



UNIVERSITÀ
DEGLI STUDI
FIRENZE

FLORE

Repository istituzionale dell'Università degli Studi di Firenze

Foster + Partners. The Story of a Practice

Questa è la Versione finale referata (Post print/Accepted manuscript) della seguente pubblicazione:

Original Citation:

Foster + Partners. The Story of a Practice / Lorenzo Ciccarelli. - STAMPA. - (2021), pp. 112-139.

Availability:

The webpage <https://hdl.handle.net/2158/1248882> of the repository was last updated on 2022-01-20T17:23:50Z

Publisher:

Edifir

Terms of use:

Open Access

La pubblicazione è resa disponibile sotto le norme e i termini della licenza di deposito, secondo quanto stabilito dalla Policy per l'accesso aperto dell'Università degli Studi di Firenze (<https://www.sba.unifi.it/upload/policy-oa-2016-1.pdf>)

Publisher copyright claim:

La data sopra indicata si riferisce all'ultimo aggiornamento della scheda del Repository FloRe - The above-mentioned date refers to the last update of the record in the Institutional Repository FloRe

(Article begins on next page)

LARGEST ARCHITECTURAL FIRMS

edited by
Lorenzo Ciccarelli
Sara Lombardi
Lorenzo Mingardi



edifir
EDIZIONI FIRENZE





PRESENTISTORICO

Narrazioni e documenti di architettura e design | 2

PRESENTESTORICO

Narrazioni e documenti di architettura e design

Collana diretta da / Series directed by
Emanuela Ferretti e Davide Turrini

Comitato scientifico / Scientific Advisory Board
Paolo Belardi, Università degli Studi di Perugia
Alessandro Brodini, Università degli Studi di Firenze
Roberto Dulio, Politecnico di Milano
Emanuela Ferretti, Università degli Studi di Firenze
Davide Fornari, ECAL Ecole cantonale d'art de Lausanne
Orietta Lanzarini, Università degli Studi di Udine
Carlo Martino, Sapienza Università di Roma
Caspar Pearson, University of Essex
Davide Turrini, Università degli Studi di Ferrara

Le pubblicazioni della collana PRESENTESTORICO sono oggetto di una procedura di accettazione e valutazione qualitativa basata sul giudizio tra pari affidata dalla Direzione della collana e dal Comitato scientifico con il sistema del *double blind peer review*. / The books of the series PRESENTESTORICO undergo a process of acceptance and evaluation based on peer review entrusted by the Direction of the series and the Scientific Advisory Board with the system of double blind peer review.

Revisori 2018-2021 / Referees 2018-2021

Mario Carlo Alberto Bevilacqua, Università degli Studi di Firenze
Roberto Bologna, Università degli Studi di Firenze
Claudia Conforti, Università degli Studi di Roma "Tor Vergata"
Maria Grazia D'Amelio, Università degli Studi di Roma "Tor Vergata"
Maria Antonietta Sbordone, Università degli Studi della Campania "Luigi Vanvitelli"

Il volume è l'esito di un progetto di ricerca condotto al Dipartimento di Architettura dell'Università degli Studi di Firenze, ed è stato realizzato con il contributo di fondi di ricerca assegnati a Lorenzo Ciccarelli quale responsabile scientifico. / This book comes from a research project held at the Department of Architecture, University of Florence. It is realised with research funds assigned to the Principal Investigator Lorenzo Ciccarelli.

© Copyright 2021 by Edifir-Edizioni Firenze
Via de' Pucci, 4 – 50122 Firenze (Italia)
Tel. +39/055289639 – www.edifir.it – edizioni-firenze@edifir.it

Responsabile del progetto editoriale / Managing Editor
Simone Gismondi

Responsabile editoriale / Design and Production Editor
Elena Mariotti

Stampa / Print
Pacini Editore Industrie Grafiche, Ospedaletto (Pisa)

ISBN 978-88-9280-051-9
ISSN 2611-478X

In copertina / On cover

Norman Forster, *Perspective*, sketch for the Commerzbank Headquarters (Frankfurt am Main), 1991.
Courtesy of the Norman Forster Foundation

Photocopies for reader's personal use are limited to 15% of every book/issue of periodical and with payment to SIAE of the compensation foreseen in art. 68, codicil 4, of Law 22 April 1941 no. 633 and by the agreement of December 18, 2000 between SIAE, AIE, SNS and CNA, ConfArtigianato, CASA, CLAAI, ConfCommercio, ConfEsercenti. Reproductions for purposes different from the previously mentioned one may be made only after specific authorization by those holding copyright the Publisher.

LARGEST ARCHITECTURAL FIRMS

DESIGN AUTHORSHIP
AND ORGANIZATION
MANAGEMENT

edited by
Lorenzo Ciccarelli
Sara Lombardi
Lorenzo Mingardi

INDEX

6 INTRODUCTION

Lorenzo Ciccarelli, Sara Lombardi, Lorenzo Mingardi

THE RISE AND CONSOLIDATION OF LARGEST ARCHITECTURE/ENGINEERING FIRMS

14 HOUSING, HOSPITALS, AND HULLABALOO:
THE RISE OF SKIDMORE, OWINGS & MERRILL
Nicholas Adams

28 «PUTTING ARCHITECTURE ON A BUSINESS BASIS»:
ALBERT KAHN AND THE SCIENTIFIC MANAGEMENT OF DESIGN WORK
Federico Bucci

40 ARUP ARCHITECTURE: THE PROJECT AS THE PROVISION OF A SERVICE
Lorenzo Mingardi

56 «ARCHITECTURE IS WHAT WE SAY IT IS»:
GENSLER AND AECOM AS MODELS OF NEOLIBERAL PRACTICE
Aaron Cayer, Peggy Deamer

ARCHITECTS' DEPARTMENTS BETWEEN THE GOVERNMENT AND THE MARKET

70 ORCHESTRATION OF AN ORGANISATION:
THE BUREAUCRATIC FRAMEWORKS
OF THE LONDON COUNTY COUNCIL ARCHITECT'S DEPARTMENT
Ruth Lang

82 INTEGRATING PRODUCTION, EDUCATION AND RESEARCH:
THE HISTORICAL EVOLUTION OF UNIVERSITY ARCHITECTURAL
DESIGN INSTITUTES IN CHINA
Xiahong Hua

98 SERVING AND REPRESENTING THE GERMAN GOVERNMENT:
ARCHITECTS AT THE CROSSROADS OF ADMINISTRATIVE
CONSTRAINTS AND CREATIVITY
Klaus Rippel

THE ARCHISTAR AND/VS THE FIRM: ORGANIZATION MANAGEMENT AND LEGAL ISSUES

112 FOSTER + PARTNERS: THE STORY OF A PRACTICE
Lorenzo Ciccarelli

140 FROM VENTURI & RAUCH TO VSBA ARCHITECTS & PLANNERS:
HISTORY AND LEGACY OF THE FIRM OF ROBERT VENTURI
AND DENISE SCOTT BROWN
Rosa Sessa

156 INVESTIGATING ARCHITECTURE FIRMS' CREATIVITY:
AN ORGANIZATIONAL DESIGN PERSPECTIVE
Sara Lombardi

166 DESIGNS, ARCHITECTURAL WORKS AND ENGINEERING PROJECTS:
LARGE FIRMS, AUTHORSHIP AND KEY LEGAL ISSUES IN AN
INTERNATIONAL AND COMPARATIVE PERSPECTIVE
Pietro Messina

MULTISCALE DESIGN METHOD IN LARGEST CONTEMPORARY FIRMS

182 WHEN THE GREAT ARCHITECT BECOMES A DESIGNER:
THE MULTISCALE FIRM BETWEEN RESEARCH AND MARKET
Elena Dellapiana

194 THE SNØHETTA MULTISCALE DESIGN METHOD
Davide Turrini

212 ZAHA HADID ARCHITECTS: FROM ARCHITECTURE TO DESIGN,
THE DESIGN SEARCH FOR A LANGUAGE OF IDENTITY
Elisabetta Trincherini

226 PROCESSUALITY IN CONTEMPORARY ART AS IT RELATES
TO THE ARCHITECTURAL AND LANDSCAPE CONTEXT
Emanuela Ferretti

AFTERWORD

244 IS THIS THE END?
ARCHITECTURE IN THE AGE OF FINANCE CAPITALISM
Marco Biraghi

252 **CREDITS AND SOURCES**

253 **NAMES INDEX**

FOSTER + PARTNERS. THE STORY OF A PRACTICE

Lorenzo Ciccarelli

University of Florence
lorenzo.ciccarelli@unifi.it
Orcid ID: 0000-0002-5045-5877

During his career Norman Foster experienced all types of practices: from the two-people studio he set up with his wife in 1967 through the 30-50 people medium-size office he led during the Seventies, to the globalized multi-centers practice he established in the last decades. Foster + Partners is a case-study of particular interest in the contemporary scenario: an office that aims to merge the financial and organizational structure of a worldwide generalist firm with the design structure of a medium-size studio gathered around a charismatic leader. The paper analyzes the improvements in the financial and organizational structure of Foster + Partners from the Seventies, and how those changes impacted on the selection of the works and on the design method. Moreover, it will be explored the different roles that Norman Foster assumed in 'his' practice along the time, questioning the shades of a singular or shared authorship in such an office.

Lorenzo Ciccarelli is Research Fellow in History of Architecture at the University of Florence and member of the Scientific Committee of the Renzo Piano Foundation. His studies are devoted to the Italian contemporary architecture and its ties with European and North-American scenarios, with particular attention to building techniques and organizational strategies. On these topics he has given papers in international conferences and published articles and books, such as *Renzo Piano Before Renzo Piano. Masters and Beginnings* (2017) and *Il mito dell'equilibrio. Il dibattito anglo-italiano per il governo del territorio negli anni del dopoguerra* (2019).

Keywords: Norman Foster; Architectural Firms; Design Authorship; Organization Management

Twenty days after the death of Zaha Hadid in 2016, her closest collaborator Patrik Schumacher granted an interview to Steven Erlanger, bureau chief of the «New York Times» in London. Grief over the sudden death of the famous Anglo-Iraqi architect was still palpable, but timing is an essential quality in business and Schumacher's message in the columns of one of the most important newspapers in the world could not have been more explicit: «we want to tell the world that we are still a viable, vibrant address for major work of cultural importance», adding that «my ambition is to become more visible as a leader of the field to clients» (ERLANGER 2016). As in any large global business – like the firm Zaha Hadid Architects, which has around 400 employees and a turnover of £57 million – a power and leadership vacuum is unacceptable. Just as Tim Cook instantly took over from Steve Jobs at Apple, taking the Californian company to new heights in terms of sales and turnover, Patrik Schumacher had to quickly reassure clients and investors that, despite the death of Zaha Hadid, nothing would change in terms of the global growth of the firm which «has just opened an office in New York and is looking to continue to do major projects in key cities, and while keeping offices in Beijing and Hong Kong, it plans offices in Dubai and Mexico City» (ERLANGER 2016). As has been noted, «architects die, brands do not» (FERRANDO-SILENZI 2016, 65).

While some of the most famous contemporary architects have perpetuated the traditional model of a small studio, with few collaborators and a stringent selection of commissions – from Peter Zumthor to Glenn Murcutt and Paulo Mendes da Rocha, for example – others – like Zaha Hadid, Norman Foster, Richard Rogers and Rem Koolhaas – have chosen to fully exploit the rules of the capitalist system, organising offices with hundreds if not thousands of employees and numerous offices scattered around the world. These authentic creative

businesses – whose public and commercial profile is inextricably linked to the figure of the founder who has risen to the role of archistar – are an interesting field of study for anyone wishing to investigate different aspects of the profession of architect in the contemporary context and their elusive role in the tortuous process of designing large-scale works, questioning in particular what critical weapons need to be sharpened to understand these professional environments (DEAMER 2014; AGAMBEN 2017; DEAMER 2020).

While several generalist design firms prospered in the twentieth century after the retirement or death of their founders – from SOM to Gensler, Perkins & Will and Nikken Sekkei – this has not been the case for architectural firms intimately linked to the design qualities and charisma of the architect-demiurge. The process of the gradual (although difficult) detachment of Zaha Hadid Architects from Zaha Hadid therefore represents a new episode, but one that is destined to be repeated (HOPKIRK 2019). Norman Foster, for example, stated that the current structure of Foster + Partners is designed to ensure the firm's operation and success after his death (FOSTER 2010, 117). Rogers Stirk Harbour + Partners, on the other hand, has recently announced that the name of Richard Rogers, who has long since ceased to be involved in day-to-day management and has resigned from the Board of Directors, will be dropped from the firm name within two years (ING 2020). In these cases, as Pedro Fiori Arantes has suggested, we are witnessing the «progressive dissociation of authorship in favour of branding» (FIORI ARANTES 2019, 17).

As with haute couture fashion houses, which have thrived well beyond the presence and commitment of their iconic creators, this will likely be the case of these architectural firms, where new charismatic figures will be called upon to replace the founders, updating their creative legacy (KIPNIS 1997) – and this is how Patrik Schumacher's explicit and well-timed declaration of intent, just days after Zaha Hadid's death, should be interpreted.

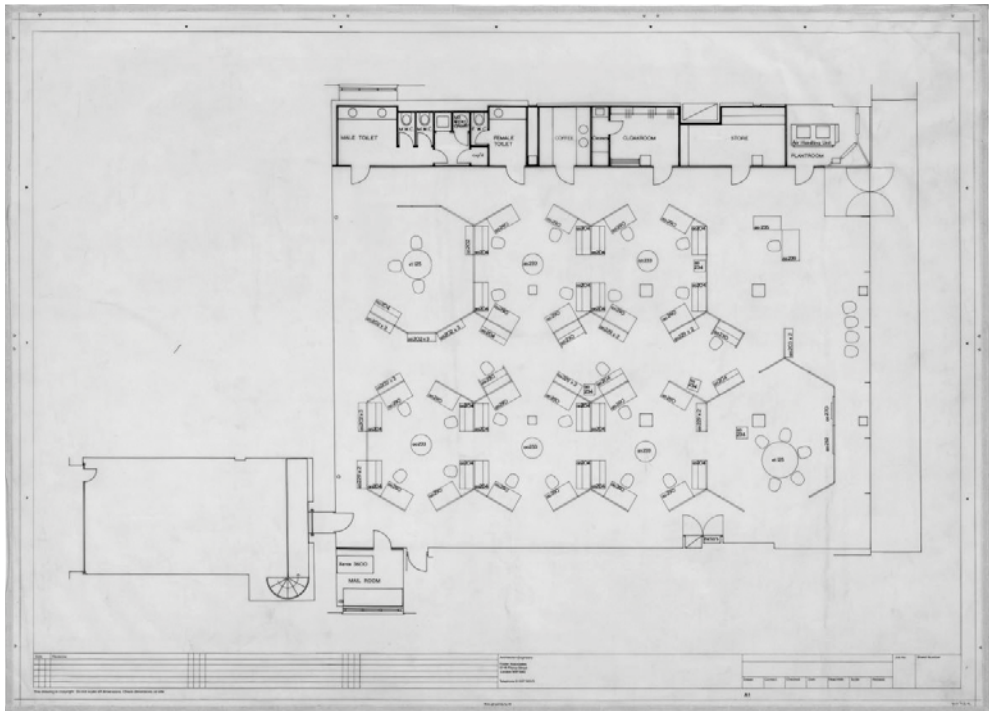
The media attention polarised by these archistars often masks an understanding of the professional bodies they founded, which, initially based on the model of the traditional studio, have become something very different over time: genuine creative businesses fostered by the iconic figure of the founder used for commercial purposes. It is clear that the traditional historiographic approach focused on the figure of the author-creator can only understand these professional environments



Foster Associates team on *The Architectural Design* cover, 1972.

to a limited extent (SAINT 1983; KOSTOF 2000). Alongside the analysis of biographies, projects and construction sites, the study of managerial strategies and company organisation models must be backed up by all that this entails: an in-depth analysis of the hierarchical structure; the sharing of responsibilities and authorship; the choice of specific projects that are highly remunerated; the active role of consultants and suppliers; the impact of the most up-to-date information technologies (BOLAND-COLLOPY 2004; CAYER 2016, 164). Although there is no lack of bibliographical sources dealing with the evolution of architectural practice in recent decades, they have rarely analysed the creative businesses led by archistars (DEAMER- BERNSTEIN 2010; CARPO 2011).

This paper seeks to offer a first contribution in this sense, examining a particularly interesting case study, that of Foster + Partners. First of all, we will see how the firm has grown over time, and how this growth was accompanied by the evolution of the organisational structure and a different distribution of design and management responsibilities. Some of the factors that facilitated this global expansion process will then be



Foster Associates,
Distribution plan of the
Fitzroy street office,
London, 1972.

highlighted: multidisciplinary tension; the marginalisation of traditional projects and a preference for the design of infrastructural works, industrial buildings and the headquarters of large companies; integration between the architectural studio and suppliers of materials and technological systems; the positioning of offices in the main geo-political hubs and the leverage ensured by financial capital. In conclusion, historiographical questions will be raised, linking them to the new characteristics that the traditional model of architect-demiurge assumes in these professional organisations.

A Growing Practice

Norman Foster is both one of the most recognised and acclaimed figures in the architectural star-system – winner of the Pritzker Prize and all the major honours that exalt the individualist nature of the profession – and the founder and Executive Chairman of one of the largest global design firms, Foster + Partners, which employs more than one thousand people in fourteen offices on five continents – London, Madrid, Dubai, Abu Dhabi, Bangkok, Singapore, Hong Kong, Shanghai, Shenzhen, Beijing, Sydney, Buenos Aires, San Francisco and New York – with a turnover of £272 million in 2020 (ING 2020). Foster was the first,



Inside view of the Fitzroy Street office, London, 1972.

and most successful, to attempt a synthesis between the narrative of a carefully constructed authorial profile and the collective and impersonal dynamics of a global professional association: he has succeeded in combining the appeal of a studio led by an archistar with the advanced industrial organisation of a generalist design firm (QUANTRILL 1999; McNEILL 2005; FOSTER 2010). However, in the first decades of his career Norman Foster was not interested in coordinating such a large and complex studio. Until the Nineties, his office had no more than fifty people, and he stated on several occasions that «thirty was the ideal number of people in a successful architectural studio» (SUDJIC 2010; POWELL 2006, 512). Investigating the Foster phenomenon – not in terms of his architectural choices, but rather his production and organisational strategies – will enable us to understand why, at a certain point, he was able to reorganise and excessively expand his company, creating a radically different role for the architect-demiurge than in the past. Norman Foster's professional career can be divided into three phases: the first decade, from 1967 to 1978; the twenty years between the Hongkong and Shanghai Bank competition (1979) and being awarded the Pritzker Prize (1999); and finally the last two decades. For each of these periods, a geography of assignments – England



Foster Associates team at the Fitzroy Street office, London, 1981.

in the first phase; Europe, Hong Kong and Japan in the second; and the five continents in the third – and an organisational model can be defined in a schematic but pertinent way: a company wholly controlled by Norman Foster in the first phase; a company controlled by Foster and a small number of minority Partners in the second; and finally a company independent of Foster's control and with a large number of Senior Partners, Partners and Associate Partners, with equity shares held (at least for a certain period) by investment funds. As we will see, as the number of people employed and the complexity of the organisational structure increased, both Norman Foster's managerial and more specifically creative responsibilities gradually reduced.

After studying at Manchester University's School of Architecture and City Planning and spending two years at the Yale School of Architecture on a scholarship, in 1964 Norman Foster returned to London, working in Team 4 (with Richard and Su Rogers) and then, in 1967, setting up Foster Associates with his wife Wendy Cheeseman (LAMBOT 1991). After a few years marked by a lack of work, in the early 1970s the firm began to acquire commissions, increasing its visibility which culminated with the design of the headquarters of the insurance company Willis Faber & Dumas in Ipswich (1972-1978), which received unanimous and widespread acclaim (FOSTER-POWELL 2012). Almost all the projects carried out by Foster Associates in its first decade were located in England, and the London office – first set up in Norman and Wendy Foster's flat in Hampstead, and from 1972 in Fitzroy Street – was joined for a few years by a small office



in Oslo which undertook specific projects for the Norwegian shipowner Fred Olsen, where no more than five or six people worked at the same time (JENKINS 2003, 559; HERNÁNDEZ 2020). In this period Foster Associates employed between thirty and fifty people on a permanent basis, and Norman Foster had strict control over the design output and management of the studio (SUDJIC 2006, 274). In the early seventies he appointed some of his earliest associates – Michael Hopkins, Birkin Haward and Loren Butt – as partners in the office. But in 1976 he bought back their shares and remained the sole partner until 1992 when, while remaining the majority partner, he decided to appoint Spencer de Grey, David Nelson, Ken Shuttleworth and Graham Philips as new minority partners (SUDJIC 2010, 266).

Winning the international competition for the Hongkong and Shanghai Bank in 1979, and the long design process that ended with the building's inauguration in 1986, brought about a sudden and radical change in the organisation of Foster Associates (DAVIES 1986; WILLIAMS 1989). In order to supervise such a complex construction site an office was opened in Hong Kong, managed by Spencer de Grey and Graham Phillips. The concept and initial design drawings were developed in London, but from 1983, when construction started, most of the team moved to Hong Kong where, by hiring local architects, the office grew to about 130 people, compared with the 35 employed in London at the same time (POWELL 2006, 515). Although the Hongkong and Shanghai Bank was by far the most prestigious, challenging and lucrative assignment in the office, Foster decided not to relocate

The Hong Kong team of Foster Associates just after the completion of the Hongkong and Shanghai Bank, Hong Kong, 1986.



Great Portland Street studio in the mid-Eighties, London.

to Hong Kong, instead making periodic trips there. He remained in London looking for other assignments that could secure the future of Foster Associates once the construction of the bank was complete, a decision that proved to be far-sighted (POWELL 2007, 529). While the number of staff in Hong Kong gradually reduced as the construction site neared completion, and the office was closed in December 1986, the London office – which in the meantime had relocated to a larger premises in Great Portland Street – had won major commissions such as Stansted Airport (1981-1991) and Carré d'Art in Nîmes (1984-1993).

The legacy of the Hongkong and Shanghai Bank was broad and long-lasting (SUDJIC 2006, 278-279). First, it transformed Foster from a talented London architect into one of the most famous architects on the global scene, giving rise to the internationalisation of his firm. While up until the 1979 competition almost all the projects and buildings built by Foster Associates were within the English borders, by the end of the 1980s around 90% of the commissions came from abroad (POWELL 2006, 518). In 1987 a new office was opened in Tokyo, run by Chris Seddon – one of the project managers of the Hong Kong office – and Andy Miller (POWELL 2006, 518). The Japanese office was active for a decade, and was responsible for some of Foster Associates' most important projects in the early Nineties, such as the Century Tower in Tokyo (1987-1991).

Moreover, the experience of the Hongkong and Shanghai Bank convinced Foster of the need to embark on a process of sharing the design and management

responsibilities. The complexity of the projects in which Foster Associates intended to compete was increasing and the assignments were located further and further away from London and England. It was clear that the organisational structure of the firm, closely centered around Norman Foster, was no longer sustainable. So in 1984 he asked Gordon Graham (1920-1997) to take on the role of director of Foster Associates, and put him in charge of the economic and financial management (FOSTER 1997).

Graham was an architect with long and consolidated experience, but more importantly he had been President of the Royal Institute of British Architects from 1977 to 1979, personally managing the organisational apparatus of two complex international competitions such as the new headquarters of Lloyd's of London and the Hongkong and Shanghai Bank – it was Graham who had included Foster Associates on the shortlist for the bank competition. He was well versed in legal and economic aspects as well as organisational procedures pertaining to large international architectural commissions – the field into which Foster Associates wished to expand.

In 1990 the London office moved to Battersea, where it remains today, and at the age of seventy Gordon Graham retired. The role of finance director was taken over by Graham Phillips who, after being one of the most important members of the Hong Kong group, had returned to London. Gordon Graham's legacy was that he finally convinced Norman Foster of the need to implement the firm's management structure. In 1991 Foster Associates was renamed Foster and Partners and, as mentioned, Norman Foster sold part of the shares in the firm to Spencer de Grey, David Nelson, Ken Shuttleworth and Graham Philips, who became minority partners. This sharing of the responsibilities and the organisation of a hierarchical structure that was more open to contributions from collaborators was reflected in the gradual growth of the firm. While in 1990 Foster Associates employed around 100 people, divided between the London and Tokyo offices, in 1995 the employees of Foster & Partners had grown to 250, distributed in offices located in six countries, with most of the workforce being based at the London office nonetheless.

The hierarchical structure of Foster and Partners in the Nineties was based on deep mutual knowledge and trust between Norman Foster and his Partners, who were all hired in the mid-1970s. The five partners all worked in the London office, and while Graham Philips handled

the financial management of the company, Spencer de Grey, David Nelson and Ken Shuttleworth supervised the day-to-day design activities. Each new commission was assigned to a project manager who led a work team under the supervision of one of the three partners, who instead were responsible for the major projects: for instance Spencer de Grey directed the Great Court project at the British Museum (1994-2000), David Nelson the reconfiguration of the Reichstag in Berlin (1992-1999) and Ken Shuttleworth the new London City Hall (1998-2002) (QUANTRILL 1999, 57-58). Norman Foster's role was general coordinator, like the conductor of an orchestra; he could decide to get involved in a project he found particularly interesting, or develop the concept for a new assignment which he then delegated to a Partner or project manager. In any case, frequent meetings between Foster and his Partners ensured there was widespread knowledge of what was happening in the various offices, establishing a clear and shared line of direction and coordination.

The effectiveness of this management model was ensured by the relatively small number of people employed – 250, as mentioned, with almost all of them working in the London office – as well as the fact that Foster and his partners worked closely together in the same office, and the relatively small number of assignments which allowed the management team to oversee the design aspects of the project on a daily basis. This organisational structure, and the quality of the projects developed by Foster and Partners in the Nineties, earned Norman Foster the most important personal honours, such as the Pritzker Prize in 1999 and the Praemium Imperiale in 2002.

In the years that followed, however, the firm was renamed Foster + Partners and by 2008 it had 1250 people working in 20 offices around the world – Abu Dhabi, Berlin, Boston, Buenos Aires, Copenhagen, Dubai, Dublin, Edinburgh, Geneva, Hong Kong, Houston, Istanbul, Kuala Lumpur, London, Madrid, Milan, New York, Beijing, St. Petersburg and Zurich – with a portfolio of projects in 62 countries (FOSTER+PARTNERS 2008, 326).

Why overturn an organisational model like the one developed in the 1990s which had proven to be efficient and capable of guaranteeing Foster and his firm commercial success and critical acclaim?

First and foremost, Foster expressed the desire to create a firm that could continue to be successful after his death, which was not guaranteed by the previous organisation modelled around him and a few partners whose careers had developed alongside his. A few years



later he declared that «the office can continue without me... I've created something that doesn't need me to be there. That's my legacy» (FOSTER 2010, 117). The second reason was to create a truly transnational organisation that could take advantage of the opening of new and huge markets – particularly in Asia after China became a member of the World Trade Organisation on 11 December 2001. This required further expansion of the hierarchical and decision-making organization chart, and the injection of new capital to invest in this global growth process. To achieve these objectives it was necessary to create a studio that could count on a wide range of skills that went well beyond mere architectural design. As a result the vast and integrated range of services on offer to clients made Foster + Partners reliable when it came to the assignment of complex commissions that brought in much higher remuneration than traditional ones – and in this sense the awarding and successful completion of the first phase of the new Chek Lap Kok airport in Hong Kong (1992-1998) proved that the firm could aspire to such jobs. Steady growth in the number of people employed – 250 in 1995, 600 in 2004, 1250 in 2008 – was accompanied by the creation of a structured and complex partnership, establishing the management structure of the design firm that is still operational today.

Foster + Partners team
at the Riverside studio,
London, 2004.

The transformation occurred in two phases: in 2003 Foster appointed new management, expanded and differentiated the base of Partners and Associate Architects, and divided the staff of the London office into six parallel and independent design groups; while in 2007 the London-based investment fund 3i acquired a minority stake in the firm, bringing substantial capital and financial expertise that accelerated the company's global growth (FIORI ARANTES 2019, 38-41).

The 2008 publication of a catalogue of Foster + Partners' work, with detailed descriptions of the new organisational structure, makes it possible to analyse this growth process. First of all, the increase in the number of offices from six to twenty, and their strategic location in the fastest growing markets – Abu Dhabi, Dubai, Kuala Lumpur, Beijing – and in cities where the circulation of economic and financial capital is concentrated, such as Hong Kong, New York, Geneva and Zurich (KNOX-TAYLOR 2005). While these satellite offices continued to be structured in a rather conventional way, with a few dozen employees led by one or a few partners, the London office experienced exponential growth in the number of staff and was significantly altered. The new Chief Executive Mouzhan Majidi reported how «we expanded the company's ownership to include nine senior partners, increasing the number of shareholders from four to fourteen, and later the same year we welcomed another thirty-three partners as shareholders» (MAJIDI 2008, 327). Two of Foster + Partners' long-standing collaborators, Spencer de Grey and David Nelson, became Senior Executives, while new Senior Partners were appointed to head up the six new project teams: six independent offices, headed by Grant Brooker, David Summerfield, Mouzhan Majidi himself, later Luke Fox, Stefan Behling, Gerard Evenden and Nigel Dancey, each of which had over 200 people, divided among Partners, Associate Partners, Associate Architects and simple architects (FOSTER+PARTNERS 2008, 328-338). Despite the rotation and change of personnel in management roles, these six groups are still operational and form the backbone of Foster + Partners' London office.

Contrary to what one might imagine, the six firms have not been organised around areas of specialisation. On the contrary, each of them can take on assignments at any project scale, from product design to urban masterplanning, in any location in the world. In addition to ensuring better organisation and coordination of the

workforce, the division into six groups also triggers latent internal competition – so it is essential that each of them can work on the same projects and compete for the same assignments, without pre-assigned areas of specialisation. Unlike traditional architectural firms, organised to develop a concept, the large number means that a multitude of design solutions can be developed for each assignment, and the one that best meets the client's needs can be chosen later, combining solutions and ideas from the different working groups (YANEVA 2009; VILLA 2016, 22-23). The new organisational structure of Foster + Partners has facilitated the shift from a design methodology not so far removed from that developed in a Renaissance workshop or the studios of twentieth century masters, to an advanced industrial dynamic. It is no coincidence that the London office, open 24 hours a day 365 days a year, is capable of producing «an incredible number of fully-developed project options, 50 on average for each commission» (FOSTER 2010, 117). To assess the output capacity of Foster + Partners once the new organisational structure had been implemented, consider that from 2000 to 2010 the office developed almost 60,000 project proposals, which is around 16 per day (FOSTER 2010, 117). To ensure the supervision of this workflow a Design Board was established, made up of Norman Foster, the firm's long-standing staff and talented young architects promoted to management positions over that time (FOSTER+PARTNERS 2008, 344). The Design Board could review projects in progress, focus on someone of particular interest or sensibility, and contribute ideas. Finally, to complement the six working groups, a series of more agile, highly specialised teams were created to provide specialist expertise: Business Development; Communications; Construction Review; Design Communication; Design Systems; Information Centre/MRC; Information Systems; Management; Model Shop; Product Design; Specialist Modelling; Sustainability Research; Urban Design; Visualisation; Workplace Consultancy (FOSTER+PARTNERS 2008, 340-343; SUDJIC 2014, 550).

What was Foster's role in this new organisation? While up until the early 2000s he continued to exercise undisputed dominus from a design, organisational and corporate perspective (being the majority partner), in the new organisational and corporate structure he acts above all as a media ambassador, promoting the firm's image throughout the world, having considerably reduced his involvement in day-to-day design activities (SUDJIC 2014,

554; FIORI ARANTES 2019, 201-203). In this sense, the two press releases of 11 May 2007 and 30 June 2014, in which the London-based private equity fund 3i announced its entry as a shareholder in Foster + Partners, are revealing. It was Foster himself who sold 85% of his shareholding (corresponding to approximately 40% of the company's capital) to the 3i fund – whose portfolio contained a wide range of companies in the medical, IT, mechanical sectors as well as others – for the amount of £350 million (FIORI ARANTES 2019, 41).

Why did Foster himself go searching for a private equity fund among companies in the City of London to propose the acquisition of a minority stake in the company? First of all to inject capital to be invested in new hires, the acquisition of IT tools and the opening of new offices; but, above all, to acquire the management and financial governance knowledge needed to transform an architectural studio into a global design firm (FOSTER 2010, 130).

The 3i fund would have helped Foster + Partners to «broaden and diversify the ownership of the firm», transforming a company that until then had been in the hands of a few individuals – Norman Foster and his historical Partners – into a «shareholder long-term partnership», i.e. a company in which shareholdings were divided among a growing number of individuals, with a significant portion available to new future investors (FOSTER+PARTNERS 2007). The investment fund supported Foster + Partners in identifying «new markets for large scale infrastructure projects», with the priority objectives of creating specific «engineering and project management» departments and supporting and training the new management (FOSTER+PARTNERS 2007).

The 3i fund decided to invest in Foster + Partners not only due to the design capacity demonstrated over the decades and the portfolio of work in progress, but above all because «the value of the company is directly linked to Lord Foster, the use of his name and his ongoing presence», and as «as part of this transaction he has therefore agreed to assign his personal 'Foster' trademark to Foster + Partners» (FOSTER+PARTNERS 2007). What was defined as the «Foster brand» was therefore the decisive element in convincing the private equity fund to invest in Foster + Partners, and the basis on which it intended to increase the turnover.

Freed from management and design-based tasks, Foster was given the role of promoting the company's image, embodying its values and striving for excellence, granting interviews and participating in meetings with potential

clients, administrators and politicians – a role not dissimilar to the one Steve Jobs held at Apple, or held by the creative directors of the major fashion houses (SUDJIC 2014, 554). Having crossed the numerical, geographical and economic threshold that divides an architecture studio from a creative business, the latter also needs to structure itself as a subject engaged in political and financial dialogue. As Foster + Partners aims to obtain more and more commissions in strategic sectors such as logistics and aerospace, Norman Foster's reputation and charisma are essential values in promoting the firm's image to public administrations and the boards of directors of private companies.

The strategy implemented by the 3i fund paid immediate dividends as in 2008 Foster + Partners saw its turnover grow to £191 million, up 25% on the previous year (FIORARANTES 2019, 41).

Having achieved its financial and corporate reorganisation objectives, in 2014 the 3i fund sold its stake in Foster + Partners, almost doubling the investment made in 2007, and announcing that, in addition to increasing the turnover, «during this time, Foster + Partners core architecture offering has been enhanced by the addition of an environmental consultancy practice, the expansion of its engineering business, and the launch of its interior design business» (3i 2014). The transition from architecture firm to global creative business – with a stable spot in the annual rankings of the world's richest design firms – could be considered complete. The organisation is now capable of covering all project scales, from furniture design to architectural and urban planning, environmental design, engineering, aerospace and infrastructure. The 3i investment fund and Norman Foster proudly announced how Foster + Partners had become an «unrivalled global brand in its sector» (3i 2014).

Challenging the Borders

So far we have analysed how the firm led by Norman Foster transformed over time and the organisational and corporate structures it assumed. Now we shall attempt to understand *why* at a certain point – from the early Nineties – his practice was in the best conditions to undertake the global expansion of its activities and profits. Or rather, why his practice demonstrated the design and management skills that were attractive to large public and private clients, capable of shifting the huge amounts of capital needed to encourage growth (GUTMAN 1996, 17-21). It sounds trite to say it, but in order to organise a design

company capable of employing thousands of people, with offices in most important cities of the world, it is first necessary to generate enormous profits on a constant and regular basis. Therefore, these design firms are required to go beyond the meagre selection of commissions typical of architectural studios – accepting only what is most congenial to the interests of the archistar or the studio's profile – but they necessarily have to attract commissions capable of generating huge revenues – in the logistics and airport sectors, large infrastructures, skyscrapers, production plants and the headquarters of transnational commercial companies – marginalising projects that traditionally monopolised the architect's work, such as private residences and the headquarters of religious, political and cultural power. This process was already evident in US design firms in the Thirties which were the first to experiment with large numbers of employees and increase the number of offices: while the success of Albert Kahn & Associates was in fact closely linked to the largest automobile industry of the time, Ford, SOM owes its early success to government contracts linked to the military sector (ZIMMERMAN 2017; ADAMS 2006, 23-24). Public contracts for infrastructural and logistical works, the design of headquarters and factories for large-scale industry, and financial and telecommunications companies therefore represent the privileged field of work for architectural studios that aspire to become global creative businesses. Moreover, it can be observed how, in the second half of the twentieth century, an increasingly transnational and financial clientele encouraged the creation of organisations of similar design companies (GUTMAN 1996, 58). And while up until the Eighties such commissions were the prerogative of generalist design firms, media coverage of the phenomenon of archistars has made it more economically advantageous to use them in recent decades. It has been demonstrated that residential complexes designed by one of the big names in the architectural jet-set guarantee the client a market value around 30% higher than that of a generic firm (PONZINI 2014, 15). Foster Associates – and other firms such as Richard Rogers & Partners or the Renzo Piano Building Workshop – were the first architectural firms to break down the barrier between studios «focused on public commissions – housing, schools, universities and cultural buildings» and generalist design firms that «serviced industry and commerce» (POWELL 2007, 526).



Norman Foster first accepted and then skilfully exploited the conditions offered by the emerging global market, progressively transforming his local architectural studio into a global creative business.

Why was he able to embark on this path earlier and better than many others?

Leaving aside questions of authorship for a moment, one of the reasons lies in the fact that from the outset he did not set up a traditional architectural studio but rather a multidisciplinary studio, successfully concentrating on the design of logistical hubs and the headquarters of technology companies.

Despite the extreme shortage of work, between 1967 and 1970 Foster put together a team with a wide variety of expertise – and this immediately distinguished him from traditional studios which only employed architects and draftsmen. Looking through the records of Foster Associates, early hires included the structural engineer Tony Hunt, plant engineer Loren Butt, cost control manager John Walker, and two artistically trained interior designers Martin Francis and David Nelson (SUDJIC 2010, 116-117), with Loren Butt even being identified as one of the office's first Partners.

Foster has always emphasised how decisive the years he spent in the United States were, not only on account of his training at the Yale School of Architecture under Paul Rudolph, but above all due to his direct observation

Buckminster Fuller,
Michael Hopkins, Tony
Hunt, John Walker,
Norman Foster,
James Meller meeting
at Bedford Street studio,
London, 1971.

of the American professional context of the time, from Roche Dinkerloo to SOM (SUBJIC 2010, 91). The fact that the two engineers Fazlur Khan and Myron Goldsmith held leading roles (managerial and design) in the complex organisation of SOM undoubtedly struck the young architect, for whom close integration between architectural definition, load-bearing structures and installed systems was to become a characteristic feature (POWELL 2006, 521). Moreover, Foster's most significant design experience in the Sixties, together with his wife and Richard and Su Rogers, was the design of the Reliance Controls industrial plant in Swindon (1967), where such an integrated approach proved to be the best way to respond to a complex functional programme and extremely tight construction and delivery schedules. He founded Foster Associates immediately after the successful completion of the Swindon plant, and organised the structure of the fledgling office on the basis of this multidisciplinary approach. Moreover, his experience in the United States guided him not only towards the traditional projects that an architectural studio was used to dealing with – residences, schools, university and cultural buildings – but also towards commissions usually reserved for commercial firms, such as buildings for industry and commerce (POWELL 2007, 526). It is no coincidence that Foster Associates' first clients, between 1968 and 1971, were the shipowner Fred Olsen and IBM, for whom the London office designed the Passenger Terminal and Amenity Centre at the London Docks (1968-1970) and the Pilot Headquarters in Cosham (1971) respectively, while Foster Associates' first notable building was the headquarters of the insurance company Willis Faber & Dumas in Ipswich.

These successful design projects – and the high degree of spatial, structural, plant engineering and interior design innovation that his office's wide-ranging expertise enabled him to demonstrate – convinced the President of RIBA, Gordon Graham, to include Foster Associates on the shortlist of firms that could respond to the request for proposals launched in July 1979 by the Hongkong and Shanghai Bank for the design of its new headquarters in Hong Kong.

Since its foundation in 1865, the Hongkong and Shanghai Bank had looked after and facilitated the interests of major British companies, acting as one of the most significant hubs in relations between London, China and other South-East Asian countries (KING 1987). In view of the return of the colony of Hong Kong to China, in the



Eighties the bank stepped up its internationalisation process, in particular by reconnecting with the financial centre of London, where the central headquarters of HSBC Holding moved to in 1991. In this context of geo-political relations, the bank's board decided to entrust the RIBA of London with organising the competition for the Hong Kong headquarters, and perhaps also the decision to award the project to a young and talented British architect like Foster, and not to more solid US and

Foster Associates,
Hongkong and Shanghai
Bank Headquarters,
Hong Kong, 1986.



Australian competitors like SOM and Yuncken Freeman. As is known, winning the 1979 competition and the construction of the Hongkong and Shanghai Bank was the turning point in Norman Foster's career, not only for the quality of the building and the vast media coverage it generated, but also – and this is what is most interesting here – for the ability he demonstrated to conceive of an innovative managerial structure to support and integrate the many design and technological aspects (CAMPIONI 1993, 67-80; MATSUSHIMA 2003).

Up until then Foster had no experience of designing skyscrapers and had never constructed a building outside of England. The imposing Hongkong and Shanghai Bank headquarters also had to be built in a colony like Hong Kong, which had no heavy industry. Each part of the building had to be imported and erected in a relatively short time: the project was approved in January 1981, and the client required the building to be delivered by November 1985.

Foster responded to these imperatives by taking charge of the entire operation, and integrating industry-specific expertise and knowledge into the design process. The coordination of construction sites of this level of complexity was usually entrusted to a general contractor, who acted as the main contact for the client. The architectural firm would provide the general contractor with the design documents, and the latter would be responsible for recruiting and coordinating all



the various sub-contractors and suppliers of materials and building systems. In this case, however, the lead and coordination role was taken by Foster Associates, which on the one hand integrated the contributions of structural engineers (Ove Arup & Partners) and plant engineers (Roger Preston & Partners), and on the other, with the backing of the client, it hired a Management Contractor (John Lock & Partners and George Wimpey International) to coordinate and draw up the contractual documentation.

The team of architects, engineers and managers led by Foster Associates produced the documentation needed to identify and negotiate with the various industries, construction companies and suppliers of technology and materials. These procedures were handled by Foster Associates, and not the general contractor. The preliminary design was limited to the definition of the performance requirements for the approximately one hundred and ten sub-systems of the building – for example: the load-bearing structure, infill walls, stairs and lifts, service modules, internal panelling, etc. – they had to ensure, not only avoiding defining materials and techniques, but rather asking manufacturers and suppliers to put forward proposals based on their know-how and experience (CAMPIONI 1993, 70-72). This enabled Foster Associates to pass on significant parts of the final and detailed design, giving consultants and industry a maieutic role. This was the innovative working method that he tended to

Foster + Partners studio
at Riverside, London,
2016.

replicate at this scale, wherever possible, also in the large construction sites of the following decades (SUBJIC 1986, 75). For each part of the construction, Foster Associates selected the industry that provided not so much the most advantageous economic conditions but rather the technological solutions most suited to the desired performance, often engaging in a joint design process with these industries to develop components that were shipped by sea and installed at the Hong Kong site. The final and detailed design was no longer conceived as the exclusive domain of the project team, rather it was understood as a shared platform where the knowledge of architects and engineers had to mix and collaborate with the specific knowledge of the industry and suppliers (MATSUSHIMA 2003).

The success of this innovative Construction Product Delivery System, and the successful completion of the Hong Kong site, enabled Foster to gain respect in the eyes of large public and private clients not only as a talented architect, but also as an efficient 'manager' of complex operations. In just four years, he (and his office) was capable to complete a large-scale building, constructed on time and on budget, in a city-state with delicate political, economic and manufacturing conditions, by creating and managing a multi-skilled design team and agreeing to integrate industry and suppliers into the design process.

Beyond the design choices and the technological and organisational challenges involved in the construction of the Hongkong and Shanghai Bank (and the media celebrity it earned Foster), this was a decisive turning point for the English architect and his firm as it gave him access to the enormous and profitable Chinese market – through the privileged gateway of Hong Kong – much earlier than other archistars. We need only recall that Rogers Stirk Harbour + Partners obtained its first commission in China in 2009 (the Gateway residential tower in Nigbo), while the Renzo Piano Building Workshop only got its first commission in 2013 (JNBY Headquarters in Hangzhou) and Zaha Hadid Architects the following year (Daxing International Airport in Beijing).

Having had an office in Hong Kong throughout the years of the bank's construction also allowed Norman Foster to establish relationships with political bodies and economic players in the British colony. In view of China's re-absorption of Hong Kong, the colony's political and business classes was interested in strengthening

its ties with London, and Foster and his office took advantage of this relationship context, winning two strategic and highly remunerative commissions a few years later: the new airport terminal and the Hong Kong Air Cargo Terminal (1992-1998). It is no coincidence that most of the projects Foster + Partners was assigned thereafter in China always relate to the banking and finance sector – such as the Citic Bank Headquarters in Hangzhou (2009-2017) or the tower for the Jiushi investment company (1995-2001) and the Bund Finance Center both in Shanghai (2010-2017), to give a few examples. The Hongkong and Shanghai Bank assignment allowed Foster to forge ties with the management of one of the world's largest investment banks, crediting his name in the financial centre of the City of London, where HSBC Holding was listed in 1991. These relationships would prove decisive, as we have seen, for the growth of Foster + Partners, also due to the investment of the 3i Private Equity fund in 2007.

Conclusions

One of the most significant aspects that can be understood from the analysis of Foster + Partners is the extent to which the process of growth from a studio to a global creative business was necessarily connected to the transfer of significant portions of design authorship and managerial and organizational coordination. This must occur both within a firm – involving structural and plant engineers, experts in bioclimatic solutions, interior designers, cost control managers, and so on, from the earliest design phases – and externally, integrating specific knowledge of the industry and suppliers of materials and technologies in the detailed definition and construction phase (ANSTEY-GRILLNER-HUGHES 2007; ORTEGA 2017). In fact, it can be said that this process of transferring authorship – relinquishing the role of artist-creator and demiurge that has characterised the architectural profession since the time of Filippo Brunelleschi and Leon Battista Alberti – is one of the fundamental requirements for aspiring to work on the complex commissions that are necessary to increase the size and turnover of design companies (TOMBESI 1999; CARPO 2011; TOMBESI 2012). It is precisely this redefinition of the role and tasks of the architect that, more than other factors, seems to have held back other archistars who at the end of the Eighties and in the Nineties seemed set to pursue the path taken by Norman Foster. A comparison can be made with Renzo Piano, for

example. Like Foster, the Genoese architect trained between London and the United States in the early Sixties, seeking close integration between architectural definition, structural design and plant engineering (CICCARELLI 2017). Like Foster, Piano's early years were also studded with projects for manufacturing plants and commercial premises, and the complex design and construction site of the Centre Pompidou (1971-1977) is in some ways comparable to that of the Hongkong and Shanghai Bank. In the late Eighties and early Nineties, the Renzo Piano Building Workshop was also awarded the project to design two complex works such as the Kansai airport in Osaka (1988-1994) and the reconstruction of the Potsdamer Platz area in Berlin (1992-2000), which were successfully completed. The firm therefore had a multidisciplinary approach and all the organisational skills to aspire to global growth. However, unlike Norman Foster, Renzo Piano never agreed to relinquish the strict design control he exercises over all the assignments passing through the Genoa and Paris offices. This choice meant he had to limit the number of people he employed, which has never exceeded one hundred and fifty (CICCARELLI 2021). In recent years, Anglo-Saxon historiography has conducted many studies of how the integration of new information technologies – BIM in particular – and access to cloud computing and big data are changing the nature of the profession, in both methodological terms and as regards the reorganisation of roles within the construction sector, overturning the authorship style that has traditionally informed architectural design in past decades and centuries (SCHARPHIE 2014; CARPO 2017; BERNSTEIN 2020). New IT tools and the rapidity and ubiquity of exchanges facilitated by the Internet have certainly fostered and accelerated the industrialisation and globalisation of architectural firms, but the analysis of Foster + Partners seems to indicate that they should not be interpreted as the causes of this process. For example, close integration between project development and construction phases, openness to multiple and simultaneous disciplinary approaches, and careful control of the performances of the various systems and elements of the construction facilitated through use of the BIM platform had already been accomplished – by different means, but with the same aims – by Foster and his collaborators in the Hongkong and Shanghai Bank. The so-called second IT revolution is certainly creating new professionals, such as BIM Managers, who are set

to play a leading role in design companies in the years ahead. However, at present, they do not seem to disrupt the multidisciplinary design and shared authorship context that we have observed in the professional path of Foster + Partners, and that already existed in generalist American design firms after World War II (MARTIN 2003). The study of the impact that the computer revolution has had and is having on the construction sector can be a useful tool for analysing the methodologies and organisation of contemporary design firms, but it certainly cannot be the prevailing investigative tool. Broader geo-political, economic and authorial-organisational considerations have given rise to and guided the transition from studio to creative business in the case of Foster + Partners, and we can assume that the same is happening at Zaha Hadid Architects. In this regard, at the end of 2014 Mouzhan Majidi moved from Foster + Partners – where he had worked for 27 years and was Chief Executive for 7 – to Zaha Hadid Architects with the declared aim of implementing the same process of financial transformation and global growth that characterised Foster + Partners in the early 2000s (MAJIDI 2014). This process is actually taking place, despite the traumatic death of Zaha Hadid in 2016. This raises interesting historiographical questions. While in the case of archistars who lead small firms and still have a strong design role, as in the case of Renzo Piano and the Renzo Piano Building Workshop, the approach focused on the biography and works of the architect-demiurge may still be valid, it can only partially penetrate the complex nature of archistars who instead manage vast and complex industrial organisations. In these cases, scrutinizing the biography of the founder – with their creative references, encounters, relationships with clients, etc. – and analysing individual works allows us to understand only part of the story. In addition, the company organisation, management strategies, the influence that investment funds exert over certain choices being made and not others, the location of the offices, etc., must also be studied. The methodologies of business history must therefore complement those of the history of art and architecture. Despite the confidentiality clauses that often limit the consultation and analysis of this documentation by historians, it will be increasingly important to be able to access the economic and financial documentation of these design companies and to study the clauses of the contracts that regulate, for example, how the image of the archistar can be used by the client.

References

- 3i to Make a 1,8x Return of the Sale of Its Minority Stake in Foster + Partners, 30 June 2014, Last modified March 15, 2021. <https://www.3i.com/media-centre/corporate-and-portfolio-news/2014/3i-to-make-a-18x-return-on-the-sale-of-its-minority-stake-in-foster-plus-partners/>
- N. ADAMS, *Skidmore, Owings & Merrill. SOM dal 1936*, Milan, 2006.
- G. AGAMBEN, *Creazione e anarchia. L'opera d'arte nell'età della religione capitalistica*, Vicenza, 2017.
- Architecture and Authorship*, ed. by T. ANSTEY-K. GRILLNER-R. HUGHES, London, 2007.
- P. BERNSTEIN, *Architecture Design Data. Practice Competency in the Era of Computation*, Basel, 2020.
- R. BOLAND- F. COLLOPY, *Managing as Designing*, Redwood City, 2004.
- A. CAMPIOLI, *Il contesto del progetto. Il costruire contemporaneo tra sperimentalismo high-tech e diffusione delle tecnologie industriali*, Milan, 1993.
- M. CARPO, *The Alphabet and the Algorithm*, Cambridge (MA), 2011.
- M. CARPO, *The Second Digital Turn. Design Beyond Intelligence*, Cambridge (MA), 2017.
- A. CAYER, *Centering Organization*, in *Asymmetric Labors: The Economy of Architecture in Theory and Practice*, ed. by A. CAYER -P. DEAMER -S. KORSH-E. PETERSON -M. SHVARTZBERG, Brooklyn, 2016, pp. 162-165.
- L. CICCARELLI, *Renzo Piano Before Renzo Piano. Masters and Beginnings*, Macerata, 2017.
- L. CICCARELLI, *Un architetto e il suo studio: Renzo Piano (e) Building Workshop*, in *Materia, Prodotto, Dato. Il valore dell'informazione nelle architetture del Renzo Piano Building Workshop*, ed. by S. RUSSO ERMOLLI-G. GALLUCCIO, Santarcangelo di Romagna, 2021, pp. 161-166.
- C. DAVIES, *Building the Bank*, in «The Architectural Review», 1986, 1070, pp. 82-107.
- Building (in) the Future. Recasting Labor in Architecture*, ed by P. DEAMER -P. BERNSTEIN, New York, 2010.
- Architecture and Capitalism: 1845 to the Present*, ed. by P. DEAMER, London, 2014.
- P. DEAMER, *Architecture and Labor*, London, 2020.
- S. ERLANGER, *Grieving and Going Forward. How Zaha Hadid's Firm Plans to Move On*, in «The New York Times», 20 April 2016.
- D. T. FERRANDO -L. SILENZI, *Dal postmodern al post-mortem: il lavoro dell'architettura nell'epoca dell'irriproducibilità corporea dell'autore*, in *Backstage. L'architettura come lavoro concreto*, ed. by F. ANDREOLA-M. SULLAM-R. VILLA, Milan, 2016, pp. 61-73.
- P. FIORI ARANTES, *The Rent of Form. Architecture and Labor in the Digital Age*, Minneapolis, 2019.
- N. FOSTER, *Foster tribute to Graham*, in «Building Design», 26 September 1997, p. 10.
- N. FOSTER, *Foster + Partners' Production and Financial Structure*, in *Being Norman Foster*, Special Issue of «Abitare», 2010, 597, pp. 125-130.
- N. FOSTER, *Vocation: Style vs. Philosophy*, in *Being Norman Foster*, Special Issue of «Abitare», 2010, 597, pp. 116-117.
- N. FOSTER-K. POWELL, *Willis Faber & Dumas*, Munich, 2012.
- Foster + Partners Announces Plans for Its Future*, 11 May 2007, Last modified March 15, 2021. <https://www.3i.com/media-centre/corporate-and-portfolio-news/2007/foster-plus-partners-announces-plans-for-its-future/>
- Foster + Partners. Catalogue*, Munich, 2008.
- R. GUTMAN, *Architectural Practice. A Critical View*, New York, 1996.
- G. HERNÁNDEZ, *From Domestic Setting to Display Space: The Evolution of the Foster Associates' Work Spaces and Methodology*, in «Les Cahiers de la recherche architecturale urbaine et paysagère», 2020, 9-10, pp. 690-756.
- E. HOPKIRK, *Profit Rises at Zaha Hadid Architects as Firm Warns of Brexit Impact on Recruiting Staff*, Last Modified March 15, 2021. <https://www.building.co.uk/news/profit-rises-at-zaha-hadid-architects-as-firm-warns-of-brexit-impact-on-recruiting-staff/5097791.article>
- W. ING, *ZHA Posts Record Turnover but Revenues Plummed Outside Asia*, in «The Architects' Journal», 2 April 2020.
- W. ING, *Richard Rogers Leaves RSHP*, in «THE Architects' Journal», 2 September 2020.
- W. ING, *Foster + Partners' Headcount Increases as Revenues Soars*, in «The Architects' Journal», 1 October 2020.
- Norman Foster: Works 1*, ed. by D. JENKINS, Munich 2003.

- F. KING, *The History of the Hongkong and Shanghai Banking Corporation*, Cambridge, 1987.
- J. KIPNIS, *Una Conversación con Jacques Herzog*, in «EL Croquis», 1997, 84, pp. 7-21.
- P. KNOX-P. TAYLOR, *Toward a Geography of the Globalization of Architecture Office Networks*, in «Journal of Architectural Education», 2005, 3, pp. 23-32.
- The Architect. Chapters in the History of the Profession*, ed. by S. KOSTOF, Berkeley, 2000.
- Norman Foster. Building and Projects 1, 1964-1973*, ed. by I. LAMBOT, Pewsey, 1991.
- M. MAJIDI, *The Practice*, in *Foster + Partners. Catalogue*, München, 2008, pp. 326-327.
- Mouzhan Majidi to Join Zaha Hadid Architects*, 19 November 2014, Last modified March 17, 2021. <https://www.zaha-hadid.com/2014/11/19/mouzhan-majidi-to-join-zaha-hadid-architects/>
- R. MARTIN, *The Organizational Complex. Architecture, Media and Corporate Space*, Cambridge (MA), 2003.
- S. MATSUSHIMA, *The Hongkong and Shanghai Bank*, Master Thesis, Harvard Design School, 2003.
- D. McNEILL, *In Search of the Global Architect: The Case of Norman Foster (and Partners)*, in «International Journal of Urban and Regional Research», 2005, 3, pp. 501-515.
- L. ORTEGA, *Authorship in Architecture in the Post-Digital Age*, New York & Barcelona, 2017.
- D. PONZINI, *The Value of Starchitecture: Commodification of Architectural Design in Contemporary Cities*, in «Organizational Aesthetics», 2014, 1, pp. 10-18.
- K. POWELL, *Foster After the Bank*, in *Norman Foster: Works 2*, ed. by D. JENKINS, München, 2006, pp. 512-521.
- K. POWELL, *Forty Years On*, in *Norman Foster: Works 3*, ed. by D. JENKINS, München, 2007, pp. 524-535.
- M. QUANTRILL, *The Norman Foster Studio: Consistency Through Diversity*, London, 1999.
- A. SAINT, *The Image of the Architect*, New Haven & London, 1983.
- M. SCHARPHIE, *Emerging Modes of Architectural Practice*, Boston, 2014.
- D. SUDJIC, *New Directions in British Architecture. Norman Foster, Richard Rogers, James Stirling*, London, 1986.
- D. SUDJIC, *Foster Mark Three*, in *Norman Foster: Works 2*, ed. by D. JENKINS, München 2006, pp. 272-281.
- D. SUDJIC, *Norman Foster. A Life in Architecture*, London, 2010.
- D. SUDJIC, *Foster in Future*, in *Norman Foster: Works 6*, ed. by D. JENKINS, München, 2014, pp. 550-561.
- P. TOMBESI, *The Carriage in the Needle: Building Design and Flexible Specialization Systems*, in «Journal of Architectural Education», 1999, 3, pp. 134-142.
- P. TOMBESI, *Prometheus Unchained: The Multiple Itineraries of Contemporary Professional Freedom*, in *The SAGE Handbook of Architectural Theory*, ed. by C. GREIG-CRYSLER-S. CAIRNS-H. HEYNEN, London, 2012, pp. 393-409.
- R. VILLA, *L'architetto e la fabbrica*, in *Backstage. L'architettura come lavoro concreto*, ed. by F. ANDREOLA-M. SULLAM-R. VILLA, Milan, 2016, pp. 17-28.
- S. WILLIAMS, *Hongkong Bank: The Building of Norman Foster's Masterpiece*, London, 1989.
- A. YANEVA, *Made by the Office for Metropolitan Architecture: An Ethnography of Design*, Rotterdam, 2009.
- C. ZIMMERMAN, *Albert Kahn in the Second Industrial Revolution*, in «AA Files», 2017, 75, pp. 28-44.

Acknowledgements

I would like to thank Katy Harris (Foster + Partners, London) and Alicia Valdivieso Rojo (Norman Foster Foundation Archives, Madrid), and the distinguished colleagues - Mario Bevilacqua, Luis Fernández-Galiano and Deyan Sudjic - who read this paper, providing useful remarks and suggestions.