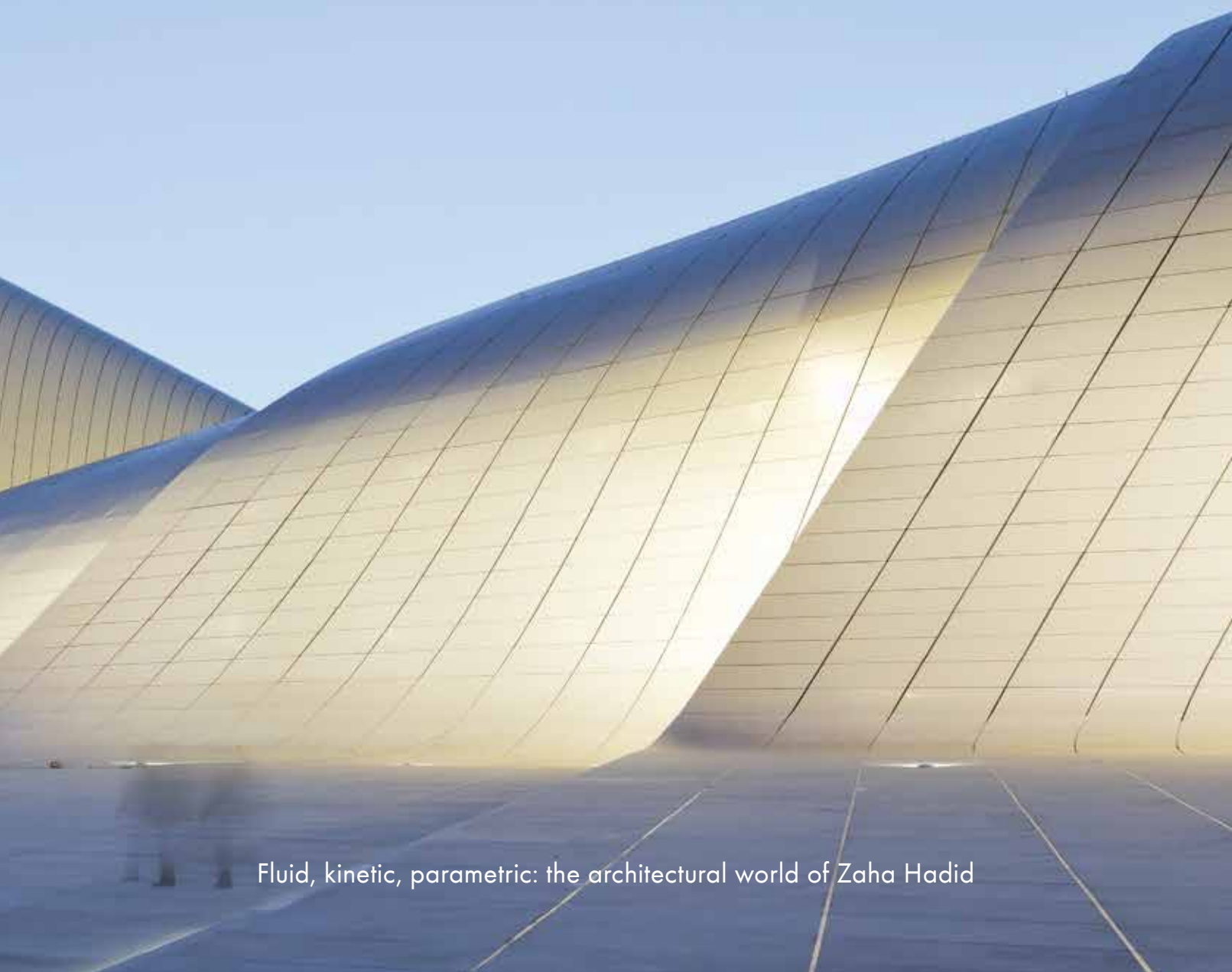




CONSERVATION AND CREATION ZAHA HADID ARCHITECTS



Fluid, kinetic, parametric: the architectural world of Zaha Hadid



„I DON'T THINK THAT ARCHITECTURE IS ONLY ABOUT SHELTER,
IS ONLY ABOUT A VERY SIMPLE ENCLOSURE. IT SHOULD BE ABLE
TO EXCITE YOU, TO CALM YOU, TO MAKE YOU THINK.“

ZAHA HADID





ZAHA HADID 1950–2016

In the midst of preparing this Conservation and Creation edition, we received the news of the sudden death of the protagonist. And so an exhibition of her work has become a posthumous retrospective, an attempt to explore Hadid's universe of fluid construction; the two-dimensional nature of the printed form can only hint at the fascination which takes hold when standing in front of or even better inside the buildings she has designed.

Zaha Hadid had a constantly polarising effect, challenged her clients and even broke off interviews if they turned to projects for controversial regimes. Hadid was seen as a diva, both uncompromising and undaunted. It was these attributes that helped her to succeed and be taken seriously as a woman in the alpha-male dominated world of international architecture. Hadid was without doubt a visionary, capable of the grand gesture; her creations are solitaires that appear to come from a distant galaxy.

Her death on 31 March 2016 leaves a void.



FLUID, KINETIC, PARAMETRIC

Zaha Hadid was one of the most dazzling but also innovative figures in the international architecture scene. Born in 1950 in Bagdad, legend has it that she already recognised her calling to architecture at the early age of eleven. Even so, she initially studied mathematics at the American University of Beirut until 1971, before moving to London where she attended the Architectural Association School from 1972 to 1977, and studied with Rem Koolhaas among others. It was in his OMA Office that she started her professional career, before setting up her own firm in London in 1980. For a long time, her bold designs were deemed to be impossible to build until she completed her first building with the Vitra Fire Station in Weil am Rhein, Germany.

This kick-started her career which took off from this point on a global scale; today her fluid buildings can be found all over the world. In 2002, the German architect Patrik Schumacher joined the business as a partner; he was involved in all the projects and ran the firm with its staff of more than 400 employees. In 2004, Zaha Hadid was the first woman to receive the renowned Pritzker Architecture Prize; from 2000 onwards she was also a professor at the University of Applied Arts Vienna until she retired in 2015.

Hadid's search for a new design language took her initially to deconstructivism, inspired by the work of the Russian constructivists Kazimir Malevich and El Lissitzky. In fact, Hadid succeeded in transforming the more intellectual deconstructivism into an individual form of architecture that she called fluid, kinetic and parametric. „The most important thing is motion,“ said Zaha Hadid in an exhibition catalogue in 2003, „the flux of things, a non-Euclidean geometry in which nothing repeats itself: a new order of space.“ And so planes shift, verticals tilt and space seems to gain a new dimension. Here she was surely helped by her mathematical mind: it takes an extraordinarily abstract, analytical approach to build like this – and efficient IT. It simply would not be possible to design the complicated volumes, let alone transfer them to construction plans and complete the building, without computers and parametric software.

The possibilities offered by IT also transformed Hadid's design language. While Vitra Fire Station was basically still a two-dimensional collage of surfaces, meanwhile she confronts us with structures that have multiple curves and complex free forms and transition features that have never been seen before.

No matter how innovative and breathtaking the interplay of volumes, forms and surfaces, even avantgarde design needs to be protected from the rigours of adverse weather conditions. Keimfarben is involved in many projects with corresponding silicate-based products – on the outside and inside.

www.zaha-hadid.com



above and cover: Heydar-Aliyev Cultural Centre, Baku, Azerbaijan





WEIGHTLESS AND FLOWING



LONDON AQUATICS CENTRE

In 2012, the London Aquatics Centre saw both triumphs and defeats, joy and disappointment: this was the venue for the Olympic swimming events which were held under the spectacular roof. Today it is a public swimming pool.

LONDON AQUATICS CENTRE

One of the most spectacular buildings in the Queen Elizabeth Olympic Park is without doubt the aquatics centre planned by Zaha Hadid Architects. The most exciting feature is the huge roof, which floats like a dynamic wave measuring 11,000 square feet over the swimming pool. 160 metres long and weighing 3,200 tonnes, the steel structure rests on just three mighty columns that take all the static and dynamic forces. A great work not just of architecture but also of structural engineering, provided once again by Ove Arup & Partners.

Beneath the undulating roof are the 50 metres competition pool and the 25 metres diving pool with four sculptural diving platforms soaring along the edge. With their combination of soft surface progressions and clear edges, they stand for the design language of the entire complex, for flowing lines and volumes that reflect the nature of water. The base of the building is made of exposed concrete consisting of up to 75% recycled aggregate. Tiles were only used in areas that have direct contact with the water. Between the roof and the building itself, huge glass facades flood the pool with natural light, with advantages in terms of both atmosphere and energy efficiency. A highly insulated, impervious building envelope, ventilation with highly efficient heat recovery and demand-controlled heating from the municipal supply network reduce the annual carbon footprint to a calculated 54 grams per square metre. By using the pool overflow to flush the toilets, the demand for fresh water is cut by 40%; showers with flow limiters save 35% water – and corresponding amounts of energy for heating the water. After all, not even athletes always want a cold shower, let alone the mere mortals who have been swimming in the pool since it was opened to the general public in March 2014.

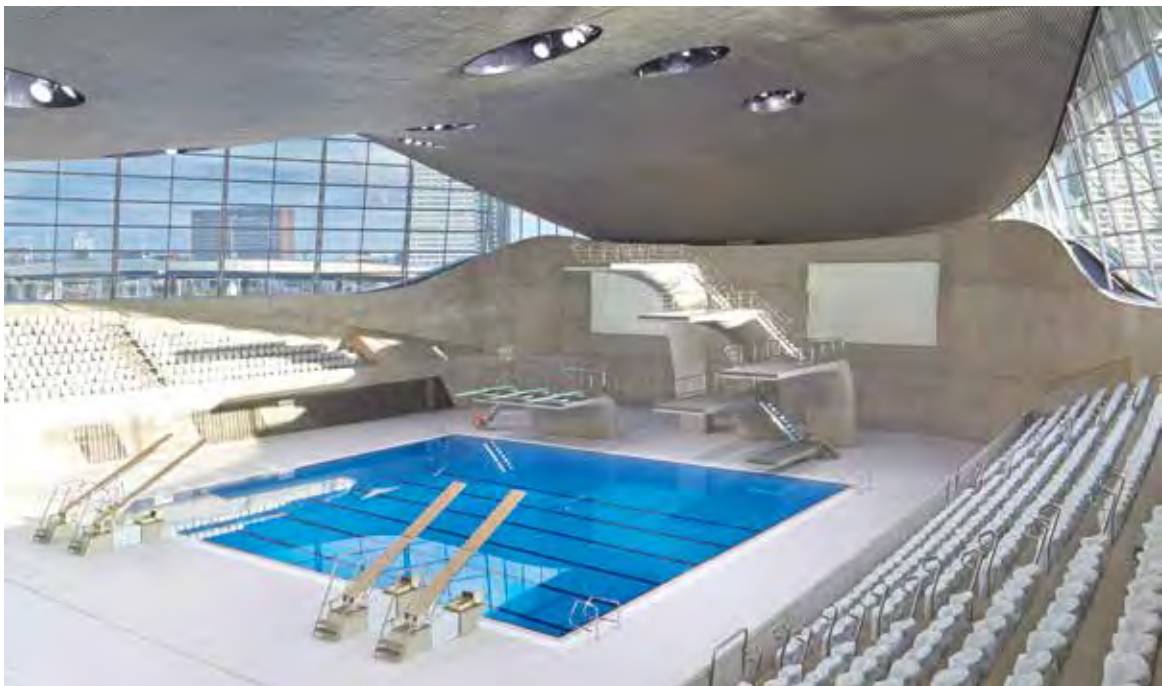
This subsequent use was a central part of the concept, which was planned for the „Olympic Mode“ and the „Legacy Mode“ to cover the period after the Olympic Games. The most striking difference is the seating in the stands: today the seating capacity allows for 2,500 spectators, compared to an audience of 17,500 during the Olympic Games. Even Zaha Hadid struggled with this dichotomy and a compromise had to be found. An unsightly one, it has to be said. During the Olympic Games, large additional stands were fitted above the permanent seating along the two longitudinal sides. From the outside, they looked like two clumsy volumes fitted directly to the roof. Sports fans actually saw nothing of the double-curvature roof, while the supplementary features prevented people inside the building from seeing outside.

And so it was not until 2014 that the Aquatics Centre revealed its originally intended design, after the extensions had been removed and the glass facade completed. 628 panes were fitted, each weighing around 250 kilos and measuring about 1.5 x 3.0 metres in size, totalling altogether 2,800 square metres. By the way, hot water flows through the bronze-coloured steel support structure which acts as a huge heating element to prevent condensation on the panes of glass.

WEIGHTLESS AND FLOWING

The dotted design printed in varying sizes and densities across the whole height serves as an antireflection and shading solution where necessary.

The entrance to the Aquatics Centre and its pools with ten million litres of water is above the pool level from the generous Stratford City Bridge, where the roof comes down in a very low, wide curve as a generous welcoming gesture to visitors as an expression of appreciation and invitation. By the way, the training section is below the bridge level with its own 50 metre pool. Instead of putting it in a purely utilitarian construction, here the roof again is a surprising feature. Not that this is another curved design, but the numerous tear-shaped skylights form an elegant contrast to the heavy concrete grid structure, letting in plenty of natural light.



LONDON AQUATICS CENTRE

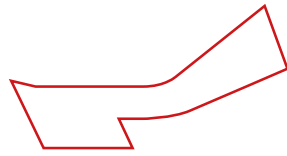
Architecture	Zaha Hadid, Patrik Schumacher
Project management	Jim Heverin
Structural engineering	Ove Arup & Partners
Client	Olympic Delivery Authority
Location	London-Stratford
Construction period	2005–2011
Internet	www.londonaquaticscentre.org



Wave in Post-Olympic Mode. After removing the stands, the flowing, curved shape of the roof can be truly appreciated.







TILTED AND INTEGRATED



EVELYN GRACE ACADEMY LONDON

Zaha Hadid's first project to be completed on British soil is in the south of London and cleverly integrates four schools including the sporting facilities, on an extremely narrow plot of land. The angular building with its tilted structures is designed for 1,200 school children and received the renowned RIBA Stirling Prize 2011.

EVELYN GRACE ACADEMY

Actually, British schools are a local authority matter, but the academy model initiated by Tony Blair is based on a combination of centralisation and privatisation. Here the schools are run by private organisations instead of public authorities. This controversial concept aimed in particular to boost and reactivate secondary schools in weaker areas.

One example is the Evelyn Grace Academy in the London Borough of Lambeth, which is run by the „Absolute Return for Kids“ charity. To be precise, the academy encompasses four schools: two secondary schools and two sixth form colleges. On a plot of land measuring only 1.4 hectares, all schools are accommodated in one single S-shaped building that includes all the extra rooms for laboratories, sport and art. Zaha Hadid and Patrik Schumacher were responsible for the concept and even managed to find space for three sports fields and a 100 m sprint track. The latter runs spectacularly under the school building from one edge of the plot to the other. Each school has its own entrance, and its position in the building is revealed by the large tilted strips across the facade. In fact, the two levels of each school are interlinked with those of the neighbouring school, resulting in the building's basic motif of tilting lines.

While the building exterior is dominated by aluminium panels, glass and dramatic tilting effects, the interior is characterised by generously curved corridors, light classrooms and highly varied transitions between the levels. Yellow and green accents are the only contrast to the grey of the exposed concrete and help the Academy to stand out clearly from other schools, where colour schemes play a far greater role in terms of spatial effects and identification. Besides being an aesthetic feature, exposed concrete is a thermal mass that helps to compensate for peak temperatures in the summer.

The schools-within-schools principle not only makes it easier to move from one school to another. It also enhances communication between the 1,200 school children, thanks to the communal areas on the base levels and the mobility zones approaching these areas. Indeed, the spatial planning has been designed with multifunctional social contact areas supplementing the classrooms on various different levels.

TILTED AND INTEGRATED



EVELYN GRACE ACADEMY

Architecture	Zaha Hadid und Patrik Schumacher
Project management	Lars Teichmann
Location	London-Lambeth
Construction period	2006–2010
Internet	www.evelyngraceacademy.org







SHOES AND SHIPS



DESIGN KOSMOS HADID

Brilliant on the large and small scale: Hadid's passion for design went beyond her artistic and architectural work. She created furniture, interior furnishings, trade show pavilions, exhibition designs and everyday objects. Join us on a tour of the Design Cosmos Hadid ...





1 ZEPHYR SOFA



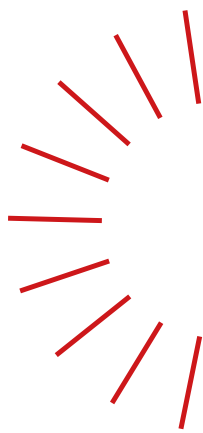
2 ICONE BAG



3 LIQUID GLACIAL TABLE



4 ADIDAS SUPERSTAR ORIGINALS



ZAHA

SHOES AND SHIPS



5 VORTEX CHANDELIER



6 TAU VASES



7 Z-CAR II



8 LOA AND VESU VASE



9 LAMELLAE JEWELLERY

HADID DESIGN



UNIQUE CIRCLE YACHTS

Design Zaha Hadid und Patrik Schumacher 2013, Customer Blohm+Voss

Zaha Hadid designed a fleet of futuristic yachts for the Blohm+Voss shipyard in Hamburg, inspired by the diversity of organic shapes in the submarine world together with fluid dynamics and the marine ecosystem. She broke all the standard rules of yacht design by turning her back on the usual aquanautic design vocabulary.

INDEX

1 ZEPHYR SOFA

Design	Zaha Hadid Patrik Schumacher, 2013
Design team	Fulvio Wirz Mariagrazia Lanza Maha Kutay
Material	Painted fibreglass, upholstery
Production	Cassina Contract

2 ICONE BAG

Design	Zaha Hadid Patrik Schumacher, 2006
Project designer	Ana M. Cajiao
Design team	Muthahar Khan
Customer	Louis Vuitton

3 LIQUID GLACIAL DINING TABLE

Design	Zaha Hadid Patrik Schumacher, 2012
Design team	Maha Kutay Woody Yao Mariagrazia Lanza Fulvio Wirz
Material	Polished Plexiglas
Customer	David Gill Galleries

4 SUPERSTAR TRAINERS

Design	Zaha Hadid Patrik Schumacher, 2014
Customer	Pharell Williams
Production	Adidas

5 VORTEX CHANDELIER

Design	Zaha Hadid Patrik Schumacher
Project designer	Thomas Vietzke
Material	Fiberglas, Lack, Acryl, LED
Customer	Sawaya & Moroni

6 TAU VASES

Design	Zaha Hadid Patrik Schumacher, 2015
Material	Marble
Customer	Citco

7 VEHICLE Z-CAR II

Design	Zaha Hadid Patrik Schumacher, 2005-2008
Design team	Jens Borstelmann David Seeland
Material	Carbon fibre composite, EPS PU, paint
Customer	Kenny Schachter, ROVE Gallery

8 LOA AND VESU VASES

Design	Zaha Hadid Patrik Schumacher, 2014
Design team	Maha Kutay Hannes Schafelner Niran Buyukkoz Maria Tsironi
Material	Sterling silver
Customer	Wiener Silber Manufaktur

9 LAMELLAE JEWELLERY

Design	Zaha Hadid, 2015
Material	Sterling silver
Customer	Georg Jensen





PEBBLES BY THE RIVERSIDE



GUANGZHOU OPERA HOUSE

The largest and most complex project produced by Zaha Hadid Architects is located right on the banks of the Pearl River. A dramatic spatial experience unfolds under the flowing exterior of the opera house.

GUANGZHOU OPERA HOUSE

The 200 million dollar Opera House in the city of Guangzhou is the product of an international architectural competition with three renowned architecture offices invited to submit bids. It was the imagery and metaphors of Hadid's design for the competition held in 2002 that convinced the Chinese authorities. The two flowing building structures appear to be pebbles that have been smoothed into a round harmonious shape by the neighbouring Pearl River. The spectacular interior is designed as a man-made landscape with canyons, promontories and recesses, with the powers of erosion appearing to be responsible for their topographic shape. The groundbreaking ceremony took place in 2005, followed by the official opening in 2010 with the premiere production of Puccini's opera *Turandot*, a controversial opera in China.

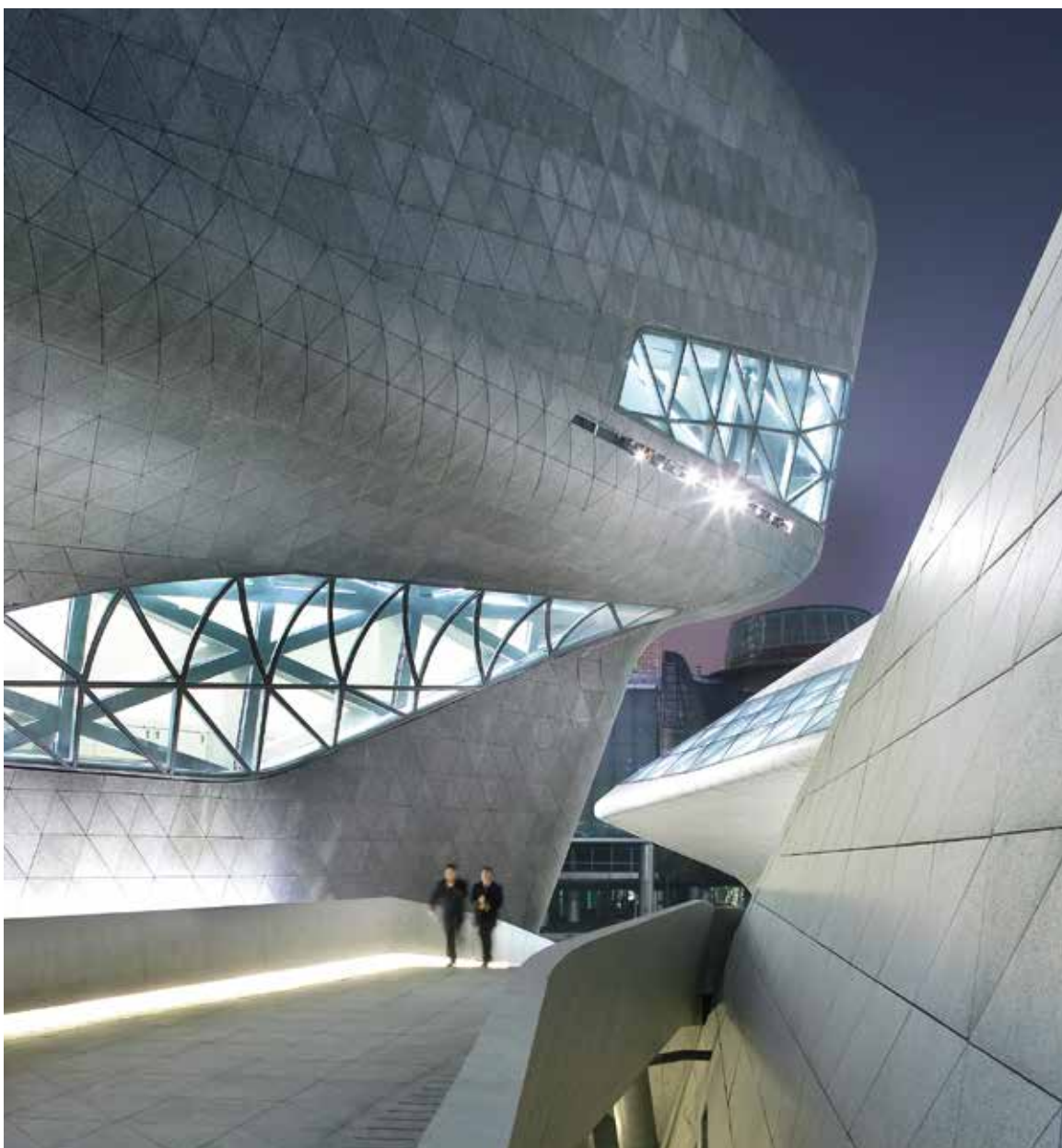
The Opera House is at the heart of Guangzhou's cultural development in this city of 18 million people, and is located in the direct vicinity of the mighty towers of the financial district.

Basically the opera house consists of two structures: the large 1,800-seat opera auditorium and a smaller 400-seat multi-function hall for concerts and performance art. Both structures are designed in the houses-within-houses principle as freestanding concrete constructions, completely covering the fascinatingly intricate, exposed steel frame. The freestanding structure of the exterior consists of giant star-shaped cast steel nodes, steel rods and bars covered with countless triangular elements on the outside. The three-dimensional design thus creates the soft, pebble external shape.

But this came at huge cost: all the facets have different dimensions and curvatures so that every single one had to be made individually from glass and white granite, working with absolute precision. There is no cladding on the support structure on the inside so that it remains completely legible, underlining the dramatic interior with its sculptural staircases, swinging transitions and column-free foyers. Generously glazed, the exterior lets daylight penetrate right into the heart of the interior. In turn, at night the buildings which are surrounded by large spaces of water turn into amorphous structures that seem to glow mystically from the inside out.

The interior reveals a very special kind of space aesthetics, with the open spaces between the terraced walkways acting as waterfall ravines, while this naturally shaped landscape analogy continues in the smooth transitions between disparate elements and different levels. But the main highlight is of course the large opera auditorium, with its organic flowing spaces reminiscent of the cavities caused by centuries of water erosion. Balconies protrude harmoniously into the auditorium like terraces and are reflected by the lobby walkways outside. Here multi-layered perspectives create their very own dimension of experience, generating that atmosphere of transitioning between the real world outside and the staged art on the inside that makes all great opera houses so special.

PEBBLES BY THE RIVERSIDE



GUANGZHOU OPERA HOUSE

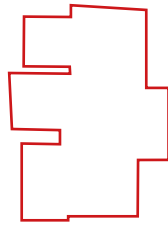
Architecture	Zaha Hadid
Project management	Woody K.T. Yao und Patrik Schumacher
Client	Guangzhou Municipal Government
Location	Guangzhou, China
Construction period	2003–2010
Internet	www.gzdjy.org



The champagne-golden colour scheme creates a noble background for the auditorium. In China, gold is the colour of happiness – yet another reason for the positive effect.







SPACE FOR ART



**LOIS & RICHARD ROSENTHAL CENTER
FOR CONTEMPORARY ART CINCINNATI**

The Rosenthal Center is one of the oldest institutions
in the USA dedicated to contemporary arts.
For a long time it was housed in various other institutions,
but now it has been given its own premises.

ROSENTHAL CENTER FOR CONTEMPORARY ART

The Rosenthal Center was founded in 1939 in Cincinnati, a place where the south and the north of the USA meet and a place of lively culture. In 2003 the Center finally moved into its own premises – outstandingly striking premises, it has to be said right at the outset. The Center for Contemporary Art does not hold a permanent collection, but instead has all the more space for temporary presentations, including its own performance art room and installations. Besides the exhibition rooms of many different sizes and proportions, the building also has seminar facilities, offices, workshops, a shop and a café. The ground level is designed as a transparent structure and acts as an „Urban Carpet“ to connect with the public space, enticing pedestrians into the building and guiding them into the gallery areas. These in turn float above the bright lobby as if they’ve been cut from a huge block of concrete. The façades have been made with absolute precision from precast concrete parts; with their recesses and protrusions, they resemble a three-dimensional jigsaw puzzle. The narrow east side in particular is shaped like a sculptural relief. By contrast, the „Urban Carpet“ with its polished, wavy surfaces creates a very different impression, including the ramp that leads upwards in a zigzag path through a narrow open space.

The Rosenthal Center is not only Zaha Hadid’s first building in the United States, it is also the first US museum to be designed by a female architect. The New York Times described it as „the most important American building to be completed since the Cold War.“



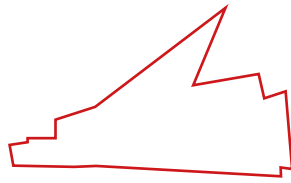
SPACE FOR ART



ROSENTHAL CENTER FOR CONTEMPORARY ART

Architecture	Zaha Hadid
Project architect	Markus Dochantschi
Client	The Contemporary Arts Center
Location	Cincinnati, Ohio
Completed	2003
Internet	www.contemporaryartscenter.org





ANGULAR MOVEMENT



VITRA FIRE STATION WEIL AM RHEIN

More a sculpture than a building, Zaha Hadid's first completed project served a profane purpose in accommodating the works fire brigade of the Vitra campus.

VITRA FIRE STATION

By the time it was completed in 1993, the fire station had already reached the Olympian pinnacle of architecture. In Weil am Rhein Zaha Hadid was finally able to show that her designs are indeed buildable.

With its angular edges, tilted concrete walls and weightless protruding porch roof, the small building anticipates the characteristic features that would be found time and again in Hadid's later work: cross-overs, irritations, fascinating space effects and specific materialisations.

The building with its garage for the fire engines, recreation rooms, changing rooms and shower facilities consists of a linear arrangement of walls to create the functional spaces in between.

Positioned between the huge buildings of the furniture factory, it redefines the space along the main road through the campus and seems to be frozen movement, just waiting to explode into action. It is thus a direct analogy to the fire brigade, trained to be always on emergency alert.

However, its career as a fire station did not last long: a few years ago, the company fire brigade was disbanded. Today, the exposed concrete building is used for exhibitions and as an event venue. It naturally also attracts people from all over the world who are passionate about architecture.



ANGULAR MOVEMENT



VITRA FIRE STATION

Architecture	Zaha Hadid, Patrik Schumacher
Project architect	Patrik Schumacher
Client	Vitra International AG
Location	Weil am Rhein
Construction period	1991 - 1993
Internet	www.vitra.com

IMPRINT

Publishers

KEIMFARBEN GMBH

Keimstraße 16/86420 Diedorf/Tel. +49(0)821 4802-0/Fax +49(0)821 4802-210

www.keimfarben.de/info@keimfarben.de

Graphics

Susanne Mandl

Collaboration: Severin Geißler

www.sumadesign.de


Picture credits

Cover	Iwan Baan
p. 3	Valerie Bennett
p. 5	Helene Binet
p. 6	Hufton and Crow
p. 9	Hufton and Crow
p. 10/11	Hufton and Crow
p. 12	Luke Hayes
p. 15	Luke Hayes
p. 16/17	Luke Hayes
p. 19	Zaha Hadid Architects
p. 20/21	Zaha Hadid Architects
p. 22	Zaha Hadid Architects
p. 24	Christian Richters
p. 27	Hufton and Crow
p. 28/29	Hufton and Crow
p. 30	Helene Binet
p. 32	Helene Binet
p. 33	Helene Binet
p. 34	Christian Richters
p. 36	Helene Binet
p. 37	Christian Richters

Many thanks to Zaha Hadid Architects for their friendly support!

KEIM. COLOURS FOR EVER.





„I AM A STRONG BELIEVER THAT ARCHITECTURE
CAN EXPRESS SOMETHING, OF WHICH WE HAVE
NO IDEA THAT IT IS POSSIBLE – A NEW ORDER
OF THINGS, ANOTHER VIEW OF THE WORLD.“

ZAHA HADID



