steadfast rule. While the experience described by De Carlo bears witness to an albeit cautious acceptance by the client of the requests of the architect, it also displays very unambiguously the 'autonomy' that the architect has in respect to his or her 'counterpart'. In being able to refuse (or at least reformulate) his role as a 'technical figure', De Carlo was able to realign his relationship with the client in 'political' terms. And as with all political matters, the effectiveness or ineffectiveness of such action depends on the ability of its 'players' to persuade (or to allow themselves to be persuaded), in other words, on the basis of the relationship of strength existing between them.

It should come as no surprise, therefore, to learn that De Carlo was not able to win his battle in full, and indeed he was forced to accept a number of defeats. Nevertheless, it was only by distancing himself from the expectations of the client, in other words, his marked independence from them, that made the Villaggio Matteotti possible in its current shape and form: a close interweaving of residential areas, shared spaces and open spaces, almost a three-dimensional labyrinth or a modern *kasbah* where reinforced concrete and nature, rather than being alternatives or in antithesis with one another, come together in a dialogue, meeting and blending with each other. But above all, it is first and foremost a 'human' complex rather than an urban complex, an 'organic community' where the inhabitants again find that they are at the centre, while elsewhere in our contemporary world, this is an aspect that seems to have been lost forever.

Responsible Architecture[26]

And this is precisely where the question arises as to whether this inclination for 'dialogue' – with tradition on the one hand, but also with the context and with the living, vital, 'political' components of society on the other – relates to a 'defined' moment in time that has come to a close within the Italian architectural experience, or whether there is still room for such an approach in the current architectural panorama in Italy today.

From the turn of the 21st century, within the context of repeated financial and social crises, and perhaps in an attempt to provide answers – however partial and local they may be – to such crises, Italian architecture has shown an inclination towards 'listening' to requests often coming from weak and minority segments of society. This is true not so much for larger projects, in

terms of scale or of resources involved, but more for smaller-scale operations with lower budgets. In such cases, Italian architecture has displayed its ability to be 'responsible', where 'responsibility' implies an aptitude to respond to the requests coming from a specific physical and social context. Thus architecture becomes a torchbearer – if and when it manages – of many 'small', precise, clear, pertinent designs that aspire to resolve specific problems, very often local problems, that because of their very nature, are obliged to show that they are effective, fit for purpose and concrete. In most cases, these projects are not 'masterpieces' but more little 'gems' scattered throughout Italy in an apparently random fashion that, nevertheless, not by accident, often excludes the larger cities, with a concentration in more provincial areas. Already in the 1990s, Vittorio Gregotti had talked about "a few weak signals" coming from 'the provinces', or from less centralised schools of architecture.[27] Likewise, Marino Folin, while recognising the conditions of "isolation and marginalisation" in which Italian architects find themselves working, observed how many works of architecture were direct answers to community problems and specific building problems.[28] In the middle of the first decade of the new century, on the occasion of an exhibition held in Salerno,[29] even Pierluigi Nicolin had to venture into 'the provinces' to monitor what was happening in contemporary Italian architecture.[30]

It must be pointed out that what emerges from all of this is not just a fragmented geographical distribution but also a situation of substantial discontinuity, in other words, the absence of any overall leadership and a subsequent 'random pattern' based on single opportunities, isolated initiatives and individual 'brainwaves'. As a whole, indeed, they are a perfect pointer to the lack of clear-headedness and the spirit of improvisation that has permeated Italy at the dawn of the 21st century. Nevertheless, it is not uncommon for Italian architecture and architects to be called on not simply to carry out a specific task or to fulfil a function but to tackle 'inventive' assignments, not so much in a formal sense but in terms of developing 'concepts' that less and less often have to do with traditional forms, and more and more frequently imply creating new kinds of buildings for new and unfamiliar uses. Such 'inventions' – of a smallish scale, at times of a very small scale, though no less interesting and commendable – are the result of the efforts made not only to achieve a suitable result but especially to prevail over the difficult conditions that the Italian system forces architects to work under, conditions that do not facilitate innovative projects, and at times openly put significant hurdles in their way. From this point of view, instead of being seen as products of the system that they are part of, these buildings, in order to secure their 'right to exist', are almost forced to engage in battles within the system, and at times even to battle against the system.

It is worth noting how the key figures in this arduous architectural 'resistance movement' do not belong to a single generation but instead are spread out equally over various generations. This inter-generational feature – that sees architects with very different training and cultural backgrounds brought

together by the need to achieve similar goals – is one of the few aspects of continuity to be found in the architectural panorama of the last 30 years. And this is a particularly important point in that it signals a return to a commitment that, although it cannot be defined as truly political, takes on such a connotation in a civic sense.

In this context, the number of welfare and community-support buildings erected in Italy since the start of the 21st century is quite striking. When drawing up the plans for the Centro Sociale Noivoiloro in Erba, near Lecco, 2004–10, the Ifdesign (Ida Origgi and Franco Tagliabue) studio was able to develop an architectural concept well matched to the experimental managerial approach of the Noivoiloro non-profit organisation. Not receiving public funds, the Noivoiloro organisation had decided to include some money-making side activities (a bar-restaurant, a theatre and a workspace) in the social centre that provides support for severely disabled people.[31] The complex, intended to be developed in various stages as funds became available, is based around a large courtyard that provides access to the various facilities within the centre while also functioning as an outdoor theatre with stage. The different façades (in sheets of back-painted glass, plaster or exposed concrete) represent the various functions of the centre, with architectural unity being ensured by the irregularly pitched roofing aligned with the façades in a series of different heights and angles for the entire building. Thanks to the fact that it opens out onto the road, the Centro Sociale Noivoiloro takes on a decidedly urban look.

A very different architectural solution was, instead, put forward by Margherita Pentranzan for the needs of the Centro Ergoterapico (occupational therapy centre) in Monselice, near Padua, 2006. Out-of-the-way in the Veneto countryside, the residential community has a more withdrawn character, highlighted by a brick wall that separates the complex from the road. Nevertheless, the openings in the wall allow the buildings to be seen, appearing as a 'microcosm' made up of three basic geometrical volumes enlivened by primary colours. Likewise, for the Residenza Sanitaria Assistenziale (nursing home) in Poggibonsi near Siena, 1999–2005, as well as for the Nuovo Tambroni nursing home in Ancona, 1998–2006, Ipostudio also created orderly urban microcosms: closed systems where relationships between public, community and private spaces are diversified and hierarchically separated.[32]

The Lega del Filo d'Oro residential health and social centre in Lesmo near Monza, 1998–2004, is devoted to assisting, educating, rehabilitating and reintegrating deaf-blind and multi-sensory-impaired individuals into family and social life. In this centre, Stefano Guidarini and Pierluigi Salvadeo placed three residential buildings in the central part of a slightly sloping plot of land, and six buildings for community activities (management, rehabilitation rooms, gym, swimming pool and canteen) at the two extremities. The entire project was seen as an 'architecture of perception' that as well as the more normal visual and tactile stimuli (simple basic shapes, façades covered with exposed brickwork, large painted areas of primary colours), also provides

olfactory and sound routes to prompt reactions from the users and to establish a relationship with them.

With less of a focus on communicating, the FARO solidarity centre in Messina, 1994–98, by Michele Cannatà and Fátima Fernandes, nevertheless has the same highly developed intention to breathe life into a community. Its clean box-like buildings are positioned longitudinally with white-plastered walls broken up by vertical and ribbon windows, bearing witness to the meeting of different yet related cultures: the Mediterranean culture and the modernist culture re-interpreted through the teachings of Àlvaro Siza. The FARO centre, devoted to the rehabilitation of drug addicts, successfully blends its quiet and elegant appearance with the breath-taking position it occupies (a steeply sloping site looking out over the Straits of Messina), providing an evocative mix of formal abstraction and physical place. It is this very contrast – a 'challenge' and a 'solution' – that brings about the centre's sense of community. It is a sense of community rooted in the danger its guests encounter every day, in the struggles they face to find a safe place far enough away from Scylla and Charybdis (the mythical sea monsters of the Straits of Messina).

In another potentially 'difficult' location, Cerignola near Foggia, lie the Centro di Quartiere (district centre) and the Palazzo del Volontariato (volunteers building), 2004–11, designed by Angelo Torricelli. Significantly, the starting point for approaching the project was the countryside surrounding the town, occupied by the "countless flanking platoons of olive trees", as Cesare Brandi describes them.[33] Torricelli's approach to the building was, in fact, based first and foremost on the whole ecosystem that this town in Puglia is immersed in, with architectural aspects in a strict sense only coming into their own at a later stage. "The fabric of this countryside", writes Torricelli in his project report, "has for centuries been defined by the radial pattern of its country roads that converge on this farming town". Starting from this 'aerial' view, the project should not be seen in the 'context' of an 'imitative' approach, as the term is often understood, but rather it is fully 'calibrated' to the ecosystem, trying to align itself with it. On the basis of the general premise, which becomes the project's founding principle, the Centro di Quartiere and the Palazzo del Volontariato are placed in line with the olive groves that border the south-eastern edge of the area rather than with the surrounding residential and sports buildings positioned in a more random manner. As elsewhere, Torricelli is not seduced by easy proffers of the more 'fashionable' architecture of today, 'sustainable' architecture. This does not mean that his buildings ignore a good energy balance, but they do so without resorting to any support technology, instead using architectural means: materials (most of the façades are covered in brickwork), sun shields (the free walls and the patio offering shady corners and restful views) and the play between the open and closed sections. As far as this last aspect is concerned, the horizontal windows cut into the upper parts of the walls in both buildings are a prime example, allowing light into the building in a uniform and controlled manner.

These are simple ploys, old-fashioned 'lessons' that, for this very reason, are always valid.

At times, the ability of architecture to play its role responsibly can be gauged according to how intelligently it fits into its context, not simply in a physical sense but also from a cultural and social standpoint. Despite the imposing presence of the former Casa del Fascio (Fascist party building) built by Giuseppe Terragni (the refurbishment of related areas between 2004 and 2007 was entrusted to Marco Terenghi), the town of Lissone is still – despite the critical period it is currently going through – the heart of Italy's furniture industry, the symbol of the craftsmanship and industry of the Brianza area north of Milan. This, together with the relatively small size of the town centre, has made Terenghi's design project for the municipal art gallery, 1996–2000 (now known as the museum of contemporary art) even more significant. Alongside a 19th-century building with strong historicist lines, originally used as a furniture factory, Terenghi has placed a new building that sets up a distant dialogue with Lombard rationalism while also including more up-to-date features such as a vast extruded glass window of the Portuguese 'school', and a closed cylindrical space reminiscent of Mario Botta. The exhibition space on two levels is open-plan, with the exception of the central stairway, meeting the needs of a gallery that seems to view its provincial nature in the best possible way, in other words, as a cultural 'lifeguard platform' floating in a residential and commercial ocean with few or no other attractions. Despite its clearly different approach, the Lissone museum of contemporary art is comparable to the Fabbrica del Gioco e delle Arti (games and arts factory) in Cormano, 2010, another precious outpost of the vast, though very bitty Milan museum system. Designed by the 5+1AA firm, the Fabbrica del Gioco e delle Arti stems from the enlargement of a pre-existing industrial building through the playful addition of an enclosed 'zebra-striped box', recalling boxes for children's games, and standing on an irregular pattern of various-sized cylindrical pillars. The striking decoration of the 'box' sets the building apart from the monotone landscape of the towns surrounding Milan.

Rather different is the situation of the Fondazione Sandretto Re Rebaudengo, dedicated to its founder Patrizia Sandretto Re Rebaudengo and to the promotion of contemporary art. Inaugurated in 2002, the foundation lies in a former industrial area in the Borgo San Paolo district of Turin, just outside the city centre. Claudio Silvestrin, a follower of Angelo Fronzoni who continues in the quest to pare everything back to the very basics as Fronzoni did, especially in the graphic field, has conceived a space that aims to be positively neutral, putting itself at the service of the varied and often cumbersome contemporary works of art on show. He does so by resorting to a simple, harsh container in white stone, almost totally closed except for a few linear cuts that 'animate' – albeit with extreme caution – the external and internal surfaces. In a national and international scenario in which museum architecture is mainly dominated by an empty

exhibitionism and an architectural vanity, Silvestrin's sober, silent parallelepiped produces a paradoxically provocative effect, the last 'deafening' roar that is left to be made in a world accustomed to all kinds of formal clamour.

Extremely clean lines are also to be found at the Museo Pitagora, 2003–07, in Crotone, designed by Open Building Research who won the competition to build it. Compared with the foundation in Turin, however, the museum in Calabrian city plays a much more strategic role and has a much more urban character in spite of its out-of-town position. With its long rectangular main section, partly beneath ground level on a slope in the Pignera park just outside the city, the building looks out towards the city centre with an all-glass front enclosed by a deep overhanging concrete frame, almost a kind of 'mega-screen' intended to give maximum visibility to the new museum development. And while the Museo Pitagora is devoted to delving into the works and ideas of Pythagoras, the Greek mathematician and philosopher, the museum's 'function' of highlighting the new image of the city of Crotone is underscored by its clean appearance and key position. In fact, it is through the museum that the city is attempting to strengthen ties between the old city and newer developments, but also – on a more ideal level – to bring together a noble past and a rather indifferent present. But what's more, far from being an 'out-of-place' gesture, the clean geometric 'theorem' of the building designed by Paolo Brescia and Tommaso Principi can aspire to be the face of an Italy that is truly modernising, clean, fortified by the clarity of its aims and raised high through its results.

After a long period of oblivion, from the start of the 21st century, public space has become a topic around which public administrators and architects have been able to set up a worthwhile dialogue. An attempt to 'deal with' a specific area was undertaken by Cino Zucchi with his project to upgrade public spaces in the Gratosoglio neighbourhood of Milan, 2000. A low reinforced concrete wall has become a linking feature – with an expressive strengthening bond – between an old farmstead building, a covered market and a tram stop. In its linear development, it incorporates pre-existing features and follows the path of an irregular broken line across the area in question, separating it and typifying it by defining new adjoining urban spaces. It is a single design feature, laconic in its shape and materials, where Zucchi forgoes any vain and illusory ideas of 'beautifying' the hotch-potch that makes up Milan's outskirts, adopting a pared-down approach to the reorganisation of an urban fragment.

Decidedly playful, thanks to its 'infantile' dimensions, is the elementary school in Ponzano Veneto, 2007–09, designed by the C+S Architetti firm (Carlo Cappai and Maria Alessandra Segantini). This courtyard complex is mainly in glass, its South-Eastern and South-Western wings surrounded by a continuous series of bright red struts that are tilted to create acute angles: upside-down Vs, large Ms or more simply elementary combinations of oblique lines forming a 'Greek fret'.

The GlaxoSmithKline nursery school, designed and built between 2004 and 2005 by Antonio Citterio and Patricia Viel, lies in the industrial outskirts of Verona. Destined for employees' young children, the building proved to be difficult to include in the context of the multi-national's corporate campus while also providing a protected environment. By creating a rectangular external perimeter with an internal courtyard, open only on one side (possibly recalling Giuseppe Terragni's Sant'Elia nursery), the architects came up with a brilliant solution that at the same time has a 'unique simplicity', as noted by Pier Paolo Tamburelli.[34] In fact, a close look shows that "it is not so much a question of a simple solution, but rather it hinges around the simplicity of its reasoning, its virtuous ease, that has also allowed the architects an unexpected freedom and charm. The designers […] accepted the remit of building a simple and useful building, consciously avoiding uncalled-for ambitions. The clearly defined limits to the project enabled the architects to face the challenge calmly but not rigidly, seeing the opportunity to approach a type of building with curiosity and self-assurance, considering less orthodox models and focusing on a quality product". Only in the light of such aims does the use of prefabricated elements and a material such as laminated wood take on a more effective sense. Such choices stem neither from a desire to employ easy design 'short-cuts' nor from pandering to would-be sustainable solutions, but simply from wanting to obtain the greatest amount of light and flexibility for areas destined for young children.

The school complex at Agordo near Belluno, designed between 2006 and 2009 by Studio Albori, comprises four specialised high schools: a lyceum, an art school, a mining college and a chemistry institute. Based around an obtuse-angled ground plan, the complex is made up of a single continuous building housing classrooms, a main hall, laboratories, offices and storerooms, with the fronts covered in alternating larch boarding and fibre-cement panels. Without being tempted to turn to a 'typical' style of architecture for a setting that is strongly influenced by the surrounding majestic peaks of the Dolomite mountains, the architects have achieved a successful blend of mountain sobriety – thanks to the mix of a framework structure in reinforced concrete and a secondary structure in wood – and modern efficiency that does not forget to create comfortable areas and well-lit brightly coloured environments that indeed become fundamental features of the complex. Rather than being 'characteristic', instead we have a complex that is 'characterised'. In the measured shapes of the Agordo school complex, we can almost hear echoes of Adolf Loos' *Rules for Building in the Mountains*.

Despite the numerous 'emergencies' and the various 'priorities' that have dominated Italy over the last twenty years, with one (financial, political and social) crisis after another, a special regard for housing – particularly public housing – has managed to survive. This is also due to the efforts of certain architects who have taken it upon themselves to preserve the 'ethical' attitude passed down from 1960s to 1970s when housing was considered a key priority. Their commitment has contributed

to averting more and more widespread negativity attributed by Italian neoliberals to the concepts of 'social' and 'collective', which would otherwise have put an end to such concepts.[35] Of paradigm importance in this sense is the work carried out by Mauro Galantino in the Ugnano Mantignano residential district in Florence, 1994–95, and in the Sanpolino district in Brescia (with Marco Frusca, 2002–2008). In both cases, the continual stylistic and typological research of Galantino can be noted. For him, as Vittorio Gregotti observed: "The modern tradition must always call itself into question […] it must multiply and develop its options within a method that is far from having exhausted all its opportunities".[36] Alongside an orthogonal ground plan, the use of pilotis and the predominance of white plaster as the external finish for the linear accommodation, we find a careful reworking of the concepts of modern living. In Ugnano Mantignano, in particular, a rethinking of the relationship between public space and private space stems from an accurate analysis of the buildings' attachment to the ground. Without fences or enclosures, Galantino has developed a series of architectural filters that have been able to provide a spatial complexity to the relationship of road to lodgings, rare in other projects of the period. The public dimension is also established by means of a reworking of a spatial device, that of the large loggia used in one of the lots, a domestic feature transformed to take on an urban function.

There is no lack of continuity with Italian architecture of the 1950s and 1960s – and not simply in a purely formal or 'stylistic' sense – in the residential buildings designed by Cino Zucchi Architetti on the site of the former Junghans factory on the Giudecca island in Venice, 1997–2002. Thanks to its ability to re-interpret the Venetian architectural tradition, it certainly lives up to the neighbouring residential complex designed by Gino Valle, 1980–1986, which Zucchi had previously admired for its "zero-degree mimicry".[37] In the case of his buildings, there are clear examples – as Zucchi himself notes – of the use of "traditional Istrian stone frames used around the windows of lesser Venetian buildings […], transformed into a 'graphic' motif, playing on the varying depths of the windows in relation to the various shuttering systems",[38] making for an almost abstract pattern. But the buildings also have a relationship with the water, and they are able to recreate closed environments in open-air settings, internal spaces that are nevertheless public – the typical *calli* (alleys) and *campielli* (squares) – in the incredible maze that is Venice, even without any of the historic features. While being able to come to terms with that extremely difficult context of the city in the lagoon, Zucchi proves he is also able to stay true to himself, maintaining a relationship – as he did with his previous works – with his beloved *maestri*: Luigi Caccia Dominioni, Asnago and Vender above all.

In some cases, the 'duty' of the architect involves being able to 'make a little go a long way', to use a well-known expression of Benjamin's,[39] reducing an operation to the minimum in terms of costs, building volumes and environmental impact while still meeting intended goals. This

demonstrates the fact that such an attitude is not a question of 'sacrifice' due to necessity but that has its own intrinsic value, its own dignity and purpose.

Such an awareness can be seen in the work of Francesco Taormina in the historic centre of Pollina, a small mediaeval town perched on a rocky outcrop of the Madeonie hills on the Tyrrhenian coast in the province of Palermo. Begun in the early 1990s and continuing over time until the first decade of the new millennium, the project involved inserting steps, paved walkways and a gateway to link the historic centre with the new development of the Sicilian town dating from the 1960s. The so-called Strada Palazzi, named after the towering constructions flanking its course, is paved in small stone slabs and marked along its route by metal railings and concrete ledges that frame the surrounding landscape. But it is with the new Porta Palazzi gateway that Taormina goes beyond the limits of his commendable correctness in relation to inserting new elements into a historic context. Here, he makes a poetic statement: the gateway is defined by its naked vertical supporting elements and the equally basic concrete lintel, the stone 'cannonball' randomly placed to one side, the wall scored by grooves that create an abstract pattern, but above all by the bronze Mediterranean pine tree that takes on the role of the 'local hero' – a feature that is at the same time familiar and alien. Together, these elements make up a picture of metaphysical and surreal tones, almost a painting by Carlo Carrà in three dimensions, with an added strong symbolic intent.

Still in Sicily, but in a much more prestigious context – on the island of Ortygia, the old heart of the city of Syracuse – stands the entrance pavilion to the Artemision excavations, 2005–2012, the site of the Ionic temple dedicated to the goddess Artemis. By including the pavilion in the line of buildings on Piazza Minerva, recreating a continuity, the architect Vincenzo Latina has carefully given the front of the pavilion a very cautious, 'silent' external appearance, restricting himself to one simple vertical cut slightly off-centre. The two clean structures that cover the excavations (the first a cube without access points, illuminated from above, the second a solid with a sloping entrance wall and roof that leads down to the archaeological level) are built entirely in light-coloured limestone, creating a kind of enigmatic, though not inexpressive pair of monoliths. Debunking a clearly false but widespread and resilient 'myth', Latina manages to create an effective dialogue with the fragments of the past still present here and still full of meaning. And he does so without any reticence or sacrifice, taking an approach that, while not directly intended to have a symbolic quality, still has the ability to measure up to the past thanks to its composure and seriousness. Behind the pavilion lies the garden of Artemis, 2003–2005, an open space surrounded by walls dedicated by Latina to the goddess of fertility and guardian of nymphs and the wilderness. The plants, the stones, the water and the sheets of weathering steel arranged here aim to stir up that sense of wonder given by observing the materials and the rhythm of the seasons.

In the 'dark heart' of one of the busiest and most chaotic places in Italy – Milan's central station – sits the Memoriale della Shoah by Guido Morpurgo and Annalisa De Curtis Architetti Associati, 2008–2021.[40] From platform 21 in the old postal station located on the side of the vast railway station building built in the 1920s by Ulisse Stacchini, a number of goods trains left between 1943 and 1945, carrying Jews and political prisoners to the Nazi concentration camps and death camps. The efficient and sinister function of the place, as well as the dark and long-forgotten monumentality of the setting, have been turned by Morpurgo and De Curtis into a re-visitation of the painful stages of those one-way journeys. The dark story is told through the accounts of the survivors and the 'historical recollections' (the latter brought together in a cubic library in glass and steel inserted in an apparently fragile but actually independent structure in the muscularly 'reinforced' belly of the station), but above all through the dramatic re-living of the 'experience'. With touching participation – but at the same time with surgical self-control – the architects have exposed the wound of Milan's starting point for the deportations, eventually leading visitors to a space for contemplation and meditation: a sort of cone covered with metallic sheets that, in the wasteland without sense that surrounds it, tries to renew the difficult challenge of 'significant form'.

A blatant, yet at the same time rigorous interpretation of the two faces of death (public and private, social and individual) is to be seen in the enlargement of the Voghera cemetery, 1995–2003, the work of Antonio Monestiroli. The vast outer wall, open on one side, houses the tombs of the deceased and is accessible from within by means of a passageway that leads to the individual *loculi* (burial niches). Here, death has names and surnames and is often bestowed with offerings and objects (flowers, photographs, candles) that regularly accompany individual commemorations. But the *loculi* are also visible (though not physically accessible in that they are separated by a water channel) from the central courtyard, where they are anonymous witnesses to death as the shared destiny of human beings. The order in which the white slabs of Vicenza stone are arranged, each one bearing an identical sign of the cross (the order being replicated on a smaller scale in the slabs in the charnel house) mirrors the more complex order that lies behind the entire work of Monestiroli in Voghera. His grid pattern reflects a rational principle of orderliness where every single element takes on its specific meaning in the relationship it forges with all the other elements.

Perceptively and materially similar to the previous work but very different in its effects is the Parma Tempio della Cremazione, or cremation temple, 2006–2010, by Paolo Zermani. It is one of those rare buildings that is able to awaken a sense of contentment, an impression of 'accomplishment'. This has nothing to do with its fulfilling its function and not even strictly linked to 'beauty' in the rather idealistic and absolute sense normally associated with the term. For those driving along the Parma bypass road, it is not easy to spot it since it is hidden behind soundwall noise barriers. But for those approaching from the Valera road, it rises in the middle of the surrounding countryside

like an apparition. Such a sensation is, of course, partly due to the fact that such a place inevitably inspires a sense of sadness. But there is more to it. There is a cleanness and a hard but essentially consoling 'need' that emanate from the brick crematory surrounded by its protective enclosure also in brick. There is a sobriety and a dignity that here accompanies mourning, where at least the architecture with its simple, linear features is unbending. While in general, a space not only receives people but also 'means' something (and in extreme circumstances, it must mean something), in this case, it is the harbinger of a 'restrained' message. In the farewell hall, the tall 'purposeless' columns are silent onlookers of a drama played out repeatedly in front of them. But there is the sensation that without these columns, the people congregating between these four walls would feel just that little more alone.

Lastly, it is worth considering two figures whose 'responsible' output is imprinted in the extreme care they both take in their work. This is the case of Maria Giuseppina Grasso Cannizzo, who has worked and continues to work in Sicily, a part of Italy where it is far from easy for a woman and an architect to carry out her profession. The great care she takes in her work becomes an attempt to reclaim the entire productive cycle of the building, endeavouring to control everything from the design stage to the building phase, which is put into the hands of skilled workers. The result is buildings such as the control tower in the harbour for pleasure craft at Marina di Ragusa, 2008–2009, that takes on the appearance of something haphazard, pieced together, far from any kind of 'standard' idea, and therefore far from being simply a building that 'supplies' the system. Instead, Grasso Cannizzo is very consciously not willing to be 'of service' to anything but her client's wishes and to the actual compatibility of a building with its 'environment'. And for her, the 'environment' is not seen as a mere 'element' that needs to be answered by various other 'elements' as the self-styled 'sustainable' architect might do, but rather it is an actual condition that the building must 'meet'. This is the case, for example, of her holiday home in Noto, 2010, an economical, light, flexible, low-impact building, a truly 'natural' building in the best and most complete sense of the term.

And again, there is Francesca Torzo, who was originally a member of the Baukuh group but then left in order to work more concretely, almost with an artisanal approach, on the prime elements of architecture, as if architecture were a mosaic to be fitted together piece by piece, painstakingly and with extreme care, working on every small detail. All of this has borne fruit in her Z33 art gallery in Hasselt, in Belgium, 2011–2019,[41] where Torzo studied the historic local brick walls and has handed them back in a contemporary guise by creating rhomboid terracotta tiles possessing all the 'flavour' and variety of the old brick walling. This is architecture that understands it is simple and modest but also mindful, careful, intrinsically precious and without any brashness. This is architecture that has a kind of laconicism but, at the same time, manages to solve a problem 'simply' by listening carefully to what is asked of it. And this 'simplicity', that is, in fact, far from being simple, only derives from truly responsible architecture.

Figure 2.1 Franco Albini, Pirovano Mountain Refuge, Cervinia, 1949.

Figure 2.2 Ignazio Gardella, Casa Alle Zattere, Venice, 1958–1962.

Figure 2.3 Carlo Scarpa, Castelvecchio Museum, Verona, 1959–1963.

Figure 2.4 Cino Zucchi Architetti, Residential Buildings on the Site of the Former Junghans Factory, Giudecca, Venice, 1997–2002.

Notes

1 Lionello Venturi, *'Per la nuova architettura'*, in *Casabella*, 61 (January 1933): 2–3. The same article was reprinted two years later in the book *Dopo Sant'Elia*, Editoriale Domus. Milan 1935 (with essays by Giulio Carlo Argan, Carlo Levi, Matteo Marangoni, Annalena Pacchioni, Giuseppe Pagano, Alessandro Pasquali, Agnoldomenico Pica as well as the *Manifesto dell'Architettura Futurista* by Antonio Sant'Elia.

2 See Michelangelo Sabatino, *Pride in Modesty. Modernist Architecture and the Vernacular Tradition in Italy* (Toronto: University of Toronto Press, 2010).

3 Giuseppe Pagano, *'La civiltà e la casa'*, in *Costruzioni-Casabella*, no. 148 (April 1940); now in C. De Seta (ed.), *Architettura e città durante il fascismo* (Bari-Rome: Laterza, 1976) 387.
4 Giuseppe Pagano and Gualtiero Daniel, *Architettura rurale italiana*, Quaderni della Triennale-Hoepli (Milan, 1936).
5 Pier Paolo Pasolini, *Ragazzi di vita* (Milan: Garzanti, 1955) (published in English in various translations as *The Ragazzi, Hustlers* and *The Street Kids*); Pasolini, *Una vita violenta* (*A Violent Life*) (Milan: Garzanti, 1959).
6 See *'L'Architecture d'Aujourd'hui'*, no. 41 (June 1952) (Italie), and no. 48 (July 1953) (Italie 2).
7 See Marco Biraghi, *'Il sogno di ricostruire una nazione'*, in *Ricostruzioni. Architettura, città, paesaggio nell'epoca delle distruzioni*, eds. Alberto Ferlenga and Nina Bassoli (Cinisello Balsamo: Silvana Editoriale, 2018), 34–42.
8 See *Piano AR*, printed brochure (Milan 1944–45), pp. unnumbered.
9 Ernesto N. Rogers, *'Programma: Domus, una casa per l'uomo'*, in *Domus*, 205 (January 1946): 3.
10 See: Giorgio Ciucci, Maristella Casciato, *Franco Marescotti e la casa civile 1934–56* (Rome: Officina Edizioni, 1980).
11 Franco Marescotti, *'Introduzione allo studio organizzativo e costruttivo dei "Centri Sociali Cooperativi" della Provincia di Milano'*, in *Architettur*a *d'oggi*, eds. Nervi P.L., Cosenza L. et al., (Florence: Vallecchi, 1955) 81–86.
12 Ireneo Diotallevi and Franco Marescotti, *Il problema sociale costruttivo ed economico delle abitazioni* (Milan: Poligono, 1948).
13 See Reyner Banham, *'Neoliberty. The Italian Retreat from Modern Architecture'*, in *The Architectural Review*, 747 (April 1959): 230–235.
14 See Manuele Salvetti, *'Il Collettivo di Architettura 1949–1973'*, degree thesis, tutor Marco Biraghi, Facoltà di Architettura Civile, Politecnico di Milano, academic year 2009–10.
15 A document in the Fredi Drugman archive, kept at the CASVA in Milan, lists the towns in the Milan hinterland where the members of the Collettivo di Architettura held positions in the local councils: Fredi Drugman: Desio, Lissone, Nova Milanese, Corbetta; Vincenzo Montaldo: Cusano Milanino, Bollate, Cormano, Vimodrone; Giorgio Morpurgo: Locate Triulzi; Giuliano Rizzi: Novate, Corbetta, Sendriano, Lainate; Achille Sacconi: Paderno Dugnano; Novella Sansoni: Buccinasco, Gaggiano; Mario Silvani: San Giuliano Milanese, Rozzano, Assago; Alessandro Tutino: Rozzano, Seveso, Binasco, Gaggiano; Virgilio Vercelloni: Settimo Milanese.
16 See Giancarlo De Carlo, *'Il Villaggio Matteotti a Terni'*, in De Carlo, *L'architettura della partecipazione*, ed. Sara Marini (Macerata: Quodlibet, 2013), 97–112.
17 De Carlo, 103.
18 De Carlo, 104.
19 In this context, see Walter Benjamin, *'The Author as Producer'*, trans. Rodney Livingstone, in Benjamin, *Selected Writings Vol 2, Part 2, 1931–1934* (Cambridge, MA: Harvard University Press, 2005), published in Italy as: *'L'autore come produttore'*, (1934), in Benjamin, *Avanguardia e rivoluzione* (Turin: Einaudi, 1973), 199–217, as well as – for the application of the term in an architectural sphere – Marco Biraghi, *L'architetto come intellettuale* (Turin: Einaudi, 2019).
20 Giancarlo De Carlo, *L'architettura della partecipazione* (1973), in De Carlo, 70.
21 See De Carlo, 71.
22 De Carlo, 61.
23 See Francesco Samassa, *'"Un edificio non è un edificio non è un edificio". L'anarchitettura di Giancarlo De Carlo'*, in *Giancarlo De Carlo. Percorsi*, ed. Francesco Samassa (Padua: Il Poligrafo, 2004), 125–161.

24 De Carlo, 60.
25 De Carlo, 78.
26 This paragraph takes up some of the issues discussed in the chapter with the same title of the book *Storia dell'architettura italiana 1985-2015* (Torino, Einaudi, 2013) written by Marco Biraghi and Silvia Micheli. To the latter goes the gratitude of the authors.
27 Vittorio Gregotti, *'Il piombo nelle ali'*, in *Casabella*, no. 607 (1993): 2–3.
28 Marino Folin, *'Presentazione'*, in *6. Mostra internazionale di architettura. Sensori del futuro: l'architetto come sismografo*, La Biennale di Venezia (Milan: Electa, 1996) 244-245.
29 Pierluigi Nicolin (ed.), *Conflitti: architettura contemporanea in Italia* (catalogue to the exhibition held in Salerno, 2005–2006) (Milan: Editoriale Lotus-Skira, 2005).
30 The same line of interpretation was again put forward in Pierluigi Nicolin, *'Un pensiero per l'architettura italiana'*, in *Lotus International*, no. 151 (2012): 4.
31 Paola Pierotti, *'If Design, idee low cost per gli spazi pubblici'*, in *Progetti e Concorsi* (supplement to 'Il Sole 24 Ore') (31 January–5 February 2011): 11.
32 Marco Mulazzani, *Ipostudio. La concretezza della modernità*, (Milan: Electa 2008), 24–25.
33 Cesare Brandi, *Pellegrino in Puglia* (Milan: Bompiani, 2010), 40.
34 Pier Paolo Tamburelli, *'Antonio Citterio. L'asilo-cortile. Nuova sobrietà'*, in *Domus*, 892 (2006): 48.
35 Flavio Albanese, *La casa collettiva italiana. Opere realizzate 1995–2007* (Verona: Associazione culturale Architettando – Edizioni SIZ, 2008) 11–12.
36 Vittorio Gregotti, *'Tracce di esperienze comuni'*, in *Mauro Galantino. Opere e progetti*, ed. Silvia Milesi (Milan: Electa, 2010), 25.
37 Cino Zucchi, *'Gino Valle'*, in *Domus* 866 (2004): 48–52, 49.
38 From the project report (www.zucchiarchitetti.com/zucchiarchitetti/progetti/edresidenziali/d/schedatesto.html).
39 Walter Benjamin, *'Experience and Poverty'* (1933), trans. Rodney Livingstone, in Benjamin *Selected Writings volume 2 1927–1934* (Cambridge, MA: Harvard University Press, 1999), and published in Italy as: *'Esperienza e povertà'* (1933), in Benjamin, *Opere complete, V. Scritti 1932–1933*, ed. Enrico Ganni (Turin: Einaudi, 2003), 540.
40 See Umberto Riva, *'Né un abbandono né un commento'*, in *Abitare*, no. 530 (2013): 62–73.
41 See among others: Ellis Woodman, *'Z33 House for Contemporary Art'*, in *Domus,* no. 1042 (January 2020): 30–35.

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3 Principles of North-European Sustainability

The Nordic Context

The Nordic countries are those of Scandinavia, comprising Denmark, Sweden and Norway, as well as Finland and Iceland. They are all close to the Arctic Circle and many of them surround the Baltic Sea, a closed water basin that has always been important for communications and trade. The Nordic countries have harsh climates, lands frequently covered by snow, bright summers and dark winters. From a political point of view, Norway, Sweden and Denmark are constitutional monarchies, while Finland and Iceland are republics. In all cases, these lands are sparsely populated, their inhabitants mainly concentrated in the cities with high standards of living.

Historically, the Vikings were the warring Norse people par excellence, conquering much of northern Europe. Tales of the Vikings are found in the *Edda* writings by Snorri Sturluson, dating back to the 13th century, which set the poetic norms of Norse poetry.

All these countries have a long history of flourishing economies and peaceful societies. They are socially efficient, particularly mindful of the welfare state and of respecting the natural environment, keeping it in a well-balanced state. Furthermore, all these countries are known for their economic growth, political stability, transparent institutions and visionary commissions for buildings. An eminent example is IKEA, the well-known Swedish multinational company founded in 1943 by Ingvar Kamprad, specialised in selling furniture, furnishings and household goods, combining the idea of attractiveness, sustainability and modernity for all, and thereby becoming one of the world's most successful companies. Starting from designing individual items of furniture, IKEA has moved onto designing entire self-build prefabricated sustainable cities that are economical and recyclable, as in *The Urban Village Project* of 2019, designed by SPACE10 (IKEA's global research and design lab).[1] Environmental aspects and sustainability are dear to Nordic architecture's heart and are generally dealt with scrupulously, not cursorily, with a much less superficial approach compared with many other parts of the world.

The architects of the Nordic countries have been greatly inspired by Kenneth Frampton's essay on critical regionalism, though they have reworked

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his attention to context from a humanised standpoint. Architecture thus becomes a mirror of people's behaviour and their needs; humans become the scale for how and what should be built. In this sense, the words in Barbara Allen's book *Performative Regionalism* become particularly meaningful, putting regionalism and individuals in relation one to another: "People no longer figure as passive receivers but take an active, performing role in experiencing a place. By including people more, Allen critiques past notions for too narrowly focusing on the material and the static qualities of architecture […] Regional architecture should start from human behaviour […] Nordic Architecture is not just about physical manifestations of materials and shapes […] but also about how we fundamentally think about architecture – that is how architecture represents us as a living being".[2]

Within the European context, the Nordic countries are an exemplary model of collectivism, able to make services available to one and all. The Nordic family, despite normally just being made up of mother, father and children (with the offspring being strongly encouraged to become independent as soon as possible and with all components of the family being economically independent one from the other), has a strong sense of the wider community, beyond the strict family household. Most recent research has shown that it is the Nordic countries that, although they may appear to be more individualistic and modern, are the ones that have a wider sense of trust in society and fellow citizens, a trust that goes well beyond the private sphere of family and friends, to include all members of society. In Nordic countries, in fact, there is a dominant alliance between individual and state that is difficult to find rooted so solidly in other contexts.

Mirroring this idea of the wider society and greater respect for society, Nordic countries have very many government-funded buildings devoted to social and community life. Examples are public squares, sports buildings, libraries, theatres, nurseries, elementary and secondary schools. This is the practical, three-dimensional rendering of the concept of the 'welfare city': "The principles of the Nordic model were secured by a large state or state-supported sector that subsidised industrialisation by building housing for workers, as well as institutions for education, cultural dissemination, child and elder care, sport, recreation in great numbers".[3]

Nordic architecture is very much aware of the spirit of place. A clear demonstration of this is given by the book by Christian Norberg-Schulz, *Genius Loci*.[4] 'Genius loci', or spirit of place, is a notion that he borrowed from Roman civilisation, which he has reworked from a modern stance as a pact, a basic 'harmony' between the building and its location. He views the location not simply as what existed before it was occupied by the building, but how it is re-interpreted – in a certain sense, how it is even 'created' – by the presence of an artificial object interacting with it and activating it. Norberg-Schulz also highlights the importance of natural landscapes, devoting a whole chapter of his book to the topic. Inhabitants of Nordic countries are, in fact, always on the lookout for a harmonious

relationship with nature and the landscape, showing great respect for the environment. As Aasmund Olavsson Vinje argues in his book *Climatism,* buildings are moulded by the climate, the light or lack of light, by harsh temperatures and natural landscapes. A sensitivity to nature can be seen in Nordic architects even when they work outside of their own countries, as is evident in the case of the Nordic pavilion at the Venice Biennale, built by Sverre Fehn in 1962. Here the architect, while using contemporary materials such as reinforced concrete, has been able to integrate the trees existing in the area and recreate an ideal continuity with the Scandinavian landscape, also thanks to the light coming from above, thus giving rise to a true 'internal landscape'.

Commonly encountered in Nordic countries is the notion of 'social sustainability', a key element to describe their architecture. In Scandinavian schools, the United Nations 17 Sustainable Development Goals blueprint has been adopted, introducing a new agenda that also affects aesthetic aspects. Not only do the goals aim to set certain standards to make buildings truly sustainable and to ensure such standards are respected, but they also become the starting point for a significant amount of design work, so much so that all the planning and designing of buildings – both from a technological viewpoint as well as from the wider design viewpoint – attempts to meet today's most urgent climatic and environmental demands. Matters of duration, endurance, accessibility and climate adaption are universal problems that Nordic architecture is committed to prioritising. The book *Nordic Architects – Global Impact*, published in 2017,[5] reflects this movement and this sensitivity that is very evident in architecture.

Dealing with the question of climate change and sustainability is a priority for many architectural firms in northern countries. In this context, we can recall some interesting (though at times also debatable) experimental designs from the Belatchew Arkitekter firm, such as the Straw Skyscraper, 2013, the BuzzBuilding, 2014, and SwimCity, 2015, all in Stockholm; the Woodhouse Rosendal passive house in Uppsala, Sweden, 2014, by Kjellander Sjoberg; the Copenhagen Climate Resilient Block, 2015, by Henning Larsen; the Helsinge Garden City project in Denmark, 2016, by Effekt; The Resource Row in Copenhagen, 2019, by Lendager Group; and the Third Nature projects such as Climate Tile, 2017, and Enghavenparken, also in Denmark, 2019. Emblematic of the sustainable focus of Nordic architecture is the REGen Village at Almere in the Netherlands, 2015, a 'packet' of performance solutions that, from a formal point of view, draw heavily on the 'utopian' architecture of the 20th century, and destined – according to the intentions of the website presenting the project – to proliferate in other countries around the globe. It is viewed as a 'marriage' between the natural environment and new technologies ("Technology integrated VillageOS™ software, for the future of living in resilient neighbourhoods") that poses questions about its effective practicability and 'happiness' ("ReGen Villages, patent-pending VillageOS™ operating system software and ReGenerative Villages Simulator™ will enable the

replication and global scaling of regenerative resiliency to meet the challenges of safe, healthy and secure communities in dynamically changing times").[6]

In some cases, caring for nature manifests itself in the careful use of materials. The fairly general trend is to use local materials, especially those that can be sourced very closely to the project's location so as to cut costs and reduce transportation. Very often, in fact, the choice falls on wood, which is commonly found close by. At times, recycled materials are employed in construction, as in the façades of the 2008 farmhouse by Jarmund Vigsnæs in Norway,[7] whereas in other cases, the materials used are destined to be recycled once the building is dismantled (an example is Lassila Hirvilammi's Karsamaki Shingle church in Finland, 2004). An important role in these projects is played by the expertise of local craftsworkers and their construction skills.

A true 'rediscovery' of Nordic tradition has taken place thanks to the book *Nightlands: Nordic Building*,[8] published in 1997 by Christian Norberg-Schulz, mentioned earlier. Nordic tradition has its roots in those places, which become a mirror of culture and identity. A search for identity lies behind various architectural experiments: a convincing example is the Sami Parliament project in Norway, completed in 2000, with the very purpose of erecting a symbol of identity for the local community. The design by Stein Halvorsen and Christian Sundby re-interprets the structures of the nomadic Sami populations who roamed the Nordic forests. The project is not only surrounded by pine trees and wild vegetation, but the most prominent feature of the entire complex is the auditorium shaped like the conical Sami tents, traditionally known as *lavvu*. In this re-interpretation of their vernacular architecture, the architects have attempted to create a relationship not only with nature but also with the more native cultural aspects of these lands.[9] The building materials chosen (concrete and grey-coloured larch panels) enable the building to blend into the surrounding natural environment. The Sami had no particular permanent architectural tradition, always being a people on the move. Commissioning a parliament for them implied creating an identity, an architecture that could rise to the rank of a symbol of their 'nation'. And the building that has been created has, in fact, taken on an important role, even on a political level.

There are many features that are recurrent and define affinitive aspects of architectural approaches in the Nordic countries. In particular, we can identify a group of architects that has produced a true 'Nordic architectural route'. Starting from the 'founding fathers' (Alvar Aalto, Erik Gunnar Asplund, Sverre Fehn and others), we can identify a string of contemporary architects who are sensitive to aspects such as community, local materials, nature, landscape, climate and sustainability. Among these, mention can be made of COBE, Jarmund Vigsnaes, Studio Granda, Nordic architecture, BIG, Reiulf Ramstad Arkitekter, ARKIS, PLOT, Fantastic Norway, Snohetta, White Architects, Tegnestuen Vandkusten, Henning Larsen, Tredje Natur, GXN, Lendager Group and many more. In this chapter, not all the projects

designed by these firms can be examined, but a significant selection will instead provide an idea of the key features and the most common solutions adopted.

Alvar Aalto and Nordic Sensitivity

Without a doubt, the best representative of Nordic architecture – and in particular of the sensitivity towards forging a relationship with place – is the Finnish architect Alvar Aalto. Working in co-operation with his wife, Aino Marsio, and taking inspiration from journeys to Italy, Aalto's first works can clearly be seen to hark back to Italian classicism. A typical example of this is the workers' social club in Jyvaskyla, 1924–1925, inside which – as a 'casing' for the main room – he uses a clear 'reminiscence' of the Rucellai Sepulchre (the 'Tempietto di Santo Sepolcro') by Leon Battista Alberti, in the church of San Pancrazio, Florence. In later projects, instead (such as the headquarters of the 'Turun Sanomat' newspaper, Turku, 1928–1930), Aalto revisits elements of German rational architecture, again encountered during his study tours. His care and attention, however, are not solely focused on function but also – and above all – on an attempt to penetrate more deeply into the arranging of spaces, light and details to give his buildings a 'human-scale' modernity. His 'manifesto' of this reworking of the rigid modern style was to be the Finnish pavilion that Aalto designed for the New York World's Fair in 1939, which was to bring him great notoriety outside of his home country. But it was especially with the Paimio Sanatorium, dating back to a few years earlier, 1929–1933, that Aalto provided a concrete example of his approach to 'human-scale' modernity. Built in the heart of the Finnish forest in a particularly healthy location to foster patients' recovery, the building complex is organised around an intentionally asymmetrical ground plan, where the various elements are not strictly at right angles one to the other but arranged in an organic manner. At first glance, it appears to recall the weather-vane plan of the Bauhaus Dessau and the concept of unity in diversity as put forward there by Gropius; yet at the same time, the overall appearance of the sanatorium reminds us of white architecture, with ribbon windows, typical of the most up-to-date purist European research, or – and above everything else – of Le Corbusier's 'ocean-liner' architecture; but here again, Aalto takes great care to break with the geometric 'inflexibility' typical of his 'Cartesian' towers.

As a result, recovery is not entrusted completely to the art of medicine but also to the physical environment where the patient is found, which plays its part: matters of care and hygiene thus play a key role. The lively interior colours prompt positive reactions, contributing to improving the hospital stay; the use of light becomes an essential element, as does the relationship with the natural surroundings. As Aalto stated: "The main purpose of the building is to function as a medical instrument […] One of the basic prerequisites for healing is to provide complete peace […] The room design is determined

by the depleted strength of the patient, reclining in his bed. The colour of the ceiling is chosen for quietness, the light sources are outside the patient's field of vision, the heating is oriented towards the patient's feet and the water runs soundlessly from the taps to make sure that no patient disturbs his neighbour".[10]

The city library of Viipuri (today Vyborg, in Russian territory), built between 1933 and 1935, is another example of Alvar and Aino Aalto typically combining modernity and organicism. From the outside, the library gives the impression of an up-to-date building in line with recent European modernism: the two parallel white boxy blocks, offset one to the other, have large glass windows to allow as much light as possible to enter, of prime importance in all Nordic countries. On the inside, however, Aalto has created rooms with a very dissimilar 'flavour': in particular, the ground-floor auditorium, entirely wood-panelled and filled with the iconic stools designed by the Aalto husband-and-wife team and produced by Artek (the furniture company they founded in 1935), operates as a true 'sound box', resonating with its sound waves thanks to its wavy ceiling and back wall. Meanwhile, the reading room on the upper floor puts its books 'centre stage' as the community's most precious asset, beneath a uniform light from the ceiling skylights. But it is also the details that display all the care Aalto took in designing his buildings: in this sense, the fluid, sinuous shapes of the banister give continuity to the entire interior space, as if architecture were attempting to recreate a landscape. For the designer, the building has become an artefact that must attempt to find a balance not only with the natural environment but also with the town's historical and cultural context. Aalto exploits the situation to create an occasion for "extending the precepts of Functionalism to include the satisfaction of a full range of physical and psychological needs".[11]

The building that is without a doubt most clearly detached from modernism is Villa Mairea 1938–1939, in Noormarkku, Finland. The house was designed for Harry and Maire Gullichsen, the owners of a sawmill who Alvar and Aino had worked with professionally. The house is made up of two two-storey sections at right angles to one another, forming an L shape and thereby creating two semi-private courtyards. Among Aalto's most attractive and important works, the building expertly brings together an analytical rationalism and natural materials used in an expressionist manner. The use of local stones in the entrance, freely distributed on the ground as if they were on a pathway, or the thin tree trunks of wood forming the rails of the stairwell leading up to the first floor are key elements in this winning mix, recalling as a whole the Finnish forest bordering onto the land where the house itself stands. Once again, Aalto has recreated a landscape with artificially constructed elements: "The fundamental theme of the Villa Mairea project is […] the dialogue between nature and civilisation, between the natural world and the work of humans, between countryside and town, between the primitive hut and the urban habitat. Entering the garden from the countryside, we are met by a series of plausible elements that explicitly evoke the rustic aspect of nature

[…] the layer of grass on the roof of the sauna, the water in the pool, the wooden platform mirroring those on a riverbank or a lake shore, the sauna reminiscent of a primitive hut, the rough outer wall or the slate flooring".[12]

One of Aalto's most significant buildings is the Saynatsalo Town Hall, 1949–1951, a multi-purpose complex designed to house not only the municipal offices but also shops, a library and a number of apartments. In this case, rationalist traits are almost non-existent: this is a building complex on a human scale, surrounded by nature, built entirely out of bricks inside and out. The building is organised around a courtyard with pitched roofs displaying a wish to reflect the traditional Finnish house, not only in scale but also in shape. Two flights of steps lead up to the raised inner courtyard, a small quadrangle that recalls an Italian *piazza*. The first set of steps is made up of traditional stone steps, while the other is typical of Aalto's way of working: sinuous, organic in shape and covered in grass, almost as if it was created by nature, not by the hand of the architect. The ground surface is made up of various materials, from grass to bricks and stones, almost as if to confer a tactile as well as a visual experience to anyone walking across the courtyard. It is not a building that is extraneous to the natural surroundings where it is located; instead, it is rooted in its environs, integrating into its surroundings perfectly, becoming a true 'manifesto' of the Nordic sensitivity for the built-up environment.

An expression of the same sensitivity can be seen in the experimental house built in 1952 in Muuratsalo, just a short distance away in terms of time and space from the Saynatsalo complex. Alvar Aalto designed this small building shortly after the death of his wife Aino, facing those problems that normally an architect does not have to come up against during a work routine. The building is seen as a coming-together of a home-cum-private studio and a place of experimentation. It is a small-scale house, both in terms of size and materials, that would allow Aalto to isolate himself from the world at the edge of a forest on the shores of one of Finland's many lakes. And it is the fact that it is immersed in nature that sparked the 'deliberations' over the shapes, techniques and materials typical of the Nordic environment. The form of the building is an open courtyard, which does not have a purpose of isolation but instead has a symbolic value: at the centre of this open space lies a hearth. On the walls surrounding the courtyard, Aalto has experimented with different-sized bricks arranged in different textures, creating a sort of 'training ground' for solutions he was to adopt in later projects. The walls looking out onto the patio have been subdivided into 50 areas with various kinds of terracotta and ceramics. Hand in hand with these tests, studies were also carried out into how materials resisted and decayed over time due to weathering. Similar experiments were conducted on floorings, roofings and ornamental plants, transforming the buildings into something of a den-cum-laboratory.

Aalto is also responsible for designing the Otaniemi campus of the Helsinki University of Technology (now part of the Aalto University), built in 1966. Surrounded by nature, the extraordinary campus is an exercise in

'connecting' architecture and landscape, a powerful dialogue between building and natural terrain. The university buildings are arranged along a ridge, adapting themselves to the lie of the land, adjusting to the varying heights. The main structure, containing the two main auditoriums, almost seems to be a fragment of a Greek theatre, and like such theatres, it offers a wide view of the surrounding natural environment. The buildings of the Undergraduate Centre are all in red brick, arranged in a fan-like pattern, creating a sense of community. Inside – as already seen in the Viipuri library – Aalto has created points of contact between the building and the human body through elements that appear to be of secondary importance, such as door handles and banisters. Without resorting to futile decorative elements, here Aalto reaches one of the peaks of his career.

Alongside Aalto, mention must be made of his corresponding Swedish figure, the architect Erik Gunnar Asplund (though active at an earlier date). Like Aalto, Asplund made his first moves in the style of Nordic Classicism (an example being the Villa Snellman, Stockholm, 1917–1918). But in 1915, his career changed direction fundamentally when, together with Sigurd Lewerentz, he won the competition to enlarge the Stockholm cemetery. The two architects worked on the project on various occasions over a long period between 1917 and 1940. This is a work of landscaping that, from many points of view, echoes Aalto's sensitivity. Asplund and Lewerentz redesigned the terrain, organising the land, adding minimal features and leaving nature as the protagonist. Gravestones, pathways and open spaces are inserted into the existing woodland, removing any sense of monumentality. The design approach, in line with the spirit of Nordic National-Romantic style, takes the landscape theme to a prevailingly symbolic-naturalistic scenario: "The novelty, the greatness in the conception is the intensive [*sic*] feeling, the concentration of atmosphere which it succeeds in imparting by a clever blending of art and nature".[13] The designers achieve a romantic reworking of Nordic nature, introducing paths, open spaces and key shrines into a woodland context, exalting the identity of place.

In 1920, Asplund completed his first woodland chapel, perhaps one of the architect's most intense works. The small building, concealed by surrounding vegetation, has a deep portico with twelve white columns on classical lines, giving access to a closed space with thick walls, also white. Both the building and the portico are surmounted by a heavy pitched roof covered in wooden shingle. While from the outside the chapel recalls vernacular architecture, not hiding its similarity with a rustic hut, inside it presents a surprisingly refined ground plan, proving to be modelled on the Pantheon, in other words, the temple with the world's most beautiful interior space. Like the Pantheon, in fact, it has a circular hall covered by a hemispherical dome with an oculus at the top, providing natural light. In particular, the shrine's great significance stems from Asplund's tangible skill in bringing together different styles, the Classic and the Nordic.

A reprisal of a classical model – once again with adaptations – is also to be found in Lewerentz's Resurrection Chapel, 1923–1925. This building comprises two parts, the portico and the chapel itself, that are out of line in terms of the ground plan, in other words, they have (intentionally) different axes. On the façade, moreover, the portico is off centre in respect to the building it gives access to, putting the two elements in a relationship that smacks of anti-classicism. The 'imperfection' of the work, therefore, is again the trademark of what is essential for the architect: the liveliness – the life – of the work.

Years later, Lewerentz was to design the church of Saint Peter, 1962–1966, in Klippan, a building that does not aspire to a uniform or iconic shape but instead concentrates on basic construction features. The stark mass of brickwork allows itself to be defined by the calculatedly dissimilar brick textures. The church itself does not have an ecclesiastical shape or size but retains a domestic dimension, a restrained environment. Here – as in his later and even more renowned Flower Kiosk, 1969, for the Malmö cemetery – an absolute, radical terseness prevails: the exemplary panes in the frameless windows are held by simple, rudimentary metal clips. Glass, concrete and bricks are emblematic of 'making from the minimal', of an ability to 'make a little go a long way'.

Also of fundamental importance in Asplund's career is the Stockholm City Library, designed in 1918 and opened to the public in 1928. It was Sweden's first public library with open shelving, and like public libraries in the United States, that are clearly its inspiration, there is a clear distinction of activities and intended uses. "Mindful of the architecture of Boullée and Ledoux and aware of the library's role, Asplund transforms functional aspects into an extreme synthesis of rigorous design by juxtaposing pure volumes, their autonomy being particularly evident from outside".[14] This is a building with a classically inspired plan that redeems the rigid external shapes through its flowing interior spaces. The library's iconographic elements ideally reflect the contents of the library itself, from echoes of ancient cultures (Egyptian, Greek) to tokens of contemporary civilisation (including mechanical and technological devices). And it was, in fact, Asplund's design project that influenced Aalto's ideas for the Viipuri library.

The architects presented so far here are only some of the most revolutionary figures that began to shape a modern Nordic style in the period between the end of the 19th and the start of the 20th centuries. In Finland, along with Alvar Aalto, other earlier architects could also be mentioned, including Eliel Saarinen, Herman Gesellius and Armas Lindgren. In Sweden, there was Ragnar Ostberg, the architect behind the important designs for the Stockholm City Hall, 1911–1923, and after World War II, there was Sven Markelius, responsible for Stockholm's city plan and business district, 1952. In Denmark, mention should be made of Henning Larsen, Martin Nyrop and Knud W. Jensen (whose revolutionary Louisiana Museum of 1958 is worthy of note), without forgetting Kay Otto Fisker, the architect of the Hornbækhaus residential complex in Copenhagen, 1922, and Peder Vilhelm Jensen-Klint, the

designer of extraordinary neo-Gothic churches, including the Grutvig church, also in Copenhagen, 1921. Other memorable names include Arne Jacobsen and Jørn Utzon (with his remarkable design for the Bagsværd church, 1973–1976), as well as Steen Eiler Rasmussen and Ulrik Plesner. In Norway, the list must be completed with Sverre Fehn and Arnstein Arneberg.

Nordic Continuity

The solutions and materials used by Aalto were to be taken up by later generations, not only by Finnish architects but also by designers from other Nordic countries sharing Finland's context, social and economic conditions and landscapes.

Among architects of the new generation, there is a notable continuity with older-generation architects as well as with the key elements of Nordic architecture. There are, however, few monographs or critical descriptions of the works of the very young architects, and we are forced to rely on descriptions of their work, architectural magazines, exhibition catalogues and web reviews. Nevertheless, the most interesting aspect that emerges and that we wish to highlight in this section is not so much the particular ideas of the architect or a specific work but rather a collective sentiment the designers have in common, and that can be seen in their architecture. The aim is to show how contemporary Nordic architectural works are, in fact, mirrors of a society, a culture and a tradition.

Affinities with first-generation designers are found in very many contemporary projects. To demonstrate the explicit line of continuity that exists, mention can be made of projects such as the Nordic house by Schmidt Hammer Lassen[15] in Greenland, 1997, or the performing arts centre by ALA Architects[16] in Norway, 2011–2014. The 4,800-square-metre undulating wooden façade screen of the Nordic house was conceived as a metaphor for the northern lights. The architects stated: "Our architectural ambition is to create a cultural building with a strong sense of place and a meeting place for people", indicating how place and people are the guiding principles of the project. Sinuous shapes are also to be found in the multi-purpose Norwegian building by ALA Architects. The monumental form of the oak-panelled wall gives emphasis to the spectacular entrance. Both these buildings make clear reference to the shapes of Alvar Aalto's 1939 Finnish pavilion in New York, recalling many of the organic shapes of his works.

Nordic architecture puts people and their needs first and foremost, according to Barbara Allen's assessment in her essay *Performative Regionalism*. Nord Architects[17] with their Centre for Cancer and Health in Copenhagen, 2011, provide a good example of this approach. The building is conceived as an icon, which can raise awareness about cancer without confining the patients to a depressing environment. The building, in fact, maintains a human scale, comprising a number of small house units linked together to create a community. The patients' individual houses are linked by a roof that

resembles a folded sheet of paper, reminiscent of Japanese origami. The roof becomes one of its most recognisable features, while each home has its own outside space, and there is a courtyard for meeting people, exercise areas and a shared kitchen where patients can learn to cook healthy food. The building has, in fact, been designed to make people feel good, not to make them feel ill or excluded from the community, to give them the opportunity to feel 'at home'.[18]

Another project with a creative answer to the role of individuals in the city is that of the Danish firm Gehl Architects' experimental design for New Road in Brighton, Great Britain, 2011.[19] The architect, who is married to a psychologist, has always paid attention to the importance of people within architecture. Gehl used the city of Copenhagen for his experimentation, observing people's interactions for months and describing his findings in his book *Life Between the Buildings*, 1971. His aim is to understand how best to pedestrianise whole sections of cities, making them more accessible and functional. His design for New Road falls within this ambit, a road without crossings or kerbs, without any separation between cars and pedestrians, a single road surface prioritising free movement for pedestrians and cyclists. The experiment has been a success, with a 93% drop in traffic and a 62% increase in pedestrians. The experimental design has changed the usual dynamics of the street, transforming the road into a haven for pedestrians and cyclists. This is Steen Elier Rasmussen's idea of 'architecture as experience'[20] where "urban architecture needs to embrace all segments of the population rather than underscore distinctions of privilege and class", that Gehl has welcomed with open arms.

SLA[21] is an architectural practice that puts nature at the heart of design, viewing nature as a tool to resolve urban problems. Among their work where nature features particularly prominently, mention can be made of the Novo Nordisk Nature Park in Bagsværd, the South Boulevard and the Soul of Norrebro in Copenhagen.[22] A prime example of their working methods is seen in the Swedish SEB Bank headquarters in Copenhagen, where SLA was asked to create a building integrated with its surroundings. The architects came up with plans for a 7,300-square-metre green open space, accessible not only to bank employees but also to passers-by. The concrete square has been designed to collect rainwater to irrigate the many plants that break up the space. The plants and trees are a mixture of deciduous and evergreen, and not only enhance the area but serve the purpose of creating a microclimate that is cool in summer and warmer in the winter. The concrete absorbs warmth, whereas the plants repel it. While the sensation in the square is that of being surrounded by Scandinavian vegetation, SLA has not used nature simply as a feature of the design but has taken individual wellbeing as the starting point for the whole project.

Not just nature but the whole landscape is a key feature of Nordic architecture, internationally acclaimed for a particular sensitivity to place and an ability to interact with it.[23] As we can read on their website, Snohetta[24]

practices a simultaneous exploration of traditional handicrafts and cutting-edge digital technology in a complementary relationship that is the driving force behind their creative process. At the heart of their work is a commitment to shaping the built-up environment both at the service of humanism and the longevity of the planet, a process not without contradictions.[25] Representative of their design process is the Norwegian Wild Reindeer Pavilion built in 2012 in the heart of the Dovrefjell National Park in Norway. Open to the public, the 90-square-metre building serves as a lookout point for hikers in the park. The sinuous shape of the buildings recalls those of the park's mountains; the wood used in the building is cut to resemble rocks or ice weathered by the natural elements of wind or water. Norwegian shipbuilders bent the pine planks that were then rendered smooth using digital modelling. Visitors can sit on the curved wood, sheltered in a warm place, gazing out to the natural panorama.

Reiulf Ramstad Architects[26] is a firm that works with the landscape, integrating its designs with the context. One of the firm's most interesting works is, without a doubt, the Trollstigen National Tourist Route, a scenic route within the Norwegian natural park that was completed in 2010–2012. Along the route, the Visitor Centre with its 20,000 square metres of concrete and weathering steel assembled on-site has been recognised as an example of environmental design thanks to its use of long-lasting materials and its low visual impact.

Jensen & Skodvin Architects[27] have also created an 'environmental' project, the Juvet Landscape Hotel in Norway, 2007. The minimal architectural structure is perfectly blended into the northern natural environment, comprising seven small cubic panoramic rooms built from the wood of the surrounding forest. The most evocative aspect of the rooms is the view from the windows that look out onto the landscape as it changes with the seasons. The hotel aims to be a sustainable building, perfectly integrated with the landscape in terms of energy use, visual impact and materials employed.

In Nordic architectural projects, not only is it important to blend new constructions into the existing natural landscape, but it is also essential to reclaim any of the natural environment that has been lost. An example of this is the 2008 Nansenparken project by Bjorbekk and Lindheim that transformed 1,000 acres of parkland after the decommissioning of the old Oslo airport. It was the country's largest reclamation scheme and involved completely restoring the natural environment in the area, treating the polluted ground and rebuilding more minor infrastructure, refurbishing the waterways where they had been eliminated and redesigning the bays and the inlets as well as the woods and hills.

On other occasions, we find Nordic projects that have not only attempted to blend into the landscape but have also made a conscious and concrete effort to try and improve it. The Maritime Youth Centre designed by PLOT,[28] 2004, is certainly a good example of this approach. The site chosen for the project was a polluted stretch of beach that required cleaning; the architects

then went on to build a sailing club and a youth centre on the site. Raised above the sea, the building allows boat storage beneath. The wavy design of the all-wood decking recalls the shape of boats and waves at sea, serving as a play area for children. Horizontal to the water surface and very graceful, it blends perfectly into its setting.[29]

Northern architecture is moulded by climate, light (or lack of it), natural resources and Arctic landscapes. One building that has been described as a truly organic extension of the Arctic landscape is the Svalbard Science Centre by Jarmund Vigsnæs Architects,[30] built in 2005. The new building blends perfectly into its setting, successfully providing an extension to an existing construction. The flexibility of the wooden structure allows for on-site adjustments and repairs and avoids thermal bridging. The external copper cladding, a material that can be worked even at very low temperatures, has been shaped using digital programming according to prevailing local winds to prevent snow from accumulating on the cladding. 3D climate simulators were used to determine the flexible and organic shape of the building, with the result that the final profile of the building brings together an analysis of the local landscape and climate and very advanced technology.

Studio Granda[31] is known for respecting local Icelandic materials and its great sensitivity towards the local context, placing it firmly within the school of critical regionalism. Among the studio's most interesting projects, firmly blended into the landscape, is the Hof residence, a country house less than 100 kilometres from the Arctic Circle, built in Iceland in 2007. The group of buildings includes a house, barn, stables and animal shed. The whole complex was designed to ensure maximum energy saving, heat insulation for the house coming from its thick external walls. Geothermal energy provides a natural source of warm water, while electric energy is used parsimoniously, but what is needed comes from hydroelectric and geothermal sources. The roof is covered in grass, while basalt excavated during construction is used for the foundations. Disused telegraph poles have been used to screen south-facing windows, while natural oiled oak is used for the walls. The interior has basalt flooring, internal walls in raw or painted concrete, ceilings in wood and wide windows that frame the landscape.

Nordic countries give great importance to local materials and relationships with skilled local workers. Lassila Hirvilammi, operating in Finland since 2014 under the name of OOPEAA, Office for Peripheral Architecture, is exemplary of such an approach. The very name of the architectural practice indicates the aim of paying attention to peripheral, apparently secondary aspects.

One of Lassila Hirvilammi's main interests is, in fact, local materials, and this can be clearly seen in their Karsamaki church in Finland. Built on the foundations of a church from 1765, the new building is surrounded by nature and was designed on the basis of a very simple concept, both structurally and functionally. The elementary shapes are reminiscent of vernacular wooden architecture in the region. The building is made up of two parts, an

outer and an inner one. The outer part is clad in tarred wood shingle, while the interior is panelled in untreated light wood. The supporting framework is made out of tree trunks from surrounding areas, the structural joints being completed with hand tools on-site. Despite its small size, the church is exceptional for its construction methods: a modern church built using traditional approaches, an ongoing exchange between architects and craftsworkers.

The Takern Visitor Centre designed by Wingardh Architects[32] provides another good example of the great respect for the environment and an attentiveness towards construction materials. Completed in 2008–2012, the building functions as a hide for watching the birds on Lake Takern. Traditional building techniques were used for the construction, with both walls and roofs being covered with local thatching. Thatch has traditionally been used for huts and birdwatching hides, and as a result, this building also camouflages itself with its surroundings. Moreover, the visitor centre becomes a place where birds can take cover, even using the straw from the thatching to build their nests. The building thus sets up a two-way relationship with its context, also becoming a useful element in the environment.

The strong bond between state and citizen in Nordic countries also explains the kind and number of low-cost public housing projects that have been set up. For Lundgaard & Tranberg,[33] good architecture means architecture that is at the service of the community. Corroborating this main concern of theirs, their Tietgen dormitory, 2005–2006, is a residence hall housing 360 students close to Copenhagen University. The seven-storey circular building contains single dormitory units all facing an internal courtyard, a symbol of sharing and equality. The building has been conceived as a hybrid between shared and individual spaces. Every floor is subdivided into five sections, each with shared kitchens and communal areas. Rooms come in four different sizes: 26, 29, 33 and 42 square metres. Bicycle racks are provided on the ground floor. The whole complex is built using natural and recyclable materials, such as wood, and is made up of low-cost prefabricated sections. The core concept of the project hinged around how the building could become a social catalyst for the students.

Even the renowned BIG company[34] has ventured to design an affordable low-cost public housing project. In fact, the Bjarke Ingels Group was responsible for the Dortheavej scheme, the underlying concept not being unlike that of the Tietgen student residence, made up of low-cost prefabricated modules piled up one on top of the other. The five-storey building was constructed for Lejerbo, a no-profit Danish housing association, and as the chairman of Lejerbo explains: "Our ambition was to create affordable apartments by the world's leading architects; together with BIG we have succeeded in creating sustainable safe and functional homes for all". The co-operation between the architects and the housing association provided an opportunity to create quality affordable housing, accessible to one and all, in units ranging from 60 to 115 square metres. The architects have also made use of humble materials, such as unfinished concrete and

light wood.[35] In fact, Nordic countries invest heavily in public housing and Dorte Mandrup[36] is notably one of the architectural firms that actively contributes to creating a sense of community. In 2006, Mandrup built a sports centre in Copenhagen nicknamed The Crystal because of its transparent outer shell that has become a local point of reference during the dark winter nights in Copenhagen.

Schmidt Hammer Lassen is another architectural practice that is involved in public buildings. One of their most important projects has become a Copenhagen icon: the Royal Public library, 1999. The aim of the architects was to create an informal space, open to one and all, not only those needing library services. Accordingly, it is an open, democratic building that also has exhibition rooms, a bookshop, café, restaurants and concert hall. By the same token, the Vennesla library with the largest collection of books in Norway – over 30,000 volumes – was built by Helen & Hard[37] in 2011. The building is made up of 27 wooden ribs bent not only to form the library's bookshelves but also the lighting and the seating. The building makes clear reference to the sinuous shapes found in Alvar Aalto's designs, described earlier.[38]

Among buildings built for the community, the largest slice is made up of schools. One nursery school, built in 2011 by the Danish firm Christensen & Co Architect[39] in Horsholm in Denmark is a model of sustainability, also known as an 'active house' because of the active relationship it establishes with its surroundings, climate conditions and energy resources. The whole building is covered in solar panels and has been designed to be self-sufficient from an energy point of view. The school is thermally insulated and provides all its own heating thanks to its own geothermal heat pump. Plants inside the building enable levels of CO_2 to be contained. The largest windows face south for maximum light during the day, while the northern wall is airtight to protect from winter winds.[40]

It was the Snohetta practice that designed the Oslo opera house, which, as well as being a building for the community, was also conceived as an open public space or 'square'. The 38,500-square-metre multi-purpose building can hold 1,350 spectators and is the beating heart of the nation's opera, ballet, music, theatre and concert scene. The complex has a sinuous wooden hall, a 'factory' containing production facilities for sets and costumes, administrative areas, as well as open spaces for the public. The monumentality of the project stems from its horizontality; despite its considerable size, it is not, however, a cumbersome structure. The architect has used a variety of materials that are left untreated so as to display their natural origins: marble, wood, glass and steel are all left exposed.

Numerous public squares have, in fact, been designed for Nordic cities. The COBE[41] firm was commissioned to work on the open space in front of Copenhagen's railway station. The new square is exemplary of the Danish way of life: designed for pedestrians and cyclists, it has a series of shelters, bicycle racks and meeting points. The extremely high number of bicycles

in Copenhagen indicates the alternative and environmentally friendly ways Danes move around the city. In fact, the city is believed to have the largest number of bicycles in the world, with 2,100 bike parks and 60% of all trips made on bicycles. COBE didn't simply aim to design a station but also a pleasant environment to be shared by citizens.

Many well-designed outdoor public spaces are to be found in Nordic cities, such as the Vasaparken by Grontmij Landscape architects in Stockholm, 2006, the Ammundsens Plads by Landskab Charlotte in Copenhagen, 2008 and the Stapelbaddsparken skatepark in Malmo, 2005, a 3,000-square-metre park open to everyone. However, the most interesting urban project open to the skies remains Superkilen in Copenhagen by BIG, 2011. This large-scale 30,000-square-metre project is a rare combination of landscaping, art and architecture: an installation split into three main areas, a red square, a black market and a green park, the backbone of the project being a two-way cycle lane. It was an immense urban renewal scheme, a successful urban design project to build a healthy and active society.[42] As always, the aim was to create democratic spaces where people of all ages and all social classes can come together and share the environment.[43]

From the architectural projects presented, the main areas of interest of Nordic countries clearly emerge: landscape, nature, climate, local materials, community and public spaces. These are only a few exemplary cases of a widespread approach to working in the cities. The forms employed, that are also very attractive, contemporary and creative, are never gratuitous or formalistic, always seen in relationship to the wider aspects of context.

The Nordic Way

The Nordic countries are a world apart from the rest of Europe. For historical, topographic and climatic reasons, they have developed a unique, shared sensitivity. The examples examined spell out the line of continuity starting with architects of the first generation – among these, Alvar Aalto is probably the best-known figure – and leading up to today's youngest designers.

Not having any particularly important economic, social or demographic worries, as is the case in India or in Africa, the attention of Nordic architects falls on other priorities. The extensive natural environment, the rigid climate and the features of the landscape become key design aspects. Such aspects are, however, not just seen as sources of aesthetic and formal inspiration; questions of sustainability and zero impact on the environment also become significant concerns. It is this sensitivity that makes these countries leaders in response to climate change.

This is high-level architecture, aware of the fact that clients are enlightened and willing to invest in alternative approaches. In this context, we must not forget IKEA, as well as many other companies and organisations that,

together with the state, are the driving forces behind the change. Alongside this, there is a unique sensitivity towards natural materials, a respect for their inherent beauty, a goal for re-use without waste, and a recourse to local workers with their crafts skills and expertise.

Nature and human beings become the two faces of the same coin. They are not seen as two alternative aspects but are strictly linked to each other. In fact, buildings are almost always on a human scale, designed with the community in mind, and not for the use of the privileged few. The Nordic countries pay particular attention to creating accessible urban spaces with free activities for everyone, all people being considered equal. This is borne out by the very high number of public squares, libraries, museum spaces, concert halls and schools built in these northern cities. The Nordic countries are, in fact, considered masters of building democratic space.

It is through these key elements that it becomes possible to understand what an awareness of place means for these northern countries and to be able to identify the 'Nordic way' of architecture. Unlike countries such as China, Africa or India, where architects mindful of context have always remained a minority on the sidelines, in Nordic countries, such care and sensitivity are widespread and inborn.

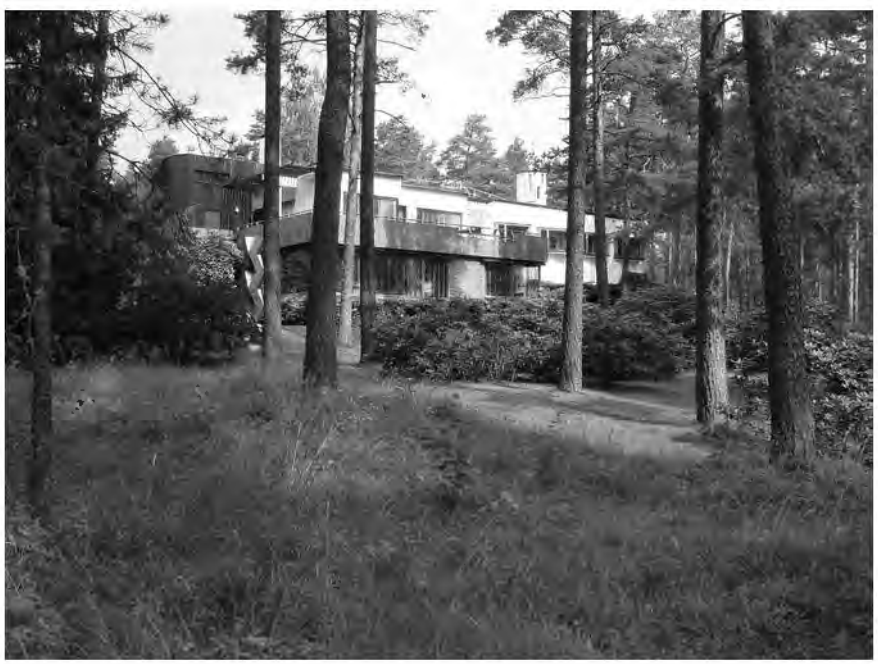

Figure 3.1 Alvar Aalto, Villa Mairea, Noormarkku, Finland, 1938–1939.

Figure 3.2 Lassila Hirvilammi, Karsamaki Shingle Church, Finland, 2004.

Figure 3.3 Wingardh Architects, Takern Visitor Centre, Sweden, 2008–2012. (a) Front elevation. (b) Detail. *(Continued)*

Figure 3.3 (Continued)

Figure 3.4 Jensen & Skodvin Architects, Juvet Landscape Hotel, Gudbrandsjuvet, Norway, 2007–2010. (a) Outdoor view. (b) View from inside to outside.

Notes

1 IKEA's new concept of urban living, the Urban Village, is based on modular prefabricated buildings that can be combined in various ways. The self-sufficient modular units are designed to be completely dismantled when they need to be upgraded; all materials are recyclable and reusable. Energy requirements are met by solar panels and other forms of sustainable energy production, and the homes have reduced levels of CO_2 emissions. Rainwater is used inside the home, making it self-sufficient. Thus the very idea of the home changes: it no longer lasts for ever, but can be returned to the environment without causing damage. The project has studied waste disposal, not only from the point of view of the building itself after its useful life but also as far as concerns day-to-day waste and methods of re-use. Each unit has been conceived so that it can grow its own indoor vegetables using hydroponics or glasshouses, and it is foreseen that animals may also be kept to produce eggs or other foodstuffs.
2 https://analoguecity.wordpress.com/2010/03/03/on-performative-regionalism-barbara-all.
3 Kjeld Kjeldsen, Jeanne Rank Schelde, Michael Asgaard Andersen and Michael Juul Holm, *New Nordic: Architecture and Identity*, catalogue to the exhibition, 29 June–21 October 2012.
4 Christian Norberg-Schulz, *Genius Loci: Towards a Phenomenology of Architecture* (New York: Rizzoli, 1979); published in Italy as: Christian Norberg-Schulz, *Genius Loci: Paesaggio ambiente architettura*, trans. Anna Maria Norberg-Schulz (Milan: Electa, 1979).
5 Kristoffer Weiss, *Lindhardt, Nordic Architects. Global Impact* (Stockholm: Arvinius+Orfeus, 2017).
6 https://www.regenvillages.com.
7 Jarmund Vigsnæs Architects, a firm set up in 1996 by Einar Jarmund and Hakon Vigsnaæs based in Oslo. In the design of the barn, built for two historians and their children, they have used recycled wood from the former barn for the façades of the new building. This interesting project highlights the concept of re-use. Most of the structure is in harmony both with the landscape and the conventions of traditional buildings.
8 Christian Norberg-Schulz, *Nightlands: Nordic Building* (Boston: MIT Press, 1997).
9 *'Parliament for the Sami People'*, in *Archdaily*, 8 February 2009, https://www.archdaily.com/5489/parliament-for-the-sami-people-sh-arkitekter.
10 Peter Reed (ed.), *Alvar Aalto: Between Humanism and Materialism* (New York: Museum of Modern Art 1998), 29; published in Italy as: Reed, Peter, *Alvar Aalto: 1898–1976* (Milan: Electa, 1998), 17.
11 Kenneth Frampton, *Modern Architecture a Critical History* (London: Thames & Hudson, 1980), 198; published in Italy as: Kenneth Frampton, *Storia dell'architettura moderna*, trans. Mara De Benedetti and Raffaella Poletti (Bologna: Zanichelli, 1982), 231.
12 Fabio Mangone and Maria Luisa Scalvini, *Alvar Aalto. Gli architetti* (Bari-Rome: Laterza, 1993), 71.
13 Hakon Ahlberg, in Gustav Holmdahl, Sven Ivar Lind and Kjell Ödeen, *Gunnar Asplund Architect 1885–1940: Plans, Sketches, and Photographs* (Stockholm: Byggförlaget, 1943), 32.
14 Marco Muscogiuri, *Architettura della biblioteca* (Milan: Edizioni Sylvestre Bonnard, 2001), 415.
15 International architectural practice was founded by a group of Danish architects in 1986, with offices in Copenhagen and Aarhus, Denmark, and in Shanghai.
16 Firm is based in Helsinki, established in 2005.

17 Danish architects with offices in Copenhagen since 2003.
18 CF Moller Architects is an architectural practice based in Denmark since 1924 with offices in Aarhus, Copenhagen, Aalborg, Oslo, Stockholm, Malmo, Berlin and London. In Malmo, CF Moller Architects designed a medical unit for emergencies and infectious diseases between 2006 and 2011. The building looks out onto an internal courtyard so as to minimise transmission to the external environment. It makes use of contemporary materials, but it takes into account factors such as low energy consumption, the use of natural light and ventilation, materials that can be easily cleaned and disinfected, as well as colours to improve patients' wellbeing. While this building does not use materials and proportions that can be said to be on a human scale, as with previous examples, it still pays great attention to the patients and to their feelings.
19 Gehl Architects was founded in 2000 by Jan Gehl, a Danish architect based in Copenhagen though also active in the United States.
20 Steen Eiler Rasmussen, *Experiencing Architecture* (Boston, MA: The MIT Press, 1964) published in Italy as: Steen Eiler Rasmussen, *Architettura come esperienza* (Bologna: Pendragon, 2006).
21 Danish firm of architects established in 1994 and based in Copenhagen, Aarhus and Oslo.
22 The Soul of Norrebro project is based on a Nordic model of city development entirely centred on the relationship with nature.
23 See also: ARKIS, one of the largest Icelandic firms, founded in 1997, and their Snaæfellsstofa Visitor Centre project, 2010.
24 Snohetta is a Norwegian architectural firm known for designing the new library in Alexandria, Egypt in 1989.
25 Some projects have had to compromise on many aspects.
26 A Norwegian firm based in Oslo since 1995.
27 Also known as JSA, the Norwegian firm of architects was set up in 1995 by Olav Jensen and Borre Skodvin in Oslo.
28 PLOT is a Danish architectural firm founded in Copenhagen in 2001 by Julien De Smedt and Bjarke Ingels, a partnership that lasted five years. The partners then went on to set up the JDS Architects practice and the BIG – Bjarke Ingels Group.
29 In the sea in Denmark, White Arkitekter designed the Kastrup Sea Bath, 2004. This architectural construction on water is an integral part of the new seafront and the beach renovation process. The 870-square-metre project includes a pier leading to a circular construction raised one and a half metres above the sea, with 70 square metres of changing rooms and 90 metres of service facilities. The circular shape creates an internal area shielded from the winds, ideal for sunbathing. Natural materials have been used for the structure, the *azobé* wood being particularly resistant to seawater. With their sculptural, dynamic shape, the baths are open to the public and free to use; access by ramp also enables disabled people to use the facilities.
30 The architectural practice was opened in 1996 in Oslo, Norway.
31 The architectural firm based in Reykjavík, Iceland, was set up in 1987.
32 Wingardh Architects is a Swedish architectural firm based in Gothenburg, Stockholm and Malmo since 2010.
33 Danish architects working principally in Nordic countries since 1985.
34 The Bjarke Ingels Group is probably the best known Danish architectural practice.
35 See also Fantastic Norway, an Oslo-based Norwegian architectural firm and their residential project for families in Greenland, 2011.
36 A Danish architect who set up his individual practice in Copenhagen in 1999.
37 A firm established in Norway in 1996 with offices both in Stavanger and Oslo.

38 Olafur Eliasson, a Danish-Icelandic artist took part in the creation of the Your Rainbow Panorama artwork, a part of the Aros Aarhus Kunstmuseum in Denmark, 2011. Sitting on the top floor of the actual museum, the artwork is a circular walkway 150 metres in length and 3 metres wide of various colours that both intensify and distort the visitor's view.
39 A firm based in Copenhagen since 2006.
40 Another interesting nursery school is to be found in Tellus, built in 2010 by Tham & Videgard Architects, a Swedish architectural firm set up in 1999.
41 Danish architects who set up their practice in 2005.
42 Among other urban renewal projects that employ simple but effective additions, there is the Taxinge Piazza in Stockholm, 2010, by Larsson Lindstrand Palme Architects (LLP) and the Prags Boulevard scheme from the Danish firm Architect Kristine Jensen in Copenhagen, 2006. See also the Gavle Stortorget square by Andersson Landscape Architects, 2011.
43 BIG and JDS Architects together designed leisure facilities in the Copenhagen harbour: the Island Brygge Harbour Bath, 2003. These public swimming baths with sunbathing areas in the harbour bay can contain 600 people. Visitors come to the Harbour Bath as they go to beaches or covered pools, not necessarily to take exercise but also to socialise, to play or to enjoy the sun. The project is a leisure symbol for the community, creating an inclusive environment for the city.

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4 The Construction of the Indian Identity

Identity and Historical Context

India is a country of great interest for its architecture and for its relationship with context. The issue of identity has always been a hot topic in the subcontinent, given the strong presence of external forces at play. During the period of British colonisation, which lasted for more than a hundred years, efforts were made, with varying degrees of success, by the British to adapt and incorporate the Indian context, examples being the cases of Indo-Saracenic architecture or the hybrid works by well-known architects such as Edwin Lutyens or Patrick Geddes.[1] The British tried to mitigate the impression of a foreign imperial power to make it appear almost legitimate to the locals. The debate on identity became particularly relevant after independence, however, when the contrasting need to build India's own identity arose. In fact, we read, for example: "In early days of independence, Correa sought an architecture that would reflect a new 'Indian-ness' and help to create a national identity".[2]

Architecture and politics have always been closely connected, and India has always clearly demonstrated this. However, while during the colonial period, the debate on context was strictly aimed at keeping reactionary local rebellion against colonial rule under control and making the British appear 'more integrated' than they really were, after independence, the debate found itself dealing with constructing an autonomous identity and consequently a reaction to indirect Western interference, especially American-style interference.[3] In fact, shortly after 1947, when construction was to begin on one of the most significant and delicate post-independence works – the new capital of Punjab, Chandigarh[4] – a foreigner was again approached. The choice of Le Corbusier clearly highlights that the 'fixation' with the colonial 'foreign expert' had in no way disappeared. Yet the French architect not only took a top-down approach, adopting a blank-slate policy and the grid pattern, but he also imported the use of exposed reinforced concrete in his buildings, an extremely inefficient material in tropical climates given the sudden changes in temperature and the heavy rains during monsoons.

In his book *The Tradition of Indian Architecture*,[5] specifically in the chapter *Independence and Dependence*, G.H.R. Tillotson, the historian of

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Indian architecture, clearly focuses on a form of indirect post-independence neo-colonialism. In fact, the modern plans for the capital of Chandigarh became a true inspiration for many Indian architects, as can be clearly seen from pictures of new reinforced concrete constructions in magazines of the time such as *The Builder* or *The Indian Architec*t. Examples of such modern architecture can be found both among residential and public buildings: the brutalist architecture of the Sri Ram Centre comes to mind, designed by Shiv Nath Prasad between 1966 and 1972, or the Ashoka Estate in Delhi by Achyut Kanvinde, 1972–1974, the Institute of Indology buildings, 1957–1967, or even the Tagore Memorial Hall by Balkrishna V. Doshi in Ahmedabad, 1966–1967. Yet another example is the Institute of Technology, built between 1959 and 1961 by J.K. Chowdhury and Gulzar Singh, as is Shiv Nath Prasad's Akbar Hotel, 1965–1969, and even the plans for the Oberoi Hotel, 1958, designed by Durga Bajpai and Piloo Mody in New Delhi, strikingly similar to Le Corbusier's *unité d'habitation*. And these are just some of the many examples that are to be found in many parts of India starting from the 1950s.

The post-independence period proved to be a historical moment of great interest for Indian architecture because, in this context, a group of new architects developed an alternative approach to the International Style. Two exhibitions and their catalogues clearly showed how there was a growing interest in local architecture and the Indian context while embracing pure admiration for the modern movement. *Architecture in India*, published by Electa Moniteur in Paris, 1985, and *Vistara: The Architecture of India*, published in Mumbai, 1986, both give plenty of space to traditional Indian architecture. Both catalogues present vernacular architecture in villages and rural areas, pre-Indo-Islamic buildings such as the caves of Ajanta, Ellora or Elephanta, the decorations of Buddhist stupas and the incredible underground decorated work in the wells of Adalaj, Chand Baori or Rani Ki Vav. In addition, well-known examples of Mogul (Mughal) temples, mosques and palaces are also described, such as the Taj Mahal, Humayun Tomb or Fatehpur Sikri.

Along with the old architecture, both catalogues also present modern architects who demonstrated a particular sensitivity to the local context. Significant examples are Achyut Kanvinde's Azad Bhavan building, 1954, in Delhi, Jeet Lal Malhotra's Higher Secondary School building, 1959–1960, in Chandigarh and Anandgram's re-housing project for the homeless in Delhi, 1983, designed by Revathi and Vasant Kamath. The first, the Azad Bhavan building, is a modernist reinforced concrete box-like building integrating typical local Indian elements: Mogul grid screens (*jali*) or the traditional Rajasthani umbrella-shaped features shading windows and doors. The second, the school building, is one of the few constructions designed entirely by an Indian architect in Chandigarh: here, the designer has used brick as a building material and adopted the historical element of the veranda, a loggia to filter the light and provide shade, that becomes a key feature of the design. Lastly, Revathi and Vasant Kamath's new low-cost housing project organised

around the traditional courtyard uses cheap and easily accessible materials such as mud, fabric and cow dung.[6]

The Post-1947 Architects and the Founding Principles of Their Works

The first generation of architects after independence, including Charles Correa, Balkrishna V. Doshi, Raj Rewal, A.G. Krishna Menon, Ashish Ganju, Achyut Kanvinde, Pradeep Sachdeva, Romi Khosla, Ashok B Lall and others, helped define the architectural aspirations of the new nation, and they are among the main figures responsible for developing a new sensitivity to context. Among these, Charles Correa and Raj Rewal were given particular attention by the historian Kenneth Frampton. The ideas and works of these Indian architects are clearly closely related to the concept of critical regionalism set out in Frampton's famous text *Towards a Critical Regionalism: Six Points for an Architecture of Resistance*.[7] In the post-colonial context, Frampton spoke about critical regionalism, in other words, the ability of architects to resist the forces of modernity and globalisation by meeting head-on the peculiarities of a place, its history, culture, landscape and climate. He opposed the unreserved use of the International Style: "The necessity of combining the universal style with the intrinsic culture of a particular place. […] The architecture should not be a piece of free-standing object, but should adapt the characteristics to the local place. The geology, geography, climate and overall context differ in the different parts of the globe; hence the local architecture should reflect them in their [*sic*] design. […] Architecture of a region should be rooted locally".[8]

In this chapter, we cannot analyse all architects and works, but instead, we will focus on some particularly significant figures and their designs to grasp the innovation and the value of their work with respect to context. One remarkable aspect to point out is that the advocates of this sensitivity towards the 'spirit of place' (*genius loci*) mostly trained abroad before returning to India. For example, Charles Correa studied at Xavier College in Mumbai but then moved on to study at the University of Michigan-Ann Arbor and the Massachusetts Institute of Technology in Cambridge (Boston), where he was heavily influenced by Frank Lloyd Wright and Richard Buckminster Fuller. Only in 1958 did he return to India and open his own studio in Mumbai. Similarly, B.V. Doshi studied at the J.J. School of Architecture in Mumbai and then moved to Paris from 1951 to 1954 to work in Le Corbusier's studio. Only in 1955 did he return to Ahmedabad to supervise Le Corbusier's projects, setting up his own firm, the Vastu Shilpa Foundation. Raj Rewal went to London in 1955, remaining there until 1961 to study at the Architectural Association and the Brixton School of Building. He worked in Paris after his studies and then returned to New Delhi in 1962 to open his own practice. A.G. Krishna Menon studied at the IIT, Kharagpur, until 1964 and then went to America in 1966 to complete his graduate studies in architecture

at the Illinois Institute of Technology, set up by Mies van der Rohe, and in urban planning at Columbia University in 1969. He worked with Skidmore, Owings and Merrill and returned to India in 1970, first to Chennai (Madras) and then to Delhi in 1972. Many other architects of that generation also had a similar training background, in part abroad.[9]

Charles Correa is to be considered as one of the founding fathers of modern Indian architecture, a critical modernity, as Frampton suggests,[10] accompanied by a 'rising above' of the International Style. In the first five years after independence, the Indian government presided over a process of massive industrialisation and promoted large-scale projects, including the regional capitals of Chandigarh, Bhubaneshwar and Gandhinagar.[11] The state and state-funded institutions were the first major clients of post-independence Indian architects. The Gandhi Smarak Sangrahalaya was one of the many such projects entrusted to the young Correa. Designed in 1958, the museum in Ahmedabad comprises alternating open and closed spaces, a succession of courtyard spaces with collection basins for water in the centre. It is an incredibly airy and open space that embodies the words of the Mahatma: "I don't want my house to be walled on all sides and my windows to be stuffed. I want the cultures of all lands to be blown about my house as freely as possible".[12] Local materials are made use of, such as the tiles of the pyramidal roof that resembles the roofs of neighbouring villages, as well as the cheap brick walls, local stone floors, wooden doors and windows. The windows have slats that allow the passage of air but not of direct sunlight. The only modern material is reinforced concrete used for the 6 m × 6 m frames of the roof eaves and pillars. The museum is meant to be incremental, a 'living structure' made up of repeatable units so that all generations of Indians to come can continue to pay homage to Gandhi without impairing the architect's vision.

The Indian architect also foresees the possibility of a progressive change and development in other projects of his. The Incremental Housing Project in Belapur, 1983–1986, has been developed for flexible, repeatable and incrementable residential modules. Correa provides simple houses for the poor, organised around a courtyard, that can be combined in order to reconstruct the typical pattern of an Indian city. It contrasts the idea of 'high rise, high density' with that of 'low rise, high density', maintaining the close relationship of the buildings with the street. All the houses share the 'open-to-sky' element, which is an essential space in tropical climates for the architect.[13] In addition, to ensure the building is economical, Correa has foreseen that the houses, two by two, share toilet facilities. The units are simple constructions, easily built by local workers, using traditional techniques: "The references to vernacular design represent a desire to celebrate the local and reflects the egalitarianism that underpins Correa's work. […] Correa in his projects attempts to accommodate a mix of income levels within a neighbourhood, towards creating a pluralistic community".[14] Thanks to the structure and the easily built modules, the project allows each family to enlarge their home independently.

Correa also designed individual houses where he applied principles similar to those of larger projects. Of particular significance is the Tube House[15] in Ahmedabad, built in 1962, a terraced house that takes up the courtyard typology of the traditional Indian house, the *haveli*. Correa carefully designed the open-air spaces, such as the courtyard and the roof terrace, which he considered vital for people's quality of life. The entire house is designed as a device to capture the breeze, like a 'wind-catcher', and an effective response to the hot, dry climate. The openings on the sloping roof and the flowing breeze created by the north-south oriented tunnel space keep the house cool even in the warmer months.[16] The open courtyard allows natural light and rainwater into the interior, supporting a refreshing garden inside the house. In this project, as in others, Correa has skilfully used natural elements such as sun, air and rain to improve the human habitat.

Correa worked on projects of all scales, and he was called on to design the ULWE master plan for Mumbai in 1991. In this 1,580-hectare urban regeneration project, the architect demonstrated an alternative method and approach to urban planning, a bottom-up strategy compared to the top-down one adopted by Le Corbusier in Chandigarh. He put what Gandhi called the Rural Economic Programme into practice, connecting the rural area and the villages around Mumbai with the big city. Correa did not impose a grid pattern but instead tried to make the most of the land's irregularities in order to build a drainage and rainwater collection system for agriculture in the months of drought. He devised an important system of public infrastructure connections accessible to all, as well as a network of spaces for the community. In addition, housing was designed to be low-cost, and building materials were selected for their resistance to climatic conditions and their availability, with mud, bamboo and brick, for example, being the most widely used.

Despite being an architect who received his training in the West, Correa was able to adapt his architecture to the country's socio-economic conditions. He has been widely praised for his sensitivity to poverty, climate and the use of traditional local construction methods,[17] even being regarded as a pioneer in urban issues and low-cost housing solutions. He is universally considered one of the best Indian architects for his genius in combining modern and tradition: "Correa has taken an exploratory approach, making continually fresh combinations out of the new and old, the monumental and the folk, the inventive and the referential".[18] In an interview, Correa states: "Architecture is rooted on the place it stands, unlike music. Architecture deals with local climate, materials, culture of the place, lifestyle, and aspiration. It is not just looking backward but deals with future".[19]

The idea of critical regionalism also fits well with the work of Raj Rewal. He is, in fact, one of the Indian architects who has focused more than others on context, integrating it into his architectural designs. One of his most significant projects is the Asian Games Village in south Delhi, 1982, designed to host the participants in the Ninth Asian Games. The plan simulates the urban morphology of cities in northern India, and, in fact, the *mohalla* becomes the

basic unit type in the village neighbourhood. The architect designed a succession of courtyard spaces broken up by a network of pedestrian walkways. An external road and car parking is provided for cars that cannot enter the heart of the village neighbourhood. The courtyards are oriented in such a way as to allow the open spaces to be kept naturally shaded; similarly, the proportion between the height of the buildings and the width of the open spaces is directly inspired by traditional urban settlements. Rewal pays attention to finishes and their durability; in fact, he has chosen: "Delhi quartzite stone for the courtyard walls, white or red sandstone for pathways and stone aggregate finish for exterior walls. Gates, doors and windows have different colours to give a sense of identity to dwelling units".[20]

The traditional elements of the street, the 'cluster', the roof terraces, the veranda, the courtyard, natural ventilation, light and shading are recurring elements in Rewal's works. They are also to be found, for example, in other residential projects such as Sheikh Serai, 1970, or NII Residences, 1983–1989. "Rewal did studies on ancient Indian cities like Jaisalmer, with their urban morphology of streets, gateways, elevated passages, courtyards",[21] and in fact, we find clear references to the historical urban patterns of Rajasthan. Both projects are organised on the basis of the courtyard and have a roof terrace, ensuring privacy and good ventilation. "We have designed our housing scheme at Sheikh Serai as a series of distinct clusters which are interrelated. The buildings are unified by means of a similar façade treatment, using sandstone grit render, the piercing of parapets, proportions of doors, deep set windows and stone flanking walls for the courtyard".[22] The use of the courtyard is particularly common in Rewal's work, being found both in the SCOPE complex, 1983–1989, and in the Engineers India House, 1983, but also in the Central Institute for Education Technology, 1986.

Another building that illustrates Raj Rewal's work particularly well is the Parliament Library building,[23] intended as the home of wisdom and enlightenment. Due to its position, the building necessarily finds itself entering into a dialogue with the colonial parliament designed by the British architects Edwin Lutyens and Herbert Baker. The new building does not try to compete with the old one but remains modest in height, never exceeding that of the parliament, a demonstration of Rewal's respectful attitude towards the context in which he finds himself designing. The courtyard remains the key element of the ground plan organisation, allowing control of heat and protection against sandstorms. The shape of the building is inspired by ancient Indian mandalas, spiritual symbols of Hinduism and Buddhism that represent the universe, as well as by ancient temples such as that of Ranakpur. The accessible roof gardens are broken up by domes that recall Mogul architecture. Durable and low-cost local materials, such as red and yellow sandstone, are used in the construction, identical to those of the old parliament. Rewal is known for putting old and contemporary materials together, and in fact, he introduces technological details such as the large steel and glass roofs with decorations inspired by those of Muslim *jali*.[24]

One of the most controversial figures on the post-independence Indian scene is definitely Balkrishna Doshi. We have seen how he was strongly influenced by Le Corbusier, Louis Khan[25] and the modern movement but, at the same time, how he was able to find his own independent interpretation of architecture:[26] "Doshi's work is a compelling mixture of the modern and the traditional".[27] Sangath, the headquarters of the Vastu Shilpa Foundation,[28] is perhaps one of the most significant projects to illustrate Doshi's ability to reinterpret tradition in a modern way. At the ground-plan level, the architect's studio is an 'enclave' similar to a traditional village and consists of several buildings around a courtyard. The open space presents itself as an amphitheatre used for debates and events, reflecting the idea that participation and community space can favour the creation of architecture. Doshi treats open spaces with the same care as interior spaces – as he also was to do on a larger scale project, such as the CEPT university in Ahmedabad. The entire Sangath building follows the lie of the land, displaying a desire for constructional interplay. The architect used local artisans for all the mosaics on the building's walls which are unreservedly white to reflect the sun's heat. Water, the symbol of purification, runs around the entire construction as far as the entrance, becoming an interesting design element. The architect demonstrates that he has carefully studied traditional Indian architecture, the proportions of the barrel-vaulted buildings being those of Hindu temples.[29]

The Amdavad ni Gufa exhibition gallery, stemming from the co-operation between Doshi and the artist M.F. Hussein, is an underground building that seems to have emerged from the bowels of the earth. With its plasticity, it clearly harks back to the Indian architecture of cave temples and 'step-wells' carved into the ground. The exhibition space is part of the CEPT campus in Ahmedabad, also designed by Doshi. Inside the gallery, there are irregular columns, each different from the other: a common element in Indian architecture of the past, which is, instead, very far from the strict rules of classical Western architecture. As it is underground, the building keeps cool even in summer, with natural ventilation and light coming from openings on the roof. The roof is accessed from the pavement level and also has a plasticity, thanks to its dynamic and unpredictable shape. This gallery ought to be considered as one of the pinnacles of Doshi's architectural output and his journey through Indian culture.

Doshi, like Raj Rewal and Charles Correa, also ventured into low-cost housing.[30] One of his most exemplary projects is the Aranya Housing Project. The housing scheme comprises 6,500 lots, with eleven categories of houses depending on the inhabitants' income. The architect's starting point was a ground-plan proposal given to him by the Indore Development Authority, but he slowly altered it, changing its orientation to maximise shade in the streets and natural ventilation. Since the 1960s, Doshi had studied the structure of old Indian villages and towns, immersing himself in ancient texts about local architecture. The Aranya project is a clear result of these studies; in fact, he organised the streets into primary and secondary streets, as in old

Indian cities, putting community activities and facilities at the heart of the project. The plan is irregular, designed according to the dictates of the context. As in old settlements, "the streets of the Aranya project are literally an extension of the houses, which have parterres, balconies and open stairs with broad landings [...] an outdoor extension of the house".[31] For each house, he designed spaces of interaction with the street, such as the *otta*, the raised area in front of traditional Indian homes that served as the transition point between private and public life and, at the same time, an important place for socialisation. As far as materials are concerned, unlike the two previous architects, Doshi is fonder of reinforced concrete, which he uses in most of his buildings.[32]

The Mahatma Gandhi Labour Institute in Ahmedabad was designed by Doshi between 1980 and 1984, a building for work-related education and research. Architecture in hot and dry climates has evolved around an open space, and the architect has chosen to use the courtyard arrangement. Doshi repeatedly demonstrates how he puts into practice his studies on Indian culture, and in this project, he displays a taste for typically Indian irregular sculptural shapes. The single building is broken up into different heights and forms and is oriented in such a way as to make the most of both natural light and ventilation. In this case, Doshi has used local stone both on the façade as a cladding and on the outdoor flooring. The roof, as for the Sangath and Amdavad ni Gufa buildings, is painted white to limit overheating of the top surface. Rainwater is channelled and stored in tanks, while the water channels become natural fountains during the monsoons. The recesses and projecting sections have been designed to provide shade to parts of the building.[33]

From Responsible Design to Teaching Local Architecture

A.G. Krishna Menon is undoubtedly one of the architects who hold Indian tradition in high regard. He returned to his homeland from North America in 1970, convinced that in a developing country such as India, he would probably have an opportunity to try to achieve his ideal: to teach and to design with what Roberto Venturi described as a 'conscious sense of the past', as he had learnt during his studies.

As an architect, Menon never had a great deal of luck in seeing his projects built.[34] As a result, he is less of a revolutionary in terms of his design work while remaining a very significant figure for his contribution to the teaching of architecture. After independence, the British colonial system had left a strong influence on the curriculums of the schools of architecture: an approach primarily based on civil engineering with a sprinkling of mainly orientalist textbooks.[35] The idea of him setting up a design school gradually grew in Menon's mind, his aim being to educate architects to think independently and rework the idea of Indian architecture. Convinced that he wanted to fight against the creation of 'cyber-coolies'[36] as he termed those who copy Western architecture without a critical consciousness, he founded the TVB School of

Habitat Studies, now the Guru Gobind Indraprastha University, with three of his colleagues[37] in 1990.

"When I came back to India, there were four of us, and we used to talk about what were the problems of India. We founded this group called Griha, 'house'. We used to meet every week, every Saturday, discuss projects, several topics; we were an intellectual group. After many dialogues, meetings and discussions, we realised what was wrong with Indian architecture: the Indian education was so bad. We tried to imagine how Indian education should be and began thinking of a new School of Architecture".[38] The idea of a new school was based on the desire to transform the existing school system in a radical way, starting from observation and direct work in the Indian context.

The aim was to train 'barefoot architects', architects capable of thinking and working directly on site. The priority was to make access to the school available to all, even to those without sufficient financial means to pay the tuition fees of the top schools. The founding principles of the new school revolved around the concept of 'habitat'; the goal was to delve deeply into different Indian 'habitats' with the ultimate aim of understanding them and improving people's lives. The widespread failure that Menon and his colleagues had identified among young architects was typically the followers of Le Corbusier, they found the solutions first and then applied them to the context. It became a priority for the new education system to reverse the process: first to define the problem and the context and only then to develop *ad hoc* solutions. It is, in fact, only by starting from the analysis of a 'habitat' that a solution to the problem can be found.

One of the biggest challenges was to create the 'textbooks' for the different Indian 'habitats' in which the students had to work: the Himalayan mountains, the Rajasthan desert, the southern seas, and urban areas. The school was committed to sending groups of first, second and third-year students to study in direct contact with the selected Indian contexts. Students were asked to write a study location report, which would provide the basis for the 'bottom-up' textbooks, and to spend the remaining months of the semester at school thinking up projects for the 'habitat' they had gone to analyse. An interesting result of this approach relates to one of the school's first study projects in the slums: "For the slums we realised that we didn't have answers. We could help the slum people, but as architects we didn't have any answer. Things are so cheap and inexpensive in a slum that the architect can only add to the value of the dwelling by increasing its cost. After our research, we discovered that in a slum the challenge is not to build low-cost housing but how to build 'no-cost housing'. These are the kind of insights one is able to get starting bottom up, from studying the problems instead of assuming solutions".[39]

One of the other elements of great innovation involved disregarding how existing Indian schools of architecture usually started with simple issues in the first years and gradually examined more complex topics as the years go by. This approach was completely upturned, and TVB students were asked to

start with complex problems from the very first year. "We are not interested in simple-to-complex because they are all adults, and they cannot be treated as kids, like the Bauhaus system did". The teaching system was divided into three initial years in which students were asked to work on complex issues closely related to the Indian context: working in direct contact with a historical context, working with the contemporary city, and designing in a slum. In the fourth and fifth years, the students practiced side-by-side with professionals, working on real issues chosen by the latter. The school was not obsessed with 'good drawing'; instead, the aim was to teach students how to think.

Menon also altered standard indications about the teaching of the history of architecture in Indian schools of architecture. He moved beyond the classic orientalist chronological study of architectural history to look at the history of materials. He selected various types of materials and analysed them in different buildings, seeing how they had been used and applied in various places and historical periods. "Making the student understand that history of architecture is not looking at an image, it is about materials and how things are constructed, I want to be able to teach history of architecture as a method of construction, explaining how different cultures used differently the same materials. Nowadays we use stone just as a surface cover instead of as a structural element. I want to give the student a reason why they are studying history of architecture".[40] Once again, this interesting direct relationship between architecture, materials and context established by the school emerges.

TVB put forward a very different way of teaching architecture compared with the Western model, another example of the very interesting experiences coming out of India since independence. After 18 years of intense activity and after training the best Indian architects, the school closed because the land where it was built was confiscated. The group has fallen apart but has left behind many good architects who are still able to see context as an opportunity and not as a limit.

Context in Operation

Today, India is undergoing great development; the predominant trend is to construct buildings through direct co-operation between the government or big financiers and the developers. Such co-operation rarely produces high-quality architecture, though, and for economic reasons, the buildings that are constructed tend to be more or less the same everywhere. Nevertheless, there still survives a niche group of contemporary architects who continue to view architecture with great consideration for the context in which they operate. These very young architects, some better known than others, include, for example, Studio Mumbai, Vir Mueller, Vinu Daniel, Space Matters, Morphogenesis, Anupama Kundoo and Anagram Architects. It is not possible to illustrate all of their work, but it is important to describe a few projects to give an idea of the way they work and the elements of continuity with the architects of the previous generation.

Studio Mumbai was founded in 2005 by Bijoy Jain[41] and has always aimed for a coming together of Indian and Western cultures. The most fascinating aspect of his work is the relationship he has established with local workers and artisans. Each project is carefully followed through to the very last detail, the result of close co-operation between architects and craftsworkers. It has been said that his is "a reincarnation of a William Morris concept".[42] Among the projects that have brought fame and fortune to the studio, the residential projects certainly stand out. One of the first was Tara House at Kashid in Maharashtra, designed and built in 2005. This courtyard house sits within a tropical garden, in direct contact with nature. Within its foundations, the house has a room that collects water from aquifers and monsoon rains. Not only does it serve as a room away from the hot summer sun, but it also becomes a valuable water reserve throughout the dry period. This underground feature also recalls the historic open-air wells of India. The studio regularly works with resources available near the construction site, and this house also uses local materials such as wood and stone. Local craftsworkers were involved to make use of their traditional building techniques, in the construction of the tiled roof, for example. This is an approach that views the context as a whole, not only from the point of view of materials and building methods but also considering how to use local resources in the best and most appropriate way.

Another interesting project is the Pearl Academy of Fashion designed by Morphogenesis in 2008. The building is located in an area with a dry climate on the outskirts of Jaipur in Rajasthan. Microclimate control became the most important challenge for the architects, who incorporated a number of passive solutions for climate control to reduce the use of cooling systems and energy consumption. This project perfectly demonstrates how traditional techniques of Indo-Islamic architecture can be applied to a new building. First and foremost, open courtyards let the air circulate and the building has been left partially buried, with pools of water to maintain a cool environment, while the use of perforated screens, the *jali*, allows natural light into the building but shields it from the heat of direct sunlight. In the *jali*, the concentration of holes has been calculated according to the orientation of the façades. The building has a double skin that separates the perforated wall from that of the interior, as in the buildings of the past in Rajasthan, allowing the interior to be kept at a controlled temperature. All rainwater is collected in the building's outdoor tanks and re-used for plants or toilet facilities. The materials used are a mixture of local stone, steel, glass and reinforced concrete.

Vinu Daniel is a very young architect who works mainly in South India, Kerala. Through his work, he has shown how sustainability and architectural design, even on a large scale, can go hand in hand. Before intervening, he devotes time to studying the context, analysing its strengths and weaknesses. Having seen the tremendous waste of materials in the construction industry,

he has become a pioneer of finding ways to reduce and use waste in his buildings. Building waste and mud are key components in his walls,[43] significantly reducing construction costs. With his Wallmakers team, he designed the St George Orthodox Church in Mattancherry, 2016, built on the foundations of one of the first Christian churches from 1615. For the construction of the church, he relied on local workers and their ability to reinterpret traditional building techniques, using earth bricks and stabilised waste. The result is an experimental work of great interest, as are the architect's other projects, such as the IHA residence in Mannanthala, 2018, or the pavilion for the Kochi Biennale, 2014.

It is clear from the descriptions of the architects and their projects presented so far that there is no single way to consider the context. Nevertheless, it is possible to pinpoint some recurring design features for the Indian architects working in the post-independence period who are particularly aware of context.

India is a country with a very ancient, varied and rich tradition, both tangible and intangible. Some ancient cosmological and Vedic beliefs, part of the Indian cultural heritage, have been adopted as inspirations for projects. An example is the use of the mandala[44] as a generating element of Raj Rewal's Parliament Library. Even the morphology and topography of the site were not seen simply as an element to be removed, but instead, they provided an opportunity for water collection, for creating areas of shade and for a certain uniqueness of the project.

Some architects seem to have tended to hold historic buildings in particular regard, taking them as models to follow, not from a formal point of view but from a structural and typological stance. The courtyard, for example, is used across the board by architects of the old and new generations. It is an efficient historical feature that responds to the hot tropical climate of the subcontinent. The proportions between the height of buildings and the width of the road, the importance of the street as a gathering point, and high-density housing with low-rise buildings are further parameters that are taken directly from studying old towns and cities.

Fixtures such as Mogul screens are re-used in many projects, even by the youngest architects. An example is The South Asian Human Rights Documentation Centre by Anagram Architects in Delhi, 2005, where a perforated brick wall becomes the identifying feature of the building. But architects can learn not only from the most famous historic buildings but also from the wisdom of vernacular architecture, from its efficient way of using materials from the project's location, reducing building costs. Indian craftsworkers are, in fact, seen as a resource to be preserved, their co-operation and their skills having been used from the buildings designed by Charles Correa right up to very recent ones from Studio Mumbai.

Correa's famous phrase "form follows climate" clearly puts climate at the centre of architectural design. In India, the climate is tropical, and the solution is definitely not that of using air conditioning round the clock.

These 'responsible' Indian architects have in some way all paid particular attention to the climate, whether this implies creating terraces on roofs, installing underground water tanks for the dry season, building rain channels for the monsoon rains or using vegetation within their projects.

Lastly, some architects in India have chosen to give time and attention to the lot of majority of the Indian population, who normally have few means at their disposal, aiming to come up with 'socially sustainable' solutions. There have been countless endeavours in this regard since 1947 for low- or no-cost homes, such as those by Charles Correa or A.G.K. Menon, but also other more recent experiments. Being able to use minimum resources to improve people's lives is a common requirement and a part of the mindset of this small group of architects.

The work of this niche group of Indian designers starts from the observation of context, its type, its materials, its morphology, the possibilities and habits of its inhabitants, the climate, the craftsworkers and ideas from history. From such a starting point, the resulting architecture will not be in anyway outdated or obsolete but extremely contemporary. Such architecture implies re-using specific features of the context as key elements of inspiration to generate highly sustainable architecture from an energy, social and environmental point of view.

Figure 4.1 Charles Correa, National Craft Museum, Delhi, 1975–1990.

Figure 4.2 B.V. Doshi, Sangath, Ahmedabad, 1979–1981.

Figure 4.3 Raj Rewal, Asian Games Village, New Delhi, 1982. (a) Bird's-eye view. (b) Detail of housing block.

Figure 4.4 Vinod Gupta, AIIS, Gurgaon, 1998.

Figure 4.5 Social Design Collaborative, ModSkool, Kulesdra, Greater Noida, 2020. (a) Exterior wall. (b) Detail of the wall. *(Continued)*

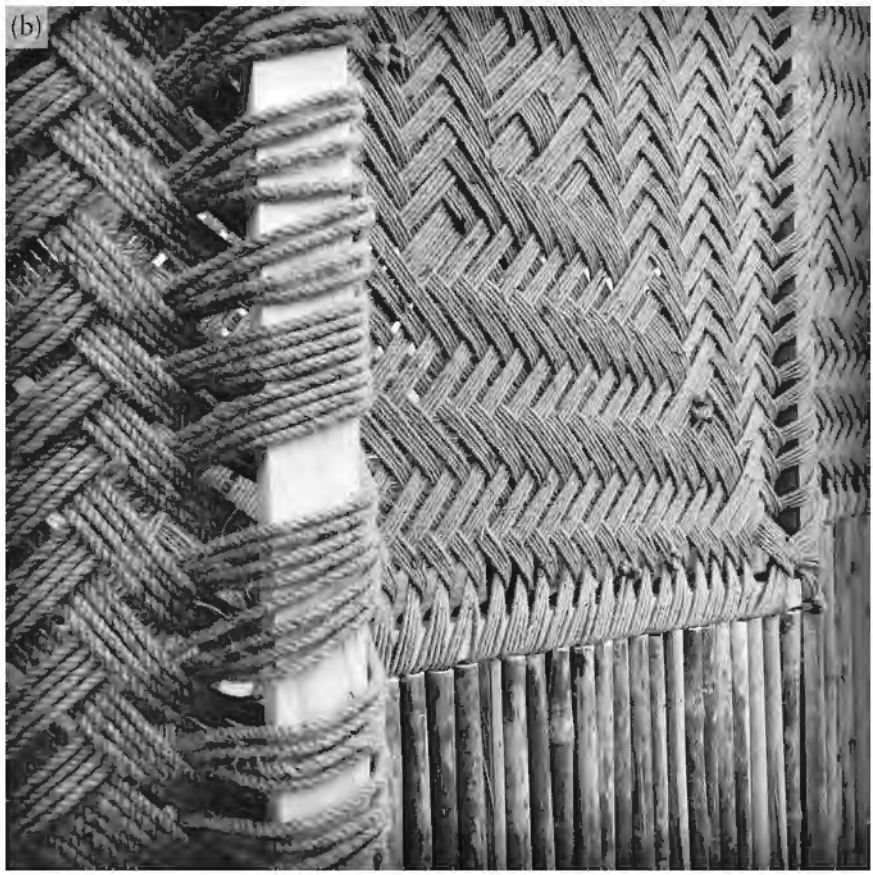

Figure 4.5 (Continued)

Notes

1 See: Noah Hysler-Rubin, *Patrick Geddes and Town Planning: A Critical View* (London-New York: Routledge, 2011); Helen Meller, *Patrick Geddes: Social Evolutionist and City Planners* (London-New York, Routledge, 1990) and Gautam Bhatia, *Laurie Baker: Life, Work & Writings* (New Delhi: Penguin Books, 1991).
2 Iain Jackson, *'Charles Correa (1930–2015)'*, in *The Architectural Review* (19 June 2015): 3–5.
3 Sarbjit Bahga, Surinder Bahga and Yashinder Bahga, *Modern Architecture in India: Post-Independence Perspective* (New Delhi: Galgotia Publishing Company, 1993).
4 See: Kiran Joshi (ed.), *Documenting Chandigarh: The Indian Architecture of Pierre Jeanneret, Edwin Maxwell Fry, Jane B. Drew*, vol. 1 (Ahmedabad: Mapin Publishing, 1999), and Ravi Kalia, *Chandigarh: The Making of an Indian City* (Delhi: Oxford University Press, 1987).
5 G.H.R. Tillotson, *The Tradition of Indian Architecture* (New Haven, CT-London: Yale University Press, 1989).

6 Cow dung has customarily been used as an insulating material in traditional buildings.
7 Vedi: https://www.modernindenver.com/wp-content/uploads/2015/08/Frampton.pdf.
8 See: Kenneth Frampton, Davey Peter and Ozkan Suha, *Innovative Architecture and Tradition* (New Delhi: Om Books International, 2013), but also: Sumantra Misra, Manjari Chakraborty and N.R. Mandal, *'Critical Regionalism in the Post-Colonial Architecture of the Indian Subcontinent'*, in *Journal of Architecture and Urbanism*, vol. 42 no. 2 (2018): 103–111. https://journals.vgtu.lt/index.php/JAU/article/view/6140.
9 Stefania Rössl, *Housing in India: Charles Correa, Balkrishna Vithaldas Doshi, Raj Rewal* (Macerata: Quodlibet, 2018).
10 Kenneth Frampton, *Charles Correa* (London: Thames and Hudson, 1996), 8–16.
11 Ravi Kalia, *Gandhinagar: Building National Identity in Postcolonial India* (Columbia: University of South Carolina Press, 2004); Ravi Kalia, *Bhubaneswar: From a Temple Town to a Capital City* (Carbondale, IL-Edwardsville, IL: Southern Illinois University Press, 1994).
12 Kazi Khaleed Ashraf and James Belluardo, *An Architecture of Independence, the making of Modern South Asia: Charles Correa, Balkrishna Doshi, Muzharul Islam, Achyut Kanvinde* (New York: The Architectural League, 1998), 35.
13 "In India, the sky has profoundly affected our relationship to builtform, and to open space. In a warm climate, the best place to be in the late evening and in the early mornings, is outdoors, under the open sky. [...] Open-to-sky space is also of vital importance in housing where it can make a decisive difference [...] [and] individual terraces and/or gardens for each family can be provided". Correa, Charles, *The Blessing of the Sky* (Mumbai: Shohan, 1996), 18. https://njitarc364sec012sp2013.wordpress.com/2013/01/23/the-blessings-of-the-sky-charles-correa.
14 Charles Correa, *A Place in the Shade: The New Landscape and Other Essays* (Ostfildern: Hatje Cantz, 2012).
15 See also Parek House and Ramkrishna House, again in Ahmedabad.
16 Irena Murray, *Charles Correa: India's Greatest Architect* (London: RIBA, 2013), 42–43.
17 Priya Khanchandani, *'Building in the Vernacular: Charles Correa and the idea of India'*, in *The Conversation*, 18 June 2015, accessed 24 May 2019. http://priyakhanchandani.com/articles/building-in-the-vernacular-charles-correa-and-the-idea-of-india.
18 Kazi Khaleed Ashraf and James Belluardo, *An Architecture of Independence, the making of Modern South Asia: Charles Correa, Balkrishna Doshi, Muzharul Islam, Achyut Kanvinde* (New York: The Architectural League, 1998), 33.
19 Charles Correa, *The New Landscape: Urbanisation in the Third World* (London: Butterworth Architecture, 1989), 41–46.
20 Anupam Bansal and Malini Kochupillai, *'Regionalism and Liberalisation'*, in *Architectural Guide Delhi* (Berlin: DOM Publishers, 2013), 160–161.
21 Taylor Brian Brace and Romila Thapar, *Raj Rewal* (London: Mimar Publications, 1992), 11.
22 Taylor and Thapar, 28.
23 Gast Klaus-Peter, *'Indian Parliament Library'*, in *Modern Traditions Contemporary Architecture in India* (Basel: Birkhauser, 2007), 42–49.
24 Some historians have noted the similarities between the ground plan of the Hall of Nations designed by Rewal and that of the Humayun mausoleum, a building dating back to the Mogul period. The triangular openings on the façade were used by the architect to create screening, not unlike the *jali* used in Muslim buildings. Rewal has always introduced historical references from historical monuments in

his designs through the use of a traditional language of shapes, spaces, scale and geometries; see: William J.R. Curtis *'Architecture Moderne, racine indienne: Raj Rewal'* and Daniel Treiber *'Un Régionalisme du plus grand nombre'*, in Richard Kaszynski and Marie-Claudette Kirpalani, *Raj Rewal: Architecture Climatique* (Paris: Electa Moniteur, 1986), 11.

25 Gioia Gattamorta, Luca Rivalta and Andrea Savio, *Louis-I.-Khan-itinerari* (Rome: Officina edizioni, 1996).

26 Balkrishna Doshi and Bruno Melotto, *The Masters in India: Le Corbusier, Louis Kahn and the Indian Context* (Milan: Maggioli, 2014).

27 James Steele, *The Complete Architecture of Balkrishna Doshi: Rethinking Modernism for the Developing World* (London: Thames and Hudson, 1998), 10.

28 The Vastu Shilpa Foundation is the name Doshi uses for his practice. "The Vastu Shilpa system is an oral tradition of passing down knowledge about building from generation to generation (similar to Feng Shui spirit influences relating to one's living area)". James Steele, *The Complete Architecture of Balkrishna Doshi: Rethinking Modernism for the Developing World* (London: Thames and Hudson, 1998), 10–27.

29 "In the many Hindu temples that Doshi consistently refers to as being inspirations in his work, such as Madurai and Tanjore", James Steele, *The Complete Architecture of Balkrishna Doshi: Rethinking Modernism for the Developing World* (London: Thames and Hudson, 1998), 186–193.

30 William J.R. Curtis, *Balkrishna Doshi: An Architecture for India* (New York: Rizzoli, 1988) 10, 17–19, 29–39, 45–46.

31 James Steele, *The Complete Architecture of Balkrishna Doshi: Rethinking Modernism for the Developing World* (London: Thames and Hudson, 1998), 192.

32 There are interesting parallels between the traditional Indian architecture adopted by these architects and the modern movement in the West. The pioneers of the modern movement had stressed the beauty of natural, raw materials, the grain and veins in wood, the brutality of concrete or the transparency of glass. Traditional Indian architecture has always been based on craftsworkers and has always respected and exploited the inherent beauty of materials such as stone, bronze and wood.

33 James Steele, *The Complete Architecture of Balkrishna Doshi: Rethinking Modernism for the Developing World* (London: Thames and Hudson, 1998).

34 One of the few buildings of A.G. Krishna Menon that have been erected is the Saint Mary Cathedral in Varanasi, 1990.

35 Edward W. Said, *Orientalism* (New York: Pantheon Books, 1978); published in Italy as: Edward W. Said, *Orientalismo: l'immagine europea dell'Oriente*, trans. Stefano Galli (Milan: Feltrinelli, 1999).

36 With this term, normally indicating highly educated call-centre workers, Krishna intended mere 'CAD nerds'.

37 Two architects, Ashish Ganju and Ashok B Lall, and a social scientist, Mr Nadir.

Ashish Ganju is an architect of great interest, a member of the post-independence generation who worked for a long time on community buildings in rural areas, coming up with low-cost solutions for the poorest member of society, as well as designs suited to the culture, climate and context he was working in. His responsible approach can be seen in schemes such as the Aya Nagar urban village on the outskirts of Delhi. He rebelled against the idea of carrying out purely aesthetic or superficial operations in urban areas, and he demonstrated how the combined effort of citizens, architects and expert technicians can spur on government and authorities to improve local infrastructures, essential for citizens' quality of life. See the article written by the architect: https://architecturelive.in/

urbanising-village-outskirts-of-delhi-aya-nagar-case-study-m-n-ashish-ganju/, and see also: M.N. Ashish Ganju and Narendra Dengle, *The Discovery of Architecture. A Contemporary Treatise on Ancient Values and Indigenous Reality* (New Delhi: Greha, 2013).

Ashok B. Lall is an architect who has focused on aspects such as building sustainability from both social and energy viewpoints. An excellent example of his working method is his design for the Development Alternatives World HQ, New Delhi, 2010, a building that uses traditional building techniques and energy-efficient low-cost materials and also implements natural cooling systems, water recycling and water optimisation. The building combines shapes, materials and other elements of traditional Indian architecture with the most advanced technological innovations to ensure great savings in terms of resources. See the project descriptions on the architect's website: www.ashokblallarchitects.com/Development-Alternatives-World-Headquarters.

38 A.G. Krishna Menon interviewed by the author, 10 September 2019 in Delhi.
39 A.G. Krishna Menon interviewed by the author, 10 September 2019 in Delhi.
40 A.G. Krishna Menon interviewed by the author, 10 September 2019 in Delhi.
41 Bijoy Jain graduated from the University of Washington in Saint Louis, USA, and worked with Richard Meier before returning to India and setting up his practice in 2005.
42 Francesca Serrazanetti and Matteo Schubert, *Studio Mumbai: Inspiration and Process in Architecture* (Milan: Moleskine, 2013).
43 Yatin Pandya is an architect of the older generation who uses waste, plastic in particular, in alternative ways in his buildings. See, for example, his Manav Sadhna project at Ahmedabad, 2005–2006. https://footprintsearth.com/profile.html.
44 Manuela Schirra, '*Charles Correa e il Mandala: Un altro Mindset*', in *FAmagazine*, no. 32 (2015): 23–35. https://doi.org/10.12838/issn.20390491/n32.2015/2.

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5 The Latin American Political Context and Its Architecture

The Contradictions of Latin America

After the discovery of the American continent, with the Treaty of Tordesillas (1494), there began a 'sharing out of the world' by Spain and Portugal. The two seafaring superpowers stipulated a pact whereby territories to the west of the so-called 'raya' line of demarcation (close to the 46° meridian west) were given to one party, and those to the east went to the other. As a result, Brazil became Portuguese, while most of the rest of Latin America went to Spain, thereby creating the lands of New Spain. This subdivision was to determine the political geography of the Latin-American subcontinent for the following centuries. And although the countries making up this subcontinent are very fragmented, they provide an interesting standpoint in terms of the question of identity and its relationship to context.

> Countries specialised in taking, and countries specialised in giving: this is the significance of the international division of work. The region of the world we know as Latin America was a front-runner in this regard. From the outset, it specialised in giving: from the moment Renaissance Europeans set out across the seas to cut the area's throat. Centuries later, Latin America has perfected its role. No longer is it the region where reality has defeated the myths, where fantasy has been humiliated by the trophies of conquest, by gold deposits or by mountains of silver. Instead the region continues to be a servant; it continues to exist to serve the needs of others, as a source and reserve of oil, iron, copper, meat, fruit and coffee: raw materials and foodstuffs destined for the rich countries that make money by consuming them, much more than the money made by Latin America that produces them.[1]

The whole Latin-American context – not just from the extraordinary and multi-layered perspective presented by Eduardo Galeano – appears to have been determined historically by irreconcilable contradictions, at least from the moment it was 'discovered' by the Spanish in 1492. Poverty and wealth, material backwardness and concentrations of resources, problems of literacy

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and cultural excellence: these are all aspects that live together in the Latin-American spirit and at the same time, highlight the extremes that give an insight into the burden the subcontinent carries.

Countries such as Argentina, Uruguay, Chile, Bolivia and Venezuela all display the fate that Galeano speaks of. From the 19th century, all these countries managed to free themselves from the shackles of Spanish rule after having nevertheless acquired many of the colonisers' traits. And the 20th century was peppered with dictatorships, coups d'état and continual political upheavals. In these countries, democracy is threatened by ongoing crises and even done away with at times.

Experimentation and Tradition: Argentina and Uruguay

In Argentina, particularly during the 20th century, politics often became a question of military power, with force being used in many situations. Immediately after World War II, Colonel Juan Domingo Perón, a minister in the previous junta led by General Edelmiro Julián Farrell, became President of Argentina as leader of the Single Revolutionary Party, a political party with socialist overtones, but not that far from Fascist positions. Removed by a coup d'état in 1955, Perón was nevertheless re-elected in 1973, though his period in office was prematurely cut short by his death the following year, and he was replaced by his third wife, Isabel Martínez de Perón. In 1976, following yet another coup d'état, General Jorge Rafael Videla came to power, and he installed a particularly brutal dictatorship that was to last until 1983.

The vicissitudes of Argentinian architecture (just like that of other Central and South American countries) necessarily intertwine with these political events, often suffering significant repercussions. Buenos Aires, the city on the Rio de la Plata, was founded during Spanish colonisation and based on a grid pattern plan. Monumental boulevards and gardens clearly demonstrate how it was modelled on Paris, even if the width of its roads and the size of many buildings recall not so much a great European capital but rather a North American city. Nevertheless, the city's historic buildings are European in style, starting from what was to become the Presidential Palace, the Casa Rosada, designed with Spanish and Italian features by Carl Kihlberg, Enrique Aberg and Francesco Tamburini in successive stages between 1713 and 1898.

The presence of Italians is of fundamental significance in Argentina. Unlike all other Latin American countries, large-scale immigration from Italy began at the turn of the 20th century and played a key role in the building of the country, not only in terms of its architectural characteristics, with many representative buildings belonging to this period. The embodiment of this influence is the Teatro Colón: with its 4,000 seats, it is the largest opera house in Buenos Aires and in the whole of Latin America, being designed again by Tamburini, along with Julio Dormal and Vittorio Meano. Other Italian architects have also played key roles in Argentinian architecture, such as Mario Palanti, the architect responsible for two interesting tall buildings that try to

act as a go-between for an Italian palace and an American skyscraper: the Palacio Barolo, on the Avenida de Mayo, Buenos Aires, 1919–1923, and Palacio Salvo, on the Avenida 18 de Julio, Montevideo, 1922. The former is an office building, that behind its historical appearance and iconography inspired by Dante's Divine Comedy masks its true nature as a perfectly planned 'instrument for work'. The latter, originally envisaged as a large hotel and embellished with a similarly notable decorative scheme based on underwater images, was, instead, converted to more ordinary residential purposes.

In the 1930s, however, Argentinean architecture was not only based on Spanish or Italian models, but it also developed independent approaches, as seen in the Mercado de Abasto, again in Buenos Aires, designed by Viktor Sulcic in 1931 and inaugurated in 1934. Aesthetically it is in the Art Déco style, but as far as structure and space are concerned, it makes use of the latest European research into reinforced concrete.

But it was particularly from a literary and artistic point of view that Argentina was to display its progress on the international scene. A vast avant-garde movement ran through the country in the 1930s, with key figures in the literary context such as Jorge Louis Borges and Victoria Ocampo. In the world of avant-garde art, an important role was played by Tomás Maldonado's *Invencion Arte Concreto* (1945) and by Lucio Fontana's *Manifesto Blanco* (1946). These art manifestos highlight how traditional painting had become a technique of the past – its place was to be taken by architecture. In the architectural field, the most eccentric figure, but also the most interesting figure, thanks to his innovative research, was Amancio Williams. At the age of 29, he designed his most important building the Casa del Puente at Mar del Plata, 1942–1946. The building is the result of particularly inventive research into the use of reinforced concrete applied, in this case, to a 'bridge' building, arching over a stream. The bringing together of linear elements, typical of modern European architecture, and more decorative curving features generates a highly personal, 'unexpected' mix. Unfortunately, much of Amancio Williams' very original research, where his modern architectural ideas combine with extremely creative aspects (such as his extraordinary Sala para el espectáculo plástico y el sonido en el espacio, 1942–1953, an ingenious blending of plasticity and structuralism), were to remain unbuilt, and his wealth of designs was to lead to only a few actual buildings.[2] This is the case of his design for the Tres Hospitales at Curuzú-Cuatiá, Esquina and Mburucuyá, in the province of Corrientes, 1948–1953, the most accomplished result of his structural studies into inverted umbrella vaults.

Another architect who typifies this 'revolutionary' Argentinian landscape is Clorindo Testa. Of Italian origin (he was born in Naples in 1923), he was active as an architect during his life in Argentina. Starting to design buildings after World War II and inspired by brutalist Le Corbusier-style architecture, Testa built the Banco de Londres y America del Sur in Buenos Aires, 1960–1966, an extraordinary work with many unusual features. It is a 'gesture' that scorns the true 'modern tradition', thanks to its ability to literally

break out from its visible reinforced concrete shell. The clever play between the parts where the concrete is present and where it is absent brings to mind the low building alongside Le Corbusier's Parliament building in Chandigarh, yet at the same time, it goes beyond such ideas. The surface conceived by Testa becomes disjointed, almost gouged out. A large hole at the corner provides the entrance to the building, while in the upper part, above the actual entrance, an overhanging mass of concrete becomes a metaphoric threat over the heads of those who pass beneath it. Inside, the space has been conceived organically as a large open cavity crossed by 'channels', aiming to guide functions and flow through a sort of system of veins and arteries.

Testa's contribution to the history of 20th-century architecture can be identified in this combination of figurative elements and spatial elements with a great expressive force. While his architecture goes along with the urban 'norms', it does not shy away from creating exceptions. Of equally fundamental importance is his Biblioteca Nacional in Buenos Aires, designed in 1961 and built over a very long period of time (it was only completed in 1992). Like his previous Banco de Londres y America del Sur, the architect 'empties out' the heart of the building. In this case, since it lies in a city garden, the library building pokes out above the treetops, raised on four massive pillars on top of which sits the concrete body of the building housing the reading room with its horizontal window slits. The building is a difficult 'machine' in terms of its space, its structure and its organisation. The storage areas are mostly found underground, while the various rooms and halls are reached by means of lifts that ply up and down the pillars. Once again, Testa confirms his virtuosity in the use of reinforced concrete and in the organisation of internal movement.

On the other bank of the Rio de la Plata, Eladio Dieste – the Uruguayan civil engineer and architect – has, since the 1950s, been forging ahead with a process of quiet but profound and efficient reworking of both traditional and modern building techniques applied to industrial warehouses and ecclesiastical buildings. In particular, in his church of Cristo Obrero y Nuestra Señora de Lourdes at Atlántida, 1958–1960, 50-odd kilometres north of the capital Montevideo, Dieste displays an extraordinary use of brickwork, transforming it into a structurally efficient material through the use of metal reinforcement to consolidate the building, so that it becomes one with the bricks. The walls of the church, with their double-arched Gaussian curvature, turn into a sort of wavy 'drapery', both vertically and horizontally, consequently giving an effect of vibrant materials and light. This technique of reinforcing brickwork can, in fact, be traced back to the Spanish building technique of the Catalan vault, used by various Spanish architects, including Antoni Gaudì in his school for the Sagrada Familia in Barcelona, 1909, where the structure was not to be found inside the building, but outside the walls. With the reinforced brickwork of his church, instead, Dieste performs some veritable structural acrobatics, making the church a witness to itself as well as to the evangelisation that it aims to carry out within a problematic social context.

Observing the longitudinal cross-section, it can be seen how the walls are bent in and out on themselves, almost as if they were made of paper, with a great plasticity of movement. In addition, this fascinating play of plasticity becomes even more expressive since Dieste carries out his experimentation on a simple, humble piece of architecture.

Again, in the church of San Pedro at Durazno, 1967–1971, partially destroyed by an earlier fire, Dieste's talent clearly emerges with great panache. Indeed, it is thanks to the new roof made with structurally reinforced brickwork that it has been possible to abandon any form of structural support inside the interior space of three virtual aisles. Meanwhile, in the apse, the striking brick rose window made up of five concentric 'rings' creates an irregular hexagonal shape.

Architecture and Public Art: Venezuela

In Venezuela, the architect of the greatest 'substance' in terms of quality and impact on the local architectural culture (but with inevitable international repercussions) is, without a doubt, Carlos Raúl Villanueva. Born in London and trained in Paris, he returned to Venezuela where, between 1940 and 1960, he created the Ciudad Universitaria, the University City of Caracas. This is his life's work and includes many different buildings: a truly titanic endeavour, able to bring together architecture and art (the most innovative part of the project). In fact Villanueva made the art more than just a decorative presence, allowing it to take on strong spatial features. The general image of the campus is one of extreme complexity in its structural organisation, making it appear to all extents and purposes as a part of the city. Within the campus, reinforced concrete plays a key role, and it is in the varied and inventive use of concrete that one of Villanueva's best qualities emerges (in this context, the great hall is especially noteworthy with its roof of structural ribbing, making the building particularly distinguishable).

The outside spaces are, however, by far the most interesting parts of the whole project. The great abundance of shady, airy public spaces within the campus is in itself particularly significant. There are covered squares on more than one level, spaces to rest and places to study in a sort of 'accumulation' that goes way and beyond any normal amount. But open space is also to be found inside the great hall (the Aula Magna auditorium) where the *Acoustic Clouds* by the American artist Alexander Calder play a key role. In this context, Calder's mobiles not only enhance the space but also lend it a three-dimensional character, as well as improving the acoustics. Here, in fact, art plays a concrete and beneficial role. Works of Venezuelan and South American artists have also been incorporated into other buildings, such as the Biblioteca de la Facultad de Ingeniería, 1954, and the Facultad de Arquitectura y Urbanismo, 1956, both housing works of the abstract-geometrical Venezuelan artist Alejandro Otero. On the other hand, the Estadio Olímpico, completed in the early 1950s in the University City, is entirely the work of

Villanueva, displaying all his skilful use of reinforced concrete to create plasticity in the stands and curving roofing structures.

Architecture of 'Necessity': Chile

Another stadium – the National Stadium of Chile in Santiago – was to become notorious for sinister reasons after being used in September 1973, following Augusto Pinochet's coup d'état, as a concentration camp where opponents of the new military regime were tortured and killed.

Pinochet's brutal dictatorship, that abruptly halted the democratic process led by President Salvador Allende, only came to an end in 1990, giving rise to a long period when Chile tried to develop its own counter-culture, an alternative to the official culture of the regime. The fruits of this quest carried out in the shadows (or often in exile in one European country or another), are today seen in the work of particularly interesting architects such as Alejandro Aravena and Smiljan Radic. The former studied at the Pontificia Universidad Católica de Chile, and after a short period when he worked as an architect, he left the profession, disillusioned by the experience. His return to the profession only came about when a friend of his offered him a commission, which Aravena accepted only on the condition that he was given a totally free hand with the project, which he also asked not to be paid for. The experiment of creating a building that he believed in was a success, and in this 'second life' of his career, he designed some buildings for the Pontificia Universidad Católica in Santiago, where he had studied, such as the School of Mathematics, 1999.

The key moment in Aravena's career came, however, in the early 2000s, when he set up the Elemental programme together with civil engineer Andrés Iacobelli and the architect Pablo Allard, both from Chile, though they became acquainted at Harvard University. The programme involved using state grants worth $7,500 given to poorer members of the population under the Vivienda Social Dinámica sin Deuda programme (dynamic debt-free social housing) by the Chilean Ministry of Housing and Urbanisation to build better homes – both in terms of size and quality – than those normally provided by the state with the same amount of funding. The amount granted was considered to be enough to cover the costs of the land and infrastructures, as well as the design and the building of each individual housing unit. The in-depth research carried out by Aravena and by a team of other architects and experts in various other disciplines led to them being able to identify the key requirements to make social housing an investment rather than just a cost for the community. "All of us, when we buy a house, expect it to increase in value. This is why a house, almost by definition, is considered an investment. Unfortunately, this doesn't happen with social housing. Social housing is more like buying a car than buying a home: with each passing day, its value decreases".[3] Therefore, in order to make things happen, the house itself must become a tool to overcome poverty, not simply a shelter from

the surrounding environment. For the Elemental programme, the first key requirement was an area not too far from the centre where the new buildings would be erected so as to avoid difficulties in reaching workplaces and schools. The second key requirement was the option for the housing units to be expanded from the initial 36 square metres up to a maximum of 72 square metres in total; thirdly, the second part of the house could be built by the inhabitants themselves through self-build techniques at a very low price. And the fourth key requirement was to involve the users themselves in the planning stages and, in general, to gain their consent for the work carried out. In this context, the architects behind the programme wrote: "As with judo, we intended to take our opponent by force – in this case our opponent is the lack of funds – and use it to our advantage, re-directing it towards the aims of our project. In specific terms, we concentrated on the innate organisational capacity of the families".[4]

The first historic project developed by Elemental began in 2001 and was completed in 2004, located in Iquique, a city in the desert-like north of Chile. Assigned by the Chile Barrio ministerial programme, the site is known as 'Quinta Monroy' and lies in a central part of the city, where 30 years earlier a hundred-odd families had built themselves some informal housing. The problem was, however, far from easy to solve: "If we had responded to the need by assuming that one house = one family = one building lot, we would only have been able to house 30 families on the site. […] And if we tried to use the land more efficiently, we could have built terraced houses, reducing the size of the lots to the width of the houses, or even to the width of a room, but at most we would have been able to house just 60 families".[5] The solution the team came up with – based on building units arranged on three levels, alternating them with empty spaces for possible expansion – enabled 93 families to be housed, and at the same time, it allowed for the expansion of the housing units.

From an architectural point of view, the Elemental houses (later replicated elsewhere in other locations throughout Latin America, even outside Chile, with a total of a few thousand housing units being built) lived up to their name, providing basic, elementary features. The housing units are parallelepipeds made of prefabricated concrete panels where the designers simply include the more complex components that a family would be unable to build themselves: flooring, separating walls, stairs, electrical and plumbing systems, bathrooms and kitchens. The rest is left to the initiative of the inhabitants, though their work is monitored to avoid any abuse or safety concerns. Furthermore, since 2006 with the creation of the Elemental SA company, the continuation of the programme has been ensured thanks to support from the Pontificia Universidad Católica de Chile in Santiago (where Aravena himself teaches), and from the Empresas Copec, a Chilean oil company with interests in the energy, fishing, forestry and real-estate sectors.

Rather than going into great detail about other examples, which are indeed very well known, it is instead worth dwelling on what makes the

Elemental programme exemplary from the point of view of being able to deal with a real problem without becoming embroiled in its mechanisms. First and foremost, the Elemental programme has not been devised with the aim of bringing recognition to those who have been involved in it, or with the aim of achieving results in some ways comparable to those projects that look so good in those monographs or websites devoted to other architects. The aim of Elemental is to make the purchase of a home economically sustainable for the kind of person who, in normal conditions, would otherwise be obliged to tie a 'noose' around their necks by taking out a mortgage in order to become a home-owner, or simply to rent their homes (both options often impossible for such people), or even to find themselves tied to the 'noose' of 'informal' settlements (by which we mean *villas miseria*, *poblaciónes callampas* or *favelas*, depending on the language and the country). Of no less importance is the social wellbeing of the inhabitants, which implies placing the homes in acceptable safe urban locations, and the creation of community spaces. And for Elemental, a further priority is the quality of the project, boldly preserved not as an intrinsic value but as an essential condition to fulfil the other objectives.

To achieve all of this, Aravena and his partners and assistants make use of all 'forces' available, weak or powerful as they may be. The inhabitants are consulted regarding design choices and are actively encouraged to participate through community initiatives; potentially 'hostile' subjects, such as a petrol company, are also involved. Without making any moral judgements or taking an ideological bias, with a combination of 'realism', 'pragmatism' and 'ambition',[6] Elemental meticulously analyses, understands and uses the complex political and economic dynamics relating to the project in question, reaching the point where such dynamics are 'transformed' into the essential aspects with which to carry forward the project successfully.

Of course, the outcome may not seem sufficiently appealing – and therefore not suitable – for Western standards, even in the field of social or public housing, but the context and the conditions of emergency that Elemental has to work in must be taken into consideration. And it is these factors that totally upend ideas put forward earlier; it is only by taking up the challenge of difficult situations, in other words giving up certain ideals and devoting yourself to more agile, but potentially more 'sensational' projects that Elemental can obtain 'sensational results'. A 'little' goes a long way, working within the real world, going against all expectations. Proof of this is highlighted by the bumper crop of prizes and awards from all over the world bestowed on Elemental projects since the year 2000,[7] not forgetting the Pritzker Prize awarded to Alejandro Aravena in 2016 for the programme.[8] It is significant – and almost paradoxical – that the jury of the Pritzker Prize has recognised that Aravena "transforms the professional into a universal figure", stating that he "epitomises the revival of a more socially engaged architect", with his "commitment to tackling the global housing crisis […] with the aim of finding a truly collective solution for the built environment".[9]

Redeeming Popular Culture: Bolivia

In Bolivia, it is worth considering the figure of Freddy Mamani. After studying as a civil engineer at the Universidad Mayor de San Andres and the Universidad Boliviana de Informática, Mamani began working as a builder and as a *de facto* self-taught architect. The buildings he has designed are mainly to be found in El Alto, the city next-door to the capital, La Paz, where he has fine-tuned his style that he developed from elements of Andean popular traditions. An ethnic Aymara, Mamani belongs to the Indigenous population hailing from Peru and Bolivia. By embracing such old ethnic traditions, Mamani has created his very own aesthetic approach, known as the 'Cholet style', the portmanteau name coming from a blend of the word *cholos*, Indigenous, and *chalet*, the typical mountain construction. The residential buildings he has designed are particularly eye-catching with their strong colours, recalling both traditional Bolivian textiles and pop art aesthetics. His buildings always have a threefold structure: the ground floor is for commercial purposes, the middle floor is for public spaces (dance halls or other venues for socialising), and the upper part is devoted to residential purposes, owned by those running the shop on the ground floor.

The decoration of the houses is particularly gaudy, with colours freely combined, taking inspiration from *quipus*, the complex systems for accounting and collecting data using coloured knotted strings that go back to the Inca civilisation. While the *quipu* colours originally encapsulated a kind of basic 'language', the way that Mamani freely re-uses them transforms them into a chromatic 'DNA' of the local culture, pointedly preceding any form of colonisation. In reality, however, the *cholet* houses are also partly indebted to colonial culture, as can clearly be seen in their use of moulding and – perhaps unintentionally – in their similarity to 'pop art' buildings in Las Vegas. Albeit very peripheral and eccentric, Mamani's architecture, with its local cultural identity in a country that is economically particularly under-developed, nevertheless proves to be an interesting example of 'liberation' from imported building models from America, an example of an awareness of identity.

The Song of the Land: Mexico

Mexico has the second largest population and the second largest economy in Latin America, after Brazil. Its economy is based on important oil reserves, but Mexico is a land of wealth as well as poverty, a country where great contradictions are found. Its long history can be traced back to 10,000 BCE and a series of Mesoamerican civilisations. In more recent times, the Aztec civilisation was based on religious rituals and social conventions – including aesthetic conventions – that were very different from those of the West. A simple example is that of the most important Aztec deity, Quetzalcóatl, the feathered serpent with a particularly composite iconography and a very colourful image. Remains of the civilisation are visible at Teotihuacan, for example, a city dating back to between 100 BCE and 650 CE, though much

of these civilisations was destroyed when the people were massacred by Europeans and when heavy-handed Spanish colonisation was imposed. In 1519 at Tenochtitlan, the capital of the Aztec civilisation (today's Mexico City), the Spanish conquistadores arrived, captained by Hernán Cortés, and although the Aztecs revered the white Spaniards, the Spanish conquerors massacred them. In 1521, the battle of Tenochtitlan took place, during which the Aztec capital was razed to the ground. Where once lay the Templo Mayor (an imposing structure with Aztec staircases) now stands the main church of Mexico City and its square.

New Spain (comprising not only present-day Mexico but also parts of today's United States and southwest Central America) was governed by a viceroy who depended on Spain, though with some degree of autonomy. Due to the long period of colonial domination, many features of Mexican civilisation stem from Spanish culture. In 1810, however, the Mexican war of independence started, and a new constitution was eventually ratified in 1824, giving birth to the Mexican republic, the United Mexican States. Nevertheless, throughout the 19th century, there were continued attempts to quash the countries of Latin America. For example, the French ruler Napoleon III sent his mandatary Maximilian I with orders to take power in Mexico, but in 1877 this member of the Habsburg-Lorraine family was executed and the Mexicans took back control of their country. Edouard Manet's famous painting of 1867 powerfully depicts the execution of Emperor Maximilian, the event marking the true end of the colonial period.

In 1910, after a phase of relative stability, there began a revolutionary period in Mexico. An armed rebellion took place against the dictatorship of Porfirio Diaz, who had originally been elected democratically, though his government had degenerated into a form of dictatorship. Emiliano Zapata and Pancho Villa became the heroes of the revolution, and in 1917 a new constitution was ratified which, for the first time, provided for workers' rights, a world's first. But power continued to be overthrown in Mexico, and in 1929 the National Revolutionary Party came to power, dominating the country until the turn of the 21st century and changing its name after World War II to the Institutional Revolutionary Party.

After the presidency of Álvaro Obregón, in the 1920s, José Vasconcelos was elected Secretary of Public Education and set up a vast programme of school building, aiming to upgrade Mexican buildings to modern standards, entrusting the design work to the most culturally-advanced local architects. The most outstanding figure in modern Mexican architecture – the true father of modern Mexican construction – is José Villagrán García. He was responsible for a series of projects including the rebuilding and upgrading of the National Stadium in Mexico City, 1924, where he used local stone, as well as shapes and forms partly stemming from colonial culture. In the capital, Villagrán also designed the National Institute of Cardiology, 1936–1937, where clean modern lines prevail; the building is extremely up-to-date both in terms of design and technology, at the dawn of modernity. Villagrán was

also responsible for the design of the Escuela National de Architectura, again in Mexico City, built between 1950 and 1952, an interesting complex that in part recalls Aalto's Paimio Sanatorium, especially in the way it combines linear features and windows, while its visible brickwork is reminiscent of local traditions.

Belonging to the same modernist culture is Juan O'Gorman, though as an architect, he also managed to combine other elements into his work. Both as an artist and an architect, his approach is rooted in aspects of Mexican tradition. At the start of his career, O'Gorman designed various workers' housing projects, such as the Habitaciones Obreras in Mexico City dating from 1929, notable for their use of large windows and colours recalling local culture rather than the stylistic features of contemporary European modern architecture. He was also responsible for a design programme for school buildings (a key aspect in the modernisation of Mexico), working on over 30 schools. Among these, the Colonia San Simon primary school and the Melchor Ocampo primary school in Mexico City, 1932, are both examples of the use of reinforced concrete for social purposes.

But the buildings that were to bring O'Gorman world fame were the residences of Diego Rivera and Frida Kahlo, the two most renowned Mexican artists. The art of Diego Rivera is decidedly popular in style; indeed, after abandoning painting at an easel, Rivera devoted himself to murals, social art that depicted issues close to the hearts of the workers and poorer members of society, painted on the walls of public buildings. Among his most celebrated and controversial works, it is worth mentioning the *Man, Controller of the World* mural, commissioned from Rivera in 1934 for the Rockefeller Center in New York but later removed for its alleged highly provocative nature.

In the mid-1920s, Rivera met Frida Kahlo, a young member of the bourgeoisie who, after having been involved in a serious accident, had started working as an artist. Frida, who mainly painted self-portraits, was to have an intense and stormy relationship with Rivera, including marriage, separations and divorce, reconciliations and re-marriage. At the end of the twenties, Juan O'Gorman was entrusted by the two artists to build their studio-cum-home in the capital city, comprising two separate buildings linked by a walkway bridge. The homes were based on approaches used previously in modern architecture, in particular, on the Maison Ozenfant by Le Corbusier, built in 1922 in Paris with its pure, square shapes, large panes of glass, slit windows, pilotis and shed roofing. Nevertheless, the architect re-interpreted the modern message with a Mexican slant, as is evident in the colour choice and the use of cactus plants providing the 'hedging' around the buildings. In O'Gorman's hands, the cold, 'Cartesian' architecture of Le Corbusier becomes warmer, more colourful and more explosive.

After a period clearly instilled with modernism, in the 1950s O'Gorman (along with Ricardo Martinez de Velasco and Gustavo Saavedra) built the UNAM Central Library (the library of the Universidad Nacional Autónoma de México) in Mexico City in 1950. It is an emblematic building, a sort

of large sketchbook of images that retrace the whole of Mexico's history. The four sides of the building become large surfaces used to display images, stones and earth and the colours of the Mexican lands, with the result that the whole building becomes a mural. At the base of the building, sculpted reliefs reproduce those of ancient pre-Columbian civilisations. At the same time, however, the building is unarguably modern in its design and in its spaces for readers. Close to the library stands the Rectorship Tower, designed in the same year by Mario Pani and Enrique del Moral; within its clearly modernist façade another mural by O'Gorman is also to be found.

Shortly after working on the UNAM Central Library, O'Gorman built a home for himself in Mexico City, 1954. Here he abandoned more orthodox modernism and embraced a sort of primitivism. The building displays a certain fluidity and recalls a cave, not only because of the materials used but also because it is studded (outside and inside) with stones and decorations. In his designs for his home, there re-emerges a childlike nature, almost a primeval Mexican culture, reminiscent – in the figurative elements – of Gaudì's architecture.

In the Mexican architectural spectrum, Luis Barragán is the kingpin for what has been observed so far. On the one hand, he consciously immerses himself in the heart of tradition, and on the other, he gradually opens up to a modernist style of architecture, finding an original balance between the two. Barragán's architecture is typified by a uniquely sober style and a spirituality that almost makes his work austere and aristocratic. He has been said to have carried out a "quiet revolution",[10] a non-violent revolution … though perhaps a slightly noisy revolution. Barragán studied civil engineering in Guadalajara, his home city, where he also set up his architectural practice. And it was also in Guadalajara that he designed and built his first works, including the Gustavo Cristo house of 1929, where echoes of Spanish colonial style are still clearly evident.

A decisive moment in Barragán's career was his trip to Europe, where he came into contact with Le Corbusier and modern architecture. On his return to Mexico, he designed an apartment block in Mexico City, 1939–1940, with decidedly modern features: unadorned square whitewashed volumes with horizontal windows. At the same time, he also moved his practice from Guadalajara to Mexico City. In his designs for the Jardines del Pedregal residential complex of 1945–1950, the architectural elements are incorporated into the garden context of vegetation and volcanic rocks, almost as it they were a secondary 'character', a deuteragonist to nature. Thus begins Barragán's dialogue between architecture and nature that was to continue with success in the following years. In this dialogue, architecture has its own identity and autonomy, but at the same time, it is clearly 'listening' to nature. In his guarded and measured way, that becomes a recognisable feature of his work (despite his frequent use of bright colours), Barragán's architectural elements come to convey the same idea of muted stability and permanence so typical of nature. In this sense, for example, the *casa-colonia* homes within the Jardines

del Pedregal complex, 1948, are designed around a courtyard, embracing a traditional layout and bringing together pebble-paved areas with flat white surfaces of evident modern inspiration. In other words, the architect is paying attention to abstract geometric features, as well as to natural elements, in an apparently spontaneous manner.

Barragán also designed a home-cum-studio for himself in Mexico City in 1947. Here again, in the garden he maintains an open dialogue between nature and the artificial elements of the building. The house is at the same time both modest and elegant, with only a few key features that 'speak of poetry', expressing all of its silent eloquence. Clearly, this is not the modesty or poverty of someone without means – it is, indeed, closer to the *altissima paupertas* (superior poverty) of the Franciscan friar Ubertino da Casale – capable of creating a space with next to nothing, reducing it to the basics. The terrace that covers the house is a metaphysical room open to the skies, surrounded by walls painted in garish colours, taking on the appearance of a three-dimensional abstract painting.

One of Barragán's most significant works is his Convent for the Capuchin nuns at Tlalpan, 1952–1955. Behind the muted exterior that faces the road, there lies that 'quiet revolution' that is the hallmark of his architecture, as mentioned earlier. The building takes up a narrow elongated plot, with all the spaces gathered within, literally protected by the walls that contain them. Light is of prime importance and gives the spaces their character, penetrating through open slits in the walls, as in the chapel, where the light is the spiritual element in a space dominated by the presence of a great, naked crucifix. There is something 'rich', something 'luxurious' in the use of colours, as well as in the use of natural elements and water.

Barragán often tackles designs for open spaces. His Las Arboledas, 1958–1961, on the outskirts of Mexico City, is a housing development which gave him the opportunity to make his mark on the land by means of walls, paving and fountains. Not only is it a functional development, but it also creates an environment. In fact, in the Las Arboledas complex, we find a red wall as well as a horse trough: dividing features, background elements that create 'three-dimensional' pictures, commenting on nature. Quietly listening to the simple things is one of the key features of Barragán's architecture.

In 1957, together with Mathias Goeritz, a sculptor of German origin, he designed the Torres de Satélite, an open space with five towers at the edge of a multi-lane motorway, in the Ciudad Satélite part of the vast outskirts surrounding Mexico City. This pedestrian area houses five great sculptures, solid monoliths in reinforced concrete painted in different colours, intended solely to offer silent opposition to the vehicle chaos surrounding them. Extraneous to the context they find themselves in and appearing as vestiges of an alien civilisation, the towers are 'shapes for meditation'. In their sight, we are compelled to silence: we perceive the stable presence of the towers as a value compared with the ever-changing world whirling around them.

Los Clubes is another of Barragán's housing developments. It includes one of the architect's most interesting buildings, the Casa Egerstrom, with the San Cristobal stables alongside, 1967–1968. It is one of the best examples of the way he integrates artificial features (walls, fountains, doorways) and natural elements (earth, water, trees), brought together through the garish colours that are nevertheless so in tune with Mexican culture. At this point in his career, Barragán is perfectly able to metabolise modernity and tradition, creating a harmonious pact between them. A metaphysical aura envelops such places; architecture becomes landscape. And indeed, this is 'emotional architecture' as he himself termed it, where the spiritual effect is predominant.[11]

Casa Gilardi, in Mexico City, 1975–1977, is one of Barragán's last works and a small masterpiece. The entrance is through a small courtyard complete with a tree and some containers for mezcal, the renowned Mexican spirit. These terracotta jars, far from having any practical purpose in the context, take on the value of 'individuals', similar to each other, but each one with its own character. Again, colours play a key role here. And colours also characterise the internal areas. At the end of a long yellow corridor lit by a series of vertical openings, the most 'dramatic' space in the house is reached: a pool 'brightened' by lively colours and lit by light from above, a true spatial picture. Architectural 'revolution' can only come through strict control, through skilful composition and through quiet respect.

Rooted in Modernity: Brazil

Brazil gained its independence from Portugal only in 1822 after a long period of colonial domination going back to the 15th century. Today the country is undergoing great development; rich in natural resources, their exploitation has long been a source of contention. At the same time, it is also a country of contradictions, where living conditions are often poor, and in the boundless Amazon forest, tribes are still to be found living a primitive lifestyle. Before European colonisers arrived, the whole of Brazil was, in fact, populated by civilisations that the colonisers considered to be 'backward'.

The key to understanding Brazil after its independence – and particularly in the 20th century – is its steady, tenacious quest for modernity. For Brazilians, modernity not only implies reaching the level of other countries in terms of industrial and technological development, but it also implies a political symbol of progress, in other words, the abandoning of the natural state.

Accordingly, while Brazilian architecture of the 19th century and the early 20th century still recalls European architecture of the past, the point of change came when the president of the Brazilian republic Juscelino Kubitschek

decided to give the country a new capital. This came about as a repercussion of Le Corbusier's lecture tour to Rio de Janeiro and São Paulo at the end of the 1920s, which left an indelible mark on the young Lucio Costa, Oscar Niemeyer, Machado Moreira and Affonso Eduardo Reidy, prompting them to design the Ministry of Education and Health in Rio de Janeiro in 1936 together with the Swiss-born French architect himself. Rio de Janeiro and São Paulo had historically vied for the role of Brazil's main city, alternating as capitals for political and economic reasons. Kubitschek's decision to establish a new city – Brasilia – went hand in hand with his idea of giving a new start to the country, wholly based on that modern, innovative approach that he had adopted as the cornerstone of his politics.

Brasilia lies in a largely barren area in the state of Goiás, on the border with the state of Minas Gerais. The area was a sort of 'clean slate' where Lucio Costa could place his urban master plan for the city, the Plan Piloto, the winning entry in the 1957 competition. The political-urbanistic-architectural triangle was completed with the engagement of Oscar Niemeyer to design the capital's key buildings (parliament, ministries, cathedral, theatre, etc.). Niemeyer had already had dealings with Kubitschek when the politician was governor of the state of Belo Horizonte and commissioned him to create a series of facilities around Lake Pampulha, including a casino, a dance hall and a chapel. The buildings that Niemeyer designed and built in the early 1940s began to display a suppleness with their rounded volumes and curving roofs. Whereas his previous works had followed fairly closely the guidelines set by Le Corbusier, this is where he broke free and found his own style, as is particularly evident in his chapel of Saint Francis of Assisi, 1940–1943, a building comprising thin arching shells of reinforced concrete to create parabolic arches, a building where form meets structure.

Similar solutions were also used a few years later in Brasilia. The administrative and representative buildings are located along the monumental axis, the main thoroughfare designed by Costa, crossed perpendicularly by the residential axis with the *superquadras* (superblocks), destined to house the large number of staff required by the new capital. In the Three Towers Plaza, at the heart of the city, the large open space hosts the Federal Presidential Palace (Palacio do Planalto), the Supreme Court (Supremo Tribunal Federal) and the Parliament (Congresso National). The basic idea behind the Federal Palace, 1958–1960, was to project an image of simplicity and modernity using thin curving lines in its supporting columns. The solution of a tent-like roof, a light reinforced concrete canopy, was to be used again and again throughout the architect's career. Around the palace, there is a body of water, water being a key element in Niemeyer's design approach. Here, he works, as far as possible, with absolute 'gestures': the dome and the bowl of the two houses of parliament, the 'crown' of the cathedral and the spiral of the open staircases without any railing found in various situations.

This all demonstrates Niemeyer's great ability to create shape, as well as to develop and bring to maturity a stylistic approach that goes beyond its rationalist and purist roots.

Nonetheless, Brasilia is not flawless. From an architectural point of view, the excessive isolation of the buildings – monuments too 'abstracted' from context – has resulted in a lack of a 'fabric' of interplay. From an urban standpoint, the city was devised solely for road traffic, with Costa's plans paying hardly any attention to the needs of the less well-off classes working in Brasilia, their homes being created as 'informal' settlements (or more accurately slums or *favelas*) in the very heart of the Brazilian (day)dream of modernising the country.

São Paulo is a vast conurbation with over 15 million inhabitants, growing in the second half of the 20th century without regulation or planning. The model of the 'American-style' skyscraper caught on indiscriminately, and they are to be found throughout the immense metropolis. The other side of the coin to this escalating pursuit for high-rise buildings is to be seen in the *favelas*, the informal slum settlements that are clear indications of urban degradation and urban deprivation that nevertheless paradoxically create a sense of community, even if this comes about through the creation of ghettos or 'no-go areas' that are impenetrable for the rest of the city's inhabitants.

São Paulo is, therefore, a city full of contradictions, where there is no interplay between the better-off classes (often very well-off classes) and the poorer classes of society (very often on the breadline). Rio de Janeiro, instead, has developed in an urban sense in close association with its natural context, thanks to the Pão de Açúcar or Sugarloaf Mountain and the incredible relationship it creates with the ocean. A native of Rio, Niemeyer was responsible for the introduction of modern architecture to the local architectural scene (Rio is where the above-mentioned Ministry of Education and Health is located, the first example of the extraordinary coming together of Le Corbusier's principles and Portuguese-Brazilian ideas), but he was to design numerous buildings in São Paulo, where he also opened his own practice. One of his most emblematic projects is the Copan building, 1951–1953, a rationalist block of Le Corbusier inspiration that nevertheless takes on a Brazilian 'twist' (in the literal sense). In fact, the Copan building displays a snake-like sinuous movement, thus declaring all its undoubtedly Brazilian character. It is a true 'piece of the city', comprising various kinds of residential units as well as commercial units on the lower floors. The façades are covered with deep *brise-soleil* that give a distinctive unmistakably graphic element to the building. A city within a building, it is a social experiment in metropolitan life.

More or less at the same time, Niemeyer was entrusted with designing some buildings for the Ibirapuera Park, 1951–1954, on the occasion of the 500th anniversary of the discovery of Brazil. The project included trade-fair buildings as well as a large canopy roof area supported by pilotis

to offer a large functional public area (a sort of local Maison Dom-Ino), becoming a large amenity within the park. Also part of the project is the Lucas Nogueira Garcez arts pavilion (the 'OCA' building) designed in 1954, where the architect further distances himself from earlier Le Corbusier-inspired building models. Here, in fact, structure and form become one and the same thing, taking on the soft, almost 'sensual' appearance of a white shell.

It was, however, in Rio that Niemeyer built the Casa das Canoas, his own home, 1951. An 'eroticised' version of the minimum building model of modern architecture based on a system of pilotis, canopy roof and glass wall panels, the Casa das Canoas has an irregular amoeba-like shape. The flat canopy roof further emphasises this sinuous shapeliness, extending beyond the edge of the building, as does the swimming pool, taking on the shape of a natural pond. Symbiosis with nature comes very forcefully into play in the Casa das Canoas – a large rock from the garden punches its way into the home, 'breaking through' the glass wall.

A similar strong connection between architectural features and natural elements is also to be found in the work of the landscape architect Roberto Burle Marx, who played a key role on the Brazilian architectural scene and is considered to be one of the most important landscapers of the 20th century. Burle Marx had cultivated an interest in botany from a very early age, and when he was around twenty years old, he had the opportunity to get to know the works of the main European avant-garde artists, which induced him to study painting at the Rio Fine Arts Academy. He was to carry out the same revolution in landscape architecture that Oscar Niemeyer carried out in the field of architecture. In fact, the landscape architecture of Burle Marx is undeniably 'modern'. Thus his rooftop garden for the lower building at the Ministry of Education and Health is an exact transposition of an abstract painting done in natural materials. Likewise, an abstract painting a few kilometres long and dotted with palms and other vegetation becomes the Avenida Atlântica at Copacabana, Rio de Janeiro's sea promenade, 1970. It is not merely a work of urban decor but also a great work of land art, bringing to mind American avant-garde artworks (not only paintings) as well as colourful *azulejos* floor tiles of Portuguese tradition.

Burle Marx pays particular attention to the land, considering it as architecture and therefore no longer simply ground without any specific attributes or qualities. Designing the land implies taking care of a part of the (urban) environment that is often forgotten so that it becomes a key element in a great re-reading of the city. His gardens are, therefore, much more than mere 'gardens'; instead, they are creations of nature that change their colours and appearance according to the seasons (two significant examples among the many are the gardens at the Ministry of the Army in Brasilia, designed in 1970, and the roof garden of the Banco Safra headquarters in San Paulo, 1983).

Closely linked to the Rio de Janeiro school of architecture, to which both Niemeyer and Burle Marx belonged, was Affonso Eduardo Reidy, part of the architectural firm originally led by Lucio Costa that was commissioned to design the Ministry of Education and Health. In 1946–1952 he designed a large residential building on the outskirts of Rio de Janeiro, the Conjunto Residencial Prefeito Mendes de Moraes. Compared with Niemeyer's Copan building, which in some ways it is similar to, albeit earlier, Reidy's building is a long snaking block, more dynamic and complex than its counterpart in São Paulo, containing a mix of public housing and numerous services for the inhabitants (schools, nurseries, playgrounds, gyms and swimming pools). This residential complex for the less well-off classes is an extraordinarily dignified alternative to the *favelas*.

Reidy's true masterpiece, however, is his Museum of Modern Art in Rio de Janeiro, 1953–1967. Here begins a strand of Brazilian architecture in reinforced concrete that is alternative to that followed by Niemeyer, which was, in turn, a development of Le Corbusier's approach. While Niemeyer's buildings are – in an extreme sense – upturned shells, Reidy's works are structurally punctiform. The pre-stressed concrete (with tensioned steel bars within the concrete) used for the buildings allows for even more incredible structural acrobatics. The Museum of Modern Art lies at the head of the Flamengo Park designed by Burle Marx, looking out over the bay of Rio. Once again, there is a close relationship between the building and open space. The architect has worked in complete harmony with the surroundings. The characteristic feature of the building is to be found in the leaning pillars that support the jutting-out part of the body of the museum, holding it above the ground. Reidy's design is a virtuoso performance, much more so than even Niemeyer's beautiful and surprising works, built without using pre-stressed concrete. The great outward-facing glass front of Rio's modern art museum is further emphasised by its large open terrace, providing a marvellous natural scenic outlook.

Alongside the Rio group of architects, there is also the São Paulo school. One of the key members of this latter school is João Batista Vilanova Artigas. A great militant Communist architect, he was to make his militancy an issue that went beyond his mere design work. Vilanova Artigas declared that it is necessary to "make the point of support 'sing out'", meaning that architecture (once again he mainly used reinforced concrete) is not just a question of weight and mass, but it is something that must 'vibrate' with its own internal harmony, like a musical instrument. And this is the key to understanding his architectural standpoint. Vilanova Artigas's most representative work is the Faculty of Architecture and Urban Planning (FAU) in São Paulo, 1961–1968. The architect himself had taught in the faculty before being exiled by the military regime that took control of Brazil in the mid-1960s. The FAU building is extraordinary for its powerful unpretentiousness. A part of the out-of-town campus of

the University of São Paulo, it is in close contact with the lush Brazilian natural vegetation. Yet apparently 'sealed off' from any association with the natural environment, the building comprises a large rectangular reinforced concrete 'lid' that provides the roofing, supported by 14 pillars (5 on each of the longer sides, 2 on each of the shorter sides) that 'sing' with a very clear 'tune', as determined by their two pointed wedges joining together. Indeed, these double triangular prisms have both a structural and an ornamental value. The lower part of the building, in contact with the ground, is emptied and glassed so as to make the concrete body of the building above seem all the more weighty. The design of the Faculty of Architecture is also a kind of manifesto for a militant architecture in that it is not simply an ideological interpretation but also an active and effective idea for building a community space. It is no coincidence that the Faculty of Architecture is doorless; for Vilanova Artigas, a teaching institution must be a public space, not a private or closed site, but a place that is always open and available for all, a living space for students. And in fact, the internal space – the heart of the faculty – resembles a large public square, with the light shining down from above through a large skylight. All facilities are at the service of the community: there are no stairs, just ramps, there is no separation between inside and outside, no barriers at the entrance. All of this also makes the building susceptible to variations in temperature and to the varying atmospheric conditions outside.

Another member of the São Paulo school was Paulo Mendes da Rocha. Initially an admired assistant of Vilanova Artigas, the two men had intense exchanges of views over the years, with both the younger and older architect giving and receiving much from the other. After attending the Faculty of Architecture in São Paulo, Mendes da Rocha opened his own practice, taking not only his mentor as a point of reference but also seeking inspiration from the works of other architects. In his first important project, the Paulistano Athletic Club in São Paulo, 1958–1961, for example, the influence can be seen of Affonso Eduardo Reidy and of the structural system he used in the Museum of Modern Art in Rio. In the Paulistano Athletic Club, intended for sporting events, the circular roofing structure is suspended by means of reinforced concrete pillars. By doing so – and to return to the idea expressed by Vilanova Artigas – Mendes da Rocha very clearly "makes his points of support 'sing out'".

Another particularly interesting project is the Brazilian Sculpture Museum (MuBE) in São Paulo, 1986–1995. In this case, the building site lay on various levels, and for this reason, the architect decided to adopt the solution of putting the actual museum underground. As a result, although it is large in size and with a clear structural purpose, the building's suspended beam does not contain anything and becomes an almost 'decorative' element, unlike what we find in Lina Bo Bardi's Museum of Modern Art in São Paulo, that it can be compared to. In the MuBE, the beam is simply a roofing element,

creating shade and becoming a feature of the landscape – more of a sculptural feature than anything else. The museum itself is all underground, with the only exception being the suspended beam. The structure is revealed only by the reinforced concrete roof element, which is not a building in the true sense of the word. Ramps lead down to the actual entrance to the museum, and this area becomes a public square.

Mentioned earlier, Lina Bo Bardi is an Italian-born architect who graduated in architecture in Rome in the 1930s and after working with Gio Ponti, opened her own practice in Milan. On marrying Pietro Maria Bardi, a key figure in Italian Fascist architecture and director of the Quadrante magazine, she moved to São Paulo with him in 1946, and in the city, she carved out an important role for herself within the modern Brazilian architectural scene. Her first project on Brazilian soil was the Casa de Vidro, a home for her husband and herself, built in São Paulo in 1950. The building clearly shows Lina Bo Bardi's ties with European rationalism. The house stands on reinforced concrete pilotis and the glass infill panels on the first floor play a key role, creating a kind of 'balcony viewpoint' over the natural panorama. Working together with her husband, Lina Bo Bardi was responsible for some particularly important projects, such as the Museum of Modern Art in São Paulo, 1957–1968, with Pietro Maria Bardi himself being appointed director. The building was designed with a stroke of elementary genius: an enormous reinforced concrete frame holds up the suspended exhibition space while the area beneath it becomes a public area, open to the city. In addition, underground spaces house other museum facilities. The building stands on the Avenida Paulista, at the top of the hill that São Paulo is built around. The museum space (painted a vivid red, which makes its 'endeavour' all the more peremptory and unmistakable) is clearly of fundamental importance, but equally significant is the covered open space that is left free by the building, a plaza area used for many events.

Another work of Lina Bo Bardi's that can in no way be overlooked is the SESC Pompéia building in São Paulo, built between 1977 and 1986. The SESC abbreviation stands for Serviço Social do Comércio (Social Service of Commerce), a non-profit private Brazilian institution promoting social, entertainment and tourist activities. The building complex that Bo Bardi was asked to work on was a former drum factory comprising typical industrial buildings with shed roofs. Lina Bo Bardi's Italian origins seem to emerge clearly in the sensitivity she displays towards the pre-existing structures that are adapted to new social uses. Two new tall buildings complete the centre, both built of reinforced concrete that is visible to the eye. One of the buildings has holes for windows, conceived as irregular gashes closed by red-painted grills – an extraordinary intuition that recalls an unfinished structure, a sort of planned ruin that shakes off decades of 'brutalism'. The two buildings – both intended to house sporting facilities –

are linked by walkway bridges at various levels. The context in which SESC Pompéia is to be found is that of a working-class industrial area, and this is the very reason why Bo Bardi has kept to an industrial aesthetic for her work. There is a 'resonance' with the roughness of the location that the rationalist background of the Italian architect amplifies, imbuing it with the 'sensuality' typical of Brazilian culture. And what emerges is a vibrant, lively, potentially sculptural aesthetic.

The conclusion of this leap into the Latin-American world of architecture can – as we did at the outset – be entrusted to the words of Eduardo Galeano: "Under-development is not a stage in development. It is the consequence. The under-development of Latin America comes from the development of others and it continues to feed it".[12] Such a bitter conclusion is, nonetheless, no less true than the words we saw at the start of this chapter, again focusing on the role played by Western countries in Latin America's plight. Even so, our conclusion cannot ignore the efforts that the countries of Central and South America have made to attain their own autonomy, being able to draw on their extraordinary context.

Figure 5.1 Oscar Niemeyer, Chapel of Saint Francis of Assisi, Belo Horizonte, Brazil, 1940–1943. (a) Lateral view. (b) Front view. *(Continued)*

Figure 5.1 (Continued)

Figure 5.2 Lina Bo Bardi, SESC Pompéia, São Paulo, Brazil, 1977–1986. (a) Exterior view. (b) Detail of the wall. *(Continued)*

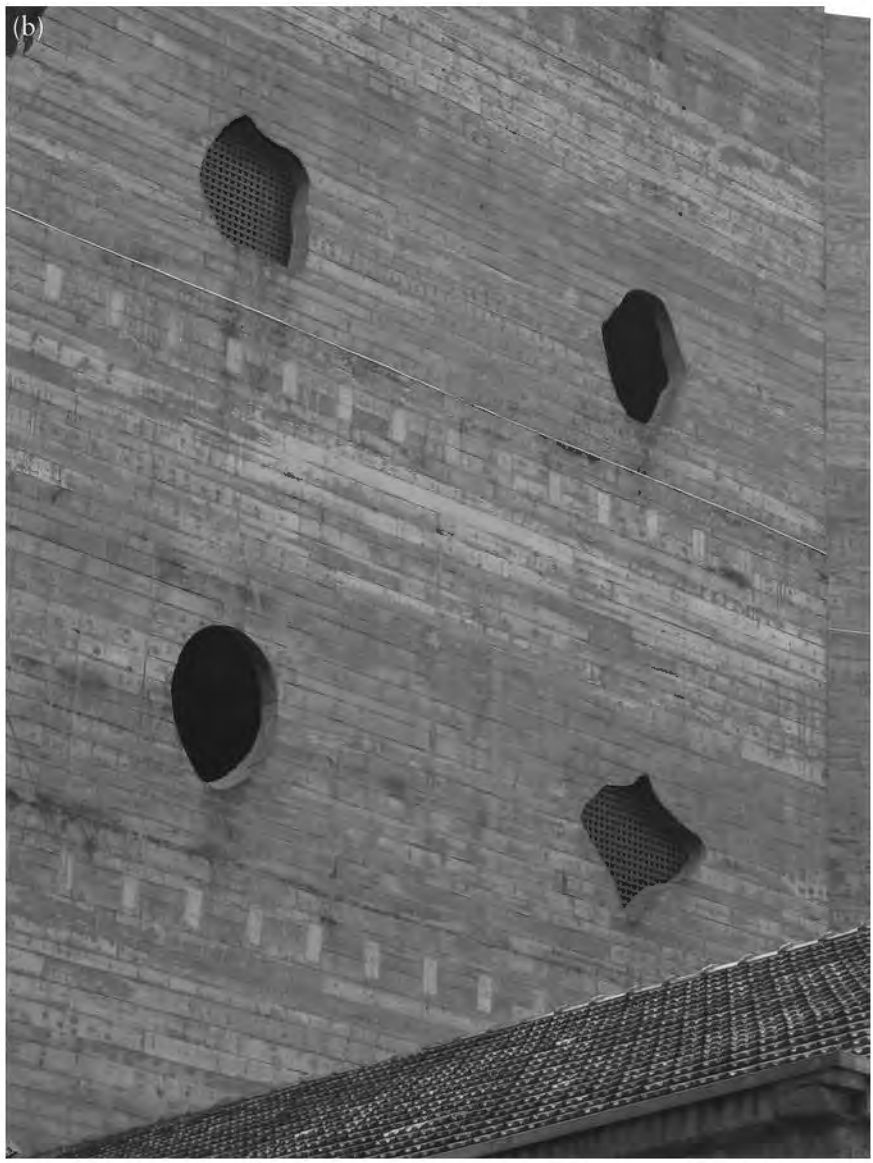

Figure 5.2 (Continued)

Figure 5.3 Alejandro Aravena, Elemental, Quinta Monroy, Iquique, Chile, 2001–2004.

Figure 5.4 Luis Barragán, Casa Egerstrom, 'Los Clubes', Las Arboledas, Atizapán de Zaragoza, Mexico, 1964–1968.

Figure 5.5 Paulo Mendes da Rocha, Pinacoteca do Estado de São Paulo, São Paulo, Brazil, 1993–1998.

Notes

1 Eduardo Galeano, *Le vene aperte dell'America Latina* (Milan: Sperling & Kupfer, 1997), 3.
2 Amancio Williams, *Amancio Williams. Obras y textos* (Buenos Aires: Summa+ Libros, 2008).
3 Alejandro Aravena and Andrés Iacobelli, *Elemental. Manual de vivienda incremental y diseño participativo/Incremental Housing and Participatory Design Manual* (Ostfildern: Hatje Cantz, 2012), 18. But more in general, see also their previous publication: Alejandro Aravena and Andrés Iacobelli, *Elemental Chile. A Handbook on Progressive Housing* (Barcelona: Actarbirkhauser, 2010).
4 Aravena and Iacobelli, 107.
5 Aravena and Iacobelli, 92–94.
6 Aravena and Iacobelli, 503.
7 Among these, the Chilean Government's Bicentenary Prize in 2004, the Biennial Grand Prix at the 15th Architecture Biennial in Santiago, Chile in 2006, the Golden Lion at the Venice International Architecture Biennale in 2008, the Brit Insurance Award in London in 2010, the INDEX First Prize in Copenhagen in 2010, the Silver Medal at the HOLCIM awards in Basel in 2011 and the ZUMTOBEL First Prize in Vienna in 2014.
8 In the same year, 2016, Aravena was appointed Director of the Venice Architecture Biennale. The exhibition he curated, 'Reporting From the Front', aimed to probe into today's architectural scene, "presenting examples where different dimensions are synthesised, integrating the pragmatic with the existential, pertinence and boldness, creativity and common sense". Alejandro Aravena, *Reporting from the Front*, Catalogue for the 15th International Architecture Exhibition (Venice: Biennale di Venezia, 2016).
9 See the jury citation in *Alejandro Aravena of Chile Receives the 2016 Pritzker Architecture Prize* (https://www.pritzkerprize.com/laureates/2016). The jury was made up of Lord Peter Palumbo, Stephen Breyer, Yung Ho Chang, Kristin Feireiss, Glenn Murcutt, Richard Rogers, Benedetta Tagliabue, Ratan N. Tata and Martha Thorne.
10 Federica Zanco (ed.), *Luis Barragán. The Quiet Revolution* (Milan: Skira, 2001).
11 Luis Barragán, "The one which offers the user a message of beauty and emotion, that one is architecture" (as quoted in Emilio Ambasz, *The Architecture of Luis Barragán* (New York: The Museum of Modern Art, 1976), 8.
12 Eduardo Galeano, *Le vene aperte dell'America Latina* (Milan: Sperling & Kupfer, 1997), 352.

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6 Using the African Context

Building an Identity

The marked diversity of Africa makes it difficult to construct a brief overall picture of its history, and only fragmentary pointers can be given here. The land's many nomadic populations have generally passed on information by word of mouth, with the result that a lot of information has been lost and it is difficult to piece together a cohesive picture. It is a continent of extremes, from vast desert areas to immense tropical forests. Economic growth is patchy, and in particular, where countries' GNP appears to be growing, this does not ensure an equal redistribution of wealth. There are significant religious differences, and in fact, the continent is divided between Christians and Muslims. Wars relating to religious differences, the exploitation of natural resources, cultural intolerance and ideological differences generate situations of further instability. More than half of the 54 countries in Africa are involved in some kind of conflict, often indirectly supported by Western countries, a situation that inevitably has repercussions on architecture.

The colonisation of Africa was a muddled and painful venture that put an end to many of the routes followed by nomadic tribes which moved freely around the continent. In addition, the colonial divisions are largely responsible for the pattern of states we find today.[1] Western powers have always penalised Africa, seeing it as a savage and under-developed place; the African continent has continuously been underestimated, as demonstrated by the significant differences between the 1569 Mercator projection of the world and the 1973 post-colonial projection devised by Gall-Peters. The earlier version is, indeed, still used today as the map of reference even, for example, by the United Nations, despite the fact that it clearly distorts the sizes of the continents, favouring Western areas and the northern part of the world. The later projection, instead, created during the period of decolonisation, puts forward a 'fairer' view of the world, giving back to Africa its 'actual' size and proportions.

Each and every African country – in part because of their relatively recent conception – is seeking to forge their identity, a quest that began after independence. The history of Africa is, in fact, very different from large countries

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such as India and China, with their solid identity built up over time through empires and kingdoms, and it comes closer to the history of South America, with its fragmented vicissitudes. In 1988, the Congolese author Valentine-Yves Mudimbe put forward in his book *The Invention of Africa* the idea that it was the colonisers who shaped the image of Africa that we have today. The author considers important issues relating to African culture, questioning whether an African culture actually exists, and he argues that it is actually a concept drawn up by the West. He, therefore, follows the line of Edward Said in his book *Orientalism*, 1978, that deals with perceptions of others and distorted views of Asian culture by colonisers.[2]

Even going back as far as colonial times, a group of African and foreign architects has repeatedly tried to look at the African context as an inspiration, using it as a powerful starting point for the work of the architect. For them, context becomes a way of building the identity of the continent's countries. At different times, architects such as Hassan Fathy, Maxwell Fry or Francis Kéré have avoided using imported architecture but instead have observed and analysed the places where buildings were to be constructed, and only then did they come up with possible solutions. This is a method of working that is in line with that put forward by the TVB School in India in the 1990s. Indeed, in this respect, India and Africa are clearly similar contexts due to their vastness, their difficult social conditions and the variety of climates, and often they can be put together for the issues they face. It seems, however, that African architects, because their history is not as deep-rooted as Indian history, tend to focus more on climatic aspects, paying particular attention to making use of vernacular architecture, local materials and workers and considering social problems as a key point of reference.

Vernacular Architecture Revisited

Africa was originally a land of nomadic tribes, including the well-known Himba, Bushmen, Zulu, Tuareg, Maasai, Pygmy and other peoples. Each tribe has developed their own way of 'building', their own local traditions and various types of vernacular architecture. The vernacular architecture that has resisted over time is of great interest and includes structures in perishable materials such as wood, earth, mud, clay or sand. Even if Africa has always been viewed rather exotically as being 'populated by semi-naked village people living permanently in the Stone Age', Africa has notched up various great civilisations such as the ancient Egyptian civilisation, the Mali Empire, the Kingdom of Kongo and the Kingdom of Zimbabwe. Such civilisations used traditional techniques and materials for their buildings, but unfortunately, many of these have been destroyed or badly damaged. One of the better-preserved is the Djinguereber Mosque in Timbuktu, built in 1327 during the Mali Empire of Mansa Musa, an excellent example of vernacular architecture made entirely of organic materials such as clay, mud, fibre, straw and wood.

Some modern architects have re-embraced these vernacular techniques, and the Egyptian architect Hassan Fathy is a particular good example. His most important projects include the New Gourna (New Qurna) village designed between 1945 and 1948. In the 1940s, the small village of Gourna occupied the area of the tombs of the ancient Theban necropolis, and so the village needed to be moved for excavation work. Hassan Fathy came up with the idea of New Gourna, an alternative to Western models that gave him the opportunity to experiment with a visionary project for a community housing scheme, though it remained unfinished. The project was based on a return to local building techniques, in other words, the almost exclusive use of unfired clay brickwork, with the active participation of the people from the community in the building project. Fathy taught the local people how to build arches and vaulted roofs, how to reproduce decorations and methods typical of traditional Arab buildings. It was a tribute to low-cost construction, devised to be repeatable in other rural areas of Egypt. Although the project was criticised at the time, today it is viewed with interest due to its ability to rediscover traditions as a means to achieving cultural identity and improvement, as well as for its endeavours to achieve sustainability and low costs.[3] Fathy is an interesting hybrid architect who re-embraces traditional elements while at the same time puts forward modern spaces. The new village of New Gourna, taking traditional Arab systems such as wells or windcatchers (wind towers) as its starting point, develops a new concept of modernity and without taking a localised approach, sets in motion a true re-inventiveness.[4]

Other architects have adopted very similar approaches to Fathy's, an example being Fabrizio Carola and his imaginative hospital at Kaédi in Mauritania, 1989. Fabrizio Carola worked in co-operation with ADAUA, the Association for the Development of Traditional African Urbanism and Architecture, to spread and raise awareness of a new vernacular urban architecture. Actually, an extension of an existing hospital building, the new medical structure was designed to be easily repeated elsewhere in case of need. The structure comprises a series of domed brick buildings, which recall various traditional techniques, some of which are common in Muslim communities. As with Hassan Fathy's project, the aim was to train local workers to use new low-cost building techniques that were appropriate to the local environment. For example, the re-discovery of Arab compasses allows workers to erect a dome with no prior training. The project involved the use of bricks made locally by hand, an efficient building material able to maintain average indoor temperatures. This masterpiece provides a modern concept of Western hospital planning fused with local traditions, giving birth to a post-modern hybrid.

The same working method was employed for the Koudougou central market in Burkina Faso by Laurent Séchaund, built between 1999 and 2005. The project was promised by the country's government in 1990 with the aim of reinforcing the identity of such small-to-medium-sized towns through commercial infrastructures, such as markets. The final result is a very

closely-packed market, with nine service buildings, 1,018 6-metre square shop units, 168 9-metre square shops, 9 12-metre square shops, 619 stalls and 65 ground lots, giving a total of 1,879 retail outlets. The market has a very simple, regular plan, an urban grid pattern. One of the aims of the designers was to achieve maximum results with minimum resources, ensuring ease of construction and the use of local companies. The market was built using compressed earthen blocks, employing the Nubian technique for constructing arches and vaulted roofs. The earth for the blocks was dug out by hand from a hill 2 kilometres away from the market, and this helped to reduce costs significantly.[5]

The projects presented so far demonstrate the desire of the architects to use vernacular architecture as the driving force for ideas. But taking traditional techniques as a starting point for devising a project is only one of the many ways of re-interpreting the traditions and the context of a place, and in the next section, we will see how some key figures in the modern movement have instead re-interpreted and made 'good use' of the African context. Indeed, it is interesting to see not only how vernacular architecture has created hybrids with aspects of modernity but also how, in contrast, imported modern approaches have been deeply influenced by aspects linked to climate, exposure to the sun and rain, and so on. The modern movement has had a strong impact in Africa, but always in the more successful cases, it has adapted to the location.

Adaptations of the Modern Movement

The scientific modern approach was imported to tropical countries during the colonial period.[6] More specifically, this began thanks to medical doctors and continued later and more widely through the work of engineers and architects. When Europeans arrived in Africa from the 15th century onwards, most of them didn't manage to survive. Africa was a forbidding land due to its climate and unfamiliar diseases. The British, in particular, devised a 'medical topography',[7] trying to understand Africa according to its medical rather than its geographical features.[8] They attempted to map out where Europeans met their death, and where they survived, in order to develop a series of valid scientific ploys to stay alive, an example being military uniforms suited to tropical climes.[9] Africa was seen by the British as a 'living laboratory',[10] a place for experimentation, while all Europeans endeavoured to identify ideas, tools and methods to survive in the African context. The fact that some Africans remained alive in certain conditions while Europeans perished also 'legitimised' the idea of a difference in the races.

In general terms, directions were given on how to make a temporary bed, on what to eat in places with high temperatures, on what kind of soap to use for washing,[11] and indications were given about types of insects and carriers of tropical diseases. Experiments, such as those by Patrick Manson, were carried out for malaria, with indications being provided about possible ways

of preventing the onset of diseases. As far as architecture was concerned, John Murray, a medical doctor, put forward examples of suitable tropical houses derived from traditional Zulu homes.[12] Features such as verandas, small internal courtyards or air shafts, wide windows positioned so as to ensure airflow and the use of local materials and techniques all suggest that designs based on medical recommendations were developed to take context and climate into consideration. There is also evidence of studies highlighting various ways of adapting to tropical climates that were put into practice in buildings.

A scientific approach was clearly adopted at various levels during colonial domination: British soldiers from the Royal Engineers were responsible for the setting out of health norms both for conduct as well as for construction purposes. The Royal Engineers prepared prototype barracks to hold 100 soldiers with specific features for the tropics, such as double verandas to boost airflow, unlike Mediterranean barracks with just one veranda. For the building of the prototypes, meteorological stations were used to divide up the world on the basis of specific climate parameters according to the various climate zones. In 1953 a conference was held in London on tropical architecture,[13] which examined buildings, both modern and traditional, and the specific features required – the illustrations for Anthony Atkinson's presentation are worthy of note. On that occasion, Ove Arup, the famous civil engineer and founder of Arup Associates, drew attention to the fact that in Africa: "There is no time and no need to go gradually through all the discarded stages of our [Western] progress, it is much better to teach what we already know to be the best way of doing things".[14]

Among the most interesting architects who re-interpret this issue of modernity, Maxwell Fry and Jane Drew can be cited. After World War II, this English architect couple worked for many years in Ghana and also worked in Chandigarh in India with Le Corbusier. In 1964 they developed a special building system for tropical areas, which is summed up in their book *Tropical Architecture in the Dry and Humid Zones*.[15] The book provides detailed illustrations and examples of architecture with sheltering to provide shade, openings, screenings, plans for the construction of ventilated roofs, and methods for calculating angles of incidence and size of overhangs. The architects' philosophy is clearly summed up in their words: "Architecture in the humid tropics is a collaboration with nature to establish a new order in which human beings may live in harmony with their surroundings".[16]

The two English architects always worked for British clients, playing their part in the new relationship between colony and mother country fostered during the transition towards independence. Before leaving, the British government wanted to establish a different relationship with colonies through culture, expanding literacy, libraries and schools. In fact, Fry and Drew were commissioned to build fifty-odd schools as part of this programme from 1949 onwards. These include the University College at Ibadan in Nigeria,

1949–1960, which is probably the best-known building and embodies both this British quest and their way of working.[17]

The Kenneth Dike Library, part of the Ibadan University close to Lagos in Nigeria, designed by Fry and Drew, 1951, is one of the first built in sub-Saharan Africa, and it puts into practice a series of climate expedients presented in their book. The building was built according to scientific data, taking climate as its point of reference. The project had to solve problems that were far from easy, such as how to design a comfortable reading area or how to create a space suitable for preserving books. In order to do so, the architects adopted expedients or 'apparatus' such as keeping the rooms raised from the ground to ensure airflow, devising a system of mosquito nets, a veranda area that allowed direct light to enter, shielded walls and the use of pre-stressed concrete overhangs for shade.[18] Again in the National Museum in Accra in Ghana, 1957, the architects used similar expedients or 'apparatus', such as the central dome, a more Western element that was nevertheless designed with a lower curvature making it more suitable for a tropical climate and monsoon rains.

In the same years, other firms such as Architects Co-Partnership designed buildings using similar 'apparatus'.[19] Examples include Nigerian projects such as their Kano house, built in 1959, their Shell/BP House in Enugu, 1957, and their Ansar-ud-Deen School in Lagos, 1957. The buildings use verandas, mobile and modular screens, cross-ventilation and different façades for north-, south-, east- or west-facing walls. Modern architecture seems to make sense of itself in a close relationship with context and climate.

The architects cited here, along with others, have produced modern works of architecture of great interest, shaped by their context and the input it gives, without falling into the trap of becoming folklorish. This is modernity with a decidedly sustainable approach that has today been rediscovered as an inspirational model.[20]

Paying Attention to Context: Francis Kéré

The writer Antoni Folkers in his 2010 book *The Modern Architecture of Africa,*[21] highlighted the fact that in Africa, there were alternative ways of embracing tradition and including the context in design work. In other words, he was referring to the re-introduction of traditional building methods for traditional use, i.e. 'conservative vernacularism', the introduction of traditional building methods for contemporary use, i.e. 'neo vernacularism', or the use of traditional techniques in modern buildings, i.e. 'modern regionalism'. A group of contemporary African architects continues in this approach of paying attention to context, an approach that goes back as far as the colonial period. Renowned at an international level for their innovative working methods, these architects include names such as Francis Kéré, David Adjaye, Kunlé Adeyemi, Mphethi Morojele, Mokena Makeka and so on.

Diébédo Francis Kéré is one of the best-known and most interesting African architects. Coming from a small village in Burkina Faso, he had the good fortune to win a scholarship in 1990 to go and study in Germany. At the Berlin Technische Universität he was greatly influenced by Mies van der Rohe's lesson *Less Is More*, which he successfully re-applied to the African context, 'designing with less'. Kéré has said that the two architects that shaped him were Mies van der Rohe and Louis Kahn, and this explains his continuous search for a pathway that lies between technology-innovation and tradition-vernacular. After his studies, Kéré became committed to working in his home country, shuttling and working between continents, combining what he had seen in Europe with what he found in Africa. His many projects are all socially significant and include schools, such as his Gando Primary School, Dano Secondary School, Lycée Schorge Secondary School, Burkina Institute of Technology (BIT), Opera Village and Benga Riverside School or hospital buildings, such as his Songtaaba Women's Centre and Burkina Faso Surgical Clinic and Health Centre, as well as public buildings such as the Centre for Earth Architecture, the Mali National Park, the National Assembly[22] and Benin National Assembly.

Kéré is firmly convinced that "there is no future without education",[23] and he has devoted a great deal of time and energy to architecture for educational purposes. His first and best-known project is the Gando School in Burkina Faso, 2001, that includes a primary and secondary school, a teacher's residence and a library. The whole community took part in constructing the buildings. The walls, both to support the roof and for the classrooms, are made of sun-dried clay bricks following the techniques known by the local community that made them. The outer roof is made from corrugated metal sheets but raised above the clay-brick roofs of the classrooms. This second outer canopy roof protects from the sun, a wide-brimmed hat that ensures shade and protection from the monsoons. The canopy roof also helps to increase the difference between outside and inside temperatures since it facilitates internal airflow. By increasing the difference in temperature, there is greater airflow inside the building, and even if the air is warm, it is the only way of lessening the effect of the heat. The floor is in beaten earth, and the window openings, without glass, are protected by metal shutters that can be opened in a vast number of ways to allow light and air to enter in varying amounts according to the time of day.[24]

The school library was conceived as a public place, accessible not only to pupils but to all members of the local community. Whilst it is built of unfired clay bricks, it is elliptical in shape and more organic in form than the other buildings. The building's ceiling is made using earthenware pot halves crafted by village women that allow natural light to enter and warm air to escape, ensuring passive ventilation of the library without the use of electricity. As the architect explains: "Architecture responds to climate […] to ensure that buildings will last longer on the basis of traditional building systems".[25] The whole building is protected and shaded outside by a line of eucalyptus trees

placed one alongside the other. Eucalyptus trees grow very quickly and are suitable for use in countries such as Burkina Faso, which is suffering from desertification.

The innovative system of natural ventilation requiring no electric power, also known as 'passive geothermal cooling', was devised by Kéré. Air first enters underground conduits that can filter the savannah dust and, at the same time, cool it down before it enters the building from the floor. "The outside temperature is extremely hot in Burkina Faso, around 45 degrees Celsius. In the ground the air is cooled to around 35 degrees, which is a significant relief for the local people".[26] "He creates natural ventilation by moving the wind through the building: air blows in through tall openings in the façade, while small openings in the ceiling allow the hotter air to escape outside. The result is a continuous exchange of air that makes spending time in the classrooms a pleasant experience [...] He creates natural ventilation by moving the wind through the building".[27] The system has been developed with ordinary people in mind, not technicians, meaning that the people using the building are able to carry out any repairs to the system themselves.

The Lycée Schorge, a secondary school for trainee dentists built on the outskirts of Koudougou in Burkina Faso, was designed with similar astuteness in 2016. The building is organised around a courtyard: "Taking cues from traditional villages, the plan protects the outdoor gathering space from wind and dust while also providing a sense of privacy".[28] The school comprises nine modules containing classrooms as well as administrative offices, with one module being devoted to a fully-functional dentist's clinic. The project displays the architect's endeavours to give a modern re-interpretation of traditional materials. In order to reduce transportation, all the furniture for the school was put together by local craftsworkers, using wood found locally or adapting surplus building materials. "To construct the school's walls, Kéré used red-hued bricks made of laterite, a subterranean soil that hardens when exposed to air. 'It has a high thermal mass, plus a beautiful colour and a porous, textured surface [...]'. The school's exterior is wrapped by a distinctive screen made of eucalyptus, a fast-growing tree that is typically used for scaffolding and firewood. Here it is used for a *brise-soleil* – 'I wanted to give this material a more powerful and sustainable purpose' [...] He raised the roof high above the building envelope, enabling hot air to easily escape the interior. Its deep overhangs also mitigate solar heat gain. To further enhance the indoor climate [...] Kéré added a series of angular, 8-foot-high concrete wind towers that capture fresh air and tunnel it downward".[29]

Kéré's Opera Village in Burkina Faso, 2010, is a 'social work of art'. It is a multi-functional modular building organised around a courtyard, the typical layout of traditional villages in the region. Kéré has designed an open structure that melds into the environment, with classrooms for up to 500 pupils, a variety of residential units, art and media workplaces, and spaces for workshops organised around the theatre-cum-opera house. The buildings make use of integrated passive ventilation, natural lighting and

solar power, thanks to solar panels; rainwater is collected and controlled. Kéré has revisited materials such as clay, sand and laterite stone, all found locally in great quantities, and he has made use of them with the active support of the local community. His design solutions ensure ideal environmental conditions even in the hottest seasons, while the clay bricks can be produced on site even without the aid of electricity or water. As the architect himself has explained: "One aim of my research and design activities is to use materials and develop traditional techniques and settlement principles that are already familiar to the local communities. I take note of even the smallest expressions of my land and people and study innovative technologies, testing typological solutions for extreme climatic conditions. [...] This sort of conduct ranks me among 'sustainable' designers, but it is only a Western label, I design exclusively with a sense of responsibility and without mortifying a certain artistic vein that characterises the African people".[30]

Kéré always begins by analysing the climatic and environmental conditions, and his design work is the result of a long list of considerations: costs, climate, available resources, ease of construction and maximum result with minimum resources. All of his projects share a deep understanding and respect for the social and cultural context, with his main aim always being to improve people's quality of life. "Kéré remained concerned about the problems of his people in Burkina Faso".[31] He has always promoted the active inclusion of the community, encouraging them to participate in the construction of his buildings, his motto being 'help to self-help'.[32] Overall, Francis Kéré's work is a successful experiment in participative architecture. Additionally, the architect includes not only the social context but also the environmental context in his design work, his buildings being conceived to meet climate needs: "[The] aim is to create buildings which meet climatic demands and support Burkina Faso's inhabitants in their development".[33] He uses less-polluting and recyclable local materials such as clay, metal sheeting and unfired bricks.[34] His is an architecture that reduces wastage to a minimum, designing with less. Indeed in an interview, the architect himself said: "The real driving force behind my architecture is to promote modern and sustainable architecture in Africa".[35]

A Generation with a Bottom-Up Approach

Francis Kéré is without a doubt the best-known architect who takes a 'bottom-up' approach to his work, but he is not the only one; there are other contemporaries of his who have taken a similar line of attack, and Kunlé Adeyemi is most certainly one of them. Adeyemi is a Nigerian architect who studied in Africa and in the West, at the University of Lagos in Nigeria and at Princeton in the USA. Before setting up his practice, NLÉ Architects in Amsterdam, which principally works with developing nations in Africa, he worked at Rem Koolhas's OMA firm.

Adeyemi is renowned for promoting an innovative method of dealing with climate change in cities on water,[36] specifically for his design of the Makoko Floating School in Lagos, 2013.[37] The floating school was intended to be the first experimental prototype to improve and extend one of Lagos's largest informal communities of fishermen, counteracting plans to remove it. He came up with an unconventional idea to allow the community to remain. Furthermore, the project provides a possible solution to the problem of a lack of low-cost housing and the problem of flooding. The school, which was intended to hold up to 100 primary school children, was designed as a three-storey building with an A-frame structure floating on 250 plastic barrels, providing classrooms as well as bathrooms. Adeyemi began by building a prototype module of a floating building that could be replicated according to requirements. The building was envisaged to be easy to build, flexible, inexpensive and potentially adaptable to uses other than educational purposes. The school was built in wood, a locally-sourced material, by local workers using traditional building techniques. Once again, the local fishing community was actively involved and engaged, thanks to their existing knowledge of wooden buildings. Energy was provided entirely from renewable sources by means of solar panels on the roof to provide electricity. In addition, the shade was provided through slats that stopped direct sunlight and overheating in internal spaces; ventilation and natural lighting were other key features, as was the use of recycled plastic barrels and a system to collect and re-use rainwater. The building was conceived as a module that could be replicated to provide future sustainable expansion of the informal settlement. The architect recognises that he was trying to find an alternative solution to one of his country's problems but soon realised that it was part of a wider issue: "It didn't start as a big idea, I was trying to solve a small problem the community had. I realised the problem I was trying to solve was a problem for a large part of the world".[38]

Mphethi Morojele studied at the University of Cape Town and at the Bartlett School of Architecture in London before founding the MMA Design Studio in 2004 in Johannesburg, South Africa. As a child, he travelled widely because of his father's work, and he developed a particular sensitivity for different social contexts. "His practice started at the dawn of democracy in South Africa when they were transforming and re-building the country",[39] and in fact, he is one of the architects most committed to overcoming apartheid and to dealing with social issues.[40] Among his most important projects, it is worth mentioning his 10 × 10 Housing Project in Cape Town, 2009, a residential project intended to provide attractive low-cost sustainable homes to poorer members of society. The homes the architect designed were small-size two-storey buildings, drawing on the construction techniques of vernacular architects. With their traditional bricks-and-mortar foundations and a wooden framework filled with sandbags, all construction could be carried out by unskilled workers. The buildings are also energy-efficient, producing

their electricity needs from solar panels, while the sandbags provide effective acoustic and heat insulation, minimising energy waste.

MASS Design Group is an architectural firm set up in 2006 by Michael Murphy and Alan Ricks that today employs over 75 people, split between Boston, USA, and Kigali in Rwanda. The two founding members studied at the Harvard University Graduate School of Design and have worked in Liberia, the Democratic Republic of Congo, Uganda, Rwanda, Tanzania, Zambia, Malawi and Lesotho. The firm is mainly involved in humanitarian projects, paying great attention to context. "MASS stands for Model for Architecture Serving Society".[41] "Over the last decade, MASS – whose mission is to research, build and advocate for architecture that promotes justice and human dignity – has worked in several countries in Africa and America".[42] In their own words: "We make sure that our approach is site-specific and culturally appropriate".[43] Indeed, the aim of the designers is to bring together innovation, use of local materials and local workers' skills.

MASS Design Group has designed and built many schools and hospitals, aiming to improve education and health in the countries in question. The Maternity Waiting Village in Malawi, completed in 2015, is exemplary of their working method. Organised around a courtyard, the project is a prototype village with four-bed units for expectant mothers living far from a hospital. The mothers spend six weeks in the waiting village before delivery. "We really wanted to transform this maternity waiting experience from something that was seen as a negative experience for mothers, something that disempowered them, to something that was empowering".[44] In Malawi, one woman out of 36 risks dying during childbirth, and this prototype, which aims to reduce such deaths, can be replicated in other areas. The maternity village is built using locally sourced materials and vernacular building techniques. The stabilised clay bricks that are used in construction are made from local clay and formed on site by local workers. Of particular interest is the flexibility of the structure, that when no longer used as a maternity unit can be converted to residential purposes. Among the various health service buildings designed on similar principles, mention should also be made of the Butaro District Hospital, completed in 2011, and the Rwinkwavu Neonatal Intensive Care Unit, 2014, Rwanda.

The Ilima Primary School in the Democratic Republic of Congo and the Lupani Primary School in Zambia are the first two schools in the African Conservation Schools (ACS) network that helps young children to relate to nature and animals from an early age. The design and construction of both schools demonstrate a particular attention to the environment, with local renewable materials being used on site. In the Ilima school, 99 per cent of materials come from within 10 kilometres of the building site. Of particular interest is the designers' relationship with the natural environment and with the context they are working in. In the case of the Ilima Primary School: "The structure boasts a large suspended roof that provides extra shade from the sun and shelter during storms; furthermore, catchments allow for rainwater

collection, which is then used for agriculture. [...] We figured out a way to use mud block, blended with different mixes of palm oil to make it stronger and sturdier. [...] We found a way to make a shingled roof out of sourcing a local wood [...] [and] using exclusively local materials, construction was carried out by community members who were trained and employed throughout the duration of the process".[45]

MASS also designed the Umubano Primary School in Rwanda in 2010 as part of its humanitarian mission to boost education in Africa. The project includes seven buildings with nine classrooms, library, computer laboratories, kitchen, administrative offices, mixed-purpose facilities and terraced play areas. The whole complex is organised on different levels, following the shape of the hillside site, with adjoining interior rooms and external open spaces being used for teaching purposes. The project was inspired by settlements in the region: "Local materials such as bricks and papyrus reeds were used in the construction to cut down on transportation costs [...] Encouraging local markets, [...] MASS collaborated with local craftsmen to incorporate local expertise in the process. The design employs natural ventilation strategies, and the vierendeel trusses in the roof structure create clerestory lighting in order to reduce energy consumption".[46]

The working methods at MASS Design Group are clearly indicated in the words of Alan Ricks: "We hope that when you look at a building and evaluate whether you think it is good or bad design, you ask what is the value that is being created for those users and builders, and what effects it had and has on them".[47] MASS invests in the dignity of the communities it works for and is in contact with. Their focus is to impact health, education and justice in the areas they operate in, trying to take decisions that positively influence the economy, environment and people involved in their projects. They believe that a large part of good design work comes from the bottom up and that good design is able to improve communities, to protect the environment and to help the underprivileged.

It is important to point out that giving special consideration to context is not something that is linked to the architect's origins, whether that means Africa or elsewhere, but it depends on a certain sensitivity. While an African can probably understand problems and issues more instinctively, there are also outsiders who are able to grasp and re-invent the African context in very interesting ways. One of these is Urko Sánchez, a Spanish architect who has been working in Africa since 1998, in areas such as Somalia, Kenya, Djibouti and Angola. Even though he is an outsider, his projects pay great attention to the environment and to context. His buildings are energy-efficient, they collect and re-use rainwater and make use of local materials and skilled workers. His Red Pepper House at Lamu in Kenya, 2009–2014, is exemplary, being surrounded by nature and perfectly integrated into its forest setting. Particularly noteworthy is the fact that the architect avoided felling even one tree, building the house by making use of the free space between tree trunks. The single, continuous, sinuous roof was made of wood using traditional

Swahili techniques[48] by local craftsworkers, and it serves to protect the buildings beneath from rain and sun. The walls make use of 'coral stone', which helps to keep the rooms cool, and cross ventilation ensures constant airflow. Solar energy systems have been installed for heating water and to generate electricity. An ecological building with a low environmental impact, it is also extremely refined from a design point of view.

Principles of Sustainability

The architects of Africa presented in this chapter provide examples of a sustainable approach to architecture. Even though their methods are distinct and variable, they all adhere to the concept of 'an alternative, context-specific modernity'. We have seen how reviving past ideologies or historical approaches is of much less importance than re-using resources intelligently for the benefit of the community. And this implies re-embracing old vernacular traditions that have belonged to the countries and their tribes since long before the arrival of the colonial powers.

Climate is one of the factors that is inescapable in the projects: the sun, the air, the wind and the rain affect formal decisions. And obtaining maximum results with minimum resources becomes fundamentally important in order to create sustainable buildings, both from an economic perspective and from the standpoint of how liveable spaces are. Generating energy without consuming resources is also another important challenge, met by using solar panels to produce electricity, employing systems to re-use rainwater for sanitary purposes, and utilising alternative methods for cooling.

For the architects, it becomes imperative to construct low-cost buildings, and in order to obtain results, locally-available materials are used and the local community provides the workforce. Indirectly, this helps to forge a sense of community and to give employment to people who would otherwise be out of work. All the projects have become models of participative architecture. At the same time, the concept of zero emissions is also observed since the cost of transporting materials from afar and the unsuitability of non-local materials for climate reasons leads architects to seek to use materials available close to the building site.

Working in marginal, ill-fated and difficult areas becomes a mission for such architects, who nevertheless see the potential to make a difference.

All the building projects presented here take context into account, and in the case of Africa, this means respecting the climate, the environment, the vernacular architecture, the community, local materials, available resources and people's economic situation. The current issue of sustainability provides fertile ground for these projects, becoming an inspirational model, even for the West.

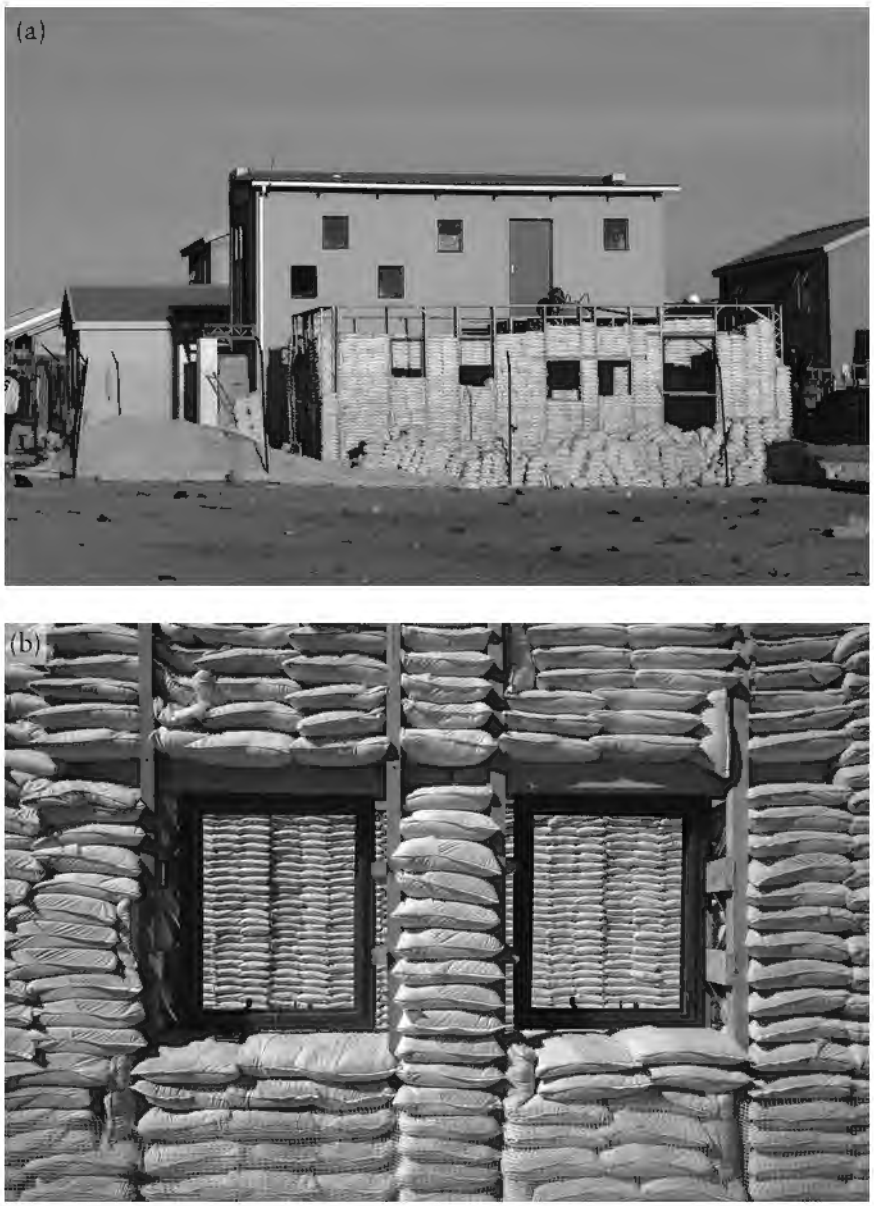

Figure 6.1 (a) Mphethi Morojele – MMA Design Studio, 10 × 10 Low-Cost Housing Project, Cape Town, South Africa, 2009. (b) Buildings under construction.

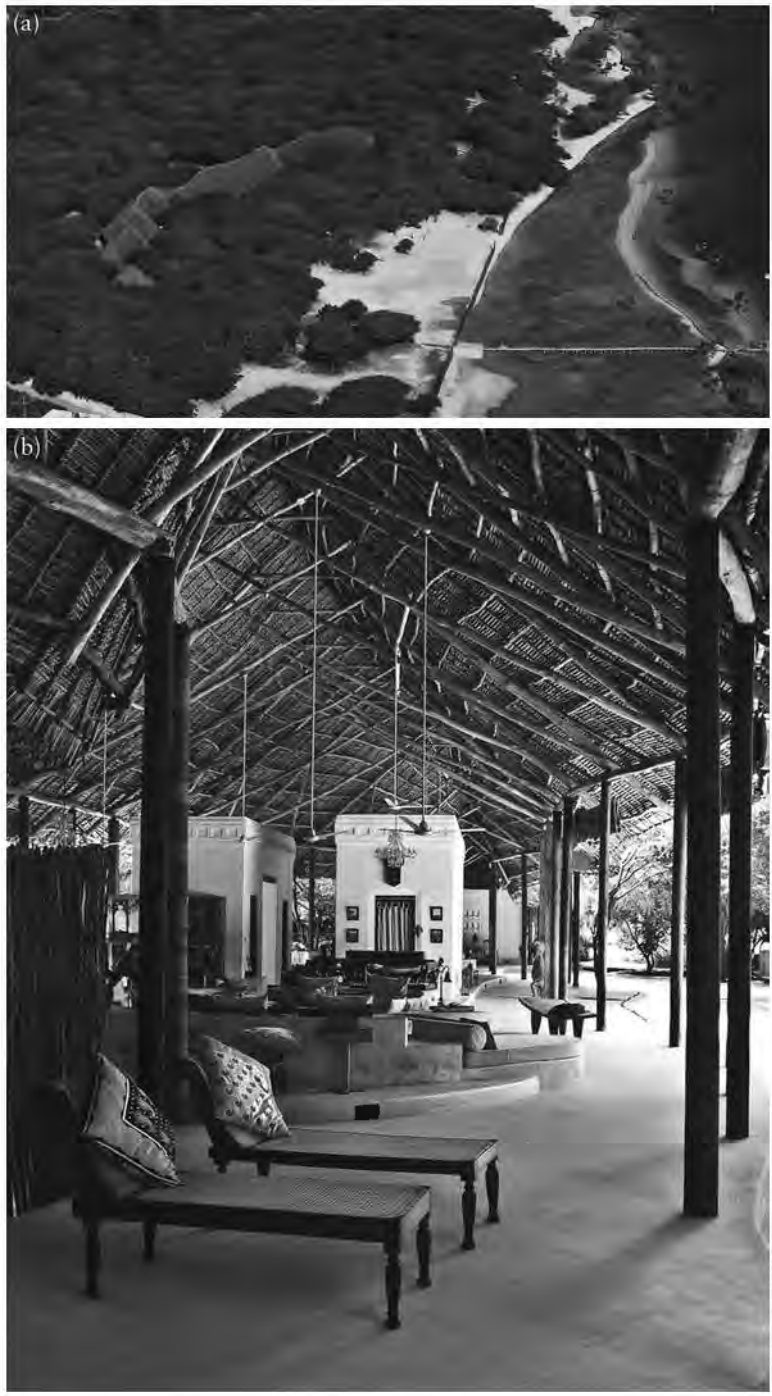

Figure 6.2 (a) Urko Sánchez, Red Pepper House, Lamu, Kenya, 2009–2014. (b) Detail of the roof and the interior.

Figure 6.3 Kunlé Adeyemi, Makoko Floating School, Lagos, Nigeria, 2013.

Figure 6.4 (a) MASS Design Group, Maternity Waiting Village, Kasungu, Malawi, 2015. Birds eye view. (b) View from above of the open air space. *(Continued)*

Figure 6.4 (Continued)

Notes

1 Africa was colonised by Western countries from the 15th century onwards, with colonisation reaching a peak in the 19th and 20th centuries. After being parcelled out by European countries in 1884, Africa was eventually decolonised in the 20th century, mainly in the 1960s, but some countries were made independent in the 1950s and 1970s, and a few as late as the 1990s.
2 See also: Eric Hobsbawm, *The Invention of Tradition* (Cambridge: Cambridge University Press, 1983); published in Italy as: Eric Hobsbawm, *L'invenzione della Tradizione* (Turin: Einaudi, 1983).
3 Francesco Cherubini, *Architettura della terra: Hassan Fathy e l'esperimento di New Gourna*, in 'architetturaecosostenibile', 30 May 2012. https://www.architetturaecosostenibile.it/materiali/laterizi-terra-cruda/architettura-terra-cruda-hassan-fathy-new-gourna-756.
4 For a similar approach, see also the village of New Baris also designed by Hassan Fathy at Kharga, Egypt, 1967.
5 See also the Cabo Negro project by Elie Azagury, Morocco, 1970 or the Hotel Les Gorges du Dades by Abdeslem Faraoui and Patrice de Mazières, Morocco, 1974.
6 Le Corbusier envisaged a series of projects for Africa, one of the most famous being the infrastructure project for Algiers. Oscar Niemeyer also worked in Algeria, designing modern buildings that attempted to meet specific African needs. A book that sheds light on this move towards modern architecture after independence is: Udo Kultermann, *New Directions in African Architecture* (New York: Braziller, 1969).
7 James Ranald Martin, *The Influence of Tropical Climates on European Constitutions* (London: John Churchill, 1856).
8 The first school of tropical medicine was set up in 1899, putting the studies undertaken into practice.

9 The helmet, the symbol of colonialism, became the object of designers' attention and has features adapted to a tropical climate: improved airflow, wide brim for protection from the sun, etc.
10 Robert Felkin, *Africa as a Living Laboratory. On the Geographical Distribution of Tropical Disease in Africa* (Edinburgh: Royal Physical Society, 1894).
11 Charles Ryan, *Health Preservation in West Africa* (London: John Bale, Sons & Danielsson, 1914).
12 John Murray, *How to Live in Tropical Africa* (London: George Philip, 1895).
13 George Atkinson, *'Tropical Architecture and Building Standards',* in *Conference on Tropical Architecture 1953* (London: University College, 1954).
14 Ove Arup, *'New Building Techniques in the Tropics',* in *Conference on Tropical Architecture 1953* (London: University College, 1954).
15 Maxwell Fry and Jane Drew, *Tropical Architecture in the Dry and Humid Zones* (London: Batsford, 1964).
16 Fry and Drew, *Tropical Architecture in the Dry and Humid Zones* (London: Batsford, 1964), 86.
17 See also: the Wesley Girls' School at Cape Coast in Ghana, 1954.
18 For other school buildings designed by Fry and Drew, see also Prempeh College in Kumasi, Ghana, 1952 and Mawuli School in Ho, Ghana, 1953; both adopt a 'contextualised modernism'.
19 "I understand by the term 'apparatus' a sort of – shall we say – formation which has as its major function at a given historical moment that of responding to an urgent need. The apparatus thus has a dominant strategic function". Michael Foucault, *'The Confession of the Flesh',* in Colin Gordon, *Power/Knowledge Selected Interviews and Other Writings* (New York: Pantheon Books, 1980). Foucault uses the term 'apparatus' to refer to all those expedients that have a strategic function; in this case, the function is strategic in respect to the context of the building.
20 Another architect who adapted modernity to context was surely Amâncio 'Pancho' Guedes: see his designs for the Saipal Bakery, Maputo, Mozambique, 1954, as well as his writings *Vitruvius Mozambicano*.
21 Antoni Folkers, *The Modern Architecture of Africa* (Amsterdam: SUN, 2010).
22 Relatively few and less significant are his works built abroad: in Germany, where he studied, he designed the Waldorfschule Weilheim and the TUM Tower, Munich, in London, the Serpentine Pavilion and the Sensing Spaces Pavillion, in America, the Xylem, Montana.
23 Esther Giani and Diébédo Francis Kéré, *Diébédo Francis Kéré: Fare architettura in Africa* (Forlì: Foschi, 2010), 13.
24 Giani and Kéré, 8–10.
25 Interview with Francis Kéré: https://www.domusweb.it/en/architecture/2010/11/08/interview-with-diebedo-francis-kere.html.
26 Jeanette Kunsmann, '*Clay Bound Utopia*', in *DomusWeb*, 29 October 2012, https://www.domusweb.it/en/architecture/2012/10/29/clay-bound-utopia.html.
27 Jeanette Kunsmann, '*Clay Bound Utopia*', in *DomusWeb*, 29 October 2012, https://www.domusweb.it/en/architecture/2012/10/29/clay-bound-utopia.html.
28 Jenna M. McKnight, *'Raising the Grade: Lycée Schorge by Kére Architecture',* in *Architectural Record*, 1 January 2019 (2019), 96–98.
29 McKnight, 98.
30 Esther Giani and Diébédo Francis Kéré, *Diébédo Francis Kéré: Fare architettura in Africa* (Forlì: Foschi, 2010), 14.
31 Andres Lepik and Ayça Beygo, *Francis Kéré: Radically Simple* (Ostfildern: Hatje Cantz, 2017), 34.
32 Giani and Kéré, 10.
33 Giani and Kéré, 10.
34 Giani and Kéré, 11.

35 Giani and Kéré, 10.
36 Kunlé Adeyemi and Lisa Anderson, *'Africa Water Cities',* in *Architectural Design*, s5, vol. 82, no. 5 (2012): 98–101.
37 The building has since collapsed, but it remains of interest to examine the solution put forward for an informal floating community.
38 Daisy Carrington, *Beautiful Buildings, Ingenious Innovation: Africa's Most Exciting Architects*, CNN, 2014. http://edition.cnn.com/2014/05/27/world/africa/beautiful-buildings-africas-exciting-architects/index.html.
39 D.K. Osseo-Asare, *'Africa Dissect, Africa Design, Africa Deliver',* in *NOMA Magazine*, issue 6 (2010). https://issuu.com/osseo-asare/docs/nomamag_06_2010spring.
40 MMA Design Studio has mainly worked in Ethiopia, Uganda, Botswana and South Africa. It has been responsible for projects such as The Cradle of Humankind and Hotel Complex in Johannesburg, the South African Embassy in Ethiopia, the South African Embassy in Germany, the Faraday Precinct in Johannesburg and the Freedom Park Museum and Memorial Gardens in Pretoria.
41 The African Design Centre, set up in 2016 as an innovation hub for Kigali in Rwanda, aims to "feature the interdisciplinary and field-based model that will professionalise the skills of top emergent talents [...] the African Design Centre has been designed to respond to radical innovation in the face of population growth [...] MASS Lo-fab (short for locally fabricated) Design philosophy centres around human centered design, with the belief that architecture must have a transcendent idea to effect systemic change". Its mission is to train leaders who will design a fairer and more sustainable world. Patrick Lynch, *'Mass Design Group to Propose "Bauhaus of Africa" at UN Summit',* in *Archdaily*, 25 September 2015. https://www.archdaily.com/774325/mass-design-group-to-propose-bauhaus-of-africa-at-un-summit.
42 Anna Sansom, *'Building Dignity: MASS Design Speaks to DAMN about the Future of African Architecture',* in *DAMN* no. 68 (2018). https://www.damnmagazine.net/2018/06/06/mass-design-group-african-architecture.
43 Anna Sansom, *'Building Dignity: MASS Design Speaks to DAMN about the Future of African Architecture',* in *DAMN* no. 68 (2018). https://www.damnmagazine.net/2018/06/06/mass-design-group-african-architecture.
44 Sandra Henderson, *'Empathy in Architecture: the Kasungu Maternity Waiting Village by MASS Design',* in *Slow Space*, 10 January 2018. https://www.slowspace.org/empathy-architecture.
45 Philip Stevens, *'MASS Design Group Uses Materials from Congolese Jungle to Build Ilima School',* in *Designboom*, 27 May 2017. https://www.designboom.com/architecture/mass-design-group-ilima-primary-school-congo-what-design-can-do-05-27-2015.
46 Edwin Seda, *'Umubano Primary School: MASS Design Group',* in *Archidatum*, 5 May 2015. http://www.archidatum.com/projects/umubano-primary-school-mass-design.
47 Mikenna Pierotti, *'MASS Design Group's Alan Ricks on Architecture and Social Justice',* in *GbdMagazine,* 2017. https://gbdmagazine.com/2017/in-conversation-alan-ricks.
48 The roof is in *makuti* thatching.

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7 'Indirect' Context
The Case of Japan

Tradition and Creation

Hiroshima mon amour is the title of the 1959 film by the French director Alain Resnais that centres on the relationship between a Japanese architect and a French actress. It is a window into the tragic years immediately after World War II, but also an attempt to establish a difficult – or perhaps even impossible – dialogue between two profoundly different cultures. Japan is everything that Europe is not, and vice versa. Unsurprisingly, Japan did not maintain diplomatic relations with the other 'outside' world, the European and Western world, until the end of the 19th century, only opening up during the Meiji dynasty. This late opening up to most of the rest of the world explains, at least in part, Japan's specificity, not simply in terms of its products, but also in particular as far as the country's mentality is concerned. Thus, for example, discussion and debate, which have always played such an important role in defining European thought, are not part of the Japanese mentality. Instead, in Japan, there are other attitudes and aptitudes that prevail over the more typically Western approaches, such as 'enlightenment', contemplation and respect. But despite this, during the 20th century, Japan has become much more Westernised, and today we would find it hard to consider Japan as belonging to an exclusively 'oriental' category.

In order to talk of a modern Japan and to understand the difficult relationship the country has had with the West, we must necessarily go back to the atomic bombs that the West dropped on Hiroshima on 6 August and on Nagasaki on 9 August 1945. The two atomic bombs exploded in two important commercial and industrial cities in Japan, though they were not the largest or most densely populated cities in the country. Large parts of these cities were destroyed in the blasts, while deaths were recorded for many years as a result of radioactivity. The United States justified the bombing believing it was the only way to halt the Japanese war machine, ready to continue hostilities at whatever price. In other words, the Americans viewed the bombs as the only way to put an end to World War II. Whatever, the nuclear attack forced Japan to sign the armistice that led to the occupation of the country until 1952.

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For this reason, the rebuilding of Japan was strongly influenced by the United States. Although it may initially seem paradoxical, bearing in mind the dramatic conclusion to the war, this 'Americanisation' – or more generally a 'Westernisation' – can be seen in the light of the proud Japanese desire to redeem their country by following the same lines as those used to measure Western success: industrialisation. And it was this desire for redemption that was to lead Japan (a highly populated country for a relatively small land area) to become one of the world's main industrial powers, particularly in the fields of technology, electronics and car production.

The remarkable industrial growth of the country did not, however, manage to unseat the traditional Japanese mentality, and in some ways, they coexist. Of course, there is no lack of contradiction between these two dissimilar systems – and especially between the two mentalities – as can be seen in the interconnecting vicissitudes of the Temple of the Golden Pavilion (Kinkaku-ji) in Kyoto and the writer Yukio Mishima. Dating back to the 14th century, the temple was originally the home of a Shogun, a military authority with local power, later becoming a Buddhist temple. Like all other temples in Japan, the Golden Pavilion is completely rebuilt every 20–25 years, the replica of the original being viewed as a way of preserving the form rather than the materials, very different to the Western approach. During its history, the Golden Pavilion has caught fire many times by accident. On 2 July 1950, however, it was set on fire intentionally by a young monk working at the temple. In his book *The Temple of the Golden Pavilion,* published in 1956, Yukio Mishima attempts to explain the act of the young monk as a gesture of non-attachment to worldly things, perfectly in line with Buddhist teachings. According to Mishima, far from being a display of hate towards the temple, the arson attack was an act of deep devotion towards its perfect beauty. All of this would not, however, make a great deal of sense if it weren't viewed as part of the political situation that Japan found itself embroiled in at the time: the American occupation of the country. Mishima sees the incomparable contrast between the tradition of beauty that had generated the Golden Pavilion and the decadence present in Japan, dominated by a purely economic rationale. In this sense, burning down the Golden Pavilion implies preventing it from being handed over to the enemy, saving it from an even worse form of destruction.

The strong sense of defending the value of the nation's dignity belongs to Mishima, even more so than the young monk who set the Golden Pavilion ablaze. In fact, in November 1970, Mishima managed to get into the headquarters of the Japanese self-defence forces in Tokyo, where he harangued a crowd of soldiers, trying to persuade them to rise up against the American mentality that continued to subjugate Japan, even if the US military presence had already ended. Realising that the soldiers weren't willing to follow him, Mishima entered the general's office with the help of his four assistants, and he cut open his belly with a katana sword, in other words, he committed *seppuku*, the suicide ritual of the ancient samurai to respect their code of honour after defeat in battle.

This clearly demonstrates how Japan is far from being a country that can be viewed according to Western standards. And it becomes legitimate to ask ourselves whether a Japanese political attitude exists or not and whether it is in some ways comparable with that of the West.

The Establishing of 'Japan-ness': Kenzo Tange

The fortunes of architecture encountered the same dynamics that lay behind the industrialisation of Japan following the war. Nevertheless, Kenzo Tange, the father of modern Japanese architecture, aimed to find a mid-way between modernising forces and the forces of tradition. Before the war, he worked in Kunio Maekawa's architectural practice. Maekawa had, in turn, worked for a certain period in Paris with Le Corbusier, where he was exposed to the use of reinforced concrete. Returning to Japan, Maekawa designed the Harumi apartment block in Tokyo in 1957. This is an interesting variation on the theme of Le Corbusier's *unité d'habitation*, re-worked to include local features, as is very evident in the way details have been adapted, such as the sliding wooden windows clearly drawn from traditional Japanese homes. Maekawa also worked alongside Le Corbusier in designing the National Museum of Western Art in Tokyo, 1957–1959: a simple box-like structure in reinforced concrete, with the internal space supported on tall pilotis and lit by large skylights.

Tange made his entrance into the history of modern Japanese architecture when, in 1949, he won the international competition for the Peace Memorial Museum in Hiroshima, to be built on the site of the atomic bomb's 'ground zero'.

Hiroshima, like Nagasaki, was a city of mainly wooden homes, which were swept away in the explosion, the city centre being reduced to a wasteland. Only a few buildings in reinforced concrete resisted the blast. Among these was the Hiroshima Prefectural Industrial Promotion Hall, which was to become the symbol of the tragedy. Preserved as a ruin in memory of the disastrous event, it was to become the background to the other elements that Tange designed: the concrete saddle-shaped cenotaph that symbolically represents all the victims of the tragic event, and the museum itself, a long building on pilotis with a façade covered in *brise-soleil* strips.

Taking his own cue from Le Corbusier, through Maekawa as an intermediary, Tange thus gave rise to a modern architecture able to re-invent reinforced concrete with a wholly Japanese version, in particular by adapting it to the principle of wooden buildings pieced together out of single planks.

In 1951–1953, Tange built a house for himself in Tokyo, a Japanese home that is at the same time a modern home. The building includes traditional features such as the *engawa* (a sort of covered ground-floor porch or veranda that acts as a go-between between the house, the outside and the nature surrounding it) and the steeply sloping roof. Inside, all the rooms have sliding windows and *tatami* floor coverings that give the floor the traditional central

role in Japanese homes. Despite these elements, and despite the wood used for its construction, the house reveals a modern spaciousness and layout.

It was in this period that Tange, together with the young architectural critic Noboru Kawazoe, was invited to take part in the rebuilding of the Ise Shrine. As mentioned earlier, the rebuilding of a shrine traditionally takes place at the end of a set time to create an exact copy of the original. Normally such rebuilding work is carried out by monks since a shrine like the sacred Ise Shrine is off-limits to the layman. In 1953, however, as the American occupation had only recently ended, the reconstruction of the Ise Shrine was made a public affair, being used as a sign of the rebirth of the Japanese national spirit. For Tange, this was an opportunity to delve into the very essence of traditional wood construction, to discover the reasoning behind it, as well as the amount of freedom and constraints involved. Years later, the two men put together a book that dealt with the experience, *Ise. Prototype of Japanese Architecture*,[1] where the building is presented as an exemplary construction in order to understand traditional Japanese architecture. What Tange and Kawazoe pay particular attention to is the way that everything in the shrine is reduced to essentials, and they take this as the starting point for a rationale of standardisation, a facet of modernity that also precedes all 'modern times'.

During this time, Tange studied, absorbed, learnt about and took inspiration from certain key points in the history of traditional Japanese architecture, such as the Great Southern Gate to the Todai-ji Temple in Nara leading to the Daibutsuyo Great Buddha Hall, that draws on Chinese elements. Over the course of history, China and Japan have come into conflict on numerous occasions, but they have also enjoyed close relations, which have led to them sharing the ideogrammatic written form and the use of architectural features such as pagoda roofs. Some of these features and slants on such features have been taken up by Tange in buildings such as the Kagawa Prefectural Government Hall, 1955–1958. In this design, reinforced concrete is used differently, as if it were finished pieces of wood in a variety of sizes, instead of a material that is intrinsically fluid, shapeless and potentially continuous. The building is an extraordinary attempt to rethink Japan in modern, progressive terms during the years of the economic boom (of particular note – among the many things – is the style of the furniture and works of art inside the building that are decidedly avant-garde for the mid-1950s), without ever forgetting the country's origins. Tange aims to reconcile the aftermath of the catastrophic World War II with the preservation of national identity, even if such a reconciliation can but embrace deep-seated contradictions.

The Kurashiki Town Hall, 1958–1960, stands in a traditional context but does so with a dogmatically modern gesture. It is a Le Corbusier-inspired building, but at the same time, it is the result of a pact with traditional culture. Here and elsewhere, Tange knowingly draws on two fundamental principles of Japanese figurative art that can be traced back to two precise moments in the country's historical development: the Jomon period and the Yayoi period. The former is an earlier primitive period (between around 10,000 BCE and

300 BCE) that is characterised by special and structural simplicity; the latter, instead (referring to the period from around 400–300 BCE to 250–300 CE), pays more attention to shape. Tange begins by putting these two opposing aspects together, and even if the dialogue is not Japan's strong point, here, there is an interesting search for harmony between different principles.

Hardly surprisingly, Tange also devoted himself to studying the Katsura Imperial Villa in Kyoto during the same period. The original core of the Emperor's summer residence dates back to the second half of the 16th century, and the villa was to become a model of beauty and elegance not only for Japan but also for the modern world. Architects such as Bruno Taut and Walter Gropius wrote about the Katsura villa, the book by Gropius also being written in co-operation with Kenzo Tange and illustrated by stunning photographs (in some cases bordering on abstract works of art) by Yasuhiro Ishimoto.[2] Katsura is a model of an organic whole in the Japanese tradition, where artificial elements come into complete accord with nature. This is not a piece of architecture that attempts to 'simulate' nature but rather a building set perfectly within nature. In terms of its ground plan, the Katsura Imperial Villa comprises a series of linked pavilions, a 'cluster' plan, as Alison and Peter Smithson could have described it in line with the theory they put forward during the Aix-en-Provence CIAM conference in 1953.

The concept of a 'cluster' design has always been a kingpin of Japanese culture. And the Katsura villa has inspired architects such as Mies van der Rohe, Wright and Scarpa: all linked by sobriety and cleanness that have become the core of their modernity.

On the occasion of the Tokyo Olympic Games in 1964 – an event of fundamental importance in that it sanctioned the country's complete turnaround and its full status as a great industrial power – Tange was entrusted with the design of the Yoyogi National Gymnasium, 1959–1964, the complex comprising two covered stadiums for water sports and gymnastics. The dynamic shapes of the two buildings go well beyond the mere use of a modern style, and instead, it is reworked in a totally Japanese manner. As a result, the pillars that support the great 'tent' that covers the swimming stadium have no equals among the Western architecture of the same period (except for works by Eero Saarinen): the curvature of the roof lies 'within' the supporting forces, bestowing an apparent movement to the building. And more generally, the curving shapes that characterise both buildings are the same as those that can be found in traditional expressions of Japanese culture, such as the complex women's hairstyles or in *ikebana*, the art of arranging flowers practised by ancient samurai as a way to concentrate before the battle. The Jomon principle and the Yayoi principle are here found in synthesis.

Immediately after the war, Tange joined the University of Tokyo and gathered a young team around him that came to be called the Tanken (the Tange Laboratory). In later years, members of this young team were to become some of the most important architects in modern Japan. Tange was the aggregating element both within the university and in his professional office.

The key event that brought together his teaching efforts and his work with the laboratory was the 1960 Tokyo Bay project, developed together with the young Tanken team. In 1959 Tange had been invited as Visiting Professor to MIT in Cambridge, MA, and on that occasion, he had devised a plan for the bay in Boston: two giant curving A-frame structures. Later, on the basis of the same kind of giant structure, he was to design the urbanisation of Tokyo Bay. The modern capital of Japan is an enormous city that has expanded over time, and on the eve of the 1960s, it was the right time to consider colonising the very bay where the ancient village of Edo, the original core of today's city, had originally sat. Tange's plans hinged around the very 'Western' practice of developing the land (though here, of course, it is a question of developing the stretch of water), even if the outcome was not foreign to Japanese culture. The development was conceived as a long strip that would house around two million people, a ring-like infrastructure that encountered a series of large pagoda-style buildings for office and residential purposes. Tange, therefore, envisioned a linking element with Tokyo's historic urban layout.

Having become the new capital of Japan in the mid-19th century, Tokyo then had to include a vast area for the Imperial Palace, which had previously been located in the old capital of Kyoto. Roland Barthes, the great French essayist and semiotician, wrote about this in his book *Empire of Signs*,[3] where many of the phenomena of Japanese culture are seen as expressions of ritualism where gestures have enormous importance. The most decisive 'sign' that Barthes sees in the city of Tokyo is the empty space that the Imperial Palace occupies in the centre of the city. In this interpretation, the centre of Tokyo is 'empty', just like the 'empty' space of the Forbidden City in Beijing – not a physical emptiness, but a symbolic void. The Imperial Palace represents an area off-limits to anyone not part of the imperial court, that god-given body in the theocratic Japanese view. According to Barthes, the empty centre completely overturns what is seen as a normal relationship in the West: the Japanese way of thinking upturns the Western view where fullness epitomises strength and power. Instead, in Japan, the empty centre emits around it a strength and a power that functions by its absence: "When nothing is done, nothing is left undone".[4] All Buddhist meditative concentration practices prevalent in Japan, particularly through Zen doctrine, are based on the idea and the practice of 'emptiness'.

The old heart of Tokyo lay on the water's edge, with its many canals flowing into the bay. This traditional layout of the city was, however, gradually 'confiscated', particularly with 20th-century urbanisation. Hidenobu Jinnai, the great Japanese architectural historian, in his book *Tokyo: a Spatial Anthropology*, has reconstructed the history of the city on the basis of the network of canals that criss-crossed the city and, in some cases, that still cross it.[5] As if he was an archaeologist of modern times, Jinnai went in search of the remaining canals that can be tracked down today in residential areas, along the backs of buildings, or at the base of the support pillars of the large urban motorways that cut through Tokyo. The development of the bay, as

conceived by Tange, was part of the land development strategies underway in those years. While in the past there had been an organic relationship between earth and water, even the canals were later to become enmeshed in a rationale of development and exploitation.

The Organic Approach: Metabolism

1960 was also the year of the World Design Conference held in Tokyo in May of that year. This large architects' convention was devoted to the theme of "Our Century: the Total Image – What Designers Can Contribute to the Human Environment of the Coming Age". Here, the adjective 'human' is significant in that it demonstrates the desire to go beyond purely industrial development. Participants at the conference included the Smithsons, Louis Khan, Jean Prouvé and others. It was during this conference that the outcome of the Tokyo project was presented, and it was here that, for the first time, it was stated that going hand in hand with the designing of a giant structure was the concept of 'metabolism', in other words, something that develops on the basis of a life process, in continual transformation like an organism. 'Metabolism' was the term that Tange's young students were to use, and after the Tokyo plans that they played a part in, they founded a movement that they, in fact, called 'Metabolism'. Arata Isozaki was responsible, along with Kenzo Tange, for some of the designs for the Tokyo plan, in particular, plans for the colossal horizontal skyscrapers. In the Metabolist view, whatever the scale of the project, the building was not to be the only element at the centre of attention, instead, it had to be seen as part of an organic approach. Like plants in a natural environment, these buildings also have a stem core, the supporting structure in reinforced concrete; and just like plants, the buildings have 'leaves', the 'capsule cells' that are grafted onto the stem and that have a 'seasonal cycle'. The cycle of nature is, in fact, the kingpin of Metabolist architecture. And while the stem core in reinforced concrete has a certain lifespan, the capsules grafted onto it have a much shorter lifespan and need to be replaced more frequently.

Alongside Arata Isozaki, some of the other key players in the Metabolist movement included Kiyonori Kikutake, Takashi Asada, Noboru Kawazoe and Kisho Kurokawa, and it was this group that on the occasion of the World Design Conference in Tokyo produced the Metabolism 1960 manifesto.[6] In it, the authors state: "We regard human society as a vital process – a continuous development from atom to nebula. The reason why we use such a biological word, metabolism, is that we believe design and technology should be a denotation of human society". Technology is, therefore, of fundamental importance, but only if it maintains a living relationship with human beings and with nature.

The 1960 conference gave the young Metabolist group international visibility, opening them up to contacts with Western architects, such as the British group Archigram. In truth, even before 1960, some of them had begun

working towards a 'Metabolist' architecture. Indeed, Kiyonori Kikutake, a Tokyo University graduate and assistant to Tange in Tanken, had designed a house in 1958 for his family and himself in Tokyo, the Sky House. Conceived as an earthquake-proof structure (like most buildings in Japan after the great earthquake of 1923), it makes use of four large slab-like pillars in reinforced concrete that support a single raised storey: a layout that clearly stems from modern research, but at the same time draws on the very essence of the Japanese spirit. Its 'metabolic' nature lies in the fact that the single floor is destined to grow over time, like a true organism; the house has a life of its own, unfinished but intended to change with time. The traditional Japanese home is described with exemplary clarity in the book by Junichiro Tanizaki, *In Praise of Shadows*.[7] Here the great writer (a key point of reference for Mishima) nostalgically sets out the features of the Japanese home, censuring the use of electric lights that, in his view, ruin spaces in the traditional home, its true dimension being experienced through the living, fluttering light given by candle flames. Electric light, instead, illuminates every corner indifferently, removing shadows and making space uniform within the home. Similarly, Tanizaki praised the shadows created by the deep overhanging roofs of traditional houses, as well as the shadows of the *shoji*, the sliding doors 'panelled' with sheets of rice paper. In Kikutake's Sky House, the roof not only provides cover but also becomes a protective element, while the sliding wooden windows act as shields for the glass panes and for the direct sunlight. And as the house gradually grew, it was completed over the years, taking on a life of its own, its own 'metabolism' that has allowed it to change over time, perfectly in line with the spirit of the movement.

Once they had crystallised their thinking, the young Metabolist architects put their ideas into practice, though in most cases, their designs were very much utopian. Their plans were for large-scale projects – such as the one for Tokyo Bay – using water as a new artificial 'terrain'. Examples are Marine City, 1960–1963, and Ocean City, 1968, by Kiyonori Kikutake, or again the Ikebukuro Plan, 1962, by the same architect, a sort of 'island' built on structural shafts with land-based capsule cells. Kisho Kurokawa's plans for his Wall City, 1959, envisioned large curvilinear buildings that seem to descend from those of Le Corbusier's Plan Obus for Algiers, but with a 'metabolic' continuity between them. The following year, after serious floods, Kurokawa presented his Agricultural City, conceived as a 'floating' city above cultivated fields. In his plans, the ground, as well as the farmers' homes, remained safe due to the use of Mount Fuji-style structures or 'mushroom' structures, according to the architect's different versions of his concept. Again, Kurokawa put forward his Helix City in 1960, where the shape of his 'metabolic' tower recalls the helix structure of DNA, which was the object of a great deal of research in those years. Lastly, the architect came up with plans for his Floating Factory: Metabonat, 1969, where he envisaged placing industrial buildings over water, in line with the intensive development of the 'land' that clearly stems from the ideas of Tange for Tokyo Bay.

After contributing to plans for Tokyo Bay, Arata Isozaki, in the following years, also devised plans for projects in line with his Metabolist associates. City in the Air, 1960–1963, for example, is based on a rationale very much akin to previous projects, with the addition of a playful and ironic spirit, perhaps inspired by his association with members of the European Neo-Avantgarde. Indeed, Isozaki, in a sense, undermined the utopian 'organic' nature of Metabolist design. This is true of his City in the Air, but more specifically of his City of Ruins, 1962, where his typically Metabolist towers unexpectedly encounter ruins of classic Greek columns, in other words, the very 'material state' that does not belong to Japanese culture by choice. Here, Isozaki sets up a sort of ironic 'play' between the past and the future.

Unlike the Neo-Avantgarde architects of Britain, Austria, France and Italy of the 1960s, the Metabolists were the only ones to receive support from industry: despite the apparent starry-eyed nature of their ideas, the Japanese Chamber of Commerce provided them with grants, giving them a role that put them to all intents and purposes 'within and against' the capitalist system. Their criticism of Japanese society and how it was developing in those years was matched by an attempt to steer their ideas in a different direction, not eliminating them but actually exacerbating the growth of the metropolis.

As already pointed out, in some cases, the Metabolist projects were transformed into actual buildings. These were very often Brutalist structures, with reinforced concrete left visible to the naked eye and allowed to dominate the interiors. This is the case of Isozaki's Medical Hall in Oita, 1959–1960. Here again, we find recognisably Japanese features, together with elements that recall modern architectural culture. The Oita Medical Hall is noteworthy for its large columns supporting the main body of the building, a kind of compressed barrel. From a formal point of view, while the building does not correspond in any way to Western standards of beauty, it is designed for the Japanese mindset, which can find reason – and beauty – in such forms. More specifically, it seems to recall the position of a Sumo wrestler about to start a fight with an opponent. These necessarily large, fat figures are very popular in Japan, their apparent ungainliness belonging to traditional iconography, so much so that it becomes a meeting of art and sport, and their same intended ungainliness is to be found in Isozaki's design.

With his Yamanashi Broadcasting and Press Centre in Kofu, 1966–1967, Kenzo Tange also created a building that fully meets the canons of Metabolist architecture, the movement he had given rise to. The complex is made up of 16 towers which are the stem cores that distribute the various functions required of the centre, almost as if they distribute the sap within a plant. The 'leaves' of the plant are the office spaces that were only partly completed, demonstrating the flexibility of a building conceived in such terms. Once again, the particular way that Tange uses reinforced concrete can be noted here, treating it as if it were wooden pillars and beams instead of a single, monolithic poured material. This project was also a great influence on later projects by Toyo Ito.

From the same period comes the Shizuoka Press and Broadcasting Centre in Tokyo. Here again, Tange's work perfectly embodies the Metabolist spirit: a single tower with 'capsule cells' jutting out on alternate floors, the 'capsules' containing reproducible office units. In deference to the Metabolist principles, the lifespans of the various parts of the building differ: longer for the stem core, shorter for the 'capsules'. The spaces are rationally subdivided between 'served' and 'servant', according to Louis Kahn's labels, even if Tange does not expressly embrace such a position.

Just a few years later, Kisho Kurokawa built the Nakagin Capsule Tower, also in Tokyo, 1970–1972, a 'tree' in reinforced concrete. Indeed, its reinforced concrete trunk sprouts 'capsules-cum-leaves', each containing a single room (the same idea had been put forward a few years earlier by Archigram in their plans for their Plug-in City). These rooms are residential units, small but complete with all facilities (except for kitchens), something like workers' capsules, the monks' cells of the late 20th century. Here, Kurokawa envisaged full integration with industry, though his idea never fully materialised as the periodic replacement of the capsules never took place. This quickly made the 'futuristic' interiors of the Capsule Tower obsolete. On the other hand, while the link with industry may appear as an affirmation of capitalist rationale, the Metabolists make great efforts to propose an alternative to the current state of affairs. Aiming to presage the future of Japanese society, they take a different view from the customary one where human aspects tend to be swallowed up by technology, which instead of serving people, as it should, ends up by enslaving them.

On the occasion of the Osaka Expo in 1970, Kenzo Tange and Arata Isozaki were entrusted with designing the main (covered) open space, the Festival Plaza. In this case, the metal structure courageously left uncovered – as were the related technology systems – was combined with a 'modern' ancestral image, the Tower of the Sun by the artist Taro Okamoto, a gigantic totem pole recalling the roots of the goddess protector of Japan, that at the same time casts an eye towards Le Corbusier's sun-head Medusa mask.

In the following years, leaving behind the more radical and provocative Metabolist phase, Isozaki still held on to the group's basic principles of design based on life-giving elements rather than simply resorting to a more orthodox modernity. In this sense, his Museum of Modern Art at Gunma, 1972, appears to reprise the stylistic features of a rational, white, square modernist design, yet it actually, very subtly, re-embraces Japanese approaches. As a result, this perfectly controlled grid-pattern organism gives rise to cube modules complemented perpendicularly with – and integrating with – a structure that juts out diagonally until it rests on water. Like a pavilion belonging to classic Japanese tradition, this structure – albeit going beyond the rigorous 'rationale' of the rest of the complex – does not cancel out such 'rationale' but instead emphasises it by displaying the co-existence of two systems in dialectical tension one with the other. Going well beyond simply serving its intended purpose, Isozaki's architecture stems from a relentless dialogue

between East and West, or rather from the possibility of a 'reconciliation' between the two, without sacrificing either of them. It is no coincidence that Isozaki later collected together a series of writings from the 1960s and 1970s dealing with 'Japan-ness' in architecture.[8] The aim of the book was to identify how and where the very essence of traditional Japan was to be found in contemporary works of architecture. In this attempt to 'resist' a cancelling of the memory of their national identity – but also the very awareness of it – the 'political' attitude of Japanese architects can be identified: a faithfulness to the tradition that does not imply it being 'frozen in time', but instead involves the difficult task of keeping it alive.

The same aim, albeit through different means of expression, lies behind the work of Fumihiko Maki. Having graduated in 1952 from the University of Tokyo, slightly before the other architects in the Tanken group, Maki followed specialist courses in the United States at the Cranbrook Academy of Art, 1953, and at Harvard University, 1954. He then began working with the SOM firm, after which, on his return to Japan in 1965, he opened his own practice, Maki & Associates, in Tokyo. Maki's new venture had its roots in the research he undertook while in America, research that centred in particular on the concept and the practice of the 'collective form'. This analysis gave rise to his publication *Investigation in Collective Form*, published in 1964 by the Washington University of St. Louis.

According to Maki, there is a method of composition according to which objects are juxtaposed one with the other, and alongside this historic method, the 'mega-structural' compositional method (that Maki refers to as 'mega-form') came into being in the 1960s where a single form unifies all the parts of the architectural complex within it. And along with these two methods, he also identifies a third, stemming from both Eastern and Western tradition: the 'collective form' (or 'group form'), where single objects are separate and linked at the same time, giving rise to conglomerates that are distinguishable, yet also related one to the other. The examples of 'group form' indicated by Maki include a Sudanese village, as well as a Greek island village, but also a mediaeval Italian town or a traditional linear Japanese village. All of these collections of buildings are characterised by their distinct – in terms of chronology and therefore also of design – individual parts, but at the same time, by their completely inextricable nature. In some ways, comparable to the concept of 'cluster' design adopted in the previous decade by the Smithsons and other members of Team Ten, the 'collective form' became one of Maki's operating principles to be put to the test in his design work. The most emblematic example – and in many ways, the most extraordinary example – is the series of buildings he erected at Hillside Terrace in the Shibuya district of Tokyo between 1969 and 1992. The six different phases, that nevertheless relate one to the other, have given rise to a true 'collective form'. Working over a time span of over 20-odd years, Maki has produced a complex (also comprising his practice) that renounces isolated form but at the same time also rejects the forced integration of 'mega-structural form'. All the buildings he

designed at Hillside Terrace have modernist features, almost with Le Corbusier traits: pilotis, ribbon windows and white surfaces. But what is important for Maki is not so much the 'grammar', but the 'syntax', the overall ordering of the elements that the separate phases have created over time.

A further example of 'collective form' in action is the Spiral Building in Tokyo, built by Maki between 1982 and 1985. Very different from the Hillside Terrace Complex, the Spiral Building brings many different aspects together (form, expressive and decorative methods) in a single structure, thereby creating a multi-faceted composition where many parts can come together in a single unit.

The Evolution of the Idea

While Japan's remarkable industrial development greatly altered its economy and consequently its lifestyle and living conditions, significant traces have survived in the country of an uninterrupted dialogue with elements of tradition – particularly the spirit of tradition – even after the 1970s and right up until today. This has led to an original combination in a 'traditional ultra-modernity', which is a distinctive feature of contemporary Japan, particularly contemporary Tokyo.[9] In this sense, it should not come as a surprise to find that the Metabolist 'streak' has not petered out over the years with its key players' natural development. Instead, this 'streak' resurfaces, putting itself forward as a new, modern – but at the same time well-rooted – tradition.

The most important figure embodying this uninterrupted link is Toyo Ito. A pupil of Kikutake, Ito opened his own firm, known as Urbot ('urban robot'), in Tokyo in the 1970s. In his design for his sister's house, the so-called 'White U' House, 1976, in the Shinjuku district of Tokyo, his experimentation with the traditional patio house produces results that seem to contradict the very 'liveability' of the house, to the point of making it a doubtful success. The U shape gives a curved living room, providing dynamism, but at the same time making it the key element in a rational and physical 'exclusion'. Indeed, underlying the 'White U' House design is the same radical approach typical of Metabolist experimentation.

After changing the name of his firm into the more down-to-earth Toyo Ito & Associates, in the 1980s, the architect mainly designed ephemeral and pseudo-technological constructions (the Tower of Winds in Yokohama, 1986, and the Egg Winds in Tokyo, 1987) that aim to interpret the changing times through a reworking of the very idea of a building. This interim phase was nevertheless significant in that it demonstrated Ito's resistance to any form of 'normalisation' of his work. It is, however, in his more recent phase that Ito's experiments with space take on an effective concreteness, going in the direction indicated by his Metabolist masters. The Sendai Mediatheque, 1995–2000, is an excellent case in point. Providing consultation facilities for various media (books, magazines, videos, etc.), the building is apparently in

line with the modernist tradition, completely surrounded by a curtain wall. But behind the appearance of this multi-media library, there lies a profound re-working of one of the cardinal principles of modern architecture, very much in the Metabolist sense. If we examine its ground plan and cross-section, the Mediatheque reveals how closely it comes to resembling a forest rather than a normal building where structural elements leave the space as free as possible. In the Mediatheque, instead, the 13 pillars, of varying shapes and sizes, are hollow, made up of metal tubes that, like technological creepers, push vertically through the various floors of the building. This reference to a tree is not simply a formal element; it also enshrines a sense of renewed vitality that the architectural organism is endowed with, literally opening it up to brand new opportunities for movement. With the Mediatheque, Ito inaugurates a concrete reflection on the amount of limitation and freedom that is afforded by a building. While Le Corbusier's open plan was considered to allow the greatest degree of freedom up to that point, here Ito identifies new opportunities for freedom in addition to horizontal freedom: a vertical freedom. Vertical freedom implies breaking with the traditional – and actual – separation of the various floors of a building (with the obvious exception of stairs and lifts, that in the Mediatheque are located in the hollows of some of the pillars), making the floors permeable, both from a visual and a material point of view. The conquest of this new frontier is underlined by Ito through his use of further elements intended to emphasise the message. The varying heights of the different floors and the various kinds of illumination and furnishing on each floor provide an expedient that works towards this 'de-composing' of the building unit while also highlighting its unprecedented 'totality'. And at the same time, this also announces a different reference image for the architectural 'artifice': no longer is it a mechanical, mechanistic model, but rather the organic model put forward by the Metabolists, where the ground plan becomes a terrain dotted with 'notable points', a landscape rather than a geometric pattern, and the whole building takes on a natural stratification.

The next instalment in Ito's quest for a greater margin of architectural freedom came with his Taichung Metropolitan Opera House in Taiwan, 2009–2014. In this case, natural sea sponge (*porifera*) was taken as a model of an organism able to break with traditional building conventions and move towards a wider use of available space. A sponge has an exoskeleton made up of matter and voids. In architectural terms, this becomes a series of cavities made from the same material, at times used for the floor, at times for a wall and at times for a ceiling. The result is a complex structure that includes all functions, starting from the large theatre halls. Once again, plant life provides a landscape made up of irregular shapes, reminiscent of lakes and hills, that in no way suggest geometrical forms. His experimentation into architecture freed from its confines continues: the only 'limit' for the fluidity of the cavities and the holes is the façade with its rigid outline that can but cut straight through the globoid forms within.

Another heir in the long architectural line generated by Tange is found in Kazuyo Sejima, a graduate of the Japan Women's University in Tokyo, where she studied under Toyo Ito. Indeed Sejima was to continue and to refine the free Japanese reworking of modern architecture based on organic-natural models. Sejima's early works are private houses in the dense fabric of the endless Tokyo outskirts. In the networks of narrow streets in these areas, the buildings are separated one from the other for anti-earthquake purposes but also for symbolic reasons. Every Japanese person – just like every English person, according to Novalis – is an island: isolation is a constituent condition of Japanese culture. The M House, designed and built in Tokyo in 1996–1997, is entirely clad in semi-transparent polycarbonate that brings to mind the transparent nature of rice paper. In combination with the wood used for the frame, this cladding provides a brilliant reworking of the traditional Japanese home while providing external protection. Privacy is guaranteed by few direct openings on the façades and by the perimeter passageway that shields the central core housing the living areas and sleeping areas on two levels. This intelligent internal organisation goes hand in hand admirably with the deliberately terse means of expression.

An unpretentiousness and a reworking of tradition (not least in technical terms) proved to be the distinctive features of all Sejima's early works. Emblematic in this sense is her N Museum at Wakayama, 1998, organised around sinuous supporting walls in reinforced concrete contrasting with large wall panels of 'intelligent' glass, at times transparent, at times reflective. The building, like the previous M House, thus becomes a modern luminous lantern that 'illuminates' its interior.

With the setting up in 1995 of the SANAA firm with Ryue Nishizawa, her former assistant, Sejima set out on a path that was to lead to a further radicalisation of such aspects. The 21st Century Museum at Kanazawa, 1999–2004, marks an important step along this route. The museum is a low round building with a large footprint set on thin pilotis; above the flat roof, a series of various geometrically shaped skylights give the building's profile the appearance of a Neoplastic abstract painting. But just as palpable, along with this 'geometrical' aspect, is the process of 'breaking down' the building: with the rigorous purity typical of all their projects, Sejima and Nishizawa reduce them to diaphanous presences, seemingly flimsy and weightless.

The Serpentine Pavilion, designed by SANAA in 2009, moves in the direction of a similar aspiration for 'levitation'. The simplicity of the design is almost unsettling: an extremely thin ectoplasmic-shaped canopy rests on a forest of supports as thin as pins. This is minimum impact, maximum result in terms of its ability to create a welcoming space and include the surrounding natural environment. By being reduced to almost a 'mere nothing', the SANAA pavilion takes on the lightness and the instantaneity of a *haiku*.

In 2004, the SANAA practice won the competition to design the Rolex Learning Centre in Lausanne, eventually completed in 2010. Conceived as a residential and study centre for students from the local Polytechnic, the

Rolex Centre took inspiration from the Metabolist tradition. But in this case, it even went beyond the 'conclusions' that Ito had reached, to the point that it appears to be a portion of 'equipped' landscape. Slopes, ramps and flat sections follow freely one after the other, becoming landmarks in a piece of constructed geography. The centre is evidently Japanese in spirit (despite being the furthest outpost of a modern concept of Western architecture, as exemplified by its use of Le Corbusier's system of pilotis and canopy), as can easily be realised when comparing it to the gardens of the Katsura Imperial Villa or to many other gardens where nature undergoes a process of 'correction', of an equally extraordinary 'artificialisation'. Here the transformation of the building into a landscape is fully achieved since it has gone beyond the stage of pure image reference, and in fact, it leads to consequent behaviour. Better than any wordy description, a glimpse of groups of students sitting or lying on the floor of the Rolex Centre bears witness to the fact that this is a space freed from any 'urban' convention, effectively becoming a new form of rustic society.

This may appear to be the final stage of the push to integrate 'irreconcilable' approaches, as the Eastern and Western approaches may appear to be. Yet some of the designs of the most recent generation of Japanese architects are again on the same wavelength, not least because they descend from the same evolutionary line. Among these, Junya Ishigami stands out; born in 1974, he was a pupil of Sejima and her partner while the Rolex Learning Centre project was being developed. In fact, Ishigami's most significant project, the KAIT (Kanagawa Institute of Technology) in Atsugi, 2008, is a clever and skilled manipulation of the elements found in the Rolex Centre. The challenge that Ishigami set himself – in line with the lessons of his teacher – involved the notional 'disassembling' of the building, eliminating all wall masses and preserving only its transparent nature. What emerges is not so much a defined, regular space but a 'hypothesis' of space that comes together and comes apart, each time taking on a different layout. Unsurprisingly, Ishigami's figures of reference are forests and stars, both examples of elements that come together. And just like the columns of varying size that the architect uses, scattering them randomly throughout the single-storey building, forests and stars can be travelled through or brought together, on the basis of different 'orders', be they routes or constellations. In the struggle to defeat the force of gravity and free up space,[10] even resorting to technology, Ishigami's architecture ends up by assuming almost utopian standpoints.

Similarly, Sou Fujimoto (born 1971), an architect who trained as a civil engineer at the University of Tokyo, appears to garner some design approaches from the architecture of Sejima. It is the same purity, the same yearning to reduce a building to the basics, in a compositional game that hinges on 'taking elements away', that characterises his most famous project, the House N at Oita, 2008. Located in the dense network of roads in the city's suburbs, the house stands out from its surroundings thanks to a layout that is both unexpected and elementary: a series of 'boxes', one inside the other, with large

asymmetrical rectangular holes in all surfaces granting it an appearance of rare openness. The result provides living spaces that have a free dialogue one with the other and with the outside; it is a house that, while totally upturning the dictates of Sejima's M House, seems to voluntarily deprive itself of any privacy. Yet it is the very groundwork undertaken by Sejima that has been taken to the extreme here.

There is no lack of other architects on the post-war Japanese architectural scene who jostle to find a mid-way position between modernisation in the Western sense and the preservation of the traditional cultural heritage. Two particularly interesting examples are Kengo Kuma and Shigeru Ban. Belonging to the same generation as Kazuyo Sejima, Kuma seems to erect a barrier – particularly in the works he built in Japan – against an uncritical and ever hastier assimilation of Western ideas. This is very evident in his Hiroshige Museum of Art in Nakagawa, 2000, where the 'grammar' and 'syntax' (as well as the materials used, cedar wood and gravel) recall classic Japanese houses and gardens. At the same time, however, the re-use of these elements comes about with a full critical awareness, an essential component for any form of *repêchage* that aims to avoid being ingenuous or anti-historical. And it is, in fact, in the museum devoted to the works of Utagawa Hiroshige, one of the top Japanese wood engravers belonging to the Ukiyo-e ('pictures of the floating world') genre, that the decision to adopt traditional forms and techniques, even if they are simplified and produced in series, bears witness to this full awareness. Newness and 'invention' can but be espoused at the end of the route to complete assimilation – or 'metabolisation', a term which becomes particularly significant in the Japanese context – of the lessons of the past.

In another space designed for art exhibitions, The GC Prostho Museum Research Centre at Kasugai-shi, in the Aichi Prefecture, 2010, the entire building is made up of a wooden grid, where the interior wooden linking elements play a key role. Through judicious use of traditional low-tech methods, Kuma produces a surprising and unprecedented outcome. A similar result, albeit on a mainly 'figural' level, is to be found in the Asakusa Culture Tourism Centre in Taito-ku, Tokyo, 2012–2014, where the multi-storey building in reinforced concrete appears to be a stack of traditional houses clad in wooden planks. The 'Japan-ness' thus becomes an attribute that does not contradict modernity. Likewise, Kuma does not hesitate to follow the 'commonplaces' of Japanese tradition quite literally on other occasions, as in his PC Garden House, 2013. Surrounded by woods in the east of the country, the house recaptures not only traditional shapes and features, such as the wide roof overhangs and the *engawa* but also a symbiotic relationship with water and nature.

Even more exemplary is Shigeru Ban. His 'line of descent' from Arata Isozaki, who he worked with between 1982 and 1983 after studying at the Southern California Institute of Architecture and the Cooper Union School of Architecture in New York, is the first important hint of his experimental

approach, but also of his valiant desire to conduct his exploration within a framework of 'Japan-ness'. Among his first works, we can single out his Curtain Wall House in Tokyo, 1995. The house is a sort of constructed version – though reworked and corrected – of Le Corbusier's Maison Dom-Ino. With an ironic and slightly provocative ploy, Ban uses wide curtains in place of solid walls around a 'classic' system of floors and pilotis. In actual fact, behind these curtains that surround the terrace, there is the core living area proper, separated by the customary glass window panels. Here Ban is playing a game of approximation and distance from one of the top symbols of modern architecture. Nevertheless, with his following works, Ban makes it clear that this game is not an end in itself. In fact, Ban proceeds methodically, yet unpredictably to eliminate elements from his designs in a sort of liberation, a gradual reduction of the architectural structure. Accordingly, his Wall-less House in Nagano, 1997, sits on a slope and 'renounces' – as its very name suggests – all walls in favour of a few thin punctiform structural elements. A further step in this experimental path comes with his Naked House in Saitama, 2000. Here all furniture is mobile and temporary, almost as if the open-plan house were a railway carriage or a container house. The house is able to relinquish all 'fixtures', with the sole exception of bathroom fittings and kitchen facilities.

But it was with his Paper House in Yamanashi, 1993–1995, that Shigeru Ban began working with lightweight building materials, a route that was to bring him great renown (as well as the 2014 Pritzker Prize). With this project, Ban 'demonstrated' how to build a home with multi-ply compressed paper (i.e. cardboard), a material not normally used for construction purposes. In the Paper House, a thick 'wall' of cardboard tubes supports a flat roof, giving rise to a structure that is both economical and light and, therefore, also easily transportable and recyclable. From this point onwards, Ban was to concentrate more and more on using materials meeting such criteria, from bamboo to actual paper, studying and understating the structural properties of each material and its suitability for construction purposes, preferably (but not exclusively) for temporary buildings, such as the Japanese Expo Pavilion in Hannover, 2000 (where he also worked alongside Frei Otto, among others).

Following this research into particularly light, low-cost, easily sourced materials, Ban was to move on to specialise in emergency buildings, such as those to be used after natural catastrophes like earthquakes and floods. Unfortunately, numerous occasions occur when such catastrophic worldly problems have to be dealt with. The first of these occasions for Ban was the 2001 earthquake in the Gujerat state of India. In this case, Ban designed the model of his Paper Log House, making use of remnants from ruined buildings, as well as bamboo and locally woven reed mats. Later he designed a model for a primary school after the terrifying earthquake in Sichuan, China, in 2008. That same year, the Hualin Temporary Elementary School demonstrated the ability of such architecture to provide easy

and rapid help for populations affected by such catastrophes, using wood, bamboo, cardboard and paper combined together in easy-build constructions. In such projects, Shigeru Ban rejects the individualism and eccentricity typical of many of his 'starchitect' colleagues in order to devote himself to truly useful projects for emergency situations, putting his services and abilities available to the community.

This same desire to provide initial assistance also led to later projects in other parts of the world, such as in the city of L'Aquila in Italy after the devastating earthquake of 2009 (the Paper Concert Hall, also known as the L'Aquila Temporary Concert Hall), or in Nepal in 2015 where, within the context of the VAN (Voluntary Architect's Network), he designed prototypes for emergency homes that once again re-use materials from the debris of previous buildings combined with light structures in wood and straw. In all such cases, the solutions are very distant from the idea of shiny, luxurious modernity, and instead, these are projects that serve a purpose in a manner that can truly be defined as 'political' in that they are able to tackle social problems and to solve them, very mindful of costs and sustainability. And this can only be seen in the light of his approach that, even with compromises as illustrated above, reflects the complex relationship that the Japanese culture of today is able to establish with the country's traditions.

Figure 7.1 Kunio Maekawa, Harumi Apartments, Tokyo, 1957.

Figure 7.2 Kenzo Tange, Shizuoka Press and Broadcasting Centre, Tokyo, 1966–1967.

Figure 7.3 Terunobu Fujimori, Moriya Historical Museum, Nagano, 1991.

Figure 7.4 Shigeru Ban, Paper House, Yamanashi, 1993–1995.

Figure 7.5 Kengo Kuma, China Academy of Arts' Folk Art Museum, Hangzhou 2015.

Notes

1 Kenzo Tange and Noboru Kawazoe, *Ise. Prototype of Japanese Architecture* (Cambridge, MA: MIT Press, 1965).
2 Kenzo Tange, Walter Gropius and Yasuhiro Ishimoto, *Katsura. Tradition and Creation in Japanese Architecture* (New Haven, CT: Yale University Press, 1960). See also: Bruno Taut, *Fundamentals of Japanese Architecture* (Tokyo: Kokusai Bunka Shinkokai, 1936) and Sutemi Horiguchi, *The Katsura Imperial Villa* (Tokyo: Mainichi Newspapers, 1953).
3 Roland Barthes, *Empire of Signs*, trans. Richard Howard (New York: Hill and Wang, 1970).
4 Lao Tzu, *Tao Te Ching: A New English Version*, trans. Stephen Mitchell (New York: Harper, 2006), chapter 48.
5 Hidenobu Jinnai, *Tokyo: A Spatial Anthropology* (London: Routledge, 1995).
6 Noboru Kawazoe, et al., *Metabolism 1960: The Proposals for a New Urbanism* (Tokyo: Bijutsu Shuppan Sha, 1960). See also: Hans Ulrich Obrist and Rem Koolhaas, *Project Japan. Metabolism Talks* (Cologne: Taschen, 2011).
7 Junichiro Tanizaki, *In Praise of Shadows*, trans. Thomas J. Harper and Edward G. Seidensticker (New Haven, CT: Leete's Island Books, 1977); published in Italy as: Junichiro Tanizaki, *Il libro d'ombra* (1933), trans. Atsuko Ricca Suga (Milan: Bompiani, 2000).
8 Arata Isozaki, *Japan-ness in Architecture* (Cambridge, MA: MIT Press, 2003).
9 See: Marco Biraghi, '*Tokyo: forma del vuoto. La città come pratica rituale*', in *Casabella*, no. 669 (1999): 4–11.
10 See: Jun'ya Ishigami, *Freeing Architecture* (Paris: Fondation Cartier, 2018).

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8 China and the Re-Invention of Tradition

Historical Contradictions

In China, a country of 1.4 billion people, power has been in the sole hands of one party since 1949, and with the country's authoritarian government, the People's Republic of China has been able to impose rules of behaviour on its population. The country has been growing uninterruptedly since the 1970s, but unlike India and Africa, the fruits of this growth are re-distributed throughout the population thanks to the Communist-inspired ideology, with the result that there are hardly any homeless people. Furthermore, cities, where the air was unbreathable in 2017, had already improved in 2018 thanks to the drastic measures the government took to reduce pollution, including shutting down obsolete factories, banning coal fires and petrol-powered motorcycles and mopeds. Another meaningful example is the way that China put the city of Wuhan, with its 60 million inhabitants, under a draconian lockdown due to the COVID-19 virus, managing to limit transmission. Drastic measures taken to improve living conditions have, however, often come at a high price, with severe restrictions on individual freedom. Since the time of Mao Zedong, mobility has been controlled, with people's movements from one part of the country to another being restricted. The one-child policy – now a two-child policy – has long been imposed; there is censorship to prevent press freedom and access to information from abroad, and so on. Not only everyday life but also architecture has always been heavily conditioned by authoritarian political dictates, from the imperial dynasties right up to the present.

China has very old traditions relating to architecture and city planning. One of the oldest principles at the basis of architecture and that is still used today is Feng Shui. By analysing natural phenomena, this geomantic art is used as an aid to architectural design, aiming to harmonise individuals with nature and their surrounding environment. It employs the concepts of Yin and Yang, the forces of good and evil, and aims to find a balance between them. According to the devotees of Feng Shui, certain directions are more favourable for activities in the home, certain colours are more appropriate, having strong assonances with those of the five elements. In the *siheyuan*,

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the traditional home, for example, areas are separated by colours and activities: areas for resting are associated with the colour blue and face north while living areas are red and face south. These concepts relating to forces of energy are employed not only in homes and older buildings but also in most modern-day skyscrapers, leading to the conclusion that this traditional principle is still very much alive. Indeed the reliance on Feng Shui reveals how China has a tradition that is deep-rooted in highly symbolic, at times almost magical elements.

Not only symbolic elements but also links to numerology make up a crucial part of Chinese tradition. The historic cities espouse not only the ideas of Feng Shui but also Confucius's principles[1] and the application of the Rules of Zhou. Developed during the era of the Zhou dynasty (1046–256 BCE), from which they take their name, these rules envisage the design of a city and its functions being based on a specific numerological arrangement. For example, the rules give an order and an organisation to cities on the basis of the numbers nine, five or three, according to whether a city is a capital, a primary or a secondary city. In the cities, the squares that resulted from a basic square being divided into nine, five or three parts were given numbers alternating between even and odd numbers, and each kind of number was associated with specific functions. For example, the number nine was the number that indicated the sites for government and power. Since the even and odd numbers were associated, respectively, with the forces of Yin and Yang, according to traditional beliefs, such calculations allowed an intrinsic balance to be created at the time of the founding of the cities. In the city of Pingyao, one of the few historic cities remaining intact, these Zhou principles can be seen to have been applied. The Rules of Zhou, as well as the concepts of Feng Shui, highlight the complexity and wealth of Chinese traditions that have been amassed over thousands of years.

Chinese architecture can be recognised more immediately by certain key features that clearly distinguish it from the architecture of other countries. Apart from a general orderliness and rigour, we can also identify features such as the large roof with upturned corners held up by the traditional supporting element, the *dougong*, a sequence of brackets one on top of the other that is able to support the load of the roof. Other notable features include the addition of symbolic animals, such as dragons or phoenixes, and the use of specific colours, such as red and yellow, with the latter being associated with imperial buildings.

The *paifang*, the typical arch that originally separated parts of a town or village, today is found as an isolated commemorative arch. Another traditional element is the courtyard, one of the most widely used features in both monumental buildings and traditional homes. Even Chinese gardens can be recognised by their distinctiveness, intended first and foremost as a way of expressing harmony between humans and nature. In the Gardens of Suzhou, one of the best preserved examples, we encounter organic pathways,

small pagodas for reflection, rocky landscapes, a free arrangement of plants, streams and ponds: a miniature world designed to amaze visitors.

The Chinese imperial dynasties gave rise to architectural treatises comparable to the ancient Roman treatise *De architectura* by Vitruvius. The most important and oldest Chinese treatise is the *Yingzao Fashi*, written by Li Jie, who was responsible for constructions during the Song dynasty at the turn of the first millennium. This treatise deals with the methods and standards of Chinese architecture, giving very detailed explanations of the widely used building styles and methods that had become models for construction work. Another notable treatise was written later, during the Qing dynasty: the *Qing Gongcheng Zuofa Zeli* (Qing Structural Regulations), 1734, which gave further guidelines for construction methods. Even after the end of the imperial dynasties in 1911, a third important treatise was produced by the Chinese architect and architectural historian Liang Sicheng in 1930. Sicheng's work is a decoding of the classical manuals together with know-how gleaned through direct meetings with local craftsworkers to try to reveal what he was to term the 'grammar' of Chinese architecture. In particular, he studied the precise sizes, proportions and decorations of traditional architecture, which were to be used to reconstruct a Chinese identity after 1911. After the end of the imperial dynasties there had, in fact, followed a period of instability and there was a need to seek refuge in traditional values. The visual appearance of Chinese architecture has always been a political instrument, and the rebuilding of the Chinese identity after liberation with traditional architectural features that evolved during imperial times is obviously contradictory.

China's origins go back a particularly long way, and the country has never been fully colonised, unlike India, Africa or South America and many other places. This has enabled the country to keep its traditions more intact, even if trade with the West clearly left its mark. From 1840 and the First Opium War, up until the arrival of Mao Zedong in 1949, various 'treaty ports' were opened forcibly, mainly in port cities along the coast, such as Macau, Shanghai, Canton (Guangzhou) and Tianjin, or at times inland, such as in Wuhan, where trade was allowed with the West. China was obliged to buy foreign products, but of course, ideas, people, customs and also architecture and architects were imported. Later, from 1960 onwards, the first Western architects arrived in China and imported the idea of modern architecture; up until then, Chinese architects were simply craftsworkers who passed on their profession from one generation to the next. Some Chinese architects went on to take up imported Western styles, such as Dong Dayou in Shanghai at the turn of the 20th century, while conversely, some foreigners, such as Henry Killam Murphy, made use of elements of Chinese architecture, integrating them into a modern style. Many swap-overs of this kind have been fostered by this cultural exchange.[2] The opening up to the West and its imported architecture was halted during the Communist period under Mao Zedong, only to start again under Deng Xiaoping in the 1970s with the setting up of the Special Economic Zones. These special zones were created to encourage

Western companies to set up operations in China, and this inevitably kick-started globalisation. And again, Western architecture was adopted, with perhaps the most striking example being the Pudong area in Shanghai with its glass-and-steel skyscrapers evoking the capitalist American model. This anonymous global architecture was to become typical of the architectural scene from the 1970s, producing "a hybrid landscape of high-rises and superblocks, often of commercial functions and large housing developments, designed by Chinese architects from state or private offices as well as overseas design companies of various sizes and design orientation".[3]

Although China was never colonised and never suffered damage by colonialist forces, it nevertheless experienced two instances of ideological demolition of its historical architectural heritage. Taking a step backwards, there was a period of instability and freedom that began in 1840 and lasted until the arrival of Mao Zedong and the establishment of the Communist ideal in 1949. Mao endeavoured to remove all forms of capitalism and put a stop to any opening up towards the West. In this Maoist period, relations with Communist Russia were strengthened, and the USSR became a point of reference for the construction of new cities and new buildings. Key examples are the Beijing Plan, 1953–1954, directly inspired by the 1935 plan for Moscow, or the plan for the Ten Great Buildings in Beijing. As far as traditional architecture was concerned, many historic buildings were viewed as symbols of social inequality and therefore demolished to promote the idea of Communist equality. An incredible number of important buildings were lost during the Maoist period, and historic buildings were then given an added final blow during Deng Xiaoping's 'Beijing Spring', that in the name of economic renewal and growth, demolished even more of what was left of the historic to make space for the modern.

After the death of Mao in 1976, in contrast to the pressing processes of globalisation, traditional forms and features were employed, as in Zhu Jianlu's Beijing West Railway Station, 1996, or in Zhang Jinqiu's History Museum in Xian, 1991. These works, however, tended to use traditional elements in a formalist manner, adding sham traditional decorations. Indeed, some architects were opposed to both the repetitiveness brought about by globalisation, as well as the formalist revival of the architecture of the past. The true revolution began, however, with architects such as I.M. Pei,[4] with his works including the Fragrant Hill Hotel in Beijing, 1982, and the Suzhou Museum in Suzhou, 2002–2007, that do not use Chinese elements in a formalist manner but re-embrace typological and substantial aspects of Chinese culture. This idea of building a non-formalist alternative also brings together other architects with a sensitivity to context, and among these, mention must be made of Wang Shu (Amateur Architecture), Yung Ho Chang (Atelier Feichang Jianzhu), Wu Liangyong, Liu Jiakun (Jiakun Architects), He Jingtang, Zhang Lei (Atelier Zhanglei), Zhu Xiaofeng (Scenic Architecture),[5] Cui Kai, Qingyun Ma, Ai Weiwei, Kai Zhou, Atelier Deshaus (Liu Yichun, Zhuang Shen, Chen Yifeng) and Urbanus (Zhu Pei, Wang Hui, Meng

Yan and Liu Xiaodu).[6] In this chapter, space prevents us from examining all of them, but their innovative method and approach will become clear by analysing just a few of their works.

The Generation of the Masters

Among the first doyens of the new line of thought after the first Maoist period was Wang Shu, winner of the Pritzker Prize in 2012. Working with Lu Wenyu, Wang Shu founded the Amateur Architecture Studio in 1977. He called the practice 'amateur' because he wanted to rely principally on his craftsmanship know-how, learnt not in a school setting but on site while looking on as a passionate amateur. In the 1990s, while the demolitions were going ahead, Wang was restoring old buildings and working side by side with the skilled craftsworkers. William Morris and Wang Shu are often said to have a lot in common because of their love of traditional materials and skilled craftsmanship. But while Morris was a socialist through and through, Wang was always just focused on an architectural and cultural revolution. Wang can be included in the category of architects who embraced the idea of critical regionalism, wanting to give a "regional response to globalisation".[7] Wang's aim was to pursue a "culturally adaptive and locally responsive architecture for maintaining a diversity of built environment under the impact of globalisation. His work provides an exemplar of the transformation of traditional resources for creative designs, which is inspiring and contributing to the development of contemporary Chinese architecture".[8]

A central recurrent feature of Wang Shu's design work is his attention to the *genius loci*, the spirit of place, with key elements of context considered to be the landscape, historical references, materials and light. Nevertheless, he never falls into the trap of producing copies or folklorish works. There are certain key aspects that typify Wang Shu's architectural approach and that set him apart from the trend of modernisation and demolition: even while remaining a contemporary architect, he looks to the past with respect, honouring Chinese traditions both from a cultural point of view and in terms of physical context, and he incorporates them into his works. Wang runs against the tide, putting forward architectural solutions that foster craftsmanship rather than technology, nature rather than artificiality and the vernacular rather than monumentality. Wang has stated: "I think there are two different kinds of architects. One kind is totally modern, which means, they don't think that past things have meaning and they start with totally new things – no history. The other kind of architects, when they do a design, understand that something has existed there".[9] He very clearly belongs to the second category.

Wang is greatly inspired not only by the physical context but also by the Chinese cultural context, such as its paintings and its relationship with nature. Wang establishes a relationship between his designs and Chinese paintings from the period of the Song dynasty, thereby encouraging the

Chinese model of landscape. In fact, in such Chinese paintings, the human element is absent, and only natural elements are found. In Wang's works, the building constructed and conceived by a human must never dominate nature: the leading role must always remain with nature. The principle of 'free design' applied to his architectural work is taken directly from the way gardens are designed in China, and Wang has stated that he has been directly inspired by the writings of Tong Jun about Chinese gardens. According to Wang, cities should be natural first and foremost; neither the city nor the architect should be disconnected from nature but instead perfectly integrated with it – and Wang's designs are proof of this line of approach. Wang also makes use of the landscape in an ideal manner, stylising it within his designs, as we see, for example, in the mountain silhouettes used in the Ningbo Museum.

The Ningbo Historic Museum project is, in fact, probably one of the most consummate examples of his way of re-inventing context. The ground plan of the boxy building is organised around two courtyards, the typical layout of Chinese residential and religious buildings. A series of routes through the museum recalls the walkways through Chinese gardens: "Wang has imagined his architecture as a kind of Chinese garden".[10] References to nature and landscape are indeed pervasive: "By creating an artificial mountain, Wang has shaped an architectural topography that is filled with an abundance of nature-inspired experiences. The museum as a mountain is composed of three 'valleys', four 'caves', four sunken courtyards, a body of water with reed-covered banks, as well as mountainous topography. Wang expresses the building's key moments of space and circulation as natural phenomena. Understanding Ningbo Historic Museum as a landscape is key to perceiving the project's meaning".[11]

This museum is emblematic of what Wang terms: "Chinese vernacular sustainable construction".[12] Sustainable architecture does not mean using expensive, high-tech materials, but it means making simple things. For Wang, reusing building materials is an approach that can never be called into question in order to achieve sustainability.

In response to the widespread demolitions in China, Wang salvaged millions of bricks and tiles from different periods and from all regions, and he made use of them in the new building. Wang also invented a method to re-use debris from demolished villages in the region to fill the walls. The façades are made from a mix of materials ranging from bricks of every shape, size and colour, tiles and rubble of all kinds, freely assembled by the local builders. Such a creative process also has ensured continuity with the building history of the region. "Amateur Architecture has been repeatedly lauded in the press for its Ningbo Historic Museum, the façade of which is clad with bricks and tiles collected from the demolished buildings in the area. Laid by construction workers who were free to select and place the bricks at random, the results are in line with contemporary attitudes toward 'organic' patterning and randomisation".[13] This is a particularly innovative way of rethinking history and

tradition and actively making it become an integral part of the contemporary building.

Another exemplary project is the Xiangshan Campus of the China Academy of Arts in Hangzhou province, built in stages from 2000 until just a few years ago. Here again, the shortage of materials was taken into account during the design work. Buildings in phase 1 are more boxy and in the Bauhaus tradition, while in later phases, they make more explicit reference to the context, such as the homage to the great traditional Chinese roof that has a dynamism recalling the natural landscape of the Huangshan mountains in Anhui province. Once again, the architect has sought help from local building workers who played an active part in the construction. A part of the campus is built in local stone, adopting a construction method traditionally used in buildings in tea plantations, and thereby Wang Shu establishes a continuity with local building traditions. At the same time, the architect makes great use of wood, a relatively economical material: "[The complex] possesses the bricolage of a rural village in its use of a variety of local and available materials and siting".[14] Wang Shu demonstrates great creative skill in his reinterpretation of forms and materials.

Wang Shu does not view China as a monolithic, united country, but instead, he considers it to be a collection of locations, each with specific features to be made the most of. Wang has also worked in direct contact with several villages, such as Wencun, where he set in place a conservation project in 2016, renovating ruined homes and building new ones. Wencun was conceived as a prototype for village life improvements in the area of Fuyang, with the hope of attracting more young people back to the countryside. "Villages in the countryside were long regarded as cultural seeds [...] Amateur Architecture Studio has been completing field research on the vernacular settlements of rural Zhejiang for years. Amateur Architecture Studio researched the Fuyang countryside, creating a masterplan for the whole Dongqiao area. After visiting hundreds of villages, Wencun village seemed the ideal place to implement Wang and Lu's vision for rural China".[15] The buildings constructed by Amateur Architecture Studio use a mix of reinforced concrete and local materials, including bamboo, wood, stabilised clay bricks and local stone. All of the houses have an inner courtyard, an essential part of traditional rural homes. In addition: "By keeping his practice small and his projects local, Wang Shu has developed a keen understanding of construction techniques and the capabilities of local craftsmen, which allows the firm to mobilise traditional materials and formal strategies as a kind of cultural currency".[16]

Even if Wang Shu is among the most fascinating figures on the Chinese architectural scene, he is not the only one of the older generation to seek a renewed relationship with context. Other interesting architects certainly must include Yung Ho Chang and Liu Jiakun. Yung Ho Chang was born in Beijing but is a naturalised American, becoming head of the architecture department at MIT for a time. He first studied at Nanjing University and then took a master's degree at Berkeley before opening his practice, Atelier FCJZ,

in 1994. Without a doubt, he is an unusual architect, more of an intellectual than a builder, but one whose ideas are akin to those of Wang Shu. Yung Ho Chang's architecture can be summed up in four key principles: not to disappear into the sameness of super-large scale buildings but instead to focus on small-scale urban and environmental situations, not to go for quantity but for quality, not to act hastily but gradually and not to leave anything to uncontrolled chaos but always to seek a harmonious order.

One completed project that clearly exemplifies Yung Ho Chang's way of working is The Bay residential complex in Shanghai, 2006–2010. The development consists of 20 buildings, divided into 5 different types, mainly according to their size, ranging from 514 to 1,022 square meters. They are inward-looking homes facing a water basin. The relatively wide choice of types should not mislead, however; in fact, some key elements are repeated in them: "The design was developed with a set of keywords: disperse, courtyard, and garden".[17] The various functions of the house are separated into small groups of buildings, and this composition recalls the typically Chinese concept of clusters. Courtyards are one of the founding principles of the project, allowing for natural lighting and ventilation, and providing real filtering and transitional spaces between the interior and the outside natural environment. The variations in the stone wall element, impenetrable in places to preserve privacy and perforated in other places to show the landscape, are one of the identifying features of the project. The concept of clusters, the courtyard and the wall are taken directly from Chinese tradition, as are also the alternation of open and closed spaces, pitched roofs and the use of local grey stone.

"In our design, we try to bring together the architecture and the context. The latter is both natural and cultural – the water is a key element of the natural and the architectural tradition of the south and is a prominent feature in our design".[18] This is how the architect Yung Ho Chang begins the description of his work, introducing the relationship with the context. The architect also clearly wishes to escape from mere culturalism: "The contemporary lifestyle and construction condition determine that the architecture will not be a mere repetition of the tradition".[19] Likewise, he also clearly wishes not to simply avoid the past, but to re-read it critically, to interpret the typical aspects of tradition in a contemporary way. The relationship that masonry and pitched roofs have with the traditional buildings of southern China is certainly perceptible, but to the question: "How important is it to reflect the characteristics of national design in your work?", Yung Ho Chang replies: "I am not really a nationalist, in this era there many global cultural exchanges [...] I don't think it's my job. Culture evolves. The starting point of our work is physical, not cultural".[20] The term 'physical' introduces a key aspect of his work, that is to say, the strong relationship Chang establishes with the reality of things, and not just with the abstract idea of tradition.

Liu Jiakun is another architect of great interest whose designs are based on the concept of regionalism and who works in marginal locations. He respects traditional ways of building, uses local archetypes, deeply respects the places

in which he is called upon to design and values the tectonics and morphology of the landscape. Based on the actual conditions of the regional context where he works, Liu Jiakun comes up with different design strategies, for instance, in a rural context, he adapts to the surrounding landscape, re-uses traditional elements and he restricts costs and the use of technology. Moreover, he holds craftsworkers' expertise in great esteem: "With a focus on social reality and respect for local context and vernacular craftsmanship, Liu Jiakun's work shows a rare attempt to translate and transfer traditional Chinese cultural ethos into contemporary architectural language".[21] In his work, Liu Jiakun recognises the importance of exploring vernacular techniques, in fact: "Due to limited budgets and the rudimentary construction skills of rural builders, [for Liu Jiakun] it is important to explore a vernacular language. This language, although rough, can be expressive of a regional culture with a long history as well as of the particular taste of the Chinese *literati* tradition in painting. This strategy, according to him, can be useful to regions and countries backwards in technology but rich in culture and tradition".[22]

Liu Jiakun is known for his Cultural Revolution Clock Museum project in Chengdu, 2003–2007. Occupying three blocks in the middle of a rundown business district, the museum triggered a re-development of the area. The project comprises three buildings on three blocks, and although the blocks are separated from each other by two pedestrianised streets, they have a direct underground connection. The totally inward-facing layout is based around three large rooms, one for each building, while the outside street-facing perimeter of the blocks houses commercial activities of various kinds and hides the museum. There is a sequence of layouts inside the rooms, starting from a circular floorplan, through a square plan, to a combination of rectangle and circle, an expedient used by the architect to construct a sacredness of space. Going beyond stylistic and imitative concerns, the spatiality of Jiakun's architecture reinterprets themes and typologies of the Chinese tradition, transcribing them into the rationality and purity of elementary geometric forms. The punctiform structure is made of reinforced concrete with brickwork infills, with brick becoming the predominant material in the museum space.

Brick, in particular, the 'Rebirth Brick', is perhaps Liu Jiakun's most interesting re-interpretation of traditional materials, first used for his Chinese pavilion at the 2008 Venice Biennale and later adopted for rebuilding work in areas affected by the earthquake in Sichuan. Jiakun explains: "The reconstituted brick [was] taken from the rubble of the Sichuan earthquake, mixed with wheat stalks and cement and formed into briquettes using simple, labour-intensive intermediate technology [...] The application of the above materials does not only achieve the goal of environmental protection and low price, but also makes the building have strong authentic material characteristics".[23] Fairly low-tech methods like this brick derived from debris highlight Jiakun's extraordinary ability to make use of all possible resources, to avoid formalism but also to embrace the true potential of the place.

Wang Shu, Yung Ho Chang and Liu Jiakun are the master architects who have clearly demonstrated a particular sensitivity for place, but alongside these forerunners, there are others from the generation of the 1970s and 1980s who have espoused a non-literal reinterpretation of context. Wu Liangyong, with his Ju Er Hutong project for courtyard housing in Beijing, 1990–1994, embraced the idea of cultural sustainability, going against the grain of the building methods of the time. The new project was built on the site of existing *hutongs*, aiming for a harmonious integration of present and past, an alternative to the trend of demolishing historic buildings to make room for the new. Wu Liangyong took as his models the traditional courtyard houses, the layout of the large vernacular Suzhou dwellings, to design a system of interconnected courtyards, remodelling the existing buildings. "The project is currently cited as an award-winning case due to its attempts to adopt more conservative (or less destructive) measures for the maintenance of the historical fabric. The project used the principle of 'organic renewal' which was designed 'to keep the part still in good shape, repair some of the walls and roofs, and make new construction only when we have to'".[24]

He Jingtang's design for the new China Pavilion at the Shanghai Expo 2010 is also very interesting. Indirectly but just as significantly, the design seeks a link with Chinese history. Jingtang's 63-metre structure was inspired by the typical pillar of traditional buildings, but here he has thrust out the 2,000-year-old-plus *dougong* corbelled system with its wooden beams interlocked in overlapping tiers on a base of columns. The 'woven' structure of the roof echoes the pattern of a *Sudoku* puzzle or the 1,000-year-old urban plan of cities such as Xi'an and Beijing. The use of red also denotes the imperial tradition, but the colour effect is obtained by juxtaposing hundreds of different reds, demonstrating incredible expertise. In designing the pavilion, the architect was directly inspired by symbolic and constructive features of the traditional China of the past, highlighting a sensitivity in line with earlier architects.

Even if the number of examples presented here has been rather limited, they can no doubt provide the key to unlock what is meant by adopting an approach to design in China that respects context, both directly and indirectly.

Re-Inventing the Modern

Schools of architecture have only been set up fairly recently in China, with the schools in Beijing, Shanghai and Guangzhou being the ones that have introduced modern design methods to the Chinese context. They were set up within the country's polytechnic universities rather than within art schools, architecture being seen more as an extension of civil engineering studies. Despite concentrating on the more technical aspects, the schools of architecture have nevertheless played a pioneering role and have been a great influence on architectural debate in the country. The older schools, set up between the 1930s and 1940s, are found throughout China, in Harbin, Beijing, Tianjin,

Nanjing, Shanghai, Chongqing, Wuhan and Guangzhou. Often Chinese architectural magazines and journals are printed in Chinese and published directly by universities, such as those of Shanghai, Wuhan and Beijing.[25]

Professional experience is usually gained within the university framework in China, and professional work is generally carried out in the name of the university's design institute. The design institute is not only an environment that fulfils the university's third mission, but it also has a primary function in China in the field of architecture. Foreign architects and firms cannot sign design projects in China, but they can be adopted by a design institute. Each design institute has a director, who coordinates the various projects and has most of the staff under him, but there are also other teaching staff members who do not work directly with the director. In all cases, however, the design projects go out under the name of the design institute and not under the name of the architect's own studio. The disadvantage is a lack of authorship, but the advantage is that students already find work in the fourth year of their studies. The issue of architecture in contemporary China cannot, therefore, be addressed without considering the presence of these design institutes that produce most of the architecture in the country.

The architects presented so far have tried to rethink the Chinese context and its historical architecture in a different way – these are also the very architects who have rebelled against the design institute system and want to display their own design individuality. However, the moment an architect rejects the design institute system, a professional role has to be found, working for private clients, for example, or designing temporary exhibitions, landscape design, commissions for company's headquarters or for a company's entire industrial production plant. Wang Shu[26] is one of the architects who have spurned the design institutes, but there is also a second generation of younger architects who reject any affiliation to academic organisations or only turn to them for large-scale projects. Among the architects who aim to take a self-reliant, independent route, good examples include Atelier Deshaus, founded in 2001 by Liu Yichun and Chen Yifeng, two architects who trained and live in Shanghai, O-Office Architects set up by He Jianxiang and Ying Jiang in 2007 in Guangzhou, and ZAO/standardarchitecture established by Zhang Ke in 2001 in Beijing.

In view of the large number of demolitions of historic buildings that took place between the 1950s and recent years, young architects wanting to regenerate an original context often do not get an opportunity to work on old historic buildings. In fact, many are forced to take what is left, working on relatively recent buildings, such as industrial archaeology constructions from the 1960s and 1970s. Atelier Deshaus has taken part in projects such as the Shanghai Urban Space Art Season, which promotes the regeneration of disused areas by turning them into creative districts. In this case, the designers set out to make a disused area accessible to citizens, the concept being not to change the industrial area permanently but to come up with a temporary project that could be gradually renewed and re-developed after just ten

years.[27] Their work is part of a broader government scheme to reopen former industrial areas to the public. Once such industrial areas are opened up, in fact, they tend to come to life and rapidly increase the real estate value of the whole area.[28]

Atelier Deshaus also focuses on social and community architecture, such as kindergartens or alternative educational centres including youth centres, multi-purpose structures with libraries, media libraries and collective workspaces. This emphasis on community spaces is reminiscent of the Communist ideal of giving everyone a chance. Among the centres they have built, the Qingpu Youth Centre built in 2012 is particularly interesting. The building is split into small spaces with different functions where the priority for the architects was to adopt a human scale and "to reconstruct the memory of traditional townscape scale".[29] Based on this principle, the centre is organised as a miniature town with alternating spaces such as courtyards and open-air pathways. Although no traditional materials or local craftsworkers were employed, it is especially interesting to notice how continuity has been maintained with the idea of taking context into account, even if, in this case, context is taken as an ideological point of reference.

The O-Office studio also works in re-developing industrial areas to generate creative districts. O-Office is therefore dealing with very recent memories from the 1960s and 1970s, the years of great transformation and rebirth, a very different period compared to the gloomy Maoist period when rebuilding a sense of community was a priority. In 2017 they succeeded in receiving a commission from the Museum of Photography in Lianzhou, the city where China's biggest photography festival takes place every year. Their project combines their interest in the place's past with their ability to adapt to the needs of the exhibition space. Maintaining great respect for the industrial artefact that they were working on, they developed a light, removable project. While O-Office Architects did not make use of traditional materials, they created a contrast between the old building and contemporary materials, working with an artificial stone manufacturer who provided them with supplies. In fact, the designers have worked on many occasions with the EMG stone manufacturers who have sponsored their projects on the condition that they use their artificial stone. Another example is ID Town in Shenzhen, 2014–2017, where they worked on re-inventing a creative district on the outskirts of the city.[30]

The so-called ID Town is an artistic district that rose from a traditional silk dyeing factory built in 1989 and decommissioned in 2001. The factory was located in a strategic tourist area, covering about 12 hectares and comprising 18 different buildings, among them production plants, offices, service buildings, and dormitories for factory employees. This industrial space again provided the opportunity to set up a creative district with museums, exhibition spaces, galleries and other facilities for creative activities. The original structure of the main factory building was a plain, unadorned rectangular shed with a double-pitched reinforced concrete roof. The architects decided

to respect the existing building and leave it largely intact; their new sections fit inside and adjacent to the old building, using unfinished contemporary materials. The additions are kept to a minimum and the architects also tried to keep as close as possible to the original use of the various buildings: the dormitory is, in fact, left intact. The project adds the bare minimum to the structure in terms of both distribution and form. Moreover, all the added structures are visible both outside and inside. This is a contemporary project that, while dealing with recent history, takes a respectful attitude towards the design context.

Rebuilding the Context

China is a nation with more diversity than other countries from the point of view of its relationship with the context, and it is, in fact, difficult to find a true common thread.

Without a doubt, a part of contemporary architects' focus on context is linked to the massive demolition operations that have stimulated the need to protect what still remains of the historical legacy. Traditional heritage, as we have seen, was demolished on a massive scale at several moments in history, most notably under Mao Zedong and Deng Xiaoping. Recently in China, a new sensitivity towards earlier history, not least from the government, has come to the fore, and there is a sense of regret for buildings that were demolished too hastily. Chinese historian Jianqun Wu has indeed pointed out that the value of many monuments was only realised after they were lost.[31] Interestingly, much of the debate on the importance of context has been kept alive precisely by its denial. Posthumous reconstructions and imaginative restorations of some of the lost works are taking place in various parts of China but perhaps, the most interesting operations are not the direct citations of the past but those that try to include context indirectly. The niche group of architects presented in this section provides significant insights into how such operations to re-embrace the country's heritage can be carried out without resorting to formalism.

Very young architects, such as those at ZAO/standardarchitecture, are among the ones who have pushed for the enhancement of the country's historical heritage in a non-direct way. In their 2013 Micro-Hutong project in Beijing, the architects maintained a similar line to the one seen in Wu Liangyong's 1990 Ju Er Hutong. Here, the architects have been able to relate to context by taking up the typological element of *hutongs*. "The goal of the project is to search for possibilities of creating ultra-small-scale public housing within the limitations of super-tight traditional hutong spaces of Beijing".[32] The project inherits the intimate scale of traditional courtyard buildings and uses the courtyard as the generating element and inspiration for the entire design.[33] A human dimension emerges from the project, not only in terms of its focus on the community and accessibility to historic buildings but also in terms of the idea of human-scale design.

Other Chinese architects have also made significant contributions towards thinking about architecture that has a 'Chinese' character, attempting to relate to a natural, cultural and political context. Among these, mention should be made of Zhang Lei (AZL Architects), Shanshan Qi (Studio QI Architects), He Zhe (People's Architecture Office), Mu Wei (Advanced Architecture Lab), Li Hu (Open Architecture), Dong Gong (Vector Architects) and Li Xinggang (CADG). Through their thinking and their work, they have taken part in reassessing Chinese 'tradition' from a contemporary perspective.

It is interesting to note how in China there are ancient principles such as those of Feng Shui that have remained deep-rooted and are still very much alive today, being applied in contemporary buildings. Moreover, a distinctive feature of architecture in China, which we have not seen as prevalently in other contexts such as India and Africa, is the privileged relationship with nature. Nature and landscape, sometimes even in a rather rarefied manner, are crucial elements of Chinese architecture both past and present. Key examples are Wang Shu's explicit references to mountain ranges or the 'Chinese-style' gardens in I.M. Pei's architectural works.

Traditional architecture built by the various Chinese dynasties over hundreds of years is a legacy that has repeatedly been seized on as an element of identity in times of instability, as a way of emphasising individuality in the chaos of modernisation. However, such reassessment has not been without contradictions: in periods free from the imperial dynasties, the imperial architectural language has still been a point of reference in the quest for rediscovering traditional Chinese values, and this harks back to the treatise on Chinese architectural 'grammar' written by Liang Sicheng in 1930.[34]

Tradition has been re-embraced in the most diverse forms and very often based on ideological motivations. Indeed, the fortunes of Chinese architects and their re-use of context cannot be detached from political events. The link between architecture and politics has always been very strong, as clearly demonstrated by the impact of the Soviet movement on architecture in the Communist period or that of globalisation in the period of reopening to the West from the 1970s onwards.

Context is, therefore, a broad concept in China, ranging from the re-embracing of ancient symbolic-mystical principles to the more abstract idea of past traditions, to nostalgia for demolished buildings, to the re-use of the rubble from traditional villages, to the more or less formal revival of decorative elements considered to be 'Chinese', to the use of traditional structural elements, to the modern and creative reinterpretation of local typologies, to the interest in and deep respect for nature and landscape, to architecture on a human scale or even to the involvement of local workers.

Despite this vast range of approaches, whether they relate to recent or distant memories, to industrial or imperial periods, to the real or the ideal, all the projects presented have highlighted the willingness of a niche group of Chinese architects to enter into a dialogue with place and to view a project as a stimulus for creativity and never as an obstacle.

Figure 8.1 Amateur Architecture Studio – Wang Shu, Ningbo Historic Museum, Ningbo, 2003–2008. (a) Exterior path. (b) Detail of the wall. *(Continued)*

Figure 8.1 (Continued)

Figure 8.2 I.M. Pei, Suzhou Museum, Suzhou, 2002–2007.

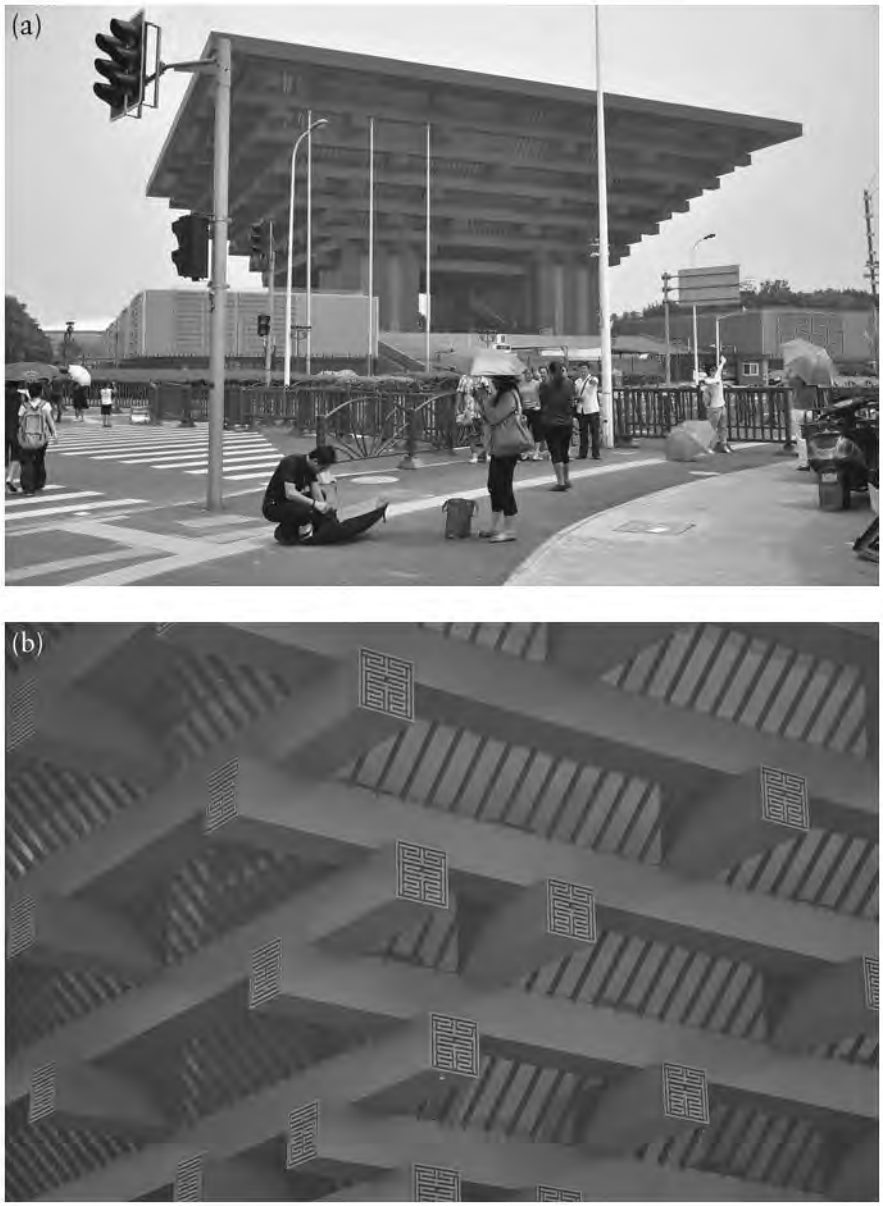

Figure 8.3 He Jingtang, China Pavilion, Shanghai Expo, Shanghai, 2010. (a) Exterior view. (b) Detail of the structure.

Figure 8.4 ZAO/standardarchitecture – Zhang Ke, Micro-Yuan, Cha'er Hutong 8, Beijing, 2013–2015. (a) View from above of the courtyard. (b) Close-up of the courtyard space.

Figure 8.5 Studio Zhu-Pei, Jingdezhen Imperial Kiln Museum, Jingdezhen, Jiangxi, 2016–2017.

Notes

1 Such as the use of the square shape, considered auspicious.
2 Other modern architects who produced hybrid architecture before 1949 include Harry Hussey, L.E. Hudec, Yang Tingbao and Xi Fuquan. Cultural influences have always gone both ways: there was a strong Chinese influence in the West, too, an example being William Chambers' designs for Kew Botanical Gardens in London that included pagodas and *chinoiserie*. In this period, we also find hybrids such as the *lilong* residences in Shanghai or the 'tower houses' in Kaiping.
3 Jianfei Zhu, *Architecture of Modern China: A Historical Critique* (London-New York: Routledge, 2009).
4 A Chinese architect naturalised American, he was the first Chinese winner of the Pritzker Prize with his design for the Suzhou Museum.
5 Yung Ho Chang's *For a Basic Architecture*, Wang Shu's *Beginning of Design*, Liu Jiakun's *Now and Here*, Cui Kai's *Projects Report* and Tang Hua's *Building Utopia* were all published in 2002.
6 The leading magazines and journals where information about Chinese architects can be found are *Times+Architecture*, *New Architecture*, *World*

Architecture, *The Architect*, *Architectural Journal*, *Chinese Architectural Education*, *Architectural Society of China*, *China Architectural and Building Press* and *Urban China*.

7 Hing-wah Chau, *'The Aesthetic of Reuse: The Materiality and Vernacular Traditions of Wang Shu's Architecture'*, in *Unmaking Waste*, May 2015, https://www.researchgate.net/publication/325280543_The_Aesthetics_of_Reuse_The_Materiality_and_Vernacular_Traditions_of_Wang_Shu's_Architecture.
8 Hing-wah Chau, *'The Aesthetic of Reuse'*. See also: Flavio Levi, *Wang Shu e la nuova architettura cinese* (Florence: Phasar Edizioni, 2015).
9 Philip Stevens, '*Designboom Interviews Wang Shu on Historic Heritage, Identity, and Long-term Planning*', in *Designboom*, 15 June 2018, https://www.designboom.com/architecture/wang-shu-interview-06-15-2018.
10 Grace Ong Yan, *'The Infinite Spontaneity of Tradition'*, in *The Pritzker Architecture Prize, 2012*, https://www.pritzkerprize.com/sites/default/files/inline-files/2012_Essay_0.pdf.
11 Grace Ong Yan, *'The Infinite Spontaneity of Tradition'*.
12 Grace Ong Yan, *'The Infinite Spontaneity of Tradition'*.
13 Evan Chakroff, '*Recasting History: The Ningbo Historic Museum'*, in *Architecture Criticism*, no. 24 (Spring 2012): 57.
14 Grace Ong Yan, *'The Infinite Spontaneity of Tradition'*.
15 Yiping Dong, *'Wencun Village, China, by Wang Shu and Lu Wenyu's Amateur Architecture Studio'*, in *The Architectural Review*, 17 November 2015, https://www.architectural-review.com/today/wencun-village-china-by-wang-shu-and-lu-wenyus-amateur-architecture-studio/8691086.article.
16 Evan Chakroff, *'Recasting History: The Ningbo Historic Museum'*, in *Architecture Criticism*, no. 24 (Spring 2012): 57–62.
17 Yung Ho Chang, *'The Bay / Atelier Feichang Jianzhu'*, in *ArchDaily*, 11 March 2011, https://www.archdaily.com/115901/the-bay-atelier-feichang-jianzhu.
18 Yung Ho Chang, *'The Bay / Atelier Feichang Jianzhu'*.
19 Yung Ho Chang, *'The Bay / Atelier Feichang Jianzhu'*.
20 Jiang Jingwen and Li Youwei, '*Living by the Bailu Lake – Phase I of Hanbiwan Garden'*, in *Interior Design*, 11 October 2011, http://mixinfo.id-china.com.cn/a-6762-1.html.
21 '*Now and Here – Chengdu: Liu Jiakun'*, in *ItsLiquid*, 14 July 2017, https://www.itsliquid.com/now-and-here-chengdu.html.
22 Jianfei Zhu, *'Criticality in between China and the West'*, in *The Journal of Architecture*, vol. 10, no. 5 (2005): 490.
23 Liu Jiakun, '*Rethink Low-Tech Strategy: West Village – Basis Yard'*, in *Architecture Technique* (2015): 38–47.
24 Giuseppe Cinà and Mu Qi, *'Ju Er Hutong Project: A Rehabilitation Model or an Unsuccessful Attempt'*, in *Journal of Civil Engineering and Architecture*, vol. 12 (2018): 629–643.
25 *Times+Architecture* associated with Tongji University, *New Architecture* associated with Wuhan University, and *World Architecture* associated with Tsinghua University.
26 He rejected the design institute system to set up his own independent practice.
27 Atelier Deshaus's Long Museum project in Shanghai, 2014, is another example of a refurbishment project involving a former industrial building.
28 There are projects such as the Li Garden Tea House in Shanghai, 2017, where the concept of the traditional dwelling re-emerges, providing more conventional human-scale spaces for Chinese architecture. The project involved recreating a miniature version of the Chinese garden, right down to the very last detail.

29 Atelier Deshaus, '*Youth Center of Qingpu. Atelier Deshaus*', in *Archdaily*, 26 May 2012, https://www.archdaily.com/238004/youth-center-of-qingpu-atelier-deshaus.
30 ZAO/standardarchitecture with its Namcha Barwa Visitor Centre project in Tibet in 2008 worked in an isolated agricultural area using local stone. It is, in fact, a common pattern for young architects to look for opportunities in more remote areas since it is easier to set up a dialogue with local administrations in countryside areas, and there are fewer project constraints. It is in such rural areas that projects of an experimental nature, especially in relation to the environment, are starting to be found.
31 Alessandra Centroni and Maria Grazie Filetici, *Attualità delle aree archeologiche: esperienze e proposte* (Rome: Gangemi Editore, 2015).
32 Han Zhang, '*Micro-Hutong. Standardarchitecture*', in *Archdaily*, 9 October 2015, https://www.archdaily.com/775045/micro-hutong-standardarchitecture.
33 The architect makes use of dynamic volumes and a mix of traditional and low-cost contemporary materials, such as light steel frameworks with plywood panelling.
34 Liang Sicheng and Wilma Fairbank, *A Pictorial History of Chinese Architecture. A Study of the Development and Its Structural System and the Evolution of Its Types* (Boston, MA: MIT Press, 1984).

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9 Re-Embracing the Aboriginal Model
Australia

The Hidden Secret 'at the Origin'

Dealing with the Australian context necessarily implies observing Australia – and the rest of Oceania (New Zealand, New Guinea, Polynesia, Micronesia and Melanesia) – from a standpoint that at least attempts to move away from a purely Eurocentric approach typical of current historical-architectural interpretations. This means trying to see something else and something more in those lands than what a purely 'Anglicised' viewpoint offers. Such a viewpoint cannot, of course, be avoided, nor would it be conceivable or possible to ignore or omit it. And yet, Australia, in particular, offers elements for the formulation of a different approach that, while not radically alternative to the Western approach, establishes a distinctive relationship between architecture and context.

Starting from the very name of the country, the history of Australia infers a point of view that is entirely 'other' – both culturally and geographically – instead of what should or could be 'its own'. The designation '*Terra Australis incognita*' (or better still: '*Terra Australis nondum cognita*' – the southern land not yet known) came to be used after Abraham Ortelius's world maps of 1570 (the first modern atlas) indicated a portion of the world that, although undiscovered, was nevertheless somehow 'foreseen' by European cartographers. Although it was still a land of uncertain size and shape, its existence was nevertheless at least 'expected'; it was named after *auster*, the warm wind that blows from the south in the Mediterranean Sea. And the gigantic island bathed by the waters of the Pacific and Indian Oceans was to remain 'not yet known' – at least to European eyes – until 1605 when the Dutch navigator Willem Janszoon landed on the shores of Cape York Peninsula, at the north-eastern end of the region (or state) of Australia now called Queensland. The name Hollandia Nova, given to the island a few decades later, did not, however, lead to any real surveys or colonisation by the Dutch, whereas James Cook's voyages of exploration in the second half of the 18th century were much more significant. Cook's discoveries were to give rise to the first colonial settlements (including Sydney) as well as the British crown's claim to possession of the explored coastlines.

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During the 19th century Australia (and Tasmania which was annexed to it) was used by the British as a penal colony, and in fact, the first settlers were mainly ex-convicts and prison guards. This (under)use can be explained by the abundance of exploitable colonial land in the British Empire and by Australia's geographical remoteness from Europe, as well as a British lack of interest in the land's resources. Unsurprisingly, colonisation was mainly concentrated on the coastlines – where a very large proportion of settlements are still located to this day – neglecting the immense inland areas. Covering a vast surface (the sixth largest in the world), the inland areas are occupied by what Australians call 'the bush' (open land with various kinds of natural habitats, as well as small urban settlements) and 'the outback' (semi-desert areas where the land is not arable, even if many plant and animal species do survive there).

In the central part of the 'outback' rises Uluru (formerly known as Ayres' Rock), the rock formation sacred to native peoples. It is the only relief of any importance in the entire Australian continent, and although it is only 350 metres in height, it is an extremely astonishing presence (in the language of the native tribes, the name Uluru apparently means 'strange'). Uluru's strangeness stems from the fact that it is an enormous monolithic mass of sandstone with a perimeter of around 9 kilometres and a depth of up to 7 kilometres (making it one of the largest on the planet); furthermore, its colour varies significantly, depending on the time of day and weather conditions. Due to these features, it is considered a sacred landmark by local peoples, who, over time, have given it a central role in their cosmogonic mythologies, and ancient rock paintings are to be found on its surface.

The term 'Aborigine' that the British used for the native peoples (from the Latin *ab origines*, meaning those who inhabited that land 'at the origin') ignores the complex make-up and the cultural, linguistic and religious differences of the various tribes, which probably numbered around 200 when the British arrived. In general, the Aborigines were hunters, fishers and gatherers, with a tendency towards nomadism. Common features of Aboriginal Australian cultures are their reverence for the earth and a cosmogony based on the central role of dreams. According to their cosmogony, there was an original *jukurrpa* or *tjukurpa* (or 'Dreamtime') that coincided with the creation of the world. At the beginning of the Dreamtime, the world was still formless, but then mountains, rocks, rivers, lakes and wells were created thanks to the activities (stopping, walking, dancing, hunting, etc.) of gigantic supernatural 'culture heroes' who took on human or animal form. According to this belief, the sacredness that places are imbued with can be reactivated through people's dreams, which put them in contact with a spiritual dimension capable of having an effect on the world. All of this is passed on orally by tribes through tales that are in the custody of the community elders who impart them to younger members. These mythological tales are rooted in specific areas or lands, enjoying a particularly close relation with them, even to the point that they take on the role of veritable 'geographical maps'. This is what Bruce Chatwin

deals with in his *The Songlines* (1987).[1] The mythological tales of Aboriginal creation are sung according to rhythms that are 'spatialised', leading along routes that are invisible to 'lay' eyes but very evident to those who can grasp their meaning.

From the evidence brought to light by archaeologists and anthropologists, it has been possible to establish that these peoples have inhabited Australia since at least 40,000 BCE, but during this time, they do not appear to have undergone any significant evolution, remaining in the Stone Age. This 'lost' evolution came to a complete halt with the arrival of Westerners, and in particular with the British, who deployed various methods to try to exterminate these native peoples, from expropriating their land which provided them with their resources, to the poisoning of their water and food, to the deliberate introduction of contagious diseases that the Aboriginal immune system was unable to combat, to even engaging in outright warfare. So while this lack of evolution apparently makes the Aborigines a 'weak' link in the chain of the human species (observing them from a Western point of view), on the other hand, it provides the opportunity to observe their relationship with the world, their 'techniques' and customs, as a model of 'development' that is radically different from the models known to us, and potentially holding interesting and useful pointers for the current state of our world.

Firstly, the lack of material evidence of Aboriginal culture already reveals some important indications: they are hardly a technological civilisation, having developed just a few rudimentary tools. Yet, if we observe the best-known Aboriginal device for hunting and tribal combat, the boomerang, we cannot fail to notice its great refinement, both in terms of its execution and its concept. The boomerang requires extraordinary throwing skills to hit the mark, but at the same time, when it does not hit the mark and as long as its curvature allows, the weapon will return to the hands of the person who threw it. In comparison, for example, with clubs or other weapons of impact made in prehistoric times, the boomerang is a tool with a remarkably shrewd design. Moreover, it also embodies the attitude of the Aboriginal peoples that is not based on appropriating nature or natural resources in the 'predatory' manner typical of other cultures throughout the world or rather of the later evolutionary stages of those other cultures. There is, of course, no lack of violence connected with their hunting and fishing, but Aboriginal Australians do not wreak havoc on nature in the way that other evolutionarily more – 'developed' civilisations do. Aboriginal mythologies are imbued with their sense of respect for nature and for the land: "The Aboriginals had an earthbound philosophy. The earth gave life to a man; gave him his food, language and intelligence; and the earth took him back when he died. A man's 'own country' […] was itself a sacred ikon that must remain unscarred".[2] In this very sense: "To wound the earth […] is to wound yourself, and if others wound the earth, they are wounding you. The land should be left untouched: as it was in the Dreamtime when the Ancestors sang the world into existence".

This necessarily implies an attitude of use and not of possession or exploitation. "The Aboriginals […] were a people who trod lightly over the earth; and the less they took from the earth, the less they had to give in return".[3] This indicates the common purpose of each member of the Aboriginal culture: to preserve the land as it was and as it was meant to be. And this also explains the profound sense – not purely an external or an aesthetic sense – of song: it is 'poetry' in the sense that also embraces the Greek word *poiesis*: to make, to create, and to create in a way that cannot be un-created or un-made by profoundly contrasting behaviour.

This is the mentality that has moulded the native tribes and that is still respected by their latest descendants. And the consequences of such a mentality can still have positive effects today, first and foremost on the way the difficult Australian land is 'used'.

> White men […] made the common mistake of assuming that, because the Aboriginals were wanderers, they could have no system of land tenure. […] Aboriginals, it was true, could not imagine territory as a block of land hemmed in by frontiers: but rather as an interlocking network of 'lines' or 'ways through'. […] For this there was one simple explanation. Most of Outback Australia was arid scrub or desert where rainfall was always patchy and where one year of plenty might be followed by seven years of lean. To move in such landscape was survival: to stay in the same place suicide. The definition of a man's 'own country' was 'the place in which I do not have to ask'. Yet to feel 'at home' in that country depended on being able to leave it. Everyone hoped to have at least four 'ways out', along which he could travel in a crisis. Every tribe – like it or not – had to cultivate relations with its neighbour. So if A had fruits […] and B had duck and C had an ochre quarry, there were formal rules for exchanging these commodities, and formal routes along which to trade.[4]

These exchanges were carried out without the use of money, which is non-existent in the Aboriginal culture, and without the idea of 'property'. Hence exchanges of this kind can only be superficially considered as normal profit-driven 'trade', as they would be for the European or Western mentality. On the contrary: "Our people's trade was always symmetrical". But there are even more interesting aspects to what may appear as a 'convenient exchange':

> Aboriginals, in general, had the idea that all 'goods' were potentially malign and would work against their possessors unless they were forever in motion. The 'goods' did not have to be edible, or useful. People liked nothing better than to barter useless things — or things they could retrieve themselves: feathers, sacred objects, belts of human hair. […] Trade goods […] should be seen rather as the bargaining counters of a gigantic game, in which the whole continent was the gaming board

> and all its inhabitants players. 'Goods' were tokens of intent: to trade again, meet again, fix frontiers, intermarry, sing, dance, share resources and share ideas.[5]

And at the end of the day: "[…] songs, not things, are the principal medium of exchange. Trading in 'things' is the secondary consequence of trading in song". Knowing the verses of the songs means owning the title deeds to the land. But even more so, knowing the songs means orienting yourself, it means locating yourself, it means being; and exchanging them implies mutually endowing each other with meaning: "The trade route *is* the Songline".

Returning to the question of 'goods', according to the Aboriginal mindset, these were potentially harmful: "Men had to learn to live without things. Things filled men with fear: the more things they had, the more they had to fear. Things had a way of riveting themselves on to the soul and then telling the soul what to do".[6] In Aboriginal culture, there is a positivity in rejecting possession, and in the consequent orientation towards asceticism, and in this we can but see signs of a primitive intelligence that is in no way inferior to modern intelligence, but evidently very different from it. This difference is evident above all in the prevalent trend among Australian tribes towards nomadism: *nomos* ('grazing', but also 'law') being the root of the term 'nomad'. By their very nature, as Chatwin points out, nomadic cultures develop less violent attitudes than sedentary ones:

> As a general rule of biology, migratory species are less 'aggressive' than sedentary ones. There is one obvious reason why this should be so. The migration itself, like the pilgrimage, is the hard journey: a 'leveller' on which the 'fit' survive and stragglers fall by the wayside. The journey thus pre-empts the need for hierarchies and shows of dominance.[7]

This 'non-attachment' to the land is the key element that unites Australia's various native tribes. But far from 'detaching' the land from life, it makes them become even more co-essential: the land is the Australian form of life, and all the more so in that it cannot be reduced to a dead thing, to a mere 'commodity'.

This long preamble devoted to the original culture of Australia does not specifically serve to introduce the current local architecture, which – despite sharing some aspects, at least those relating to the climate and the 'environment' – nevertheless remains abysmally distant from it. Instead, it is useful at least to consider the 'possibility' of a radically alternative culture to the Western capitalist approach centred on exploiting resources and on a tenaciously commodifying and 'objectifying' mindset. Such an alternative can be effectively observed in the Australian model of construction. For the nomadic Aboriginal tribes, the home was not seen as a 'stable', 'fixed' possession but as a temporary shelter, and this temporariness was reflected in the very way their dwellings were conceived: a simple accumulation of branches

and shrubs. Their dwellings were, in fact, rather akin to primitive huts, but without foundations and without being rooted to the earth (which was not to be 'wounded' in any way, as mentioned earlier). An Aboriginal home was a sort of nest to be used seasonally, temporarily, and therefore not intended to last, certainly to last less than a person's lifetime.

Brave New World

This culture of using the land without appropriation or possession is only reflected very faintly in Australian architecture. And it is certainly not reflected in the architecture of the English-speaking world that has given rise to most of the architecture in Australia (especially along the coast), starting from the settlements of the European colonisers, particularly where the main cities, Sydney and Melbourne, were established and developed. Likewise, it is not reflected in the architecture of Canberra, the city that was to be designated as the capital of the Australian nation to dispel the duality and rivalry between Sydney and Melbourne. Nevertheless, it is praiseworthy that an attempt was made to establish a capital that would be radically different from a city with European or American roots. Despite the fact that the international competition for the new capital city launched in 1911 was won (out of 137 entries submitted by architects from all over the world) by an American architect, Walter Burney Griffin – a member of the Chicago School that developed around Frank Lloyd Wright and his buildings in Oak Park in particular – the plan for the new city differs from any other city plan drawn up anywhere previously. Located on hilly terrain about 150 kilometres from the coast and about 300 kilometres from Sydney, the geometry of Canberra is both abstract and complex, demonstrating its origins in the garden city ethos, as well as its links to Freemasonry. The original layout, only partially implemented but respected in the key sections, consists of polygonal figures and focal points from which radial axes branch out, interrupted only by the small lakes in the rolling New South Wales landscape that was chosen as the site of the new capital. Griffin's proposal, with the crucial support from his wife Marion Mahony, who produced the beautiful illustrative plates, was to face a troubled path before it could be built. Whereas the majority of the jury had chosen the American architect's plans, the minority favoured the Australian architect Walter Scott Griffith's submission, while the Finnish architect Eliel Saarinen's plans were unanimously designated as runner-up.

Work only began on the federal capital in 1918, in accordance with Griffin's plans for the overall layout, whereas individual buildings were entrusted to various other architects. The parliament building (the so-called Old Parliament House, 1923–1927) was indeed designed by the English architect John Smith Murdoch. This white building with classicist features was constructed as a provisional parliament, replacing the Melbourne parliament building, until such time as a permanent structure could be erected, which wasn't until

the early 1980s (the New Parliament House, 1980–1988, by the Italian-American Romaldo Giurgola, that stands at the top of Capital Hill and is partially buried in it). In contrast with the strong urban plan for the city, it is this very lack of an overall architectural vision that makes for Canberra's weakness. Nonetheless, there are some significant individual buildings, such as Emil Sodersten's Australian War Memorial, 1927–1941, a courtyard building crowned by a dome that celebrates the fallen in all wars Australia has been involved in, though it does so using a mixed language of classicism and Art Déco, despite the fact that Sodersten is a native Australian.

All in all, the entire history of Australian architecture, at least until the 1960s, can be viewed as a testing ground for talented architects who found their fortune here. The most striking example is that of Jørn Utzon and the Sydney Opera House. A trainee with Kay Fisker and Steen Eiler Rasmussen in Copenhagen, and an assistant for a brief but intense period in the Finnish studio of Alvar Aalto, he was proclaimed the winner of the great international competition in 1957 for the Sydney Opera House. The remit envisaged the construction of two halls (a large one for concerts and conferences with 3,000–3,500 seats and a smaller one with 1,200 seats), and when Utzon received the commission, he was 38 years old and without a single work behind him that could justify the major commission he had just received. The few projects he had built before then included his family home in Hellebæk, North Zealand, 1952, and the Middelboe House, near Copenhagen, 1953, both of which display the influences of Mies van der Rohe and Wright, whom he met in 1949 during a stay in Taliesin. Still in the construction phase was his Kingo Residential Complex in Helsingør, 1956–1958, comprising a group of more than 60 single-family houses, each having an L-shaped layout around a square courtyard and arranged in irregular rows on undulating terrain. There is nothing in these carefully constructed buildings – made of ochre-coloured bricks and pinewood so as to camouflage them against the surrounding vegetation – that could hint at the extraordinarily inventive solution he came up with for the Sydney Opera House. And his design becomes all the more astonishing considering that the only public buildings of considerable size that Utzon had been involved with up to that time were the London Crystal Palace, 1947 (with T. Faber and M. Irming), Oslo Central Station, 1947 (with Arne Korsmo) and the Langelinie Pavilion in Copenhagen, 1953, all of which had remained on the drawing board. What is undeniable, however, is that the jury of the competition, including Eero Saarinen and Leslie Martin among others, were extremely impressed by this young unknown Danish architect's design: "The two auditoria [are] roofed by a series of interlocking shell vaults [set upon] a rising plateau [or 'podium']. The white coil-like forms of the shell vaults relate as naturally to the Harbour as the sails of its yachts".[8]

The very separate ways that Utzon deals with the podium and the roof – and the apparent freedom and lightness with which 'the roof, like sails',[9]

floats above it – are the most astounding features of the design, which thus eliminates all vertical structures and creates a connection between the theatre complex and the parabolic arch of the nearby Sydney Harbour Bridge.

In reality, neither the podium nor the roof proved to be easy to construct, as Utzon's competition design, with its harmonious, fluttering 'beating of wings', had perhaps indicated. The difficulties encountered in building the podium – conceived as a gigantic stepped plinth in reinforced concrete in part monolithic, in part with concrete beams of variable cross-section – stemmed from soil stability on the promontory jutting out into the Sydney Harbour Bay on which the Opera House stands. On the other hand, the problems posed by the roof were entirely of a geometrical nature. Flanked from the outset by the London-based engineering consultants Ove Arup & Partners, Utzon finally managed to come up with the building solution for the twin scaled-up pairs of shells four years later. Initially conceived as surfaces arching according to intuitive parabolic curves, they were finally produced as triangular segments cut from a concrete sphere – this was a solution that implied forsaking his purely 'gestural' creation and opting for a system that was nevertheless no less successful from an aesthetic point of view and maintained a geometrical rigour at acceptable costs.

Utzon's efforts to come up with the necessary solutions led him to devote himself almost entirely to working on revising the project from 1957 to 1965 and to move to Australia in 1963, where he also designed a house for his family, 1961–1965, close to Sydney. In 1966, however, he was forced to abandon the Opera House building project due to differences over finance and mounting criticism of the delays and the spiralling costs of the building. It was eventually completed in 1973, after numerous modifications to the plans (relating to the glazing system and the interior, as well as the use and size of the halls) that were made without his consent. Despite all of this, the Sydney Opera House can be considered a successful 'organism', able to maintain a scintillating dialogue with the harbour, and, above all, thanks to its audacious, dynamic lines, quickly able to transform itself into the symbolic image of the Australian 'brave new world'.

Kenneth Frampton has identified a 'transcultural intention' in Utzon's architecture, by which he means "his tendency to seek inspiration outside the Eurocentric domain".[10] This does not, however, refer to specific Australian or Aboriginal influences but rather to the presence in various circumstances of iterations of Islamic, Mediterranean, Meso-American and Chinese building practices and shapes. Indeed it appears that the teachings of the *Yingzao Fashi*, the Chinese building manual dating from the 12th century, lie at the basis of some of the solutions adopted in the shells of the Sydney Opera House, while according to comments made by the architect himself, Gothic building techniques also played their part in inspiring the design.

New Songlines

These elements provide an interesting legacy (at least potentially) for a nation that in the course of its recent history, from the 18th century onwards, has tended to erase rather than give due consideration to the cultural heritage preceding its own. Even if this legacy does not yet provide the basis for a truly Australian architecture, it does at least provide the grounds for an attitude which involves listening to other cultures that may be much less widespread but no less interesting than European culture. And so, starting from towards the end of the 20th century, Australian architecture – like other sectors of society – has begun to manifest a certain sensitivity towards the issue of the social inclusion of Indigenous populations, trying to give places and buildings connected with these populations' memories and cultural identity a non-Western appearance that in some way relates to these peoples' cultural background. Of course, this is fraught with difficulties since – as we have seen – there is no Aboriginal architecture that can serve as a point of reference in this sense.

One of the first and probably most interesting examples is the Uluru-kata Tjuta Cultural Centre, 1990–1995, built by Gregory Burgess Architects near the Uluru sacred rock in Northern Territory. The cultural centre was conceived and designed in co-operation with the Anangu people, who have occupied the territory where Uluru stands for thousands of years and who are the custodians of its mythology. This teamwork and the studies of the site led the designers to submit plans for two low sinuous buildings that recall two animals fundamental to Uluru's mythical heritage: the female python Kuniya and the royal brown snake Liru, one in front of the other before their fatal battle. Not only the shape of the buildings but also the choice of wood and red earth as the main building materials were the result of joint decisions made with the Anangu community. Likewise, decisions about building techniques were shared, and the Anangu were responsible for the decoration of the walls. Yet, the use of a significant part of the centre for non-cultural purposes, in other words, for retail purposes, does lead to some perplexity. Such a rationale is completely foreign to the culture of the populations who lived here originally, and it cannot even be justified by the fact that some of the profits are earmarked for the descendants of those populations; indeed, in some ways, this puts the entire operation in an even worse light.

There are also other, even more, problematic cases. The Karijini National Park Visitor Centre in Western Australia, 2001, is a facility designed by the Woodhead studio that resorts to the same expedient as at Uluru. It uses the shape of a highly representative animal for the Banyjima population, the Kurrumanthu (a species of goanna lizard), but it is reworked in a rather insignificant way and transferred to sheets of weathering steel that do not in any way fit in with local traditions. Likewise, the Nyinkka Nyunyu Art & Culture Centre, designed in 2003 by Stephen Lumb and Tangentyere in Tennant Creek, Northern Territory, also features a goanna lizard-shaped roof for one of the two buildings that make up the centre, while the main one

(the display area) takes on curvilinear and loosely organic forms. But once again, the materials used (sheet metal, steel and concrete) are alien to local cultures, as are the colours used.

Lastly, the East Pilbara Arts Centre, again in Western Australia, 2016, designed by Officer Woods Architects, consists of a simple shed covered with metal sheets decorated with a large bar code in the colours of the different local Indigenous groups. While this solution does bear witness to Aboriginal traditions, it seeks to go beyond a mimesis of purely formal aspects of the traditions, and instead, through the way the outer covering relates to the interior spaces, echoes the *wiltja*, a sort of protective shell used by the Aborigines to defend themselves from the elements.

These examples highlight the quest of the last few decades to establish a rapport, albeit contradictory, with Aboriginal traditions. Such a rapport has also been sought in projects designed by architects coming from other cultural traditions. A well-known and relevant example of this is the Jean-Marie Tjibaou Cultural Centre designed by Renzo Piano in New Caledonia, 1995–1998. It was built with the aim of raising awareness of and promoting the culture, traditions, art and craftsmanship of the Kanak people and was named after the French activist Jean-Marie Tjibaou, leader of the Kanak independence movement, assassinated in 1989. The centre is made up of ten circular pavilions inspired by the traditional huts of New Caledonia, using wood as the main material but combining it with steel and glass to give the project the durability lacking in the original huts. The project has had great international resonance, achieving its aim of spreading the Kanak 'message' well beyond the borders of the distant (from a Western perspective) land that it belongs to. Nevertheless, here again, the attempt to take on the architectural appearances of a local culture appears more of an external gesture than an actual awareness of alternative techniques or materials to those used in the West, more a question of temporary, chance solutions rather than deep-rooted changes in the way of thinking about and practising architecture. It has, instead, been Australia's far-from-easy climatic and environmental conditions that have provided some architects with the key to an entirely different and conscious way of designing at those latitudes.

Architecture Meets the Challenge of Nature

Emblematic of this is the case of Glenn Murcutt, the forefather of the modern Australian school of architecture. Born in London but educated at the University of New South Wales in Sydney, where he studied architecture between 1956 and 1960, Murcutt opened his own practice in Sydney in 1969. From then on, he designed and built hundreds of houses, often at isolated sites in the vast Australian expanse, working for a good length of time without any assistants. But Murcutt's 'pioneering' spirit does not end with the 'comprehensiveness' he sees in the role of the architect; it also extends to the design features he adopts, combining solutions derived from a knowledge of construction methods rooted in the geographic and climatic conditions

of Australia, with echoes of Charles Eames' experimentalism and low-tech empiricism and, more generally, of the Case Study Houses promoted by John Entenza in the 1940s and 1950s in California, and of the English New-Brutalism of the 1960s. Perhaps unsurprisingly, his most successful works appear to be instigated by unfavourable morphological, geographical and economic conditions: single-family residential units built 'in the middle of nowhere', in other words, surrounded by the magnificent but harsh, primeval Australian wilderness. In such conditions, Murcutt's buildings cannot simply 'settle themselves down comfortably' but are compelled to engage in a real struggle with their surroundings. Like the explorer's hut, they are outposts in the wilderness, encampments that must provide everything needed for survival. Thus the individual home is called upon to do the work of a wider community, if not a whole city.

Murcutt displayed a remarkable ability to master one of the new skills of today's world, DIY or 'do-it-yourself', following in the footsteps of his father, a very keen amateur builder and handyman, but also in the footsteps of Pierre Chareau, Jean Prouvé and others mentioned earlier. From the early 1970s, in fact, Murcutt's projects frequently made use of standard building components, often altered to serve a different purpose or to achieve more aesthetically pleasing results, as well as pieces he salvaged from elsewhere. All of this places Murcutt's work in the context of a high degree of industrial craftsmanship, as is evident in his Marie Short House at Kempsey, the result of two commissions, the first between 1974 and 1975 and the second in 1980. Here, as elsewhere, the two pavilions (reminiscent of railway carriages) are raised off the ground on short pillars to keep them at a distance from possible dangers lurking below. The building materials are corrugated sheet metal, wood and glass, used with the same calculated sincerity and laconicism with which Alison and Peter Smithson used them, referring to them as 'as found'. All in all, the building is effectively sustainable, in other words, it manages to be economical and ecological, able to fit into a specific environment and respond to it by using low-cost, low-environmental-impact solutions. In addition, the house also displays a line-up of 'mechanicalness' with carefully studied but understated details, such as the retractable louvres that screen out the sun and keep out the heat while allowing air to circulate or the tie-rods that allow for removable walls. Even if such architectural, spatial and environmental solutions are at times not particularly attractive, they first and foremost respond to practical and climatic needs, but perhaps unsurprisingly, at the end of the day, they end up taking on a rugged charm of their own, not stemming from any attention-grabbing desire for form.

Similar remarks could be made for other houses designed by Murcutt, such as his Ball-Eastaway House at Glenorie, about 50 kilometres outside Sydney, 1980–1983. Built for an artistic couple, the house has external verandas and a sort of exhibition space at the entrance. The interiors are simple, almost spartan, but at the same time more refined in terms of quality, carefully creating a comfortable interior environment in contrast with the corrugated sheets and metal profiles used on the exterior.

A greater self-awareness of his approach gradually emerged in Murcutt's later works, as in his Magney House at Bingie, on the coast of southern New South Wales, 1982–1984. The same solutions he used previously now appear to 'melt' into a more agile fluidity that in no way undermines his basic approach to architecture. His position on integral sustainability, embracing energy use, economy and construction, was very much ahead of its time, long before such issues came to international attention. Seen from today's perspective, Murcutt's architecture was extremely forward-looking in this respect; in other respects, however, it appears completely out of date. Mention has already been made of his work being largely a one-man show, his aim being to control all aspects of the design process. One positive aspect does, however, emerge from this outdated approach, and that is the way he designed his projects.[11] In many respects, they could be likened to technical drawings in that they have the conciseness, the schematic nature, the precision and the clarity of such drawings. Every perspective and every section is formulated and illustrated with utmost care. However, unlike normal technical drawings (at least more recent ones), Murcutt's are not only entirely hand-drawn, but they are also literally covered with notes, written in neat, perfectly legible handwriting. His notes are meticulous descriptions of the individual components of the building, their measurements and features, as well as the materials employed. In some cases, the notes give practical instructions for the workers who will have to put the pieces in place, with remarks about weather conditions and warnings and advice. His drawings become veritable 'agendas' for the building work, not least for those cases when the architect cannot be present on site because the projects – as in the case of Murcutt's commissions – are often located in remote corners of Australia. Such perfect intelligibility and clarity of design may seem somewhat at odds with any 'artistic' aspect of his design work, even to the point of precluding 'authorship', in the sense that his drawings become cold, detached products akin to instruction manuals. Instead, it is his very ability to bring his manual control to a strictly diagrammatic drawing that enables Murcutt to produce results that are both aesthetic and quintessentially human. The value of Murcutt's drawings lies in the transposition that takes place in his work: his sense of practising a craft and his accumulation of experience is the very essence of what he perceives as 'making architecture': "I am always thinking spatially as I draw".[12] And it is certainly noteworthy that, in the age of digital design, where mental and graphic processes tend to provide an increasingly limited and simplified version of space, one of the last representatives of a truly hands-on approach has the task of giving drawing back the role of an 'analogical device' that not only possesses a wealth of information but also abounds with useful elements for understanding the materiality and the concreteness of the architectural product.

Some of the features of Murcutt's architecture – in particular his 'responsiveness' to environmental conditions – were to become common elements for a 'school' of Australian architecture that emerged on the international scene between the end of the 20th and the beginning of the 21st century. The most prominent figure in this group is undoubtedly Sean Godsell, who trained in Melbourne and – after influential trips to Europe and Japan –

joined the London firm of Denys Lasdun. On his return to Australia, Godsell began producing buildings similar in many respects to those of Murcutt but at the same time distinct from them due to some specific characteristics. His Carter/Tucker House in Breamlea, Victoria, 1998–2000, is emblematic from this point of view. While it recalls Murcutt's work by being immersed and isolated in the Australian natural environment, it is nevertheless distinctive thanks to its use of a more refined skin of timber screening that can be tilted open to provide awnings above the doors and windows, thus making the simple parallelepiped box of the house into a sort of *boîte à surprise*, a box of surprises. This is a solution that is also found in the St Andrews Beach House, again in the state of Victoria, 2003–2006, though it comes in a version that is rougher in terms of material but just as meticulous in its details. Wrapping itself around the entire elongated building that sits perched above the ground on four high columns is a thin metal outer skin in which various panels can be hinged open as needed. Moreover, in contrast with Murcutt's houses, Godsell's have interiors that are more in keeping with urban living standards: anyone in one of Godsell's buildings could forget, at least for a moment, that they were in the middle of the Australian wilderness, thinking they were in a flat in the centre of London or Sydney. In fact, it is no coincidence that Godsell has designed equally interesting city houses, such as the Edward Street House in Melbourne, 2011, where solutions and materials similar to those seen before give rise to a sort of oriental patio house, with direct references to Japanese aesthetics.

Figure 9.1 Glenn Murcutt, Ball-Eastaway House, Glenorie, North Sydney, NSW, 1980–1983.

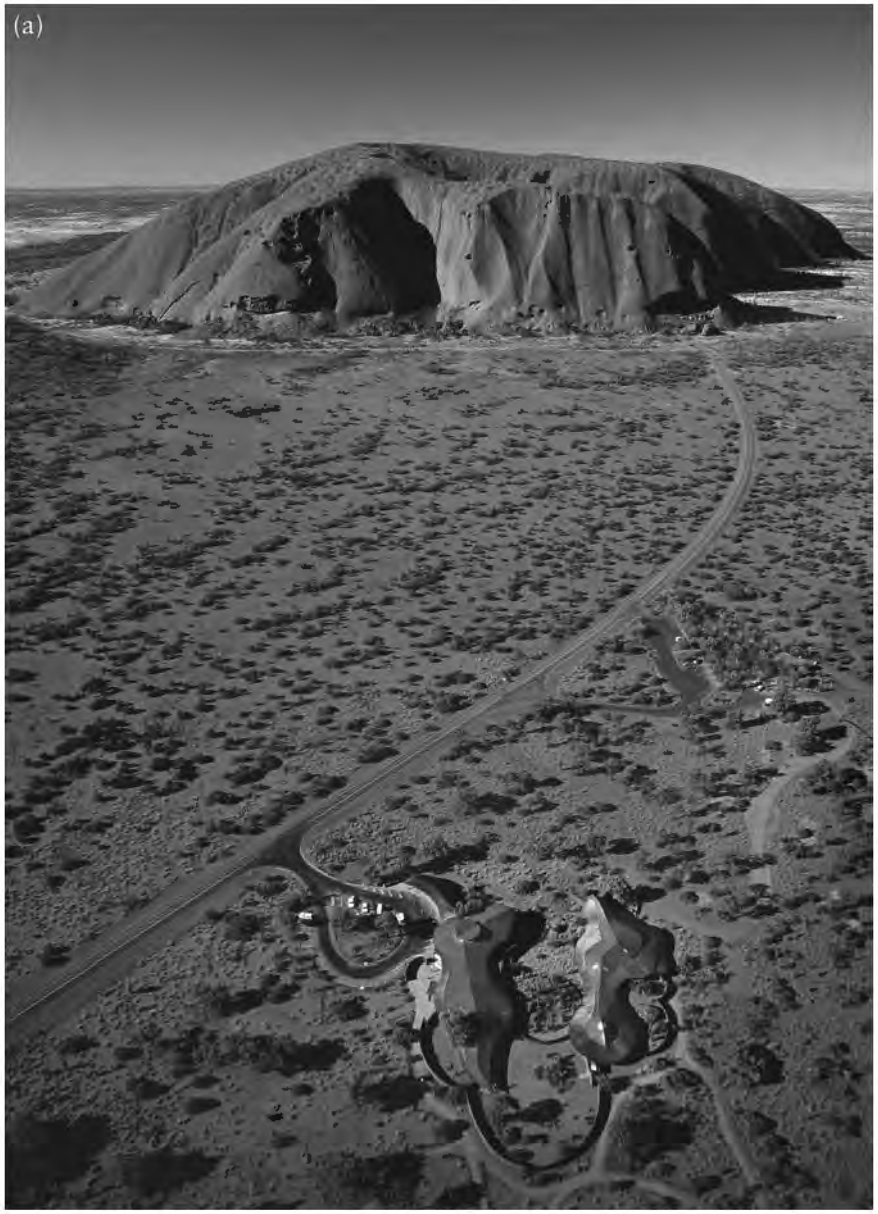

Figure 9.2 Gregory Burgess Architects, Uluru-kata Tjuta Cultural Centre, Uluru, Northern Territory, 1990–1995. (a) Structure inserted in the natural landscape. (b) Birds eye view of the building *(Continued)*

Figure 9.2 (Continued)

Figure 9.3 Sean Godsell, Carter/Tucker House, Victoria Australia, 1998–2000. (a) Side view of the building. (b) Side view of the building at night. (c) Interior view. *(Continued)*

Figure 9.3 (Continued)

Figure 9.4 Donovan Hill, D House, New Farm, Queensland, 2000.

Notes

1 Bruce Chatwin, *The Songlines* (London: Jonathan Cape, 1987), published in Italy as: Bruce Chatwin, *Le Vie dei Canti* (Milan: Adelphi, 1988).
2 Chatwin, *Songlines* 11; Chatwin, *Vie dei Canti* 23.
3 Chatwin, *Songlines* 11; Chatwin, *Vie dei Canti* 23.
4 Chatwin, *Songlines* 56; Chatwin, *Vie dei Canti* 80.
5 Chatwin, *Songlines* 57; Chatwin, *Vie dei Canti* 81.
6 Chatwin, *Songlines* 64; Chatwin, *Vie dei Canti* 91.
7 Chatwin, *Songlines* 273; Chatwin, *Vie dei Canti* 360.
8 H. Ingham Ashworth, John Leslie Martin, Cobden Parkes and Eerio Saarinen, *Awards and Assessors' Report on the Winning Design* (Sydney, New South Wales: Department of Public Works, 1957) from the collection of: Sydney Opera House, https://artsandculture.google.com/story/noting-the-winning-design-sydney-opera-house. See also: Françoise Fromonot, *Jørn Utzon. The Sydney Opera House*, trans. Christopher Thompson (Milan: Electa-Gingko, 1998); published in Italian as: Françoise Fromonot, *Jørn Utzon architetto della Sydney Opera House*, trans. Rita Piazza, (Milan: Electa, 1998), 19.
9 Jørn Utzon, as quoted in: Kenneth Frampton, *Studies in Tectonic Culture: The Poetics of Construction in Nineteenth and Twentieth Century Architecture* (Cambridge, MA: MIT Press, 1995), 287; published in Italian as: Kenneth Frampton, *Tettonica e architettura. Poetica della forma architettonica nel XIX e XX secolo*, trans. M. De Benedetti (Milan: Skira, 1999), 307.
10 Kenneth Frampton, *Studies in Tectonic Culture: The Poetics of Construction in Nineteenth and Twentieth Century Architecture* (Cambridge, MA: MIT Press, 1995), 247; published in Italian as: Kenneth Frampton, *Tettonica e architettura. Poetica della forma architettonica nel xix e xx secolo*, trans. M. De Benedetti (Milan: Skira, 1999), 277.
11 In this regard, see: Maryam Gusheh and Catherine Lassen, '*Thinking Drawing/Working Drawing*', in *Glenn Murcutt: Thinking Drawing/Working Drawing*, eds. Maryam Gusheh, Tom Heneghan, Catherine Lassen and Shoko Seyama (Tokyo: Toto Shuppan, 2008).
12 Glenn Murcutt, '*Details, Components and Drawing the Building*', in *Glenn Murcutt: a Singular Architectural Practice*, eds. Haig Beck and Jackie Cooper (Mulgrave: Images Publishing, 2002), 19.

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10 Context as an Opportunity
A Way of Viewing Architecture

Martin Heidegger, at the Darmstadt Fifth Colloquium of 1951, stated: "Space does not have a value *per se* if it is not understood as place, that is, in its multi-layered physicality and spirituality".[1] At the time, Heidegger's lecture was perceived by architects as a possible general theory, a tangible inspiration for the development of architectural movements such as regionalism or phenomenology.[2] In fact, the notions of place and dwelling were of particular interest to the architectural community of the time, and examples of vernacular architecture that highlighted a link between people and place, seen from a Heideggerian perspective, were a source of great inspiration.

At the end of the 1970s – as already noted in an earlier chapter[3] – Christian Norberg-Schulz's book, *Genius Loci*, had seen the light of day, and it demonstrated a particular sensitivity to what lies behind appearances, going beyond the material aspects. The author makes direct reference to Martin Heidegger's essays on language and aesthetics in order to demonstrate the inseparable link between construction, dwellings and human beings. Habitation is the purpose of architecture, and people inhabit a place from the moment they can identify with an environment. Dwelling implies that the spaces where living occurs are places in the true sense of the word.[4] Place was the very thing that had disappeared from the horizon of bad modern architecture, which, in the name of an exaggerated (and misunderstood) 'functionalism', ended up presupposing a kind of indifferent 'ubiquity', where anything could be located anywhere. In stark contrast to that modern depersonalised living, Norberg-Schulz viewed place, instead, as a space endowed with a distinctive character, its own *genius*. Going back to – and modifying – the ancient Roman notion of *genius loci*, Norberg-Schulz took it to mean the spirit of place that is revealed through the listening process of the person who relates to it – as an architect should do – of the person who avails themselves of it, and in this way it can be 'activated' (or 're-activated') from its latent state. Thus, in the relationship that is established between a place and the building erected there, it becomes clear that the 'rootedness' that the building is able to produce within it becomes essential. It is a one-to-one relationship, a 'here-and-now' existence, in this precise place and moment of time, in its own fullness.

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In actual fact, there had already been earlier signs of a sensitivity leading in the same direction as that put forward by Norberg-Schulz. In 1971, Serge Chermayeff and Alexander Tzonis (the former a Russian-British architect, the latter an architect and a historian of Greek architecture) had published *Shape of Community. Realization of Human Potential*,[5] a book where the keywords that appear in the title and subtitle – and the cover with a sort of cluster showing the importance of interconnection – indicate all the aims to be achieved: the re-activation of relationships as a fundamental element in a truly 'human' architecture (the same aim had actually been expressed even earlier by the CIAM 'dissidents': the Smithsons, Aldo van Eyck and other young architects who came together as Team X). The following year Tzonis published his *Towards a Non-Oppressive Environment*, an essay where the author takes a step towards exposing the state of crisis that modern architecture found itself in, eager to liberate the environment (a key word here – and in some ways prophetic – for entire generations to come) from the 'chaining' vision it was held in by modern thinking. This led to a profound rethinking of the models and statutes of architecture, or rather of its entire '*ordre du discours*' ('language of discourse') as expounded in the short but fundamental book by Michel Foucault published in those very years.[6]

Thus began a reflection that gradually was to undermine that modern way of thinking which viewed the world without any prospect of a less 'efficientist' or 'absolutist' way of conceiving reality. The fruits of such reflections were to be seen in 1981 when Alexander Tzonis, together with Canadian-born Liane Lefaivre, published a revealing essay on the work of Dimitris and Suzana Antonakakis in the journal *Architecture in Greece*.[7] In the work of the two Greek architects, the two authors recognise an ability to tune in to the place, to the climate and the light, and to rework the most rigid and abstract modern language so as to move towards sensitivity to local techniques and materials, thereby rooting the building in the land, making it physically and culturally part of its context. These tenets converge towards the idea of 'regionalism', conceived as an alternative to the prevailing approach in the age of internationalisation that whole-heartedly embraced such factors as industrialisation and mass production. With regionalism, on the other hand, the identity of the particular takes the place of universal dogmas; it is an identity that can be ascribed to a 'hæcceity' – as mediaeval scholastic philosophy would have termed it in other times – a 'this-ness', a 'being just as it is', in all its uniqueness and materiality.

This does not imply simply pointing to a path towards localism; in no way did it imply 'closing up' within a narrow dimension or acclaim for what was 'regional' as such. In this respect, the use of the term 'critical' alongside regionalism is of decisive importance. In the same year, 1981, Anthony Alofsin, a student at Harvard University and assistant to Tzonis and Lefaivre, wrote a text entitled *Constructive Regionalism*, a call for a profound understanding of the multitude of meanings of regionalism. Alofsin expressed his hope that: "An incisive clarity would render regionalism a constructive tool in

the production of architecture".[8] Later, Tzonis and Lefaivre would replace 'constructive' with 'critical', thus coining a winning, long-lasting expression. Here, the adjective 'critical' warns of the care and attention needed when assessing elements that belong to vernacular traditions since simply being a part of such traditions is not in itself sufficient, and in certain cases, may even be inappropriate. In this sense, critical regionalism cannot be reduced to a style; it cannot be codified in a single, unambiguous way, as this would hamper any 'reaction' to specific conditions which may be different each and every time. Equally fundamental for Tzonis were his Greek cultural roots, and it was in Greek history that he found the elements of a distinct identity that characterised the various *poleis*, the city states of classical Greece.[9]

The same concept of regionalism was to be taken up and reworked in 1983 – in a critically more refined manner – by Kenneth Frampton in his essay *Towards a Critical Regionalism: Six Points for an Architecture of Resistance*.[10] Significantly, here there is the idea – presented in a more scathing and critically refined way than that of the two authors above – of the need to resist not only the all-pervasive standardising, universalising trend of modern architecture but also the phenomena that were proliferating at the beginning of the 1980s, namely post-modernism and high-tech. Frampton, therefore, puts forward a series of keys to interpretation, including topography, context, climate, light and building form, for architecture that has the courage – after the long historical domination of avant-garde approaches – to be '*arrière-garde*', in other words instead of being forward-looking, to be backward-looking. In no way does this imply taking a conservative-cum-reactionary position, but rather being able to rebel against all-pervading pseudo-progressivism. On this basis, critical regionalism was to be open to 'world culture' but at the same time be capable of actively opposing a generalised uniformity. But for that matter, these are the same demands that the emerging post-modern culture – a culture of difference, otherness, relativism and plurality of viewpoints – makes, in disagreement with some of the buzzwords of modernity such as 'reason' or 'progress'.

It is no coincidence that the examples of critical regionalism put forward by Frampton show a substantial incompatibility in their various elements. Emblematic for him in this sense is Jørn Utzon's Bagsværd church near Copenhagen, 1973–1976. On the outside, it is a building that can in no way be defined as something 'typical' and instead assumes an almost indifferent boxiness, recalling a kind of shed seemingly devoid of any qualities. On the inside, instead, it contains an extraordinarily surprising space, a space that turns and turns, draping itself like a flowing, folding fabric, and that makes use of the cold northern European light by channelling it inside. This is by no means a work that encloses itself within a localist dimension, yet it is able to express a character of its own that can be traced back to its particular context. It is a work that manages to bring together elements and 'discourses' that are at times even opposed one to the other.

Another significant example is Alvar Aalto's Saynatsalo Town Hall in Finland, 1949–1951, which Frampton uses, in particular, to emphasise the tactile elements in it, as opposed to the predominant approach of the modern style that concentrates almost entirely on visual aspects. With critical regionalism, a fundamental role is, in fact, given back to what is 'felt' through touching rather than what is seen through the eyes. This is evident in the pattern of bricks that Aalto places within the lawn of the town hall's inner courtyard, or in the extraordinary second staircase leading up to the complex that is made of earth and wooden planks or even inside the building, in the corridors lined entirely in brickwork.

Critical regionalism was later taken up within a broader debate, although Lefaivre and Tzonis were still to return to it on several occasions with publications that redefined its contours. Thus, for example, in *Tropical Architecture: Critical Regionalism in the Age of Globalization* of 2001, written together with Bruno Stagno, an architect from Costa Rica, the authors examine one form of critical regionalism within the context of the huge area of the tropics, in other words, the vast swathe of countries that includes Caribbean islands, India, South-East Asia and much of Australia, Africa and Central and South America: "Despite their great cultural diversity, these areas share both climatic and ecological factors, as well as a post-colonial condition and the pressures of modernisation in the world of globalisation".[11] The book presents an approach to architecture conceived in response to the needs and opportunities of specific regions and, consequently, a sensitivity towards local cultures that are often marginalised. An example of this is the work of the Sri Lankan architect Minette de Silva, taken as a symbol of a different way of making architecture. A profound connoisseur of her own culture, at the same time, she is also capable of dialogue with the Western world, restlessly torn between the one and the other context. Unsurprisingly, in fact, in works such as her Pieris House, 1953–1956, Senanayake Flats, 1954–1957 or Amarasinghe House, 1960, all in Colombo, elements of modernity (which de Silva adopts also thanks to her direct acquaintance and association with Le Corbusier) co-exist with elements of tradition, though these are never used in a purely conventional sense. Likewise, Lefaivre, Tzonis and Stagno devote their attention to the English architects Jane Drew and Maxwell Fry, the designers of the residential developments in Chandigarh, close to Le Corbusier's Capitol Complex buildings, but also authors of books that are fundamental for an early focus on the topic of critical regionalism.[12]

It was again Lefaivre and Tzonis[13] who pointed out how the debate on regionalism had actually begun in the United States even before 1950. In particular, Lewis Mumford had been strongly influenced by the writings and experiments of the Scottish biologist and urban planner Patrick Geddes in the late 19th century. In 1924, Mumford published *Sticks and Stones: American Architecture and Civilization*,[14] in which he used the term 'regionalism' to present his views on the history of American architecture.[15] Mumford also contrasted regionalism with the 'imperialist' Beaux-Arts architecture

prevalent in the United States at the time. This is clearly stated in the chapter entitled *International Style versus Regionalism* in the book *Architecture of Regionalism* by Liane Lefaivre and Alexander Tzonis: "The Beaux-Arts tradition did nothing but apply an 'imperialist approach to the environment' by encouraging 'the negligence of the earth'".[16] The regionalism put forward by Mumford is not a return to the picturesque or to romantic regionalism, and even less to Nazi-Heimat regionalism, but it is 'critical' even of itself and always 'relative'. There is a constant process of 'negotiation' and of 'integration', which does not shy away from 'contradictions'. For Mumford: "Regionalism has to help people to come to terms with the actual conditions of life and make them feel at home",[17] and it goes far beyond just simply using locally sourced materials.

The debate relating to context also has close ties with a topic that has long been dear to the Milan school of architecture. Ernesto Nathan Rogers[18] is perhaps the person who best resolved the tension between modern technology and tradition in his articles *Le responsabilità verso la tradizione*[19] and *Le preesistenze ambientali e i temi pratici contemporanei*.[20] From the famous example of BBPR's Velasca Tower of the 1950s to the works of Vittorio Gregotti, the question of context and tradition return as key elements in architectural debate in Italy. It was Gregotti himself who explicitly rejected the universalising trend of modernist rationalism and – especially in his early projects – started by accepting local traditions in his design and construction rationale.[21] His landmark book *Il territorio dell'architettura*, published in 1966, deals with aspects such as the relationship of architecture with geography and history, with the idea that the building must always 'vibrate' with its surroundings and that the project must always consider the context.[22] Similarly, many Italian architects of his generation have demonstrated a privileged relationship with history, which is perhaps hardly surprising given the artistic-cultural context in which they grew up and were trained.

It is certainly not easy to provide a clear-cut definition for terms such as 'context' or 'tradition'; such concepts are difficult to grasp, constantly changing over time and space. At the same time, however, there are some very tangible aspects in these terms. 'Context' and 'tradition' both refer to cultural and material layers that over time have consolidated their characteristics in a place.

The contexts presented in this volume have been selected on the basis of their ability to stimulate an interesting discussion that, despite focusing on more general and broader topics, starts from local conditions, using architecture as a privileged means of expression. Context is no longer seen only as a place but as a category, as a way of thinking about architecture. This book is committed to highlighting architectural projects that have become a manifesto for resisting the standardisation that the Western model is largely responsible for, first through colonialisation and then through globalisation. Nowadays, the issue of identity is an increasingly pressing topic, and elements of context have, in various ways, become the starting point for building an identity, especially since the second half of the 20th century.

The notion of 'context' is, therefore, not a single concept, having various and multiple nuances. 'Context' is prompted by a variety of interactions and is never static. The concept of context is broad and includes economic, social, cultural, natural and, last but not least, political aspects. And on the basis of this idea of context, *Post-Western Histories of Architecture* has aimed to focus on a way of working that, by its very characteristics (and not in any way due to ideological stances), becomes a 'political act'.

The contemporary architects considered in this volume have in common the fact that they have accepted context as an 'opportunity' and not as an impediment. Not all of them, of course, have exploited the same aspects. But by its very nature, context, being tied to one particular place, does not provide a single possible solution, a single recipe for success. The projects analysed have shown how relating to context offers a variety of options and how there is no single way of 'making use' of context in projects. Some designers have been very attentive to the social context, others to material or typological aspects, and still others to aspects related to a political role or economic factors.

By examining both theoretical aspects and various case studies, the book has retraced the contemporary architectural debate, focusing on several crucial points of view with respect to the issue of context. Alongside some cases from Europe, our survey has focused especially on Latin America, Africa, Australia, China, India and Japan. The guiding principle has been to construct an itinerary that can accompany the reader through a history of post-Western architecture, clearly not a comprehensive history, but neither simply a mere catalogue of buildings.

When examining and linking contexts that are often very distant from each other, the chapters in this book have sought to bring out the affinities that exist in terms of sensitivity towards the spirit of place. Each in their own way, buildings and architects have interpreted the concepts of *genius loci* and critical regionalism, at times almost unawares. This should not, however, be seen in terms of a pure and exclusive interpretation of the 'physical context' but, as already mentioned, also of a 'cultural context', which in a broader sense implies an act of resistance against the uniforming forces of the contemporary world, and which takes on a political connotation precisely because of this.

In the previous chapters, we have seen how India and Africa share fairly similar conditions. They have a common problem of a lack of means and a lack of technology. In the hands of good African and Indian architects, however, this objective limitation has become a question of 'having to do with less', which has turned into a powerful element in their work. In many cases, the architects have not only chosen cheap local materials or used extreme climatic conditions to their advantage, but they have also taught a craft to the local people where they worked, thus leaving a lasting legacy in those contexts, a true resource for the future. The African architect Francis Kéré is perhaps the best example of this approach. His virtuous use of context has been across-the-board: he has re-appropriated local materials, building techniques

and types of buildings; he has involved the local population, committing himself both socially and economically. The African context has clearly presented many interesting ideas to him, but at the same time, the more widespread perception of the decolonisation processes that had emerged in those countries was also crucial in order to achieve such results.

In a very different way, some architects in Japan have rediscovered the profound relationship with 'nature' that their country's tradition possessed, and they have reinterpreted this relationship – through a process of abstraction and simplification of natural elements – in a thoroughly modern vein. This is true of the Metabolist movement, which studied the structure of trees, leaves and biological rhythms, turning them into the creative soul of avant-garde buildings and urban complexes at a time when, after the destruction of Hiroshima and Nagasaki, Japan was searching for its own identity.

As far as northern Europe is concerned, here the contextual point of reference is the organic nature of the Nordic forests, which – as in the case of Alvar Aalto's Villa Mairea – becomes an emblematically integral part of the design. There is great significance in the fact that here such a context has been taken as the point of reference, in that it implies overall balance for the entire planet, not just at a local level. Nature thus becomes a 'supra-local' element, a generalised and precious element for all, capable of embracing a plurality of spaces and subjects. And linked in with nature in these terms is the attention that northern European architects devote to public spaces, a very clear reflection of how architectural design becomes a political act.

Another different way of interpreting the natural context is seen in Australia, where modern architecture aims to establish a relationship with the wild natural environment that is as non-invasive and non-impactful as possible while being directly or indirectly inspired by Aboriginal culture. And perhaps it is the relative isolation of the Australian ethos that has also contributed to the development of such a sensitivity towards a natural environment that, because it is such a harsh and hostile environment, bears hardly any comparison with other geographical contexts in the world.

Elsewhere, such as in Latin America, the context has presented some architects with an opportunity to 'bend the rules' and reshape Western architecture, putting their own slant on things on the basis of local approaches. In this sense, while on the one hand, Latin American architects have shown great admiration for modern architecture, starting, of course, with Le Corbusier's works, at the same time, in some cases, they have transformed the rigid forms of modernism into more fluid, freer forms that appear to be the result of being well and truly 'immersed' in the Brazilian or Mexican cultural context. Each country and each architect has put their own slant on things in their own specific way: Juan O'Gorman and Luis Barragán have made use of historical elements as well as light and colour, Oscar Niemeyer has brought real 'movement' to the pure rational forms of early modernity, Roberto Burle Marx and Paulo Mendes da Rocha have created welcoming public spaces

for communities. Once again, therefore, architecture has become a form of political activity.

In the case of China, the context had often been greatly altered and sometimes even destroyed by the demolition operations of the 1950s, but it has now returned in a new form through the reinvention of local traditions. The first example that comes to mind is Wang Shu who salvaged debris from ruined villages in the Zhejiang area to use in the building of the Ningbo Historic Museum, 2003–2008, with the help of local craftsworkers who took part in constructing its façades. Another key example is Yung Ho Chang and his Split House, 2002, designed according to the constraints imposed by its location. All things considered, respect – or disrespect – for traditions has always been closely related to power. And while the cancellation of traditions has always gone hand in hand with the imposition of power, rescuing and preserving traditions, instead, implies implementing an active democracy rather than just paying lip service to it.

As we have seen, over time, a generation of Italian architects also developed a veritable school able to forge strong links between architecture and the history of place. In the Italian case, this approach arose as a consequence of a civil and political reaction to the long Fascist oppression and the disastrous consequences of war, but it was able to transform itself into skilful operations to reconstruct buildings and entire sections of Italian cities – as well as to reconstruct their identity – during the post-war period. This can be seen in buildings such as the redevelopment of the Castelvecchio museum in Verona by Carlo Scarpa, 1959–1963, or the Casa alle Zattere in Venice by Ignazio Gardella, 1953, but it is also evident in the fertile debates that abounded in circles such as the MSA (Movimento di Studi per l'Architettura) and the APAO (Associazione per l'Architettura Organica) as well as in the *Casabella Continuità* and *Comunità* magazines, that later gave rise to books that were acclaimed both in Italy and abroad.[23]

In whatever culture, taking a position in regard to context always marks out a clear separation between different ways of seeing and thinking about architecture. It boils down to making a choice between the recognition of the value of a deep relationship with place and the prevailing more superficial and commercial attitudes. It is always a choice: not only a design choice but also a choice of which 'side' you are on. This choice is not, however, necessarily dictated by belonging to a specific local culture. While, especially in the past, it was often colonised or recently decolonised contexts that moved towards more 'Westernised' or 'globalised' architecture in terms of the 'language', techniques and materials adopted, nowadays it is equally true that often 'foreign' architects are more sensitive to contextual conditions. Examples are the Red Pepper House project in Lamu, Kenya, designed by the Spanish architect Urko Sánchez, 2009, where the context of the forest becomes a real design opportunity, or the extraordinary earthen school and social buildings made of unfired clay ('raw earth') by the German architect Anna Heringer in Bangladesh.

Building in a certain way, whether in a more attention-grabbing or a more contextual manner, is, therefore, a choice that the architect is free to make. It is a dividing line that helps us to re-read the architectural landscape of the past and the present.

This book has demonstrated that a design that starts directly from the needs of context is a valid design. And it is also a valid design in that it takes into account the social forces present in the context as well as the availability of resources, thereby providing a virtuous model of sustainability. This is a sustainability that is not attained through sensational or purely demonstrative gestures such as planting trees on building façades but instead seeks to establish a truly symbiotic relationship with the environment. Only after being 'plunged' into the context, feet firmly planted on the ground, eyes at a human height, can the design process come up with suitable solutions. Only then can architectural design respond to the needs of the inhabitants and waste less energy, waste fewer materials and resources, using and favouring what is close rather than some distant interests. Only then can the design process involve local people in decision-making and building work, thus becoming a full social commitment. And this is precisely what has always been the ultimate aim of architecture. Re-reading critical regionalism from a political viewpoint, making it a 'political regionalism', is perhaps an option to which more attention needs to be paid.

Notes

1 Carmen Popescu, *'Critical Regionalism: A Not so Critical Theory'*; 213, in *The Figure of Knowledge: Conditioning Architectural Theory, 1960s–1990s*, eds. Loosen Sebastiaan, Heynickx Rajesh and Heynen Hilde (Leuven, Belgium: Leuven University Press, 2020), 211–226. Accessed 10 March 2021. doi:10.2307/j.ctv16x2c28.13.
2 The most explicit reference to regionalist design in antiquity is to be found in Vitruvius, *De Architectura*, which introduces the very concept of 'regional' to construction and even its political implications.
3 See: Chapter 3. *Principles of North-European Sustainability*.
4 See: Christian Norberg-Schulz, *Genius Loci: Towards a Phenomenology of Architecture* (New York: Rizzoli, 1979); published in Italy as: Christian Norberg-Schulz *Genius Loci: Paesaggio ambiente architettura*, trans. Anna Maria Norberg-Schulz (Milan: Electa, 1979).
5 Serge Chermayeff and Alexander Tzonis, *Shape of Community. Realization of Human Potential* (London: Penguin 1971).
6 See: Michel Foucault, *L'ordre du discours* (Paris: Gallimard, 1971).
7 Alexander Tzonis and Liane Lefaivre. *'The Grid and the Pathway. An Introduction to the Work of Dimitris and Suzana Antonakakis'* in *Architecture in Greece*, no. 15 (1981).
8 Carmen Popescu, *'Critical Regionalism: A Not so Critical Theory'*; 214, in *The Figure of Knowledge: Conditioning Architectural Theory, 1960s–1990s*, eds. Loosen Sebastiaan, Heynickx Rajesh and Heynen Hilde (Leuven, Belgium: Leuven University Press, 2020), 211–226. Accessed 10 March 2021. doi:10.2307/j.ctv16x2c28.13.

9 See: Alexander Tzonis, '*Introducing an Architecture of the Present. Critical Regionalism and the Design Identity*', in Liane Lefaivre and Alexander Tzonis, *Critical Regionalism: Architecture and Identity in a Globalized World* (Munich: Prestel, 2003), 12–13.
10 Kenneth Frampton, '*Towards a Critical Regionalism: Six Points for an Architecture of Resistance*', in *Postmodern Culture*, ed. H. Foster (London: Pluto Press, 1983), 16–30.
11 Alexander Tzonis, Liane Lefaivre and Bruno Stagno (eds.), *Tropical Architecture: Critical Regionalism in the Age of Globalization* (New York: Wiley-Academy, 2001).
12 Maxwell Fry and Jane Drew, *Tropical Architecture in the Humid Zone* (London: Batsford, 1956); Maxwell Fry and Jane Drew, *Tropical Architecture in the Dry and Humid Zones* (London: Batsford, 1964).
13 Alexander Tzonis, Liane Lefaivre, *Critical Regionalism. Architecture and Identity in a Globalized World* (Munich-New York: Prestel, 2003).
14 Lewis Mumford, *Sticks and Stones: American Architecture and Civilization* (New York: Boni and Liveright, 1924).
15 See also the 1949 exhibition at the San Francisco Museum of Art: *Domestic Architecture of the San Francisco Bay Region* (16 September–30 October 1949).
16 Liane Lefaivre and Alexander Tzonis, '*International Style versus Regionalism*', in *Architecture of Regionalism in the Age of Globalization* (New York: Routledge, 2012), 113.
17 Liane Lefaivre and Alexander Tzonis, '*International Style versus Regionalism*', in *Architecture of Regionalism in the Age of Globalization* (New York: Routledge, 2012), 117.
18 See: Maurizio Sabini, *Ernesto Nathan Rogers. The Modern Architect as Public Intellectual* (London: Bloomsbury, 2021).
19 Ernesto Nathan Rogers, '*Le responsabilità verso la tradizione*', in *Casabella Continuità*, no. 202 (August–September 1954).
20 Ernesto Nathan Rogers, '*Le preesistenze ambientali e i temi pratici contemporanei*', in *Casabella Continuità*, no. 204 (February–March 1955).
21 See: Guido Morpurgo, *Gregotti & Associates. The Architecture of Urban Design* (New York: Rizzoli International, 2008).
22 Vittorio Gregotti, *Il territorio dell'architettura* (Milan: Feltrinelli, 1966).
23 As well as the book by Gregotti cited above, see also: Bruno Zevi, *Towards an Organic Architecture* (London: Faber & Faber, 1950); published in Italy as: Bruno Zevi, *Verso un'architettura organica* (Turin: Einaudi, 1945); Ernesto Nathan Rogers, *Esperienza dell'architettura* (Turin: Einaudi, 1958); and Aldo Rossi, *Architecture of the City*, trans. Diane Ghirardo (Boston, MA: MIT Press, 1982); published in Italy as: Aldo Rossi, *L'architettura della città* (Padua: Marsilio, 1966).

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Adalberto Libera, Unità di abitazione orizzontale (horizontal housing unit) Tuscolano district, Rome, 1950–1954.
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Carlo Scarpa, Castelvecchio Museum, Verona, 1959–1963.
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Cino Zucchi Architetti, Residential Buildings on the Site of the Former Junghans Factory, Giudecca, Venice, 1997–2002.
Vincenzo Latina, Artemision, Syracuse, 2005–2012.
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Nordic Countries

Erik Gunnar Asplund, Woodland Cemetery Chapel, Stockholm, Sweden, 1918–1920.
Alvar Aalto, Villa Mairea, Noormarkku, Finland, 1938–1939.
Sverre Fehn, Nordic Pavilion at the Venice Biennale, Italy, 1962.
Reima and Raili Pietila, Dipoli, Otaniemi, Finland, 1966.
Jørn Utzon, Bagsværd Church, Copenhagen, Denmark, 1973–1976.
Stein Halvorsen and Christian Sundby, Sami Parliament, Karasjok, Norway, 1996–2000.
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Jarmund Vigsnæs, Svalbard Science Centre, Norway, 2005.

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COBE and Public Architects, Norreport Station, Copenhagen, Denmark, 2009–2014.
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Japan

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