

Preserving through transforming. Exploring the conversion processes of Emery Roth and Sons' Post-War Office Buildings in Manhattan into Residential Spaces

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Horacio Torrent

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Santiago de Chile, 2024

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F U T U R E S

Editor
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CONTENTS

- 14 **Introduction** / Mario Ubilla, Horacio Torrent
- 16 **Modern Futures: Sustainable Development and Cultural Diversity** / Horacio Torrent
- 20 MODERN FUTURES**
- 22 **The Role of Technologies in the Modern Movement and in the Future of Docomomo International** / Uta Pottgiesser
- 25 **The Role of Modern Architecture in Shaping Tomorrow** / Ana Tostões
- 28 **Docomomo. Then, Now, and the Future** / Maristella Casciato
- 30 **Revaluing Docomomo** / Huber Jan Hencket
- 33 SUSTAINABLE DEVELOPMENT**
- A. ADAPTIVE REUSE: IMPROVING BY DESIGN**
- 34 **01. ORIGINAL DESIGN INTENT, LAYERS OF HISTORY AND THE NEED FOR ADAPTATION TO A CHANGING WORLD**
Chair: Scott Bruce Robertson
- 34 Original Design Intent, Layers of History and the Need for Adaptation to a Changing World / Scott Bruce Robertson
- 42 Decline of Department Stores and the Issue of 'Third Places' in German Inner-cities: Decline, Obsolescence and Reuse Potentials / Anica Dragutinovic, Uta Pottgiesser
- 48 Adaptive Reuse of Modern Heritage: Attitudes in Relation with the Materiality of Déjà la. Case Study of the Citroën Garage (1934) Becoming Kanal (2018) / Chiara Fucelli
- 55 The Ocean Terminal Complex, Durban: The Search for Meaning in an Irrevocably Changed Context / Mike Scurr
- 62 Narrating the Layers of History: Exploring Temporal Changes and Practical Realities in School Building Renovations / Meric Altintas Kaptan, Aslihan Unlu
- 70 The Weissenhof Estate from the Point of View of the State Research Society for Economics in Construction and Housing (Reichsforschungsgesellschaft für Wirtschaftlichkeit im Bau- und Wohnungswesen, RFG) / Edyta Naworska
- 77 **02. NOTABLE RENOVATIONS IN ORDINARY CONTEXTS**
Chairs: Ana Carolina Pellegrini, Danilo Matoso Macedo
- 77 Notable Renovations in Ordinary Contexts / Danilo Matoso Macedo, Ana Carolina Pellegrini
- 84 A Church Changes Confession – a Transformation Project with Aesthetics between East and West in Munich (1980-1995) / Korinna Zinovia Weber
- 91 Pinacoteca Contemporânea / Carlos Alberto Maciel, Paula Zasnicoff
- 98 West Bund Shanghai. Think Tank for Art / Jacopo Benedetti, Carlos Eduardo Comas
- 106 Corporate Architecture in Brussels: From Obsolescence to Heritagisation. La Royale Belge as case-study / Jean-Marc Basyn
- 114 Preserving Through Transforming. Exploring the Conversion Processes of Emery Roth and Sons' Post-War Office Buildings in Manhattan into Residential Spaces / Caterina Barioglio, Elena Guidetti
- 121 **03. TYPOLOGICAL EXERCISES AND THE SINGULARITY OF ITERATION**
Chair: Maximiano Atria
- 121 Typological Exercises and the Singularity of Iteration / Maximiano Atria
- 125 The Confines in the Architectural Type Definition: The Modernity of Airport Terminals in the Extreme Regions of Chile / Boris Cvitanic-Diaz, Claudio Galeno-Ibaceta
- 132 Flexibility in School Architecture: The 1970s Mat-Buildings of Recife, Brazil / Larissa Morgana Leão Silva de Sousa, Fernando Diniz Moreira
- 139 The Gasometer in Viena / Markus Tomaselli
- 146 Concrete Abstraction / Jorge Gambini
- 153 Researching, Dismantling, Rebuilding: The Work of Emilio Duhart Revealed by Intervening on the Herman House / Loreto Lyon, Alejandro Beals

B. WELLBEING FOR ALL: SPACES FOR INCLUSIVE AND EQUITABLE LIVING

161 04. EDUCATING MODERN CHILDREN

Chairs: Louise Noelle Gras Gas, Catherine Rose Ettinger

- 161 Educating Modern Children. Local Solutions and Standardised Construction / Louise Noelle Gras Gas, Catherine Rose Ettinger
- 167 Learning through Experience: Johann Heinrich Pestalozzi's Pedagogy in Hannes Meyer's Educational Building Projects / Raquel Franklin Unkind
- 174 Infrastructures of Child-Care: Establishing the Modern Language of Zagreb's Schools in the Agency of Ivan Zemljak / Mía Roth-Čerina
- 181 Cheste Worker University: Designing a Modern Educational Center Tailored for Children / Fernando Usó Martín, Maite Palomares Figueres
- 189 Pedagogical Experimentation and Modern Architecture: Experimental High Schools in Santiago, Chile / Ursula Exss
- 196 A Classroom to Change the World: The School Architecture of the Ministry of Public Works of Uruguay (1954-1965) / Alfredo Peláez Iglesias

203 05. ADOPTION OF REUSE AND SUSTAINABLE CONSERVATION FOR EDUCATIONAL SPACES IN THE MODERN ARCHITECTURE

Chairs: Zainab A. Murtadhawi, Ula Merie

- 203 Adaptive Reuse and Sustainable Conservation for Modern Educational Architecture / Zainab A. Murtadhawi, Ula Merie
- 210 Repurposing Modern Heritage Schools in Kuwait: A Framework for Adaptive Reuse / Rabab Raes Kazem, Naser Ashour
- 219 Ideas Behind the Form: Overlooked Qualities of the Experimental School in Bratislava / Nina Bartošová
- 226 Social Sustainability through Adaptive Reuse. Case study: Mt. Pleasant High School, USA / Armita Eghbali, Maya Weber
- 234 School Architecture and Adaptive Reuse: The Case of the Inmaculada Concepción School / Verónica Esparza Saavedra
- 241 Collaborative Redesign of Modern Schools: Rethinking Spaces of Coimbra Lyceum / Gonçalo Canto Moniz, João Mendes Ribeiro, Carolina Coelho, Pedro Brígida, Duarte Miranda, Valentina Gutiérrez

250 06. HEALTHCARE COMPLEXES: THE FUTURES OF MODERN URBAN ENCLAVES

Chairs: Claudio Galeno-Ibaceta, Ana A. Amora

- 250 Healthcare Complexes: The Futures of Modern Urban Enclaves / Claudio Galeno-Ibaceta, Ana A. Amora
- 257 The Power of Adaptation: The Conversion of a Teaching Hospital into a Justice Complex / Ivo Renato Giroto
- 264 Paimio Sanatorium – The Masterpiece in Change / Jonas Malmberg
- 272 Obsolescence and Vulnerability of Modern Hospital Heritage. The Challenge of Rural Psychiatric Hospitals in Mexico / Iván San Martín Córdova
- 279 Lelé's Architecture of Care: The Sarah Kubitschek Hospitals as a Strategy for Birth Centres and Healthcare Spaces / Carla Zollinger
- 286 The Instituto de Puericultura e Pediatria Martagão Gesteira (IPPMG). Between Glory and Risk / Helio Herbst

C. SUSTAINABLE TECHNOLOGIES: RESEARCH INTO ACTION

293 07. CIRCULAR ECONOMY AND BUILT HERITAGE: OBSOLESCENCE, CIRCULARITY, INSTRUMENTS AND FUTURE

Chairs: Renato D'Alencon, Dominga Teillery

- 293 Circular Economy and Built Heritage: Obsolescence, Circularity, Instruments and Future / Renato D'Alencon, Dominga Teillery
- 300 Stubborn Architecture: Preindustrial Principles of Slowing Building Material Use in the Use-Stage / Tobias Hentzer Dausgaard
- 307 Everyday Residential Heritage and Circularity: Potential and Limitations of Docomomo Full Documentation Fiches / Claudia Massioni, Wido Quist, Roberto Cavallo
- 315 Assessing the Environmental Impact: Office Building Reuse as a Sustainable Alternative to Demolition / Taylor Rose Quibell, Mario Santana Quintero
- 323 Curtains for Crown Hall: A Bioplastic Adaptation / Ryan Leigh Roark
- 330 Has Fossil Modernism Led us to a Dead End? / Wolfgang H. Salcher

- 337 **08. CONCRETE LONG-SPAN BUILDINGS' ADAPTIVE REUSE: SUSTAINABLE RETHINKING OF PUBLIC ARCHITECTURE AND INDUSTRIAL HERITAGE**
Chairs: Francesco Romeo, Giovanni Multari
- 337 Concrete Long-Span Buildings' Adaptive Reuse: Sustainable Rethinking of Public Architecture and Industrial Heritage / Francesco Romeo, Giovanni Multari
- 345 What if? Open Questions and Design Scenarios on the Upcycling of Long-Span Structural Components from 20th Century Authorial Architecture / Alberto Bologna, Margherita Maurea
- 352 Vilnius Concert and Sports Palace – Transformation of the Preservation Approach / Aušra Černauskienė
- 359 Methodological Approaches Through the Use of Advanced Information Systems (BIM-GIS and CDE) for the Management and Valorisation of 20th-Century Industrial Heritage / Antonio Maria Nese
- 366 Re-inhabiting the Modern Factory: The Former Milk Plant by Luigi Cosenza / Francesco Iuliano, Lorenzo Renzullo
- 373 The Marchiondi Spagliardi Institute and the Marxer Institute: Good Practices for the Care of Reinforced Concrete and New Forms of Dialogue with Existing Spaces / Bianca Maria Rodriguez, Chiara Assante
- 380 **09. PREFABRICATION IN REINFORCED CONCRETE AND INTERNATIONAL TRANSFERS DURING THE TWENTIETH-CENTURY**
Chairs: Pedro Ignacio Alonso
- 380 Towards a History of International Transfers in Large-Concrete Panel Systems / Pedro Ignacio Alonso
- 386 The Birth of Stavoprojekt, a Socialist Attempt to Collectivise Design Practice and Standardise Buildings and Technology / Petr Vorlík
- 394 Transposing the Discourse of Industrialised Construction in Housing Between Lisbon and Luanda During the 1970s / Inês Lima Rodrigues
- 401 The Role of Prefabrication in Housing Construction in the 1970s in China: The Case of Diplomatic Residential Compounds in Beijing / Yimei Zhang
- 407 Exporting Soviet Monumental Art from Soviet Tashkent to Europe and Siberia: The Works of Alexander, Nikolai and Pyotr Jarsky between 1969 and 1999 / Philipp Meuser
- 415 **D. BETTER CITIES: APPROACHES TO MODERN VALUES**
- 10. RESHUFFLING URBAN LAND: MODERN IDEAS FOR NEW URBAN MORPHOLOGIES**
Chairs: Francisco Díaz, Marco Trisciuglio
- 415 Reshuffling Urban Land: Modern Ideas for New Urban Morphologies / Francisco Díaz, Marco Trisciuglio
- 422 The Drivers and Outcomes of the Urban Renewal in Oklahoma City: Looking Back, Looking Forward / Selena Bagnara Milan
- 428 Building the Model City of Socialism: Post-WWII Reconstruction of Nemiga Street in Minsk, Belarus / Dasha Kuletskaya
- 435 CIAM Young Generation's Ideas of the Street as a Tool to Question Conventional Hierarchies of Postwar Spatial Structuring / Elena Giaccone
- 442 Alternative Cities. The PEVE Programme, Mass Housing Proposals, and Urban Form Transitions in 1970s Argentina / Santiago Gomes
- 449 The Lot in Modern Architecture Urban Planning: The Case of Brasília Pilot Plan's Central Sectors, 1957 / Helena Bender
- 456 **11. 'INFORMAL' MODERNISMS: URBAN DESIGN, PLANNING NARRATIVES, AND NEW CITIES**
Chairs: Kuukuwa O Manful, Emmanuel Kusi Ofori-Sarpong
- 456 'Informal' Modernisms: Urban Design, Planning Narratives, and New Cities / Kuukuwa O Manful, Emmanuel Ofori-Sarpong
- 462 Palmas (TO): Contradictions among the Ways of Living in a New City's Block / Mariana Verdolin dos Santos
- 469 The Work Encampment: A Utopia by Rodrigo Lefèvre / Ana Carolina Buim Azevedo Marques, Ana Paula Koury
- 476 Socialist Practice of Modern Planning in the 1950s' China: the Case Study of Minhang Satellite Town and the Associated Rural Planning Project / Pengcheng Zeng
- 483 Narratives-Within a Narration: Bridging Modernism and Cultural Identity in African Literature and Architecture / Ntleteng Orepa Mosidi
- 490 Between the *Mussequ* and the Neighbourhood Unit: Spotting "*Compagnons de route*" Architectures in Luanda (1961-1975) / Ana Vaz Milheiro, Leonor Matos Silva

- 496 **12. THE NATURAL HOUSE IN THE MODERN CITY: IDEOLOGICAL PRINCIPLES, TECHNICAL DEVICES AND URBAN PROJECTS**
Chairs: Joaquin Medina, Horacio Torrent
- 496 The Natural House in the Modern City: Ideological Principles, Technical Devices and Urban Projects / Horacio Torrent, Joaquín Medina
- 502 The Growing City. The Hybrid Character of Nature in Schwagenscheidt's *Raumstadt* Concept / Moran Lev
- 510 From Eden to Babylon. The role of Nature in Lima's Neighbourhood Units / Sharif S. Kahatt
- 517 Modern Housing Production on the Axis of Industry: The Expanding Boundaries of Istanbul / Yildiz Salman, Burak Ozturk
- 523 Villages, Houses and Gardens. Catholicism's Contribution to Social Housing in Uruguay / Mary Mendez
- 530 Devices for the Perception of Nature. Richard Neutra's Suburban Single-Family Houses / Matthias Brunner

E. CONTEMPORARY LIFE AND THE MODERN PUBLIC SPACES

- 536 **13. ADAPTING MODERN PUBLIC SPACE TO ACTUAL NEEDS**
Chairs: Elke Schlack, Juliane Von Hagen
- 536 Adapting Modern Public Space to Actual Needs / Elke Schlack, Juliane Von Hagen
- 543 Take the Heat: Adapting Modern Public Space to Accommodate Older Adults' Needs / Ana Martins, Gisela Lameira, Ana Silva Fernandes, Rui Jorge Garcia Ramos
- 550 Public Space for Childhood, Art and Biodiversity in Burle Marx's Plaza Perú in Buenos Aires: Between Documenting and Demolishing or Restoring and Rebuilding / Martín Capeluto
- 557 Redefining the Role of Public Space as an Urban Connector in the Lord Cochrane Housing Complex in Viña del Mar / Anna Braghini
- 564 Open Spaces in Modernist Housing Complexes: Urban Ambiance in Three Cases of Santiago de Chile / Ximena Arizaga
- 571 Adapting a Brussels Urban Regeneration Tool to the Specific Characteristics of a Large Social Housing Estate. The Case of the Sustainable Neighbourhood Contract (CQD) Peterbos / Morgane Bos, Giulia Marino, Alexandre Bossard, Chiara Cavalieri
- 579 **14. COMMUNITY LIFE AND MANAGEMENT OF NEIGHBOURHOOD UNITS**
Chairs: Flavia Brito Nascimento, Umberto Bonomo
- 579 Community Life and Management of Neighbourhood Units / Umberto Bonomo, Flavia Brito Nascimento
- 586 The Implementation of the Salvador Residential Complex: From Modern Conception to the Contemporary Appropriation of its Common Spaces / Joaquim Nunes Junior, Ana Carolina Bierrenbach, Aline Maria Barroso
- 593 Just Patios Make Cities? A Review of the Town Planning Associates Project in Maracaibo, Venezuela / Andrea Castro Marcucci, Daniel Belandria Gutiérrez
- 600 The Empart I Housing Complex in Iquique, Chile. Collective Housing in a Desert Landscape / Victor Valenzuela-Grollmus
- 606 Re-negotiating Modernity: Appropriation and Everyday Life at Centro Urbano Antonio Nariño in Bogotá, Colombia (Liliana Andrea Clavijo García
- 613 Social Housing and Urban Ideals: A Case Study of Quito, Ecuador / Verónica Vaca Proaño, Néstor Llorca Vega, Enrique Ferreras Cid
- 621 **15. RE-EXAMINING THE MODERNIST CIVIC BUILDINGS FROM THE "GLOBAL SOUTH"**
Chairs: Ying Zhou, Cecilia L. Chu
- 621 Civiness and Tropicality: Re-examining the Modernist Civic Buildings from the "Global South" / Ying Zhou
- 627 Urban Textured Paintings: Exploring Chen Chi-Kwan's High-Rise Modern Architecture and Overall Ink Paintings from the "Global South" / Ning Tsai
- 635 Architecture for Children: Colonial Architects, Climate Design and Enduring Nursery Buildings (1957-1964) / Ana Vaz Milheiro / Beatriz Serrazina, Inês Lima Rodrigues
- 642 Between Tropicality and Modernism: Exploring Robert G. Boughey's Architectural Synthesis in the Global South / Fatema Tasmia
- 649 Flexible Architecture for New Education: Nordic Institute for Development Management (IDM) in Tanzania / Maryia Rusak

F. LANDSCAPES AND TERRITORIES OF THE MODERN: TODAY AND TOMORROW

- 655 **16. POST-INDUSTRIAL LANDSCAPES: PROJECTING VALUES AND USES FOR NEW LIFE CYCLES IN THE ANTHROPOCENE**
Chair: Osvaldo Moreno

- 655 Post-industrial Landscapes: Projecting Values and Uses for New Life Cycles in the Anthropocene / Osvaldo Moreno
- 661 Spring Bay Mill; The Transformation of a Peculiar Modern Industrial Heritage Site / Ross Brewin
- 668 Modern Pre-existing Structures and Urban Renewal: Cristina Xavier's Intervention at the Headquarters of O2 Filmes / Monica Junqueira de Camargo
- 675 Working on the Landscapes of Labour Between Ancient and Modern: Pin-point Projects for Industrial Archaeology in Tivoli / Edoardo Currà, Spartaco Paris, Carlo Vannini, Andrea Bonamore
- 683 Modernism on the Post-Industrial Riverfront: Heritage Site or Obsolete Relic? / Elizabeth M. Keslacy
- 690 The Social Construction of Post-industrial Heritage Values in Poblenu: New Urban Landscape Visions / Melina GuirnalDOS Diaz

697 17. RADICAL ROOF GARDENS: DREAM SPACES OF SOCIAL COHESION AND PRIVATE RETREAT

Chairs: Nathaniel Robert Walker, Joseph Watson

- 697 Radical Roof Gardens: Dream Spaces of Social Cohesion and Private Retreat / Joseph Michael Watson, Nathaniel Robert Walker
- 703 Caipiras' Roof Gardens in Rio de Janeiro / Silvana Nicolli
- 710 The Itamaraty Palace Roof Garden and a Possible Image of Brazil / Ana Paula Polizzo
- 716 One Thousand and One Flights: A Rooftop Airport Oasis in the Arabian Desert / Joss Kiely
- 722 A nocturnal roof garden for spectacles. The Luminous Ship by Carles Buïgas / David Caralt

729 18. MODERN HERITAGE AND URBAN PRODUCTION

Chair: Magdalena Vicuña

- 729 Modern Heritage and Urban Production / Magdalena Vicuña
- 733 Addressing the Modernist Legacy Through the Historical Townscape: Re-evaluating Public Architecture of the 1970s-1980s in Ghent (Belgium) / Evert Vandeweghe
- 740 Modern Urban Landscape: Traces of Identity, Vectors of Sustainability. The Case of the Matthei Neighbourhood in Osorno / Hugo Weibel Fernández
- 747 Sun, Space, Greenery and Global Warming. The Potential of the Modern Housing Landscape in Climate Change Mitigation / Rodrigo Gertosio Swanston
- 753 Urban Values Heritage: Gilberto Gatto Sobral's Modern Architecture in Cuenca, Ecuador / Paola Preti, Fernanda Aguirre, Veronica Heras
- 759 Architecture of the Property State: Public Ownership of Land & the Production of the Built Environment in Post-Independence Singapore / Jacob Meyers

766 19. MODERNISM AND DIPLOMACY: PAYING IT FORWARD AT U.S. EMBASSIES (ROUND TABLE)

Chairs: Kathleen Gerner, Jorge Salcedo

- 766 Modernism and Diplomacy: Paying it Forward at U.S. Embassies / Jorge Salcedo
- 774 Case Study: The Major Rehabilitation and Expansion of the U.S. Embassy in Athens Greece, Originally Designed by Walter Gropius (1959-1961) / Kathleen Gerner
- 779 A Case Study in Modernism and Diplomacy: The Major Rehabilitation and Restoration of the Brutalist U.S. Embassy in Montevideo, Uruguay, Originally Designed by I.M. Pei (1959-1969) / Troy Thompson
- 785 Case Study: Historic Intent and the Renovation of Eduardo Catalano's U.S. Embassy in Buenos Aires / Juan Villafañe
- 792 Maintaining Cultural History and Meeting 21st Century Expectations – Embassy in Montevideo as Example for Major Diplomatic Renovations / Frederick J. Poehler

CULTURAL DIVERSITY

798 A. RESEARCH AND DISSEMINATION AS OPEN FIELDS

799 20. ENGAGED RESEARCH: EXPLORING AND STRUGGLING FOR THE ARCHITECTURE OF WELFARE STATES

Chairs: Peter Szalay, Henrieta Moravčíková

- 799 Engaged research: Exploring and Struggling for the Architecture of Welfare States / Peter Szalay, Henrieta Moravčíková
- 806 Continuity and Transformation of Post-War Modernist Architecture: The Case Study of the Former Communist Party Headquarters in Košice, Slovakia / Monika Kicová
- 812 Away from Nostalgia: A New Approach for the Forgotten Welfare State Industrial Facilities / Maximiano Atria

- 818 Wider than Welfare: Industry, Infrastructure and Eradication / Richard Brook
- 824 The Aylesbury Estate: Shifting Narratives on Urban Renewal / Lucia Concetta Vincelli, James Aston Lansbury
- 831 Architectural Conservation and Political Resilience: The 2023 Attack on the Palace of Congress in Brasilia / Danilo Matoso Macedo, Ana Carolina Pellegrini
- 838 21. INTERDISCIPLINARY APPROACHES**
Chair: Paulo Dam
- 838 Transdisciplinary Approaches in the Construction of the Modern: Peru as a Quest / Paulo Dam
- 844 Margarete Schütte-Lihotzky's Innovative Schools: The Modern Revolution of Objects / Mara Sánchez Llorens, Fermina Garrido López
- 852 Libeskind House: The Construction of a Modern Ambience Through the Protagonism of Joaquim Tenreiro's Work / Luciana Tombi Brasil
- 859 Digital Documentation Workflows and Training for the Conservation and Planning of Niki de Saint Phalle's Tarot Garden / Mario Santana Quintero, Flavia Perugini
- 866 The Link Between Architecture and Psychology in Japan: Yoshinobu Ashihara's Landscape Theory / Zahra Ramezani, Kenji Watanabe
- 874 22. MODERN MOVEMENT AS A MEDIUM FOR EXPRESSION AND AS A DISSEMINATION TOOL IN AUDIOVISUAL MEDIA**
Chairs: Susana Landrove Bossut, Sara Pérez Barreiro
- 874 Modern Movement as a Medium for Expression and as a Dissemination Tool in Audiovisual Media / Susana Landrove Bossut, Sara Pérez Barreiro
- 880 Stimulating Historical Identity through Alternative Media / Emma Veronese
- 887 Towards a New Metropolis: The Machinist Utopia in Urbanism and Cinema / Luciano de Topin Ribeiro
- 894 Experiences of Modern Space in the Central Valley of Chile / Glenn Deulofeu
- 901 Exploring Late-Modernist Domesticity in a Wooden Flexible House Versus a Concrete Brutalist House / Els De Vos
- 907 Parafictions of the Glitched Estate in Central Hill / Alessandro Columbano
- B. SCOPE OF MODERN: EXTENTS AND APPROACHES**
- 914 23. BEYOND MODERNISM**
Chair: Lidwine Spoomans
- 914 Beyond Modernism / Lidwine Spoomans
- 921 Portuguese Architecture in the 1980s: Into a Dreamlike Everyday Life / Jorge Figueira
- 929 Irony and Experimentation in Jaretti and Luzi's Architecture (1960-1974) / Maria Luisa Barelli, Davide Rolfo
- 936 Parque Guinle Post-Modern? / Nathalia Cantergiani, Mara Eskinazi, Mônica Luce Bohrer
- 944 French New Towns: Last Avatar of the Welfare State or New Avant-Garde Proposals? / Catherine Blain
- 951 Modernism and Countercultural Architecture: Not Exactly a Neat Cut-Off / Elena Poma, Franz Graf
- 958 24. MONUMENTAL MODERNISM: LEGACY OR WASTE?**
Chairs: Claudia Costa Cabral, Fernando Diez
- 958 Monumental Modernism: Legacy or Waste / Claudia Costa Cabral, Fernando Diez
- 965 Housing Problem in Italy and Large-Scale Buildings in Second Half of the 20th Century. A Fragile Heritage / Francesca Albani
- 971 Mending Wall – Continuity in the Modernist City: Interpreting Smallbrook Ringway Centre, Birmingham / Michael Dring
- 978 New Old London: Modern Large-Scale Housing for the Traditional City / Jaime Silva, Ana Tostões
- 985 Ibirapuera Gymnasium: Renewal of Use, Private Concession and Preservation in São Paulo / Renato Anelli
- 992 Revisiting Merihaka's Parking Structures P1 and P2 / Karita Rytivaara
- 1000 25. BEYOND CIAM: TRANSNATIONAL NETWORKS OF LATE MODERNISM**
Chairs: Marta García Carbonero, Brett Tippey
- 1000 Beyond CIAM: Transnational Networks of Late Modernism / Marta García Carbonero, Brett Tippey
- 1007 Situated and Creative. Two Acts on Housing Design, Participation, and Methods in Latin American Late Modernism / Guido Campi

- 1013 Exploring Beyond Borders: The Significance of *Pequeños Congresos* in the Valuation of Spanish Architecture / Ana Esteban Maluenda
- 1020 From Valparaíso to Vancouver: Pan-American Networks and Poetic Visions of a Unified America / Oscar Andrade Castro
- 1026 Unveiling Post-Independence Discourse of Modern Indian Architecture: Insights from *Design Magazine* (1957) / Pappal Suneja
- 1032 Prishtina Shunning Critique: Yugoslavia's Encounter with the Radical Architecture Movement / Edmond Drenogllava

C. THEORIES AND HISTORIES IN TIMES OF CONTROVERSY

1039 26. AUTHENTICITY IN THE FACE OF CLIMATE CHANGE

Chairs: France Vanlaethem, Éve Wertheimer

- 1039 Authenticity in the Face of Climate Change / France Vanlaethem, Eve Wertheimer
- 1046 Preserving Authenticity after Seismic Retrofit and Reuse in Japan / Toru Ajsaka
- 1051 Bridging Cultural Significance and Risk Assessment: Compared Analysis from Conservation Management Plans in Portugal and Cuba (1960-1966) / Teresa Cunha Ferreira, Davide Del Curto, Pedro Murilo de Freitas, Andrea Garzulino, Rui Fernandes Póvoas
- 1059 A Comprehensive Framework to Increase Modelling Credibility in Modern Buildings Energy Simulations. The Case Study of Chauderon Complex Façade by Jean Prouvé in Lausanne (1969-1974) / Giuseppe Galbiati, Franz Graf, Giulia Marino
- 1065 The Sustainable Shine Dome: Toward a Sustainability Plan for the National Heritage Listed Australian Academy of Science Building / Michael Jasper, Tracy Ireland

1071 27. NONCANONICAL CURATORIAL NARRATIVES. RETHINKING THE ROLE OF THE ARCHITECTURE EXHIBITION

Chairs: Maria Cristina Cabral, Ana Esteban Maluenda

- 1071 Curatorial Narratives: Rethinking the Role of the Exhibition / Maria Cristina Cabral, Ana Esteban Maluenda
- 1077 Presenting Architecture, the Archive and Microhistories: The Opening Exhibition of the New Home of Hungarian Architecture / Ágnes Anna Sebestyén
- 1083 A New Period Eye: Learning to See Venezuela's Modernity with Docomomo Venezuela Exhibitions / Frank Alcock
- 1091 Beyond Modernism: Curatorial Clashes and Transformations in 1983 Portuguese Architectural Exhibitions / Ana Neiva
- 1098 War's Toll of Italian Heritage: Unveiling Italy's Postwar Reconstruction through Transnational Exhibitions / Jiayao Jiang
- 1105 Contested Modernities: Architecture and Propaganda in the *Exposição Nacional do Estado Novo* (Rio de Janeiro, 1938) / Catarina Flaksman

1111 28. REMAPPING MODERNISMS: CONTEMPORARY DEBATES

Chairs: Ruth Verde Zein, Patricia Santos Pedrosa

- 1111 Remapping Modernisms: Contemporary Debates / Ruth Verde Zein, Patrícia Santos Pedrosa
- 1118 The Narrative Triad of Nikolaus Pevsner: Recognising the Content Profile and Structure of the Book *Pioneers of Modern Design* / Tais Ossani
- 1125 Lina Bo Bardi: the Bad and the Ugly - Contemporary Formal Problems / Patricia Pereira Martins
- 1132 Being Modern, Building Modern. *L'Union Féministe Egyptienne's* headquarters in Cairo in 1932 / John Hanna, María Novas Ferradás
- 1138 The Value of the Material. An Economic Re-reading of the Modern Ideal in Chile / Paula Orta Camus, Cristian Muñoz Díaz
- 1146 Towards a Transient Understanding of Modern Built Heritage Documentation and Research / Adina Hempel

D. CONSERVATION TRAINING: THE PAST AND THE FUTURE

1154 29. HOW CAN EXHIBITIONS HELP CREATING A SUSTAINABLE AND RESPONSIBLE ATTITUDE TOWARDS THE FUTURE?

Chair: Bárbara Coutinho

- 1154 How can Exhibitions Help Creating a Sustainable and Responsible Attitude Towards the Future? / Bárbara Coutinho
- 1160 Towards a Reparative Architectural History / Eduardo Augusto Costa, Junia Cambraia Mortimer

- 1167 Discovering a New Narrative: Interpretation Method Practices in the Exhibition *Modernism for the Future 360/365* / Viltė Migonytė-Petruilienė
- 1174 Archive Narratives. Curatorial proposals based on archive collection documents / Michelle Llona Ridoutt
- 1180 Elizabeth Mock's Curatorship at MoMA: a New Approach to Architecture and Architecture Exhibitions and its Echoes in Europe / João Miguel Couto Duarte, Maria João Moreira Soares
- 1187 Food Party: Reflections on Community Engagement through Food Projects in Architectural Exhibitions / Leyuan Li, Max Bravo
- 1194 30. EDUCATION TO CONSERVE MODERN HERITAGE: METHODS AND TOOLS**
Chairs: Chandler McCoy, Andrea Canziani
- 1194 Education to Conserve Modern Heritage: Methods and Tools / Andrea Canziani, Chandler McCoy
- 1201 The CMAI's International Training on the Conservation of Modern Heritage / Margherita Pedroni
- 1209 Joint Master RMB, Re-use of Modernist Buildings / Michel Melenhorst
- 1217 The Conservation Planning as a Contribution to Education and Training for Twentieth-century Heritage Conservation / Santiago Beckdorf
- 1224 Remapping Modernism: MAPA Peru Arequipa 2023 / Carlos Torres Flores, Mariano Quiroga Robles, Rosabella Alvarez-Calderón Silva Santisteban
- 1232 What Do We Want from Architectural Education? / Artina Qehaja
- 1239 31. RE-EDUCATION FOR REUSE OF MODERN SPACES. SOCIAL AND ENVIRONMENTAL DIMENSION AS A PLATFORM FOR INCLUSIVE DIDACTIC AND RESEARCH**
Chairs: Carolina Quiroga, Gonçalo Canto Moniz
- 1239 Re-education for Reuse of Modern Spaces. Social and Environmental Dimension as a Platform for Inclusive Didactic and Research / Gonçalo Canto Moniz, Carolina Quiroga
- 1246 Education, Research, and Extension Practices on Sorocaba City (Brazil) Modern Architectural Heritage / Taiana Car Vidotto
- 1254 Implementing Democracy in Socialist Architecture. Adaptation of Former Soviet Schools for Contemporary Education Needs in Lithuania / Liutauras Nekrosius, Dolf Broekhuizen
- 1261 Pimp Danish Modernism: Drawing as a Pedagogical Tool for a Sustainable Future / Angela Gigliotti, Fabio Gigone
- 1268 Transforming a Conventional Rigid Classroom into a Stimulating Space / Adéla Šoborová
- 1276 (Re)signifying and (re)designing Modern School Playgrounds. Experiments on Collaborative Design in Portugal / Patrícia Lourenço, Alexandra Alegre, Teresa Heitor
- E. EVERYDAY LIFE AND MODERN INTERIOR**
- 1285 32. ADAPTIVE MODERN HOUSING: SHIFTING NOTIONS OF COMFORT AND THE TRANSFORMATION OF DOMESTIC SPACE FOR CONTEMPORARY LIVING**
Chair: Zara Castelo Ferreira
- 1285 Adaptive Modern Housing: Shifting Notions of Comfort and the Transformation of Domestic Space for Contemporary Living / Zara Castelo Ferreira
- 1292 Modern Archaeologies: Sustainable Strategies for Social Housing Building in Athens, 1950-1970 / Chrysostomos Theodoropoulos
- 1300 Spatial Decolonisation of the Modern Middle-class Housing of Mozambique / Patricia Noormahomed
- 1308 Departure from the Chandigarh Style: Contemporary Adaptations to the Regulated Marla House / Priya Gupta
- 1315 Reflections on Minimum Space Living in Macau / Niccolò Arnaldo Galliano, Ana Tostões
- 1323 Exploring the Evolution of the Mass-Empty Space Relationship for Social Sustainability in Shushtar New Town: Insights from Kamran Diba's Design / Parisa Etemadi, Helder Casal Ribeiro
- 1330 33. CAPTURING TIME INSIDE ARCHITECTURE**
Chairs: Ana Tostões, Marta Silveira Peixoto
- 1330 Capturing Time Inside Architecture / Ana Tostões, Marta Peixoto
- 1337 Recognizing Cultural Values in Changes to Modern Interiors / Juliano Loureiro de Carvalho
- 1344 Melchiorre Bega Corporate Interiors (1959-70): Transience and Care / Sara Di Resta
- 1351 Modern Over Modern. The SOM Interiors Restoration of Frank Lloyd Wright's Robie House (1967-1975) / Davide Galleri

- 1358 Museum Building as a Living Archive and a “Time Machine”. The case study of MUDE – Museu do Design, Lisbon / Bárbara Coutinho
- 1365 Modernity and *Cubanidad*: Clara Porset, Time, and Ideology / Jean-François Lejeune
- 1372 **34. TEXTILES IN THE MODERN INTERIOR: DISCOVERING THE HIDDEN LOCAL AND GLOBAL STORIES BETWEEN THE WEAVES**
Chairs: Eva Storgaard, Deniz Hasirci
- 1372 Textiles in the Modern Interior: Discovering the Hidden Local and Global Stories between the Weaves / Eva Storgaard, Deniz Hasirci
- 1379 Weaving (as a Disciplinary Reference for) Stained-Glass Windows in Modernist Liturgical Interiors / Zsuzsanna Böröcz
- 1386 “Origin: Modernized from Ancient Turkish Motifs:” A Case Study on Hereke Sümerbank Carpet Collection in 1965 / Didem Yavuz Velipaşaoğlu
- 1392 Tapta-Simone Guillissen-Hoa: Collaborations and Crossing Borders Between Textile Arts and Modern Architecture / Apolline Vranken, Virginie Mamet
- 1399 Dumbara Weaving – Minnette De Silva Threading a “Modern Regional Architecture in the Tropics” / Inês Leonor Nunes
- 1406 Educating Communities Through Industry: John Cotton Dana’s, *The Heritage of 3000 Years of Art in Modern Rugs and Carpets Exhibition and Floor Coverings Exhibitions, 1929-1930* / Anita Puig
- 1411 **35. THE MODERN INTERIOR: ESSENTIAL QUALITIES THAT REMAIN**
Chair: Zsuzsanna Böröcz
- 1411 The Modern Interior: Essential Qualities that Remain / Zsuzsanna Böröcz
- 1418 Women’s Advisory Committee-VAC and Johanna Kroep-de Jonge: the Legacy of Dutch Women’s Agencies in Modern Interiors / Carolina Quiroga
- 1426 Reclaiming the Outdoors: Challenges in Retrofit, Design for Ageing and Well-being in Modern Movement Access Galleries and Walkways / Gisela Lameira, Luciana Rocha, Rui Jorge Garcia Ramos
- 1434 From Provincial to International: Modern Interiors of a Curitiba in Transition / Giovanna Polonio Renzetti, Ruth Verde Zein
- 1441 Rationalist Architecture in Seville: José Galnares and the Project for the Tomás Alehouse / Antonio Huertas Berro, Germán Reyes Mota, Pablo Millán Millán
- 1448 Timeless Quality in a Social Housing Estate for All: The Transformation of Domestic Space and Lifestyles in Olivais Norte (1960s-2020s) / Zara Ferreira, Ana Tostões
- F. BREAKING UNITS: DIVERSITIES OF MODERNITY**
- 1456 **36. OUT OF THE CENTER: MEMORY AND ROLES OF OTHER MODERN HERITAGES**
Chairs: María del Pilar Sánchez-Beltrán, María Macarena Cortés Darrigrande
- 1456 Out of the Center: Memory and Roles of Other Modern Heritages / Macarena Cortés, María del Pilar Sánchez-Beltrán
- 1464 Multi-storey Buildings in Lima (1939 – 1970): A Peruvian Genealogy of a Modern Type / Javier Atoche Intili
- 1471 Memory, Legacy and Identity: Modern Heritage in Angola and Mozambique / Ana Magalhães
- 1478 The Ethics of Preservation or Repurposing of Yugoslav WWII Monuments / Tatjana Aleksić
- 1484 “*Un pueblo sin memoria, es un pueblo sin futuro*:” Memories of Modernism and Violence at the National Stadium of Chile / Valentina Rozas-Krause
- 1491 The recourse to the authenticity in the modern architecture of Mobutu’s Zaire / Manlio Michieletto
- 1499 **37. INTERSECTIONS OF ETHNICITY, NATIONAL IDENTITY, AND MODERN ARCHITECTURE**
Chairs: Ivo Girotto, Maarten Goossens
- 1499 Intersections of Ethnicity, National Identity, and Modern Architecture: A View from Latin America / Ivo Girotto, Maarten Goossens
- 1506 Lúcio Costa on Aleijadinho: Race and the Building of the National Architecture / Jaime Solares Carmona
- 1512 Modern White: The Intersection of Racial Identity and Pentelic Marble Architectures in Twentieth-Century Athens / Angelos Chiotis
- 1520 A Network from the Middle of the World: Modern Architecture and Cultural Hybridization in Quito / Ingrid Quintana-Guerrero, Chiara Lucia Stornaiolo Jácome

- 1527 (Re)discussing Miscegenation in the Historiography of Modern Architecture / Alex Matos
1533 Transcontinental Modernity in Ahmedabad: Contributions by Geeta and Gira Sarabhai / Maria João Moreira Soares, João Miguel Couto Duarte

1540 38. SHAPING THE NARRATIVE: THE IMPACT OF RESEARCH ON WOMEN IN ARCHITECTURE ON THE LEGACY OF MODERN ARCHITECTURE

Chairs: Ana Gabriela Godinho Lima, Klara Brůhova

- 1540 Revisiting the Modern Architecture Canon: Parallels and Distinctions in Brazil and Czech Republic through Feminist Perspectives / Ana Gabriela Godinho Lima, Klára Brůhová
1547 Remapping Modern Architecture: Three Modern Buildings by Female Architects in Maceió/AL / Manuella Marianna Carvalho Rodrigues de Andrade, Ítalo Monteiro de Oliveira Mariano Gomes
1554 The Archival is Political / Fabiola Solari, Manola Ogalde Gutiérrez
1560 Uruguayan Female Architects Research / Soledad Cebey, Laura Cesio, Daniela Fernández, Nadia Ostraujov, Tatiana Rimbaud, Elina Rodríguez
1567 Women in Modern Architecture: Regionalism, Otherness, and Gender in the Brazilian Northeastern Region / Guilah Naslavsky, Maria Luíza Rocha Mariz Valença, Rafaela Silva Lins

1574 39. ARCHITECTURE DISCOURSES AND CONSERVATION STRATEGIES

Chair: Elvira Pérez

- 1574 Architectural Heritage Discourses and Conservation Strategies / Elvira Pérez
1578 Towards a Construction of Heritage Assessment Criteria for Modern Architecture in Ecuador / Fernanda Monserrath Aguirre Bermeo, Verónica Heras, Santiago Vanegas
1586 Modern Territories and Local Architectures: Peru's Tourism Hotels from 1930 to 1970 / Trilce Bravo Guzman
1593 Situating Indian Architectural Discourse: Transnational Networks of Late Modernism / Saurajeeta Bose Paul
1601 Change to Preserve. A Conservation Strategy for Tashkent Modernist Heritage / Sofia Celli, Davide Del Curto, Ekaterina Golovatyuk

1609 40. MODERNISM AND HERITAGE IN LATIN AMERICA AND AFRICA: CHALLENGES OF SHARED AND CONTESTED (ROUND TABLE)

Chairs: Warebi Gabriel Brisibe, Nwola Oluwakemi Uduku, Ernesto Valero Thomas

- 1609 Modernism and Heritage in Latin America and Africa: Challenges of Shared and Contested Heritage / Nwola Oluwakemi Uduku
1616 "No Holds Barred;" Behind Modernist Hotels in Nigeria and Brazil / Warebi Gabriel Brisibe
1624 Modernism and Heritage in Latin America and Africa: The Case of Sustainability Policies at UNAM's School of Architecture in Ciudad Universitaria, Mexico City / Ernesto Valero Thomas
1630 Whose Memories, Whose Heritage? Reflecting on the Spatial History of the Americas / Fernando Luiz Lara
1637 Modern Architecture and Ornament? / Ikem Stanley Okoye

1643 ACKNOWLEDGEMENTS

1644 ORGANIZATION

1644 SUPPORTERS

1646 INTERNATIONAL STUDENTS WORKSHOP

1647 DOCOMOMO INTERNATIONAL INSTITUTIONAL PARTNERS & INSTITUTIONAL MEMBERS

PRESERVING THROUGH TRANSFORMING. EXPLORING THE CONVERSION PROCESSES OF EMERY ROTH AND SONS' POST-WAR OFFICE BUILDINGS IN MANHATTAN INTO RESIDENTIAL SPACES

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ABSTRACT

Manhattan is currently undergoing a substantial effort to renovate its post-war high-rise buildings. Rather than opting for replacement, the focus is on transforming existing office towers, especially during times of crisis. The renewed interest in adaptive reuse, dating back to the 1990s with the Lower Manhattan Revitalization Plan, blurred the boundary between conservative and transformative approaches to Modern built legacy. Interventions in adaptive reuse have sparked a new phase in the ongoing debate about discovering alternative uses for struggling office buildings.

Despite the considerable attention devoted to factors influencing the conversion of these buildings, such as adherence to urban codes, historical and social significance, and energy efficiency, there remains a noticeable gap in understanding the correlation between fundamental conservative intent that stands on morphological features, and their impact on future transformations within a large building stock.

This contribution analyses and compares the conversion of modern office buildings by Emery Roth, and Sons, initiated in the 1990s, specifically examining the transformation from 110 Wall Street to the recently completed 180 Water Street and the ongoing project at 55 Broad Street. These cases function as pilot studies, providing insight into the ongoing debate surrounding the transformation of non-listed modern office buildings in Manhattan. They offer a critical perspective on the potential alliances between heritage preservation and environmental sustainability through adaptive reuse practices.

This methodological approach encompasses examining morphological features to highlight the transformation process dynamics from an architectural design perspective. This paper offers insights into the adaptive reuse of Manhattan's modernist office buildings, to contribute to ensuring their legacy endures while meeting contemporary demands.

The proposed approach is instrumental in comprehending the intricacies of the potential of conserving through transforming and bridging the gap between history and design disciplines to foster an interdisciplinary framework.

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5. Joshua Chaffin, “New York’s “Zombie” Office Towers Teeter as Interest Rates Rise”. *Financial Times*, December 2022; Colliers. “The Future of Office”, 2023; CBRE. “Manhattan Office Figures May 2023”, 4 May 2023.
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9. Stewart Brand, *How Buildings Learn: What Happens After They’re Built*. Penguin Publishing Group, 1995; Duffy, Francis. *The Changing Workplace*. London: Phaidon Press, 1992; Bernard Leupen, *Frame and Generic Space : A Study into the Changeable Dwelling, Proceeding from the Permanent*. Rotterdam: 010 Publishers, 2006.

1. INTRODUCTION

Renovating and adapting historical buildings is of paramount importance in the context of climate change as it effectively addresses the urgent need to mitigate greenhouse gas emissions, adapt to a dynamic climate, and simultaneously preserve our built heritage through their continued utilisation. The potential for conversion of office spaces is a matter of analysis in the last decades¹. Over the last few years, vacancy levels in office markets worldwide have risen to unprecedented levels². At the same time, almost 30 million sqm of office space in the United States is predicted to be obsolete by 2030³.

In New York City the phenomenon is radical. The city houses the largest office real estate market in the world by area. With more than 42 mln sqm of office space, Manhattan’s stock alone is larger than the amount in all other U.S. cities.⁴ In the aftermath of the COVID-19 pandemic, the increase in office vacancy rates has reached levels not seen in New York City for several decades. Driven by the rise in home working and general economic uncertainty, Manhattan office space available for rent has increased from 10% pre-pandemic to approximately 20% in November 2022. Moreover, the office building stock is mostly an outdated urban heritage, and approximately 70% of New York commercial tall buildings were built before the 1980s, and will soon need to be replaced or renovated.⁵ To address this issue, a massive movement to regenerate Manhattan’s high-rise estate is underway.

If building replacement is one of the ways in which New York City responds to typological and functional obsolescence right from the origins of the tall building⁶, during times of crisis, the renovation of the existing office building stock to meet emerging needs is a more common choice.

Furthermore, the decline in the use of office space coupled with the urgency of high-demand uses – such as housing – has triggered a new phase of the debate on finding alternative uses for struggling office buildings. The adaptive reuse of office buildings, a field of research that has already been explored in Manhattan particularly since the 1990s, i.e. Lower Manhattan Revitalization Plan⁷, in the last year has been strengthened both by private investments and municipal policies. The foundation of the Office Adaptive Reuse Task Force in 2022 constitutes perhaps the most effective action of New York City municipality to support this regeneration movement⁸.

However, a combination of legal, logistical, and financial challenges threatens the possibility and profitability of conversions, severely limiting the number of buildings suitable for conversion. This is especially true for modern large-floor plate skyscrapers, whose future is uncertain and at risk. As the first report of the task force points out, the office buildings built after World War II, especially after the 1961 Zoning Resolution, constitute an outdated and rather critical heritage in terms of their transformative potential. Due to both the regulatory system and the architectural typologies, these buildings are generally more difficult and very expensive to reuse.

Drawing inspiration from the shearing layers of change theory, this pivotal research aims to reveal how these buildings can be reconfigured to accommodate new uses⁹. In this paper, we are focusing on the adaptation

challenges related to building morphology from an architectural design perspective to contribute to answering the question “How did these modernist offices learn to be residential?”¹⁰

To unveil this potential for adaptation of post-WWII office skyscrapers in Manhattan, and its many spatial challenges, we employ a comparative analysis of the morphological features of three office buildings part of the Emery Roth, and Sons’ built legacy in Manhattan: 110 Wall Street, 180 Water Street, and the ongoing project at 55 Broad Street.

The cases are discussed by focusing on key morphological features that are highlighted as “critical” in the ongoing debate about office-to-residential conversion in Manhattan. The physical adaptability¹¹ involves specific design actions focused on their primary features: the façade, depths, and services. This contribution examines typological layout shifts, internal circulation, plan depth, natural light and ventilation strategies, tight and long units, interior partitions, services, amenities, and hybrid spaces.

2. THE LEGACY OF EMERY ROTH AND SONS

Emery Roth and Sons was one of the most prolific architectural firms for office buildings in the Second Post-War Manhattan development boom. From 1947 - when the firm, in its new format, was established - to the late 70s - when reorientation was taken over by a new principal - the design office directed by Richard Roth contributed with more than 100 buildings, mainly speculative office buildings, to the Midtown and Lower Manhattan skyline, with pitches of 10-11 buildings per year¹². According to a list of the largest architecture firms in New York published by *Crain’s* in 1994¹³, Emery Roth and Sons buildings accounted for almost 9.5 mln sqm of project space, landing the firm at number 7 of 25.

Working closely with real estate developers - such as the Uris Corporation, Tishman Group, Diesel Construction, Durst Organisation, and Helmsley-Spear, Inc. - they increasingly specialised in commercial space.

Their buildings, mostly pure prism of wedding-cake office towers, were designed with steel and glass curtain walls, and facing plazas, struggling to fit the market requirements for speculative buildings and embodying the sleek, modern, Post-war style.

Throughout its practice, the firm specialised in large-scale design production oriented towards meeting the demands of the real estate market. Consistently, the firm provided designs tailored to meet market needs, skilfully navigating zoning code regulations to maximise the rentable area.

The firm’s legacy encompasses a broad spectrum of buildings reflecting real estate demands, ranging from a few iconic landmarks to numerous average market-oriented buildings. However, with some exceptions, these buildings are not considered heritage-listed. As time progresses, typically between 50 to 70 years, many of these office buildings begin to exhibit signs indicating the need for repositioning and potential conversion.

10. Brand, *How Buildings Learn: What Happens After They’re Built*.

11. James Douglas, *Building Adaptation*. Butterworth-Heinemann, Oxford, 2006.

12. Robert A. M. Stern, et al., *New York 1960: Architecture and Urbanism between the Second World War and the Bicentennial*. New York: The Monacelli Press, 1995.

13. Ylonda Gault, “Architects Draw Map To Regain Faded Glory: Emery Roth Tries To Rebuild Shaky Empire”, *Crain’s New York Business*, June 5, 1995.

3. CROSSING MORPHOLOGICAL SHIFTS

The selected buildings, including 110 Wall Street, 180 Water Street, and 55 Broad Street, are but a few examples of Roth’s office buildings designed between the late 1960s and early 1970s as part of the “new city emerging Downtown”¹⁴, that have undergone or are currently undergoing office-to-housing conversions. Other notable examples could include 200 Water Street and 10 Hanover Square.

The selection is based on their primary design approaches, addressing specific issues that render them relatively prominent in ongoing debates. For instance, 110 Wall Street represents a unique case of hybrid programming, blending co-living and co-working spaces. 180 Water Street serves as a case study for its design approach aimed at resolving challenges posed by large-depth floor plans. Meanwhile, 55 Broad Street stands out as one of the largest office-to-residential conversions in New York City.

3.1. A MATTER OF DEPTH

180 Water Street is a 26-story office building with over 40,000 square meters of space. Completed in the early 1970s, the building underwent a transformative conversion into housing in 2017 under the direction of developers Metro Loft Management and Vanbarton Group. Avinash K. Malhotra Architects served as the main architectural firm, with CetraRuddy handling the interior design¹⁵. This conversion resulted in the creation of more than 570 market-rate luxury residential units alongside a comprehensive array of upscale amenities - such as 24-hour doorman, a rooftop terrace boasting a pool, a fully equipped fitness centre, a children’s playroom, and a tenant lounge.

This case holds particular significance because of the architectural challenge posed by large-plate structures. The considerable depth from windows to the building’s core, measuring up to 22 m, presented a huge obstacle, surpassing the ideal depth for conversion into residential apartments. To overcome this challenge, a strategic solution was devised: a 9-by-12 metre courtyard was obtained by digging the building’s core. This new open space served multiple purposes, including the introduction of natural light and ventilation to numerous apartments and mechanical areas while minimising the impact on structural columns. Notably, this courtyard facilitated the creation of a double-loaded corridor, with apartments lining both sides, including “studios” with windows facing the courtyard.

What might initially appear as a bold and expensive move is, in fact, grounded in careful economic analysis and strategic planning. By taking advantage of zoning regulations relaxed in the 1990s to encourage conversions in the financial district, the developers seized the opportunity to convert the entirety of the building’s floor area into housing. The inclusion of the courtyard effectively compensated for the space lost from the building’s centre, enabling the addition of floor area — and consequently, additional rental income — to the building’s upper levels, turning a 26-story office building into a 30-story apartment building. This approach extended to the

14. Ada Louise Huxtable, “A New City Is Emerging Downtown”, *New York Times*, March 29, 1970, pp. 239, 242.

15. Emily Badger, and Larry Buchanan, “Here’s How to Solve a 25-Story Rubik’s Cube”, *New York Times*, April 15, 2023, p B1; Lauren Elkie Schram, “Office-to-Residential Conversions Are Tough. Here’s How You Do It.”, *Commercial Observer*, March 11, 2024.

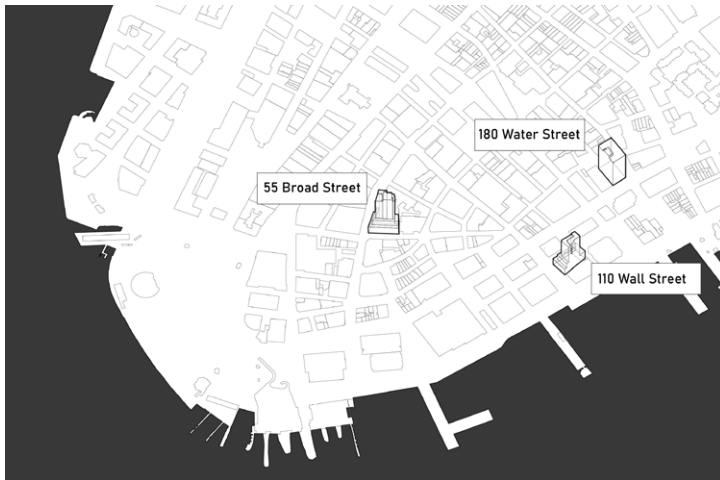


Figure 1. The selected sample from the built legacy of Emery Roth and Sons. Redraw from the authors, 2024

Figure 2. 180 Water Street, Typical plan, original and adapted to residential. Redraw from the authors, 2024.

Figure 3. 110 Wall Street, Typical plan, original and adapted to residential. Redraw from the authors, 2024.



rooftop, where modern amenities such as a pool, rooftop deck, gym, and other facilities were seamlessly integrated, further enhancing the appeal and functionality of the revitalised structure.

3.2. A MATTER OF INTERIOR RATIO

110 Wall Street, a 27-story, 20,000 sqm building designed by Roth's firm, opened in 1961. After Hurricane Sandy caused significant damage in 2012, owner William Rudin was forced to cancel office tenants' leases and reconsider the building's future¹⁶. Almost a year later, WeWork took control of the building, transforming it into the first "WeLive" co-living space, with ARExA and Perkins Eastman S9 leading the design¹⁷. WeLive proposed a community-driven concept aimed at young renters seeking a sociable lifestyle. The adaptive reuse project resulted in a mixed-use building that combines neighbourhood-oriented retail and food/beverage options with collaborative workspaces, on the 5-story building base and a progressive

16. Jessica Dalley, "Sandy-Damaged 110 Wall Street May Convert to Apartments", *Curbed NY*, Dec 13, 2012; Michelle Goldchain, "Startup WeWork Planning 205-Unit Wall Street Tower", *Curbed NY*, Oct. 19, 2015.

17. Matthew Haag, Rebecca Liebson, Andrea Salcedo, "WeWork Planned a Residential Utopia. It Hasn't Turned Out That Way", *New York Times*, Oct. 13, 2019; Stephen Smith, "Permits Filed: 110 Wall Street's WeWork-Led Mixed-Use Conversion", *New York Ymby*, Dec. 9, 2014; Michelle Cohen, "WeWork's Communal Living Concept on Wall Street Gets Its First Residents", *6sqft*, Jan. 13, 2016.

new residential concept for the upper floors. The conversion features 205 fully furnished and serviced residential units, designed mainly for short-term rentals and to reduce costs for residents by sharing space, similar to WeWork offices.

Billed as a “disruptive alternative to the way people live” and “Nirvana for Millennials,” the WeLive experiment received both criticism and praise, earning mentions in several newspapers, including *Time* magazine¹⁸.

The architectural reuse incorporates studio, one to four-bedroom units, integrated with collective spaces like kitchens, lounges, and bathrooms. Large communal areas and redesigned staircases, extending into small lounge spaces on various floors, foster resident interaction.

Despite the current challenges of the building’s manageable depth, internal circulation, and space usage, it has led to narrow, long residential units - with an average area of 40 sqm - with limited natural light in the inner part. The interior spaces are reconfigured to include study areas, storage, and sleeping alcoves on the unit’s windowless side. This conversion could be seen as a modern reinterpretation of the 19th-century railroad apartment model, offering (upscale) accommodation for young professionals. Architect Avinash Malhotra, experienced in office-to-residential conversions, notes that such projects often transform office towers into numerous small units, humorously referring to them as “slums for the rich.”¹⁹

3.3. A MATTER OF FACADE SYSTEM

The former Goldman Sachs headquarters at 55 Broad Street, which opened in 1967, has seen its occupancy levels drop to just 60% due to the rise of remote work since 2020. Acquired by Silverstein Properties and Metro Loft Management, the almost 40,000 sqm building is now undergoing a major transformation designed by Cetra Ruddy Architects²⁰. Construction began in the summer of 2023 and is expected to be completed by 2025.²¹

Similarly to the approach taken with the 180 Water Street project, architects at 55 Broad Street are converting commercial space into residential use by reclaiming floor area, thus allowing for additional square footage at the top of the building. At 110 Wall Street, however, the setback design posed programmatic challenges, especially on the lower floors with longer lease spans, requiring some apartments to be deeper than typical residential units. Despite these challenges, the setbacks facilitated the creation of a variety of apartment sizes and types, ranging from efficient units to loft-like layouts with generous terraces. The depth issue was ingeniously addressed by incorporating flexible spaces or home offices near the building’s core, a highly desirable feature in today’s remote and hybrid work environment. Additionally, the setbacks allowed for the inclusion of terrace spaces for select units.

Despite the shape differences with 180 Water Street and programme differences with 110 Wall Street, a common challenge remains: rethinking the curtain wall. Glass curtain-wall facades, characteristic of modern American skyscrapers, must be adapted for residential use by incorporating

18. Anna Winston, “Co-working company WeWork unveils its first co-living apartments in New York”, *Dezeen*, 6 April 2016. Alex Fitzpatrick, “Inside the NYC Building That Offers Nirvana for Millennials”, *Time*, April 4, 2016.

19. D.T. Max, “Can Turning Office Towers Into Apartments Save Downtowns?”, *The New Yorker*, April 29, 2024.

20. Joe Weisenthal, Tracy Alloway, and Isabel Webb Carey, “What it Actually Takes to Turn an Office Building Into Apartments”, *Bloomberg News*, July 7, 2023.

21. Max, “Can Turning Office Towers Into Apartments Save Downtowns?”

operable windows, significantly increasing conversion costs and altering the original facade's linear appearance. However, this adaptation encourages energy-efficient approaches to climate management, replacing forced air conditioning with openable, customisable systems. This shift aligns with the concept of "After Comfort," promoting a change in expectations for internal thermal comfort.²²

4. CONCLUSIONS

The conversion of post-World War II office buildings to residential uses raises important questions about the intertwining of preservation and transformation of modern architecture.²³ This is particularly true for skyscrapers designed by Emery Roth and Sons, which form part of Manhattan's 'ordinary'²⁴ architectural fabric but face uncertain futures without the protection of heritage preservation agencies. Converting office spaces to residential use helps mitigate the risk of abandonment and decay caused by low occupancy rates. However, these transformations frequently entail substantial alterations to internal circulation, curtain walls, and sometimes structural elements, posing challenges to conventional concepts of modern architectural preservation.

A second issue concerns the urban role of modern architecture. As Robert Stern stated in a 1996 Times interview, "Who doesn't want to live in a skyscraper?"²⁵ Although office buildings are not typically considered the main solution to the housing crisis, their conversion has a notable impact on the use and perception of modern urban structures. Such transformations can foster cultural diversity through mixed uses and diverse resident profiles, keep buildings and neighbourhoods vibrant beyond office hours, and repurpose ground floors from lobbies to communal spaces and services. This "city of quantity" prompts a re-examination of the relationship between preserving memory, promoting sustainable development, and adapting to new uses, not as opposing forces but as parts of a unified process in a world where "preservation is overtaking us."²⁶ ■

22. Daniel A. Barber, *Modern Architecture and Climate: Design before Air Conditioning*, Princeton, 2020; Daniel A. Barber, "After Comfort", *Log* 47, 2019.

23. Donald Albrecht, Andrew S. Dolkart, with Seri Worden (edited by), *Saving Place : 50 Years of New York City Landmarks*. New York: Museum of the City of New York, The Monacelli press, 2015.

24. Ash Amin, Stephen Graham, "The Ordinary City". *Transactions of the Institute of British Geographers* 22, no. 4 (1997): 411–29. N. John Habraken, *The Structure of the Ordinary: Form and Control in the Built Environment*. Cambridge, Mass: MIT Press, 2000.

25. Robert A. M. Stern, "An Architect's View: Who Doesn't Want to Live in a Skyscraper?", *New York Times*, February 4, 1996, Sec.4, P. 4.

26. Rem Koolhaas, Jorge Otero-Pailos, Mark Wigley, and Jordan Carver. *Preservation Is Overtaking Us*. GSAPP Transcripts. GSAPP Books, 2014.

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