

Nathalie Régner-Kagan (ed.)

The Metropolitan Tower

A Pedagogical
Research Initiated
by Michel Kagan



PARK BOOKS

The Metropolitan Tower

A Pedagogical Research

Initiated by Michel Kagan

Edited by Nathalie Régnier-Kagan

Translated by Christian Hubert

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Foreword

Pierre-Alain Croset

This polyphonic book demonstrates the extent to which Michel Kagan's architectural work, thought and teaching continue to play a major guiding and reference role. It is based on a pedagogical experiment that he initiated in the 1980s across the Atlantic at the very start of his teaching career, and which he developed and refined during his years as a professor at the Belleville School of Architecture. The book's title — *The Metropolitan Tower* — should be interpreted not just as the title of a project exercise, but as a much broader notion that could be used to describe Michel Kagan's obsession with a profoundly urban and modern form of spatiality, at the service of the European city. His constant experimentation with new forms of 'vertical composition' of architecture goes well beyond purely typological research into the architecture of 'towers'. No longer seen as an isolated, self-referential object, the 'metropolitan tower' creates a critical tension with the urban context, introducing a parcel of density that enriches the spatial experience of the city interpreted as an opportunity for three-dimensional composition. In this respect, it would be fair to speak of a veritable strategy of urban acupuncture that reaches into the deepest stratifications of the city, all the way up to the sky, to link human beings together.

Originally published in French in 2012, this book is now available in an English edition that has been extensively revised and expanded with new essays that demonstrate the extent to which Michel Kagan's architectural and urban thinking remains relevant today. Many architect-teachers continue to draw inspiration from his pedagogical research, in particular the group of teachers who continued this exercise at the École de Paris Val-de-Seine, from 2013 to 2023: Nathalie Régnier-Kagan, Jean Mas, Pierre-André Comte, Laurent Beaudouin and Jean-Michel Veillerot. A complete reading of all the texts shows how the rich network of relationships between architects, teachers and schools on both sides of the Atlantic, in Europe and around the world, in the cities visited by Michel and Nathalie Régnier-Kagan (New York, Montreal, Geneva, Turin, Milan, Seoul, and of course Paris), can develop a positive and creative energy around the question of Towers, to improve their

knowledge, and the ability of future architects to master their monumental and human scale.

To conclude this brief foreword, I would like to pay tribute to Jean-Louis Cohen, a mutual friend who, better than anyone else, found the right words to accurately describe the exceptional coherence between Michel Kagan's design practice and his pedagogical ethic:

"The coherence between the strategies developed as designer and teacher, an attainment that remains an inaccessible objective for most architects, is something that he has built up over twenty-five years through the intertwining of a constructive imagination and a didactic discourse. Rare are the successful examples of such a combined approach that incorporates design methods, the underlying and justifying theories and the operations used to transmit the ideas, without reducing them to a simplifying catechism."¹

It's in this spirit of "theoretical practice" that we need to approach this teaching, which allows free experimentation but is always rooted in reality.

1. Jean-Louis Cohen, "W for Wunderkind", in *Kagan Architectures 1986-2016*, ed. Nathalie Régnier-Kagan (Bruxelles-Paris: AAM-Ante Prima Editions, 2016), 14.

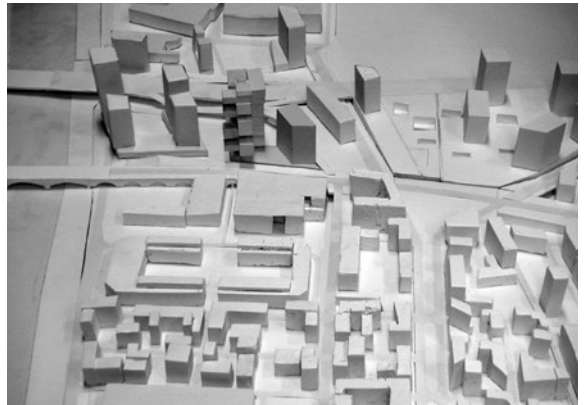
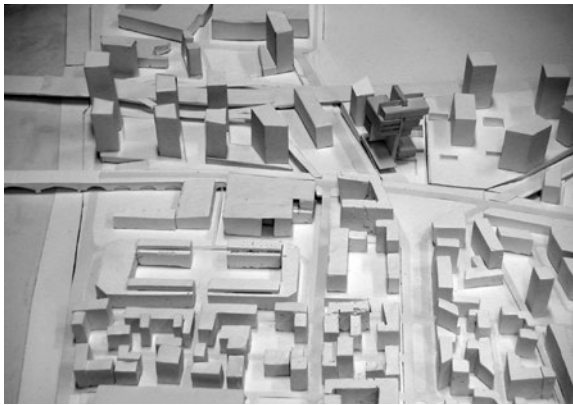


fig. 1. Student interim review at the Politecnico di Torino, 2008.

fig. 2a. and 2b. Study models of student projects inserted into the site, 2007-2008.

Designing an innovative structure for a Parisian tower

Pierre-Alain Croset

I had been familiar with Michel Kagan's pedagogical work on the theme of "the metropolitan tower" for some years and was very keen to experiment with a similar approach with our students at Politecnico di Torino. The opportunity arose in the form of a multidisciplinary design studio entitled "Structures and Constructive Form", which I had been running since 2003 with structures professor Paolo Napoli. The pedagogical challenges of this 14-week design studio, within the new master's degree entitled "Architecture and Construction", include verifying how structural choices condition architectural form, and offering students not only methodological and conceptual instruments, but also computational and calculation tools to fully master structural design (fig. 1). Students are asked to develop an architectural project based on a given structural typology. This collaborative design approach, in which architects and structural engineers teach together, is conceived to highlight the importance of teamwork in designing complex buildings.

With Paolo Napoli, we wanted to experiment with a deep beams structure that would radically rethink high-rise architecture. In a

"traditional" high-rise, the volume is defined by the envelope, which is in principle continuous, enclosing the floors supported by the structural core. A deep beams structure challenges the relationship between core, floors and envelope: the tower is conceived as a superposition of self-supporting cantilevered volumes assembled around one or more cores. Our concept was inspired by William Lescaze's famous design for New York's MoMA, conceived in 1931 (fig. 3), in which exhibition spaces were stacked in staggered rows to guarantee zenithal lighting for all rooms. We also wanted the exceptional character of the structure, and therefore the consequent architectural form, to be justified by a highly public program (sports facilities). The choice of site was linked to the current debate in Paris on high-rise construction: the ZAC Masséna-Bruneseau, according to the urban project defined by Yves Lion (fig. 4), envisaged a dense fabric of 50-metre-high buildings, complemented by a series of high-rise towers, up to 200 metres high. Our students' projects had to take these urban planning guidelines into account, and each student had to find a precise location for his or her tower, 100 to 120 metres high, while seeking

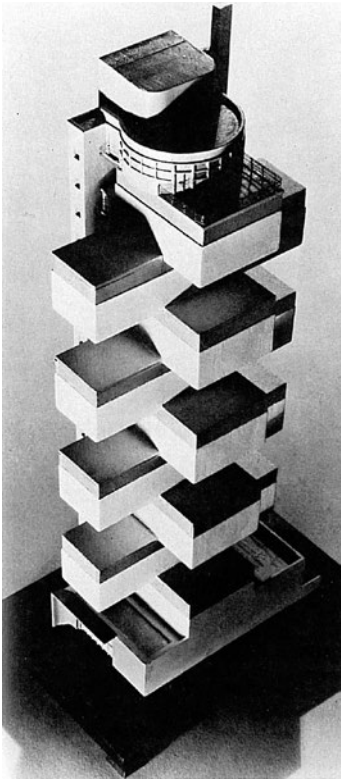


fig. 3. William Lescaze's design for MoMA, New York, 1931.

fig. 4. Yves Lion project for the Masséna-Bruneseau site, Paris 13th, 2006.

to take advantage of the most remarkable features of the site: the views over the Seine and central Paris, the long perspective of the Avenue de France, the symbolic boundary of the *Boulevard Périphérique* (fig. 2a and 2b).

Our design studio was organized into three phases of work. In the first phase — lasting 4 weeks — the theoretical principles of deep beams structures were taught intensively, in parallel with an initial exploration, using cardboard models, of the architectural form generated by the superimposition of cantilevered volumes. The aim of this formal exploration was not only to concretely verify the structural principles set out by the theory, but also to reason about the notion of balance - both in the sense of the static equilibrium of the tower's overall form, and in the sense of harmony between the various volumes making up the whole. The second phase — 5 weeks — began with a trip to Paris to get to know the project

site and visit a series of significant towers (Front de Seine, La Défense, Tour Albert). As each student had already acquired the basics needed to design a complete tower project, they had to choose a precise site within Yves Lion's urban plan and develop the tower at 1/500 and 1/200 scales. This work phase ended with an intermediate submission and a collective review of the projects. During the third phase — 5 weeks — the structural project was developed, with calculation of the general equilibrium, and the dimensioning of the most heavily loaded deep beams. The more significant construction details were then developed, in particular for the facade cladding. The final review of the projects took into consideration both the expressive qualities of the architectural form, in relation to the characteristics of the urban site, and the control of the tower's structural choices and constructive aspects. Discussions with Michel Kagan

and his students at the *École d'architecture de Paris-Belleville* developed over 2007 and 2008, following the decision to work on the same site in the ZAC Masséna-Bruneseau. Our discussions focused on the urban values of the “metropolitan tower”: to what extent can a tower, as an exceptional and typically “modern” architectural object, contribute to urban regeneration? Can it establish a meaningful relationship with the context? To further this debate, a seminar was organized with Nathalie Régnier-Kagan at the *École d'Architecture de Paris Val-de-Seine* (October 13, 2008), inviting *Éric Lapierre*, *Jacques Ferrier* and *Jean Mas* to present their tower projects. It was important for our students to be directly involved in the Parisian debate on high-rise construction, and to be able to exchange their experiences with students from Paris-Belleville. These exchanges continued during Michel Kagan's trip to Turin with his students (December 16-18, 2008) (fig. 5) to take part in the final review in our design studio, and to present our students with their own project hypotheses in the form of an intermediate submission. This confrontation between different teaching methods was highly stimulating for our students, and I took part in the final review of the Paris-Belleville students' projects in February

2009. Our design studio required students to produce an architectural project in a single semester, studied in detail in terms of its structural and constructive components, and this obliged them to limit their thinking about the urban project, and therefore to accept as such the master plan defined by Yves Lion. Michel Kagan's teaching method was more radical in its questioning of the already-defined urban project, forcing students to think about an urban composition for the entire site that emphasized the public vocation of the ZAC Masséna-Bruneseau. While our students' projects focused primarily on defining the architectural object and its interaction with a context considered unchangeable (fig. 6a, 6b and 9), the Paris-Belleville students' projects proposed genuine urban “visions”, insofar as the “metropolitan tower” project was to be at the same time the design of its context.

Epilogue

Michel Kagan made me discover all the architectural and educational interest of the theme of the “metropolitan tower”, but also the critical issues of an architectural typology that I wrongly judged as necessarily “out of scale” within the dense fabric of the European city.



fig. 5. Michel Kagan at the jury of the Croset-Napoli design studio, Turin, December 18, 2008.



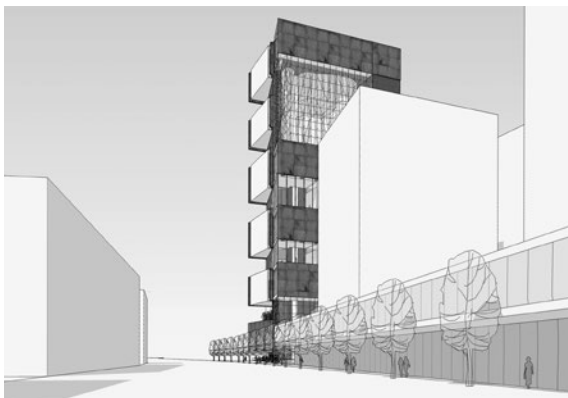
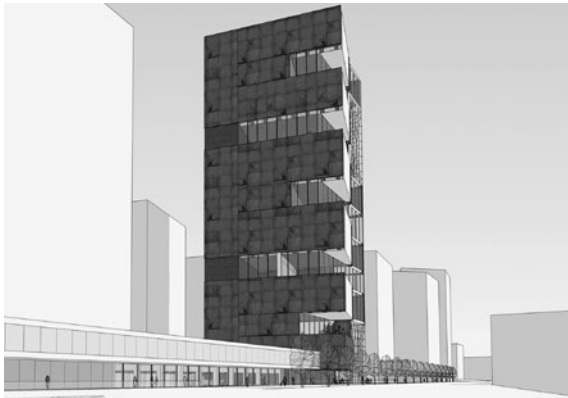
fig. 6. Project by Maria El Tabib for Rijeka, Politecnico di Milano, 2022-2023.

fig. 7a. and 7b. Project by Ekaterin Meskhi and Ani Periasvilli for Rijeka, Politecnico di Milano, 2022-2023.



fig. 8a. et 8b. Project by Manuele Mandrile, 2007-2008.

fig. 9. Project by Davide Pallaro and Elisa Valpreda, 2008-2009.





The architectural results of our students' best projects were surprising to me. Composed spatially as a montage of large volumes, and not as the traditional superposition of floors, the tower with a deep beams structure offers the image of a vertical "urban composition", which has real squares and hanging gardens suspended at different levels, which constitute new forms of public spaces.

I returned to the "metropolitan tower" exercise more than ten years later, following my transfer to the Politecnico di Milano, as a design studio of the Master's degree in architecture and urban design. To encourage the strong demand for social exchanges which followed the pandemic crisis of 2020-2021, the idea of a vertical assemblage of urban functions was enriched with the principle of mixing cultural functions (library, theater, gallery of art) and sports, with the aim of creating a "social condenser", inspired by the SESC (Serviço Social do Comércio) programs

fig. 10. Collage by Maria El Tabib.

fig. 11. Collage by Ekaterin Meskhi and Ani Periashvilli 2023.

in São Paulo. This new program made it possible to renew the structural typology, to the extent that the different volumes containing the activities have greatly diversified in terms of dimensions, distribution, and use. At the heart of the design work remained determining the significant relationship between the tower and the urban context. The best proposals for the cities of Split (2021-22) and Rijeka (2022-23), along the Croatian coast, demonstrate that the tower can strongly enhance an urban context still marked by traces of the recent industrial past, but also constitute a strong landmark in the landscape which manifests the primacy of the public and collective value of architecture.

Michel W. Kagan

Michel Kagan, architect and professor, passed away prematurely on December 27, 2009. The creator of luminous architecture and a teacher with a fascinating international career, he was a major figure in a school of thought that grew out of the Modern Movement, in search of harmony between invention and permanence. For Michel Kagan, thinking did not mean adhering to this or that doctrine, but maintaining a constant dialogue with oneself, being “two in one”.

Michel Kagan was born in Paris in 1953 and studied architecture at UP7-Grand Palais. He graduated as a DPLG architect in 1979 with Henri Ciriani, and held a diploma in Arts-Sciences-Lettres, Thorlet Prize from the Académie Française. He was awarded the Alberti Prize in 1977, the Albums de la Jeune Architecture in 1981, the Villa Médicis hors les murs scholarship in 1981; he was nominated for the Mies van der Rohe European Architecture Prize in 1990 and 1992, the Première Œuvre Prize in 1991, and the Silver Prix de l'Équerre d'Argent du Moniteur in 1992. In 1991, he was awarded the First International Prize for Architecture at the Buenos Aires Biennial for the Cité Technique et Administrative de la Ville de Paris, and the Silver Medal of the Académie

d'Architecture in 1997 for his work. In 2006, he was awarded the “Pyramide d'or”, the annual grand prize of the developers and contractors federation of France, for his apartment building built in Rennes in 2005. Three of his projects – the technical and administrative centre for the City of Paris, the student residence and the artists' studios – have been awarded the “Remarkable Contemporary Architecture” label in 2022 by the Regional Department of Cultural Affairs.

Until 2009, Michel Kagan was a professor at the École d'architecture de Paris-Belleville, consulting architect for the French Ministry of Public Works, and a member of the Board of Directors of the Le Corbusier Foundation. His career as an architect and teacher began in the United States, at Columbia University in New York, where he taught from 1981 to 1984, and where carried out his first projects. He subsequently held visiting professorships at the Université du Québec in Montréal (1982-1983-1986) the University of Montréal's Faculty of Architecture (2003), Syracuse University in New York (1986), and the University of Toronto's Study Abroad Program (1984-1988). In 1985, he curated

and co-authored with Kenneth Frampton an exhibition and book entitled *New Directions in Modern Architecture*. Upon returning to France in 1986, he taught at the Geneva School of Architecture from 1989 to 1994, at the Lille School of Architecture from 1994 to 1998, and at the Paris-Belleville School of Architecture from 1998.

His practice was founded in Paris in 1987, dedicated to the design and construction of public buildings, schools, university buildings, administrative centers and multi-family housing. In collaboration since 1992 with Nathalie Régnier-Kagan architect, the firm has taken part in numerous national and international architectural competitions and is also developing a business in renovation and interior architecture, private homes, stores and apartment renovations.

Nathalie Régnier-Kagan

Born in La Rochelle in 1961, Nathalie Régnier-Kagan graduated as a DPLG architect from the École d'architecture de Paris-Belleville in 1989, and obtained a DEA (post-graduate diploma) in "Architectural and urban design" from the Université de Paris 8 - Institut Français d'Urbanisme in 1994. She has been an honorary member of RIAS since 2011, and a full member of the Académie d'Architecture since 2016. She received a special mention in the "Women Architects" prize in 2015.

After working for Richard Meier & Partners in New York in 1990, then for Pierre Riboulet in Paris from 1991 to 1992 as a project manager, she entered architectural competitions on her own behalf, and built single-family homes and renovations in Charente-Maritime. She subsequently went into partnership with Michel Kagan from 1992, until his death in 2009. Today, she is managing director of the company, continuing the work begun with Michel Kagan. Since 2009, the agency has continued to enter and win competitions and has completed public facilities, housing and renovations in France and abroad.

Alongside her work as a practicing architect, she taught architectural and urban project theory and design as a senior lecturer at national architecture schools since 1994 (Rennes from 1994 to 1997, Versailles from 1997 to 2007, Paris-Val de Seine since 2007). She created a Master 1 course within the A-Ito Research and Study Area on the theme of the "Metropolitan Tower" with Jean-Michel Veillerot, Jean Mas, then with Laurent Beaudouin - a course that later evolved into the issue of the "Vertical Garden City" and the "Park City".

She has published numerous articles in the architecture magazines *Construction Moderne* and *Le Moniteur*, as well as a monograph: *Kagan architectures 1986-2016* published by AAM-Anteprema. She is currently an associate member of the EVCAU research laboratory.

> *In alphabetical order :*

Georges Adamczyk

Georges Adamczyk, born in Paris in 1943, is a professor at the School of Architecture of the Université de Montréal, where he was director from June 1999 to June 2007. He was a professor at the Université du Québec in Montréal from 1977 to 1999. In 1983, with Kenneth Frampton and France Vanlathem, he organized the colloquium *Architecture and Cultural Identity*. A researcher at the Laboratoire d'étude de l'architecture potentielle (LEAP), he is also a critic and exhibition curator.

Laurent Beaudouin

Laurent Beaudouin is an architect and teacher. He founded his own practice in 1980, immediately after graduating from the Ecole de Nancy. He was joined in 1987 by Emmanuelle Beaudouin, also a graduate of the Ecole de Nancy. Together, they have completed a large number of public buildings throughout France. In 2023, they were awarded the Equerre d'Argent for the Grasse Multimedia Library. They have

become a teacher (1962-64) and architect, in public workshops, of the urban ensembles of Matute and San Felipe. He then taught at the École des Beaux-Arts de Paris: UP7 from 1969 to 1977, UP8 from 1977 to 1984, where he founded the UNO group in 1978, and at the École d'Architecture de Paris-Belleville from 1984 to 2002. Since 2009, he has directed a post-graduate program at the UPC Faculty of Architecture in Lima.

From 1968 to 1982, he was a member of the AUA, where he joined forces with M. Corajoud and B. Huidobro. He has been an independent architect since 1977. He was awarded the Grand Prix National d'Architecture and the Équerre d'Argent in 1983, the Palmarès de l'Habitat in 1988, the Arnold Brunner Memorial Prize in 1997, the Exàgono de Oro 2000 and the Doctor Honoris Causa de la UNI in 2008. He was awarded the Chevalier de la Légion d'Honneur in 1997, the Médaille d'Or de l'Académie d'Architecture in 2012, and the Grand Prix d'Architecture de l'Académie des Beaux-Arts in 2021.

Pierre-Alain Croset

Pierre-Alain Croset, born in Geneva in 1957, is an architect and critic. He graduated in 1982 in Lausanne (EPFL). As Assistant editor of the international magazine "*Casabella*" from 1982 to 1996 under the direction of Vittorio Gregotti, he published many critical works on modern and contemporary architecture. From 1985 to 1993 he was a collaborator of Luigi Snozzi at the Polytechnic School of Lausanne and in his office of Locarno. From 1995 he has worked as a professional architect in Brescia, where he founded his architectural firm with Chiara Rovetta. He was a visiting professor at the Columbia University (New York) in 1994, and in 1997 he won the position of full professor for architecture at the TU Graz. From 2002 to 2015 he was professor for architectural and urban design at the Polytechnic School of Turin, and from 2015 to 2018 he was professor of architecture and Head of the Department

of Architecture at Xi'an Jiatong-Liverpool University in Suzhou, China. He is currently a full professor in architectural and urban design at the Polytechnic School of Milan.

Sergio Crotti

Born in Bergamo, Italy, in 1938, Sergio Crotti studied architecture at the Politecnico di Milano, graduating in 1963. His work is published in numerous international journals and monographs. As member of the editorial boards of journals such as *Casabella*, *Edilizia Moderna*, *Frames*, *Cahiers del'art et de la Ville* and *Politecnico*, he is author of numerous articles and essays on architecture, urban issues and intervention strategies in the process of urban change, published in various books and thematic collections. He has also authored monographs on contemporary architects. Full professor at the Politecnico di Milano since 1970, he was awarded with the Chair of Architecture and Urban Design in the Department of Architecture in 1980 and has directed the Doctorate in Architecture and Urban Design since 1995. He was director of Lipau workshops - Laboratori Internazionali di Progettazione Architettonica e Urbana (International Workshops in Architectural and Urban Design)- between 1995 and 2007.

Hervé Dubois

Born in 1960 in Neuilly-sur-Seine, Hervé Dubois studied at UP8 and graduated from the Paris-Belleville School of Architecture. In 1983, he founded the Philtre studio with E. Georges, C. Faivre, C. Massin and L. Tournié, which won the Albums de la Jeune architecture award in 1990, the call for young architects from the City of Paris the same year, and was selected in the final phase of the competition for the Mont-Beuvray museum in 1991. He mainly designed residential buildings, notably in the Citroën, Bercy and Masséna ZACs in Paris. He has teamed up with M. Macian and S. Ramseyer within the DMR agency and a member of the Rad EEG in

At a time when the densification of the city is the order of the day, the metropolitan tower is becoming

a recurring theme in the European city. In contrast to the individual expressionism of the isolated object, Michel Kagan proposes the idea of an 'architecture of relationship' based on taking into account the context, considering that 'place is the primary material of urban planning, without which the city does not exist'.

The metropolitan tower is an educational theme initiated by Michel Kagan, architect and professor, during ten years of teaching design at the Paris-Belleville School of Architecture. He has proposed an exercise with exemplary didactic qualities, nourished by his years of teaching in New York, Geneva and Lille, and his international affinities.

Originally published in French by Éditions Recherches, the English edition has been extensively revised and expanded in the light of new research carried out at the Paris Val de Seine School of Architecture by a group of teachers led by Nathalie Régnier Kagan.

The authors of this book, practising architects and teachers, shared key moments in this theoretical reflection. The texts gathered here form a nuanced picture to enlighten students, architects and critics on the question of vertical architecture.

Texts by: Georges Adamczyk, Henri Bresler, Catherine Carpentier, Gwénaél Clément, Pierre-Alain Croset, Sergio Crotti, Herve Dubois, Elena Fontanella, Kenneth Frampton, François Giraldeau, Édith Girard, Jae Heon Jeong, Michel Kagan, Nikos Ktenas, Norbert Laurent, John Loomis, Miguel Macian, Jean Mas, Nancy Ottaviano, Pascal Quintard-Hofstein, Nathalie Régnier-Kagan, Laurent Salomon, Ilaria Valente, Jean-Marc Weill

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