

THE COMPLETE ZAHA HADID

previous pages: Nordpark Cable Railway these pages: New Passenger Terminal and Masterplan on the cover: Dubai Financial Market

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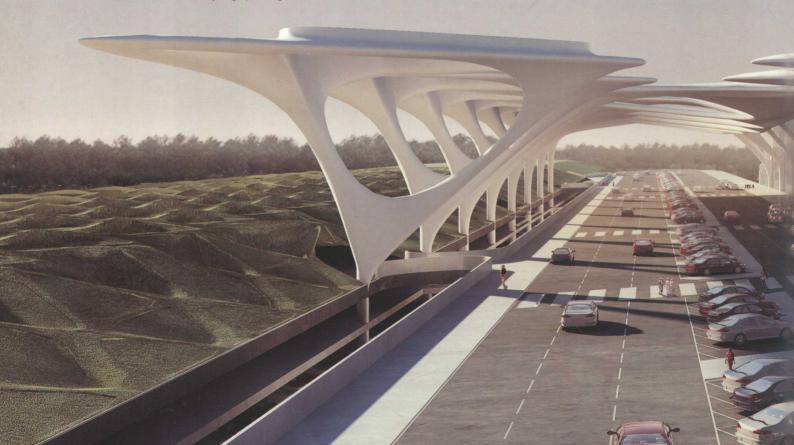
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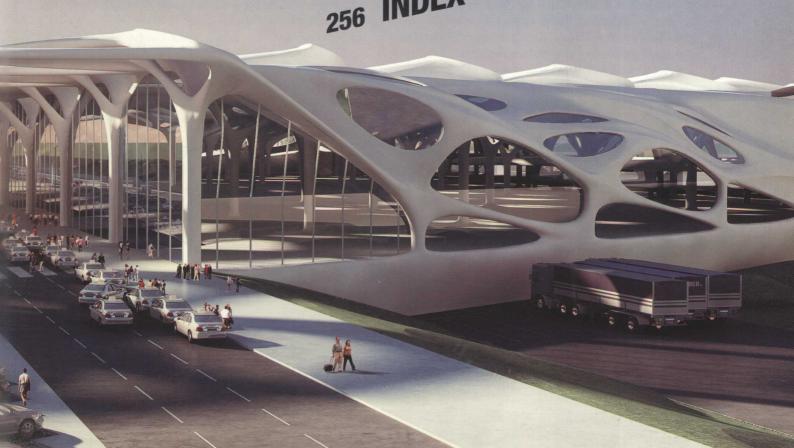
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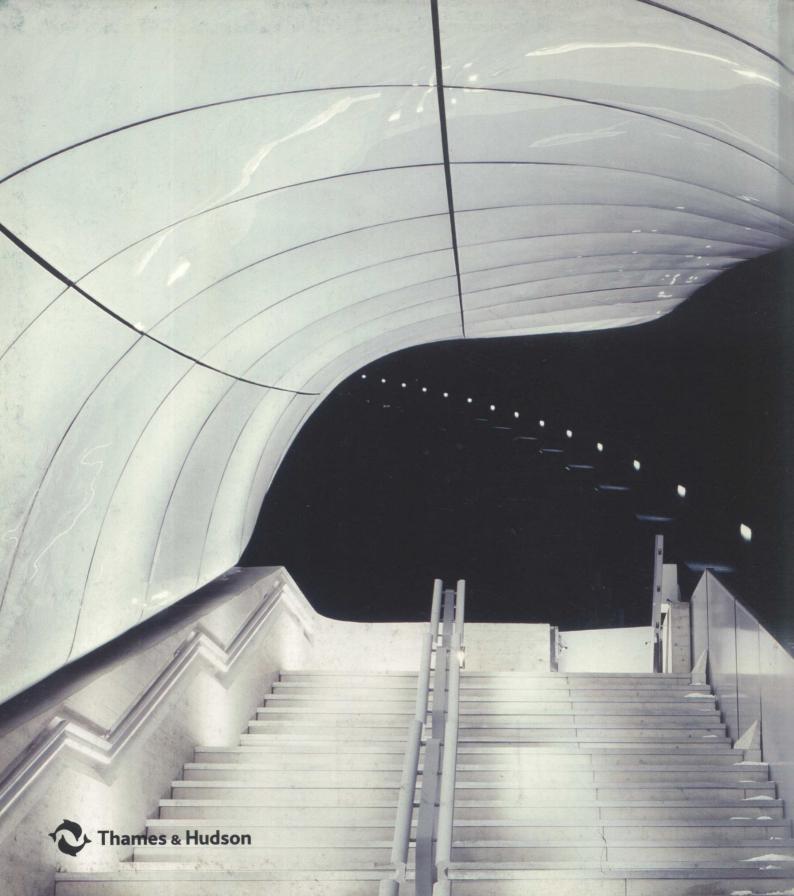
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- 89 DEGREES
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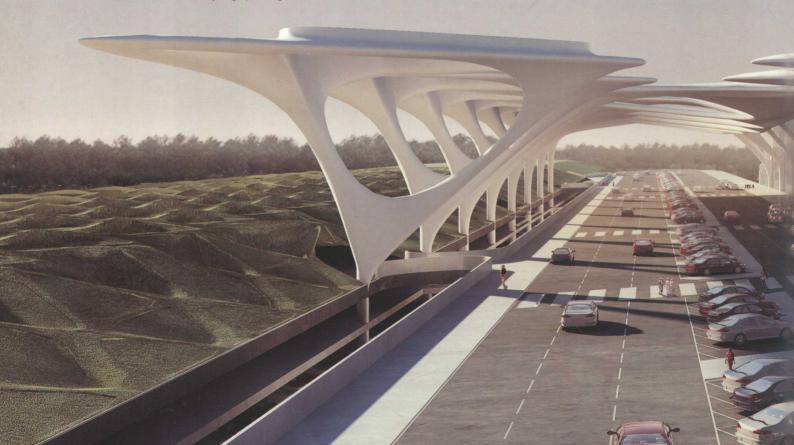
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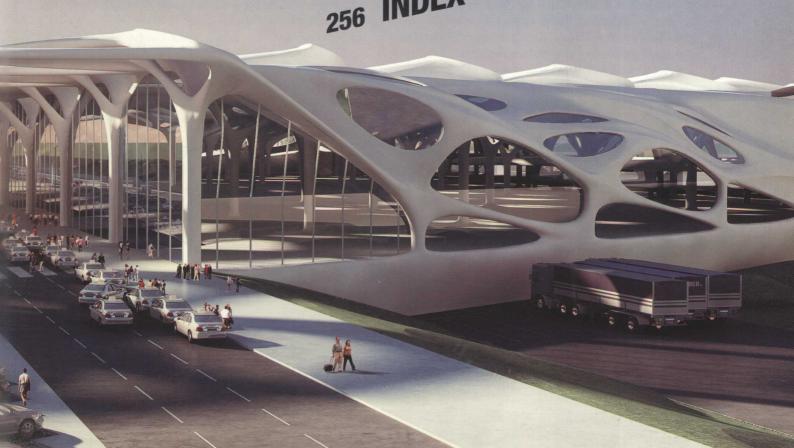
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The film, on the one hand, extends our comprehension of the necessities which rule our lives; on the other hand, it manages to assure us of an immense and unexpected field of action. Our taverns and our metropolitan streets, our offices and furnished rooms, our railroad stations and our factories appeared to have us locked up hopelessly. Then came the film and burst this prison-world asunder by the dynamite of the tenth of a second, so that now, in the midst of its far-flung ruins and debris, we calmly and adventurously go travelling. With the close-up, space expands; with slow motion, movement is extended. The enlargement of a snapshot does not simply render more precise what in any case was visible, though unclear: it reveals entirely new structural formations of the subject. So, too, slow motion not only presents familiar qualities of movement but reveals in them entirely unknown ones 'which, far from looking like retarded rapid movements, give the effect of singularly gliding, floating, supernatural motions'. Evidently a different nature opens itself to the camera than opens to the naked eye - if only because an unconsciously penetrated space is substituted for a space consciously explored by men.1

Hadid has constructed her career in architecture in a similar manner. She has folded the memories of a youth spent on woven carpets into a training at London's Architectural Association. She has used the forms of early 20th-century artists as the building blocks out of which she has erected her palaces of abstracted memories. She has drawn the energies of the city and the heavy contours of the landscape around her like a cloak, and then used that force as the starting point for explorations into an unknown territory towards which her angular forms point.

One might say that Zaha Hadid is a Modernist, designing lofts tied to technological cores as a celebration of the new.² Hadid has no truck with typologies, applied orders, implied assumptions or gravity: she believes that we could and should build a better world, one marked by freedom, above all else. We would be liberated from the past, from the constraints of social convention, from physical laws, and free of our bodies. Architecture, for Modernists such as Hadid, is the always fragmentary construction of such a world.

THE THREE MODES OF MODERNISM

Traditionally, there are three aspects to such modernism. First, its adherents believe in new structures. By harnessing technology, a good Modernist posits, we can use our resources (including ourselves) more efficiently to create the maximum amount of surplus, whether of space or of value. This 'too much' is that which is the heroic reality of the always new, the future, the utopian. It is that which has no shape and comes about by reducing form to its minimum. Second, the Modernist believes in new ways of seeing. Perhaps the world is already new, but we just don't recognize it as such. We see only what we have been trained to perceive. If only we can look in fresh ways, we can change the world by just that act. We need to open our eyes,

> our ears and our minds to the realities of our existence. Then we will already be free. Third, the Modernist wishes to represent the reality of modernity. Fusing the first two aspects, she or he transforms our new perceptions into representations for the forms we have created. Such shapes are the prototypes for a reality in which things have become rearranged and dissolved to the point that all but the new disappears. By representing new things in new ways, we can build a new world and inhabit it, if only with our eyes.

It is this third aspect that characterizes the work of Zaha Hadid. She does not invent new forms of construction or technology; she shows us a world in new ways by representing it in a radical manner. She finds

THE EXPLOSION OF A TENTH OF A SECOND

Zaha Hadid is a great cinematographer. She sees like a camera. She perceives the city in slow motion, in pans, swoops and close-ups, in jump-cuts and narrative rhythms. As she draws the world around her, she draws out its unconscious spaces. She finds what is latent in the constructions of our modern world and storyboards them into utopias. She boldly explores, she slows down and accelerates the rhythms of everyday life, and she subjects her environment to the surgical exposition of architecture as a form of representation. She builds the explosion of a tenth of a second.

This does not mean that she is not an architect. Hadid aims to build, and her images are part of the process that moves towards construction. She does not, however, propose inserting an autonomous object into a blank site. Instead, her buildings are intensifications that lead to extensions. She compresses all the energies that cause the building to appear, from its programme to its technological infrastructure. Her buildings are free to reach out from this density to create spaces that are free of encumbrances. Where there was once (the potential for) private activity, walls and pipes, there are now shards and planes that slice through the landscape to open up a space we did not know could exist.



The Peak

the roots of Modernism in the dissolution of both subject and object, and draws them out onto the stage of the modern landscape, which she reshapes as a place in which we can boldly go wandering.

The models for such modernism go back at least to the Baroque, when subject and object first lost their unquestioned authority. Instead of the human body, which stood before God in a world of sin, there was only the continuity of the real into which the self became folded:

Matter thus offers an infinitely porous, spongy, or cavernous texture without emptiness, caverns endlessly contained in other caverns: no matter how small, each body contains a world pierced with irregular passages, surrounded and penetrated by an increasingly vaporous fluid, the totality of the universe resembling a 'pond of matter in which there exists different flows and waves'.3

Architecture attempts to make this flow of energy present, to catch it in its myriad forms:

The Baroque invents the infinite work or process. The problem is not how to finish a fold, but how to continue it, to have it go through the ceiling, how to bring it to infinity . . . [the fold] determines and materializes Form. It produces a form of expression, a *Gestaltung*, the genetic element or infinite line of inflection, the curve with a unique variable.⁴

The industrial revolution, of course, built such a world of chaos, removing meaning or value from each object or individual and folding it into the flow of capital. As a result, architecture increasingly dissolved into fields of glass, steel and concrete, flowing around the last vestiges of form and burying them behind the accumulations of consumer goods. It is these flows that Zaha Hadid builds.

BRINGING THE OUTSIDE(R) IN

Yet Hadid's work does not have only the Western roots associated with modernity. Born in Iraq, she speaks of her fascination with the Persian carpets of her youth, the intricate patterns that defeated comprehension and embodied the collaborative efforts of hands transforming reality into a sensuous surface, simple spaces into lush ones. Note, coincidentally, that was also women's work.⁵

In the narrative unfolding of Hadid's work, one can also draw a comparison to Chinese and Japanese scroll paintings. Modernism proposes that we construct sense out of the accretion of everyday activities that continually change our reality, rather than fixing a particular order onto things. This is a method of working that the painters of scrolls knew well. They slithered in and out of their works, focusing on small details, showing scenes several times from different angles, stringing together landscapes out of isolated elements. The sweeps of echoing lines folded into a vision that altered and returned a world, transformed, back to the viewer.

All of these traditions were available to the artists of the early 20th century, and their art provides clues to Hadid's pictorial building blocks. Whether in Cubism, Expressionism or Suprematism, abstract fragments were assembled into a narrative structure. These artists blew up their world – Duchamp's *Nude Descending a Staircase* is Zaha Hadid's grandmother.

Hadid's most immediate parentage is that of the Architectural Association in London. She studied there during a period when the school was at its peak as the world's centre of architectural experimentation. Building on the legacy of Archigram, students and teachers such as Peter Cook, Rem Koolhaas, Bernard Tschumi and Nigel Coates transcribed the convulsions of the modern world into the subject and the form of their work. Daring to be Modernist all over

7

again, they sought to capture the energy of all our changing activities by telling stories about them, and in so doing added a narrative viewpoint to the attempt to give shape to modernity. Whether the works were anecdotal and convoluted (Tschumi), or represented a mythical collage (Koolhaas) or a manifesto (Cook), they all incorporated multiple perspectives, sweeping and expressive forms, and technological frameworks into images whose representation described rather than defined.



Grand Buildings, Trafalgar Square

CONDENSED COLLAGES

It is in this context that Zaha Hadid's work took shape. Her first notable project, her thesis design for a bridge over the River Thames [Malevich's Tektonik, 1976-77; p. 18] is undoubtedly indebted to her association with Rem Koolhaas - she collaborated with the Office of Metropolitan Architecture for three years - in the way in which it foregrounds a geometry reduced to its essence, literally evoking the Suprematist work of Malevich. Her painting of the bridge looks like the Malevich aeroplanes that could also be sculptures or homes. The neutrality of the image is intentional, as she saw the building as a 'social condenser', to use a phrase then popular at the Architectural Association. The building itself is a Modernist loft that folds back on itself to bring different programme elements (which she does not actually show) into close contact with each other. What astounds us as viewers, however, are not the project's functional aspirations or its quotations of the past, but the image itself: it holds the page and eye with a resolute statement of the new.

In several projects after her graduation, Hadid continued to develop her narrative stance more fully into a spatial language. The forms of 59 Eaton Place [1981–82; p. 21], an apartment design for her brother, directly evoke an IRA bomb that had exploded nearby. The drawing

itself is an explosion, and the elements it places on the page are fragments from this most modern release of energy. In what was to become a central theme in Hadid's architecture, the objects condense and the city's forms turn into furniture. These interior pieces then move back out to take their place as Pop Art elements, a stage set for the reoccupation of a modern city.

Hadid developed the 59 Eaton Place drawings further into her vision of Halkin Place [1985; p. 28]. In a rooftop view, the viewer soars above the eaves of the city's row houses to have a Peter Pan view of a city coming apart at the seams, a perspective that lets Hadid's fragments of a Modernist utopia reinhabit their historical forms.

Hadid's proposal for the new residence for the Irish Prime Minister [1979–80; p. 20] introduced collage into her work. Representational elements (tiles, globes, bricks) populate a simple cube through which a long, curving wall cuts to open up the project's narrative. Instead of telling us about the programme or the site, Hadid evokes the cosmopolitan nature of the residence; rather than give us the plot, she sets the scene.

Her proposal for the Grand Buildings project in London's Trafalgar Square [1985; p. 25] summarizes many of her achievements and shows her ability to reimagine the urban landscape. The painting is a diptych that depicts the building from at least five perspectives. It also shows the city peeling away from itself in both a right-side-up and a bottom-up view, creating the unsettling effect of not knowing what is the reflection and what is the preferred ground of the painting. By combining the cleverness of an Escher drawing with the aspirations of a Constructivist composition, Hadid delaminates the city.

Hadid has a programmatic rationale for this manner of representation: the Grand Buildings project was something that would put the activities and forms of Trafalgar Square into a dense composition that would free up layers of open spaces to allow the city to breathe into the building, while its aggressive shapes moved out into the urban terrain. Opening up the city at the seams, where the reality we experience and the fantasy of a new projection or building meet, became a recurrent subject of her paintings. In this instance, she accomplished this within the image itself, leaving Trafalgar Square to its over-touristed reality and her building in the utopian realm of unfulfilled fantasies.

The summation of these early works took two forms. The first was a painting that presented all of her

projects to that point, The World (89 Degrees) [1983; p. 24]. In it, Hadid imagines our global reality as a collection of her designs as we might see them from a helicopter or a missile shooting off into space. As the world turns, its landscape heaves up into fragments of new geometries. The real world becomes Hadid-land, where gravity disappears, perspective warps, lines converge, and there is no definition of scale or activity. This is not a specific scene of functions and forms, but a constellation of possible compositions that together form a veritable landscape: a space shaped by human hands into an artificial depiction of the physical environment in which we live.

The second summation made Hadid famous. Her winning entry for the Hong Kong Peak competition

[1982–83; p. 22] proved to thousands of architects and design students (including this author) that the techniques she had been developing were a new form of architecture. Situated at the highest point of the then colony, the project was itself a summation of the site as well as of all those programmes that jettisoned the mundane demands of existence in favour of a purely hedonistic collection of forms. The building was a facility that aimed to delight and discipline the body in a form that appeared socially acceptable.

Hadid's architecture embodied this programme and site in tubes that stacked up on top of each other like a pile of wooden beams on a construction site. They extended the verticality of the site in cantilevers and stratified spaces. The interstices of the forms articulated the Peak's function as a social club where activities intersected, while the beams' movement seemed to capture and solidify the trajectory of bodies in motion. It was a building that brought human and mountain together to test each other. It did not just 'crown the brow', it pulled the very Peak apart so that we, like latter-day Titans, could do battle with it,

Hadid laid out this vision in a set of very large paintings that seemed to aspire to the scale of the Peak itself. Although the architect emphasized the rational nature of her construction, the drawings pulled the parts and pieces apart, exploding its site and its programme. In one painting Hadid showed elements of the club becoming part of downtown Hong Kong, while the metropolis's skyscrapers below became abstract planes that rotated, flew off and actually turned into the building blocks for the Peak. In these instances Hadid put forward an architecture that represented the artificial landscape of that or any metropolis as an assembly of abstract geometric forms. These shards of the new pointed towards a more open, intense and unstable arrangement of space.

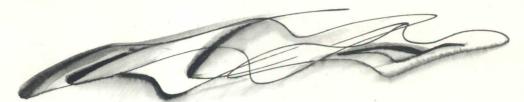
SETTING SAIL ON A SEA OF GESTURES

In the following decade Hadid expanded these themes in buildings. designs and proposals around the world, a number of which were in Germany. These included two of her most ambitious projects to date, the IBA-Block 2 in Berlin [1986-93; p. 33] and the Vitra Fire Station in Weil am Rhein [1990-94; p. 50]. While the former built the basic forms used in the Grand Buildings design, the latter pointed the direction to a new phase of her work.

The projects for the Victoria City Areal [1988; p. 40] in Berlin, the Hafenstraße Development in Hamburg [1989; p. 44] and the Zollhof 3 Media Park in Düsseldorf's Rheinhafen [1989-93; p. 54] had in common what had by now become Hadid's signature prow shapes, loft-like spaces around eccentric cores, public spaces brought into the building and shapes extending out into the city. Over the years, these forms took on an almost stylistic cast, yet they also changed character. They became lighter, more transparent and more layered. To some degree, this was the result of larger and, in most cases, more conventional programmes. These office buildings and apartment blocks had few hybrid elements, so it was perhaps difficult to develop a narrative representation of them.

One also sensed a shift in focus. Where Hadid's earlier buildings were collages assembled out of disparate elements, her forms now seemed to evolve as singular gestures. To Hadid this was the result of seeing her work as a form of landscape, or shaping of the land. While the Victoria City Areal still followed the recipe of intensification and extrusion Hadid had first proposed in the Grand Buildings scheme, the large complexes in Düsseldorf and Weil am Rhein read like fragments of a Modernist iceberg, whose clefts leave the edges as openings. These fissures reveal the partial nature of each building. In the Düsseldorf project, the complex's various functions accrue similar forms, which are sheared off into bridges, walkways and public buildings that are unified in their free exploration of space. Whether in the public realm or in the office towers, everything is part of the same universe of forms.

Vitra Fire Station



Museum of Islamic Arts

Hadid's use of colour also began to change. After the hot image of *Metropolis* [1988; p. 38] and the colour-coded fragments that still haunted both Berlin buildings, the other German designs were remarkably soft in their colourations. This was partially because glass now predominated, and perhaps also because of the relatively grey environment of German cities. It also, however, seemed to mark a cooling down of Hadid's palette: tones and tonalities, folds of continual forms and modulated volumes displaced collages of shards.

These developments culminated in the Vitra Fire Station. When one sees it from Frank Gehry's celebrated all-white museum, one is most aware of the prow-like shape of the building. In reality – and Hadid's drawings make this clear – the fire station has been conceptually sheared off from the factory blocks next to it and shot through with a curving walkway that leads back to the museum and around the complex. It is an eruption out of its place that freezes the muteness of the factory walls as tilting enclosures. The building opens up views along the fire station's contours, rather than standing against them. This geological formation continues on the inside, where the larger spaces for the fire trucks curve into the shower and lounge areas, and the stairs step up with the volumes towards the second floor.

Hadid proved with Vitra that she could build a landscape. Although the forms may appear familiar, they are a long way from the constructed assemblages of her early work. Instead of building on the land, opening up new spaces and inserting forms that reared up with aggressive challenges to their surroundings, she now drew her forms out from the site, moulded them out of functions and used spatial logic to create monumental built facts. Her architecture became reminiscent of how fields rise up over hills and caves open up below them, of how rivers move through undulating landscapes and peaks provide a sense of orientation. Perhaps Hadid realized that the 'explosion of a tenth of a second' revealed not so much the construction of the human psyche as it did the nature of the built environment as a sedimentation of human habitation that follows rules analogous to those in inorganic nature. She found free spaces not in the fragments of a utopia, but in the exploration of what already exists.

SPIRALLING INTO CONTROL

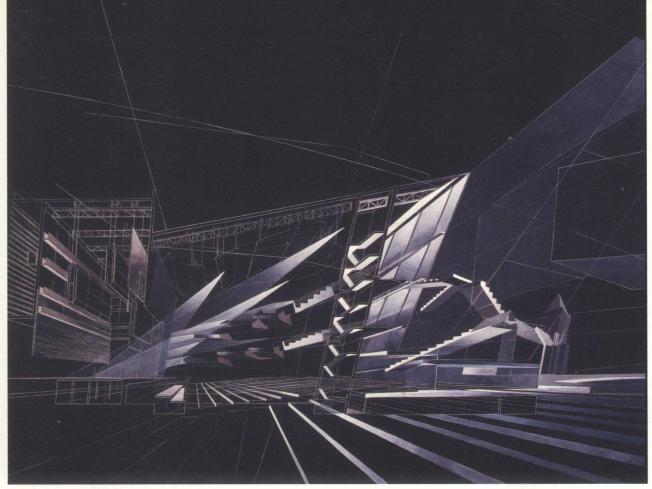
After Vitra, spirals begin to appear in Hadid's work, in the folded metal plate that enclosed the Blueprint Pavilion for Interbuild 95, in Birmingham [1995; p. 76], the curling up of the 'urban jewels' in the Cardiff Bay Opera House [1994–96; p. 80] and the tight sequence of spaces at the Victoria & Albert Museum's Boilerhouse Extension [1996; p. 84]. After wandering in the landscape, Hadid's buildings seem to want to make the landscape their own by wrapping it around the programmes and then using the surroundings to shelter or contain space. In the V&A project, the gallery spaces reach up beyond the rooftops in the same way they did in Halkin Place. At the Cardiff Bay Opera House, spirals enclose the grand space of the main hall; in the Blueprint Pavilion, they created an aedicular presence for the fair stand.

Although most of her recent works are large buildings, Hadid draws them as transparent volumes. Instead of the weighty presence of tectonic plates, she now suggests that the manipulation of geometry and structure could liberate a space from its confines. The preoccupation with continuity of a landscape becomes recast as open reaches and interior volumes. Many of the drawings associated with these projects have white lines on black surfaces, as if they were but sketches of possibilities open to interpretation. The certainties of her early projects have given way to the gestural exploration of abstract openness.

This translucent, gem-like quality reached a culmination in Hadid's proposals for the Hackney Empire theatre in London [1997; p. 96] and the Lois & Richard Rosenthal Center for Contemporary Art in Cincinnati [1997–2003; p. 104]. Here the skins dissolve into nothing more than the interface between the energy of the city and the interior. These forces become more and more localized in ramps and spiralling volumes. Folding and interlocking, positive forms (walls, floors and ceilings) and negative spaces (inhabitable spaces) turn into eels slithering around each other in ever more dense, and yet fully lucid, spatial organizations.

At the same time, the tubular forms of her earlier projects turn into dominant features. They are bundled together to form the Spittelau Viaducts in Vienna [1994–2005; p. 70] and the Habitable Bridge project in London [1996; p. 86]. Though to some extent the beams recall the

slabs of the Peak in Hong Kong, they are now much denser and more tightly packed; circulation and usable space become virtually indistinguishable. They also emphasize the horizontal movement through space over the vertical build-up of form. In the Landesgartenschau 1999 project in Germany [1996–99; p. 90], they merged with Hadid's previous interests in the making of a landscape to create a great curved plane.



Cardiff Bay Opera House

TOWARDS A NEW LANDSCAPE

Landscape has become a dominant preoccupation in Hadid's work. If the volumes of her designs are increasingly fluid, so are their exteriors. In projects like the Museum of Islamic Arts in Qatar [1997; p. 94], the building becomes no more or less than a ripple undulating out of the site, moving up to encompass spaces and then dying back down into the ground. Courtyard slots weave space and solid together like a Persian carpet, but also like rivers or lakes, and move in and out of land. Like ripples in clothing or the forms of the Verner Panton chairs she addres, these buildings are moulds of the programme that rise up only as far as they must to accommodate use, but then reveal the beauty of the body inherent in the movement itself.

Inside this new world, however, there is a different reality. It is one Hadid has most fully explored in such recent projects as her scheme for the Mind Zone exhibit in London's Millennium Dome [1998–2000; p. 98]. The complex interweaving of spaces and forms is smoothed over by the landscape-like skins, but with a flip of a wall, the contours of landscape become overhanging prows. Hadid has not forgotten her desire to gesture beyond the limitations of site and programme to create structures that seem larger and more open than we expect from a confined building.

Most of Hadid's recent projects thus appear to have replaced slabs, prows and blocks with spirals and tubes. Motion and gesture have replaced form as dominant elements, and the work is more open, tentative and lyrical. Opening up the urban landscape, unfolding the energies of the modern metropolis and creating a visionary world, Hadid explores the spatial possibilities of such an architecture in forms that have their own typology, structure and – dare one say it – stylistic properties:

The manner in which she presents this work parallels its intentions. Over the years, Hadid has involved herself less and less with the execution of her paintings and drawings. She now prefers to work, like a Renaissance master, as the head of an atelier. She sketches and does 'all the precise lines' that indicate her design objectives; her co-workers render the work at a larger scale and fill in the spaces between her gestures. There is less detail in the work, less differentiation and less colour. Having moved from multi-coloured and heavily painted collages to monochrome washes, she now produces paintings that are only white lines on black paper, ghosts of a future city.

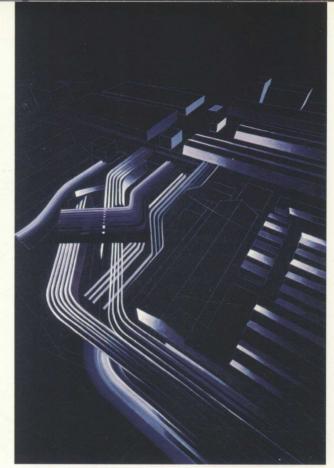
SCREEN GEMS

Despite her continuing painterly approach, Hadid now also makes use of the computer to advance her aims. The latest software allows her to take the existing landscape and unfold it, to pan, swoop, swerve, cut, slow down and speed up. In many ways, the computer fulfils Walter Benjamin's promise, especially as the separation between perception, representation and realization dissolves. The computer is a way of registering facts about our environments. It makes visible forces that are otherwise too abstract to see, it allows us to form and reform those facts however we choose, and it can then quantify these critical representations into buildable qualities. Thus the new comes out of a manipulation of the representation of what already exists.

What disappears in the process is the hand of the maker. This Benjamin also predicted, but it would seem particularly ironic in this case because of Hadid's heroic stance as a maker of outrageous structures. To a certain extent, this is not something that she can avoid. The latest computer programs can render what Hadid had constructed with such care in the 1970s and 1980s into a common mode of presentation. Everyone today sees their buildings from swooping helicopters, and many designers follow the stress points of metal and stone to create undulating, attenuated and prow-like structures. At the same time, Hadid is responsible for engendering a style that now forms office buildings, homes and fast-food franchises from Seattle to Singapore.

Instead of the framed image, the critical painting or the film, the model for her work is now the screen that collects the flows of data into moments of light and dark. The reflection of her own face is barely visible on that screen. Most of the space is dark, and the lines point not out of the cadaster of the space of representation, but in towards the flows of information. The question Hadid now faces is whether she can solidify these flows into form. Can she find the landscape beyond the physical metropolis? Can she form the spaces that open up not as Modernist lofts, but as the fragments of tuned and wired environments suspended in global relationships? Can she make something real and free out of what is hard to green and appetrized by the

to grasp and constrained by the logic of technology and capital?



MAXXI: National Museum of XXI Century Arts

When Hadid summed up her and our world together in 1983, she had confidence in the power of her painting to reassemble the disparate pieces of our reality into a new one. She is poised to realize many of her dreams, and her ability to do so owes a great deal to the tremendous freedom computers have given us to not only imagine new worlds, but also to construct them. Even if we miss the visionary painter of the early 1980s, we must recognize that the visible evidence of her signature on paper or canvas has disappeared exactly because her vision can now take concrete shape. As paintings disappear into computer drawings, their imagined world begins to appear.

By the turn of the millennium, Hadid was moving beyond landscape into a new kind of space. It is one that is at once dense and open, defined and indefinite, real and virtual, beyond 89 degrees, beyond right angles and skewed geometries, and beyond the event horizon in which human activities solidify into form.

BUILDING FLUID FORM

Since 2000, Zaha Hadid has become one of the most successful, recognized and prolific architects working today. In 2004, she won the Pritzker Architecture Prize, considered by many to be the discipline's highest honour. Her face has become familiar to millions on the pages of fashion magazines as well as on those of the more specialized publications on architecture. This recognition is not insignificant. It means that she can sell herself and thus her work: her signature on a building plan will raise its profile, the client's prestige and ability to sell or rent the apartments or office space she has created. This status in turn has allowed her to obtain many commissions. Now what was once a small atelier hidden away in an obscure corner of London has become a sprawling complex of studios, a design factory employing several hundred employees. More and more, Hadid relies on the immense possibilities opened up by the computer and on her collaboration with Patrik Schumacher and her most trusted designers, and more and more her buildings have developed a signature.

In some instances, this is literally the case. One might identify in some of her works of the last decade the letter 'Z', which one could also read as a logical development of the snakes slithering through some of the earlier forms, here becoming a more tightly bundled way of defining space within confined circumstances. At both the National Museum of XXI Century Arts in Rome [1998–2009; p. 156], known as MAXXI, and the BMW Plant in Leipzig [2001–05; p. 128], the serpentine shape meanders through constraints. In Rome, these consist of existing historic buildings Hadid is renovating as part of the overall complex of what will be the largest modern art museum on continental Europe. The shape is most evident in the giant beams that zig-zag from the opening projecting into an interior court, past the slightly overwhelmed historic structures, and out into the rear area where future expansions will take place. Underneath

this strong form, galleries open up in cascades rising up towards light which Hadid admits between structural roof members. The expansion of space along terraced galleries and the movement of circulation around angled corners, up and down stairs and escalators, and through a complex arrangement of spaces that is the result of this simple gesture, all help to create the sense of endless development, of always more rooms waiting to unfold around the next bend. What ties all of this together is the roof, which is in actuality what makes possible and shelters the new space. A continuity of structure enables a continuity of space, but the two are not equivalent, and it is out of the contrast between these two that the character of the institution emerges.

The zig-zag shape is even clearer in Leipzig, where Hadid had to work around the giant production halls for the automobiles, which had already been designed by others. Her task was to create the communal as well as the office spaces, the public exposition



Eli & Edythe Broad Art Museum

of how the car was made and the provision of worker amenities, and she interpreted this as one job. The trajectory here also shelters and defines the entrances, and wend its way past the public reception area and rising terraces for workers' cubicles that shelter the cafeterias underneath, to the rear area where a gym and more prosaic facilities fill out the gesture's final nooks. The roof trusses here again create the continuity that ties all of these elements together. In this case, they are a bundle of super high-strength concrete beams capable of spanning large distances, leaving the spaces beneath open to each other. Against this grand gesture, the conveyor belt along which the partially assembled and painted cars move from one production hall to the next seems almost trivial, though it does give both a programmatic and a propagandist meaning to what might otherwise remain just a gesture.

These spaces are magnificent, but they also appear – along with their vertical and concrete embodiment, the Bergisel Ski Jump in Innsbruck [1999–2002; p. 112] – to be among the last of the forms which unfold out of any kind of geometry that one might recognize from traditional building practices. But the diagonal motif does reappear in the Glasgow Museum of Transport Riverside Project [2004–10; p. 162]. It also has become a façade element that slices open and brings down the scale of what would otherwise be rather massive and closed blocks, such as the Pierres Vives building in Montpellier [2002–11; p. 158] and the Eli & Edythe Broad Art Museum at Michigan State University [2007–; p. 176].

In some recent projects, the whole building becomes a mound of triangular forms that do not so much develop as snakes of spaces as pile up, as in the Guangzhou Opera House in China [2003–09; p. 160] into an artificial mountain sponsoring its own pebbles for entrance and service functions. The opera house and other related projects rely on space frames and cladding to contain a complexity of spaces that seem to be bursting at the buildings' confines.