



Contemporary Arab Affairs

Publication details, including instructions for authors and subscription information:

<http://www.tandfonline.com/loi/rcaa20>

Zaha Hadid, genius of the place*

Moham mad 'Aref ^a

^a Science and technology writer based in Surrey , UK

Published online: 04 Aug 2011.

To cite this article: Moham mad 'Aref (2011) Zaha Hadid, genius of the place*, Contemporary Arab Affairs, 4:3, 267-287, DOI: [10.1080/17550912.2011.591545](https://doi.org/10.1080/17550912.2011.591545)

To link to this article: <http://dx.doi.org/10.1080/17550912.2011.591545>

PLEASE SCROLL DOWN FOR ARTICLE

Taylor & Francis makes every effort to ensure the accuracy of all the information (the "Content") contained in the publications on our platform. However, Taylor & Francis, our agents, and our licensors make no representations or warranties whatsoever as to the accuracy, completeness, or suitability for any purpose of the Content. Any opinions and views expressed in this publication are the opinions and views of the authors, and are not the views of or endorsed by Taylor & Francis. The accuracy of the Content should not be relied upon and should be independently verified with primary sources of information. Taylor and Francis shall not be liable for any losses, actions, claims, proceedings, demands, costs, expenses, damages, and other liabilities whatsoever or howsoever caused arising directly or indirectly in connection with, in relation to or arising out of the use of the Content.

This article may be used for research, teaching, and private study purposes. Any substantial or systematic reproduction, redistribution, reselling, loan, sub-licensing, systematic supply, or distribution in any form to anyone is expressly forbidden. Terms & Conditions of access and use can be found at <http://www.tandfonline.com/page/terms-and-conditions>

Zaha Hadid, genius of the place*

Mohammad ‘Aref

Science and technology writer based in Surrey, UK

After a startling and meteoric rise to fame, Arab Iraqi-born architect Zaha Hadid is one of the most sought after and in-demand architects of the twenty-first century. Hadid’s work, which often defies description, draws on a diverse palette of influences including Soviet Constructivism, Suprematism, and what her colleague Patrick Shumacher has termed ‘Parametricism’. At the same time, Hadid’s work – she studied under Rem Koolhaas – is infused on multiple levels with her Arab culture and identity. Originally more famous for her designs and un-built works, those which have been constructed or are on the verge of completion span the globe from China to Azerbaijan to Europe, the US and – more recently – the Arab world. She is the recipient of some of architecture’s most prestigious awards including the Pritzker Prize. Simultaneously, Hadid has met with controversy and obstacles to her single-minded approach to design and utilization of space in both Europe and the Arab world. This article contains previously unpublished interviews – which examine her approach to form and space, her relation to computer-assisted design, as well as her Iraqi identity – undertaken with Zaha Hadid by the author over a decade, as well as photographs and illustrations of her paradigmatic work that pose serious challenges and hurdles for structural engineers and builders, while engaging all those who view or encounter them to assess their own relation to space and concepts of it.

Keywords: Zaha Hadid; Arab cultural influence; Suprematism; Parametricism; Constructivism; design; Iraq; projects in the Arab world

From the time of the poet al-Mutanabbī, no other ingenious Iraqi innovator has appeared until Zaha Hadid, of whom can be said as was said of al-Mutanabbī: ‘he filled the world and preoccupied people’. Just as people differed about the genius of al-Mutanabbī, so have the critics, professors of architecture, and even engineers and students differed over the evaluation of the works of Zaha and the modality of her styles, which are considered – at one and the same time – to be a continuation of Modernism, Post-Modernism, Deconstructivism, Constructivism, Suprematism, Avant-garde, Baroque Modernism and Parametricism.

If the work of Zaha is an architectural event that cuts across conceptual frameworks – and indeed it is such – then it is also an expression of identities. It began in the place where she first opened her eyes; and she decided when she was a girl to become an architect, a fact that Western studies mention cursorily only in passing and with seldom more than three words: ‘born in Baghdad’. As the French philosopher

Corresponding Address: Email: Maref21@yahoo.co.uk

*An earlier version of this article was published in Arabic, “Zahā’ Ḥadīd, ‘Abqariyat al-Makān” (*muqābalah*), *al-Mustaqbal al-‘Arabī*, No. 389, vol. 34, July 2011.

Montesquieu asserted, 'People should be mourned upon their birth, not their death.' Zaha's birth was in the ancient country that first initiated architecture and urban planning – five millennia before the beginning of the Common Era, where the civilization of cities flourished for two thousand years before the rise of such in any other civilization. With the end of the third century BCE, 90% of the inhabitants of the lands between the rivers Tigris and Euphrates were living in cities, and Babel – the tenth city established – became the first and only metropolis in the world.

'Zaha's performance during the fourth and fifth years was like that of a rocket that took off slowly to describe a constantly accelerating trajectory. Now she is a planet in her own inimitable orbit,' as remarked Professor Rem Koolhaas of the School of Architecture at The Architectural Association, London (Koolhaas 1977; Architectural Association 1983). And thus it can be anticipated that she will receive rewards and prizes in her professional life, and face difficulties, Koolhaas adding that 'due to the flamboyance and intensity of her work, it will be impossible to have a conventional career. She owes it to her talent to refine and develop it over the next few years' (Koolhaas 1977; Architectural Association 1983). Koolhaas, who is among the most prominent of major world architects and theorists, expressed his 'pleasure and honor' in working with her. She joined his firm after graduating in 1977 and engaged in teaching at the same college; however, she set up her own firm in 1980 under the name Zaha Hadid Architects, out of which she still works today. From within its walls she has designed projects that have won international awards and acclaim, including the prestigious Pritzker Prize in 2004, where she was the first woman ever to receive what is considered to be the highest accolade in architecture. With that, Zaha – in a single moment – brought down barriers of gender, religion, culture and geography.

As al-Mutanabbī intones: 'Out of worry, it is as if I orient the wind under me to the right and left'; and Zaha has constructed projects in various capacities across the continents, among which are houses and living complexes, trade towers, cultural centres, athletic clubs and gymnasiums, swimming pools and ski jump platforms, museums, theatres and opera houses, scientific and art exhibits, offices, medical and academic buildings, train stations and bridges. The number of completed or soon-to-be-completed works in her catalogue is approximately 80 with ten being in Arab countries.

It is a work of a woman in which the international architectural and urbanistic articulations of recent years culminate, and it is an Arab woman who has been able to define the developments and concepts which architecture has to face. This alone is astonishing and probably has never been seen in the history of architecture before. (Kultermann 1999)

Udo Kultermann, in a chapter entitled 'Zaha Hadid's architectural visions into the twenty-first century', lists the names of women who have come into prominence in architecture over recent decades, 'but none of them has produced with increasing energy a body of projects and realizations which can stand as signature works for the aspirations of our time and of the new century' (Kultermann 1999).

In order to comprehend Zaha, one must embark upon a journey of discovery through displacement, dissonance, fragments, curves and slopes as though one were an explorer. This explains the laudatory critical writings about her that suggest she has the disposition of an explorer, about which she remarks: 'It is not possible to achieve an advance without an element of uncertainty, and without an enticing embarkation into the unknown' (Hadid 2002). Zaha took a journey into

the unknown in her studies of mathematics at the American University of Beirut (AUB) and transferred to architectural studies at the College of The Architectural Association in London, where the title of her graduation project was drawn from an architectural visionary of the October Russian Revolution and entitled 'Malevich's Tektonik'. She considers the project to be something of a 'manifesto' with regard to her vision of the conjunction between the demands of art, architecture, engineering and the techniques of bridging, through which she discovered 'a factor that changes the demands of the program to construct a hotel on Hungerford Bridge on the Thames River.' The aim was to interpolate a new segment into the existing architecture connecting the two sides of the river, where nineteenth-century London meets the South Bank artistic assemblage which is dominated by 'the brusque forms of the 1950s.' Zaha's design, which is composed of fourteen floors, 'does not follow any of the prescribed rules of planning at the time and opens up perspectives of a dynamic relationship between individual building and the urban context' (Kultermann 1999). Zaha relates how she pursued this in her subsequent projects, the first of which was the 'Grand Utopia' exhibit at the Guggenheim Museum in New York, where she was able realize some tectonics in specific forms; and secondly, in her design for the 'Habitable Bridge', which took into consideration the possibilities of dual usage over the Thames. This strong mutual relation between architecture and architectural engineering, which refined itself during the course of various projects, reached its ultimate and perfected expression in the Sheikh Zayed Bridge in Abu Dhabi, United Arab Emirates (UAE), which opened in 2010.



Figure 1. The Sheikh Zayed Bridge in Abu Dhabi, UAE, designed by Zaha Hadid and opened on 25 November 2010. Photo: Christian Richters; © Zaha Hadid Architects.

Bridge-building technique is present in the first work of Zaha that achieved international acclaim, which is her 1982 design for 'The Peak' in Hong Kong. Hers was a resounding success in the design competition in which 600 architects from all over the world competed, among whom were famous names as well as some of her own professors. The Japanese architect Arata Isozaki, who was a member of the committee to judge the competition, recalls how Zaha's design was eliminated from the first round when 100 designs were selected. Isozaki faced great difficulty to 'save it from a mountain of other rejected proposals' (Hadid 1986). Zaha, who had ignored all the conditions of the competition, was obliged to repeat her complete presentation from scratch. Isozaki (1985) would clarify subsequently in the preface of the guide to a 1985 exhibition on Zaha's work in Tokyo that 'The reason I advocated the selection of Hadid's scheme so strongly was the uniqueness of its expression and strength of its logic.' Furthermore, 'the plan was divided into horizontal layers instead of the more commonsensical division into vertical zones,' which 'made possible a Suprematist composition in which various elements and forms floated as if dispersed in the air' as though she were resurrecting the style of the school of Soviet Constructivism, as if

the laws of deployment of the style itself violated and deconstructed the actual architectural program. In other words, unlike past methods of architectural composition that abstracted certain demands and adopted the arrangement to those demands, it involve[s] giving oneself up to the forces inherent in the style itself, resulting in the creation of a different type of arrangement that is without parallel. Thus, although the work of Zaha Hadid employs a pure modernist vocabulary, it can be seen as postmodernist in its character. (Hadid 1986)

The word 'influence' does not suffice to describe the paradoxical relation Zaha has between these two primary artistic trends of the twentieth century: that of 'Constructivism' – a trend and school associated (along with 'Suprematism') with Russian artist Kazimir Malevich – and that of 'modern architecture' associated with the French architect Le Corbusier. This may be due to the fact that she first opened her eyes in the geopolitical location of Iraq, which was not only influenced by, but also interacting and merging with that with which it interacted – accepting, rejecting, transcending and discovering what had yet to be achieved. She was interacting when she discovered 'The most exciting thing about Russians is not that their graphics are interesting. It is that their experiment was never finished. There was no conclusion' (Architectural Association 1983). She recalled that in her interview with British architectural critic and academician Alvin Boyarsky in the first portfolio on her work published in 1983 under the title of *Planetary architecture two* (Hadid and Boyarsky 1983). She found that the artists of the Russian Revolution 'were the most adventurous of their time, not only as painters but [also] as architects. They tried to stretch the limits. They were my point of departure' (Architectural Association 1983). She clarified that she did not make allusions to or 'derive from' their work 'although [she] learned [a] lesson from them', even if in reality she would complete their 'unfinished symphony' where 'they painted things that were implied as architecture, but which were never injected into architecture' (Architectural Association 1983). In London, in 2008, a quarter of a century after the publication of her first portfolio, the Royal Academy of Arts dedicated a wing especially to her works in the 'Exhibition of the Works of the Masters of Russian Art' on the consideration of Zaha being one of those most prominently influenced by Soviet art.

Zaha was a student in the College of Architecture when she began to pose basic questions about modern architecture, despite the fact that she considered herself at the time – and even now – to be a continuation of it. ‘I came to realise that architecture’s role had yet to be fulfilled and that there were new territories which were yet to be explored’ (Architectural Association 1983). She recalls this in the Preface to a portfolio of an exhibition of her work held by The Architectural Association in 1983 that she confronted a particular impediment:

[There is] an atmosphere of total hostility, where looking forward has been, and still is, seen as almost criminal [which] makes it more adamant that there is only one way and that is to go forward along the path paved by the experiments of the early Modernists. Their efforts have been aborted and their projects untested. Our task is not to resurrect them but to develop them further. This task of fulfilling the proper role of architecture, not only aesthetically but programmatically, will reveal new territories to be invaded and others to be conquered: and this is only the beginning. (Architectural Association 1983)

Such is the marvellous beginning for a young Iraqi woman emigrant to London who did not possess anything more than some designs – and most of them on paper – setting out to confront a daunting and arduous task, the goal of which was to ‘change the architecture of city centers and construct relations between buildings in harmony with the form of urban architecture’.¹ She announced then, when she did not yet have even a single building worthy of note, that ‘The making of architecture is in the making of space, not necessarily in a conventional or conservative way, but to be able to control space and often to release it from hidden sources’.² The statement was made on the occasion of her first minor work, which occupied the front page of many architecture magazines even before it was opened, which was the fire station of the Vitra Corporation in the city of Weil am Rhein on the Austrian–Swiss border in 1988. Vitra Fire Station was more significant for being put on the map of world architectural tourism than it was for practical purposes, and Rolf Fehlbaum, company President who had contracted her to do the work, would later say, ‘Without ever building Zaha Hadid would have radically expanded architecture’s repertoire of spatial articulation. Now that the implementation in complex buildings is happening, the power of her innovation is fully revealed’ (Fehlbaum 2004). Zaha dealt with space in a completely different way in the LF One park that she erected in the same area in 1998.

The gardening pavilion rises from the ground like [a] chthonic creature whose direction of movement is linear through adaptation to the underground. The streamlined bends of the architecture path bundle are, if seen strictly, not space-creating but rather space-avoiding elements in between which the ancillary rooms, the café, the exhibition hall and the environmental center literally unfold in passing. (Monninger *et al.* 2000, p. 81)

Zaha is enchanted by the place of her first major work to be executed, also in Germany. ‘To create an urban field on the ground, with an object above, was a rare opportunity for us,’ she remarked with regard to the interactive Phaeno Science Centre in Wolfsburg, which opened in 2005. Adding that even though the plaza did not rest on the ground as with the case of the LF One park, there was ‘something of the great chthonic creature here, too, only one that has fully emerged onto the surface’ (Hadid 2005). Zaha would erect what she termed a ‘covered artificial landscape’ composed of ‘craters, caverns, terraces and plateaus’. In it she utilized, for the first time in the history of Europe, self-compacting concrete (SCC), which allows for

on-site construction of a-typical forms, leading Zaha to consider the Phaeno Science Centre to be 'the most ambitious and complete statement of our quest for complex, dynamic and fluid spaces' (Hadid 2005).

Zaha's work 'might seem to be at the very opposite end of the spectrum when compared to a seminal work like Le Corbusier's Villa Savoye (Poissy, France, 1929)' – where Le Corbusier is often considered the father of Modern architecture. Architectural critic Philip Jodidio mentions that this founding work of Le Corbusier 'sits on the ground so lightly, its pristine forms unrelated to anything so dark and unpredictable as the underworld' (Jodidio 2009). In this, 'Zaha Hadid has set architecture free, and it will never be the same again.' Jodidio considers that 'her success has been formed by a constancy and commitment to the belief that architecture and design need not to be as they always were' (Jodidio 2009). The Bauhaus School of modern architecture gives the impression that it belongs to industrial techniques and the need for repetition for the sake of producing 'economies of scale'.

Hadid's concept of architecture, born of rigorous logic and design, yet freed of its Euclidean constraints, has been rendered possible by another industrial revolution driven by computer-assisted design and a desktop CNC [computer numerical control] milling machine from which spring walls and bridges that can dance in sinusoidal waves. (Jodidio 2009)

Contrary to what might be expected from someone who has studied mathematics, Zaha's relation to the computer and digital technology has remained paradoxical from the outset of her professional life. In the beginning she refused to utilize computer design programs and clung – for a long time – to traditional drafting by hand. Subsequently, she came to consider the computer strictly a device to assist in the *comprehension* of forms and not in their generation. Ultimately, she came to accept computer images as drafts, which she would subsequently rework by hand. For now, she concedes the use of computer design programs from the initial stage of design in order to generate three-dimensional stereometric forms and to connect all the stages of the engineering process. She admitted during a discussion with her during the preparation of this article that her stance towards the computer has changed; affirming the decisive influence of the computer on design and construction, without which the execution of new projects such as the Guangzhou Opera House in Chinese would not have been feasible.

Zaha's elucidations have become proverbial sayings, such as her response when asked if she did not feel regret over the great amount of time she had spent before the advent of the computer in drawing and drafting:

A sketch is not so much about the power of the hand as it is the power of the idea. All the work was not about how to do [a] nice sketch; it was really about how to develop an idea. After many takes and layers, the idea begins to be developed, and it allows one to generate complex forms and organize the interiors. (Jodidio 2009)

She retains her critical conservatism that she shares with previous generations of architects:

Work in the past used to analyze and understand the surrounding context in a better way. There was much more study and analysis of the site than now, and certain changes were undertaken because of site analysis. Now, as far as I see, there is no site analysis. Analysis of the environment, context and the location is no longer part of the equation; there is no

discussion about the context anymore, where most of the architecture are just things placed here and there. The issue does not pertain to the use of the computer or lack thereof. The problem is that the computer isolates the object. It is inward-looking as opposed to outward-looking. It is an object, and this is the nature of objects.³

When she is asked if she accepts this state of affairs, she replies: 'I am actually quite critical of it. We used to distinguish between the object and the field and I think it is because of technique that we don't anymore' (Jodidio 2009). She relates sardonically how she sketched the design of a toilet/restroom that the younger members of her staff thought was a kitchen!

The paradox of Zaha's 'historical' relation with the computer is that she is among the last giants of world architecture not born with a mouse in their hand, but the spirit of which has been imparted to them – if the expression is correct. The drawings utilized do not represent for her the final form of the work or present an attractive picture of a given project, but rather they provide a vision of it in different ways and facilitate a discovery process of how things might be changed and developed. It may be said that the computer revolution *introduced* itself in the complex sinusoidal architectural curves of Zaha's work and the impulses of her runaway imagination. Among her famous comments of the 1990s was:

Some people have said to me that there's no way anybody is going to be standing up there looking at an aerial view. Maybe not, unless you're a fly. Testing things in these ways make it possible to view things in 360 degrees and in many other different ways. (Hadid 1986)

She did not resort to the use of colour in her designs for the project 'The Peak' due to the impetus to embellish, but because 'it brings out the mood in some way and also reveals the quality of architecture.' And:

Every time we painted a drawing, it changed our view of how the building was actually conceived in terms of materials, and of its colour. For instance, with 'The Peak' we really had no idea about how it should be finished. By the use of drawings and painting slowly but surely we developed a confirmed opinion. Painting was like a trial experiment. (Hadid 1986, p. 10)

Speaking about her famous designs for the exhibition at the Guggenheim in New York, in which the masters of world architecture took part, she adds that 'with painting you have to know the limitations of the technique and how you can manipulate them' (Hadid 1986, p. 11).

Zaha's relation with nature, like that with the computer, is paradoxical – about which she says: 'Nature does not evince bewilderment with its strange and exotic forms, but the exotic forms of Zaha evince bewilderment'! She sees that 'contemporary architecture is striving to emulate nature and imbue architecture with the intricate complexity and elegance of natural forms.'⁴ She shows us this paradox when she combines the imitation of surrounding nature and the historic temple of Petra in Jordan in the design of The King Abdullah II Darat of Culture & Art, in Amman, Jordan, which is among the most exquisite of her works in the Arab region. Zaha considers Petra to be 'a magnificent precedent for the interplay between architecture and nature' (Hadid personal communication). She is enamoured with 'the way the rose-colored mountain walls have been fissured, eroded, carved and polished to reveal the strata of sedimentation along the fluid lines of the fluvial erosions'

(Fehlbaum 2004). The King Abdullah II Darat of Culture & Art contains a concert hall with a seating capacity of 1600, accompanied by a smaller 400-seat theatre, as well as practise and art exhibition halls. The main section of the project occupies the eastern side of the location where the building opens onto the larger western side – which occupies a greater area and has been designated as a public space – and, thereby, creates an internal arena or gathering space. The House premises flow from outside to inside like movement of a sand dune.

In what is between place and memory stands the design of the Heydar Aliyev Cultural Center in Baku, Azerbaijan, in which the critics see a major resemblance to the topography of the land, where 'building itself merges into landscape blurring the boundary between the building and the ground' (Hadid personal communication). Here, the topography of the land or 'the East or something else' might, as Zaha says, 'gives me a feeling at one time or another – and I can't define it – perhaps it is accumulated remnants of the architectural heritage and Arabic calligraphy, buried deeply within us' (Aref 1988). And the memory of places is alive in the imagination of Zaha which witnessed the power of the influence of the East on the architecture of Modernity. She speaks of Eastern elements – epitomized in simplicity and abstraction – in works of the most prominent architects of the twentieth century: the Swiss-born French architect Le Corbusier, the German Walter Gropius and the American Frank Lloyd Wright.

The concept of the inner courtyard and open space in the ancient houses of Morocco, Tunis and Iraq were adopted by Modern architects of the 1930s in their endeavor to introduce air and light into buildings, and these elements were not accepted by the European person unaccustomed to the presence of air and light inside buildings.

These influences left their mark in a powerful and unique way on her works which combine elements of light and airiness and the essence of the 'splendor that technology of the 20th century creates'.

Zaha and water came together in the first major work of hers in London: the Aquatic Center, where competitions for the Olympic Games will be held in 2012. The curved fluid shapes flow in 'its double-curvature parabolic roof and design, inspired by the fluid geometry of water in motion' (Jodidio 2009, p. 14). It is a wave leaping above the earth – with an area of 24,000 square metres – that constitutes the mark of Zaha on English territory, which has long prohibited her from addressing it. Here Zaha elucidates the essence of natural water on the basis of the water of modern technology and composite materials; and in this she does not imitate nature except in the way a ballet dancer imitates a swan: she is the swan whom others imitate. Nature emanates from the ground or from the surrounding architectural space 'like a chthonic creature from the netherworld of Greek mythology, not born of any common experience, but somehow as unquestionable as an ancient myth' (Jodidio 2009).

Zaha is an Iraqi who says 'No' before she says 'Yes'. She explains this at a time of her resounding failures and successes that made her famous up to the beginning of the twenty-first century, not through her built works, but rather through those that had not been built, but which have remained – due to her wild, dramatic pictures – alive in the memory of global architecture. The Design Museum, London, has realized this in its Preface to the biography of Zaha, indicating that she 'appears to have made her way with greater difficulty than most [architects]' (Design Museum 2007). The museum affiliated to the British Cultural Council mentions that 'Zaha's single-mindedness and her unique unwillingness to compromise is something legendary' (Design



Figure 2. Proposed view of The King Abdullah II Darat of Culture & Art, Amman, Jordan, by Zaha Hadid. Photo: © Zaha Hadid Architects.



Figure 3. Proposed interior view of the King Abdullah II Darat of Culture & Art. Photo: © Zaha Hadid Architects.

Museum 2007), on the consideration that '*her forcefulness* is both a curse and a blessing' (added emphasis) mentioning that this in fact 'helps to weed out weak projects and weak clients, like architectural natural selection, so that when architecture is



Figure 4. Proposed view of the yet-to-be-completed Signature Towers in Dubai, UAE, designed by Zaha Hadid with Patrik Schumacher (2005). The size is 350,000 m² above ground with 300,000 m² below ground. Photo: © Zaha Hadid Architects.

finally built, it is as strong-willed as its creator'. Her strong character is, according to the Design Museum, also 'a curse' as it 'can make clients "run for the hills"'. Often, as in the case of the Cardiff Bay Opera House in the capital city of Wales, Great Britain in 1994, where such opportunities to build were lost quite spectacularly' (Design Museum 2007).

Despite the aspects of truth in discussion of Zaha's forcefulness and single-mindedness, such is insufficient to explain the outrageous scandal of disqualifying her success in the design competition for the Cardiff Bay Opera House, which incited protest throughout the echelons of international architecture that saw in Zaha's initiative 'the best design for a waterfront in Europe', according to the architectural critic of *The Independent* (1996). Additionally, *The New York Times* (1995) architectural critic wrote that '[Her] design, a sleek and dazzling complex of sharp lines and surfaces that she compared to an "inverted necklace," won out over those of 267 competitors. It was still so controversial that an additional round of competition was declared; her design won that one, too.'

Francis Duffy, President of the Royal Institute of British Architects (RIBA) at the time, described the disqualification of Zaha in the design competition for the Cardiff Bay Opera House as a 'shameful disgrace'. Lord Crickhowell, Chairman of the Cardiff Bay Opera House Trust, who was among those most stridently opposed to Zaha's design, confessed that what happened constituted 'the most costly consultative processes in the history of Britain'. The dispute over the design, which critics considered 'a shining jewel', lasted six months. Initially, the design was rejected on the grounds that the parking area was too small. Despite that Zaha knew from the outset

the impossibility of an Arab-Muslim woman winning the design competition, she *made* the required modifications and agreed to the inappropriate condition of entering the competition again. When she won for the second time, the judging committee that financed the project alleged that the local residents had expressed preference for the construction of a rugby stadium.

What was Britain's loss is China's gain, where the Guangzhou Opera House – designed by Zaha – opened this year. After having been one of the most prominent architects who lacked – up until the last years of the twentieth century – completed buildings, currently there are 25 built; 56 under construction (ten of which are in Arab countries) and 31 of which have received prizes in international competitions, but which have not been executed; in addition to 71 designs for exhibitions among that at the Guggenheim, considered to be landmark in the history of world architecture. Zaha became famous from the very beginning of her career in design and artistic production such as furniture, jewellery, ornaments, shoes and other 'affairs of the heart' according to architectural critic Alvin Boyarsky, who says of her that 'each one [i.e., piece] seems to have the complexity of an entire building' (Boyarsky 1986, p. 21). The Chanel women's handbag that she designed for the French perfume and cosmetics purveyor was put in the permanent collection in the museum of the Arab World Institute in Paris.

The name of Zaha Hadid is connected with the global wave of museum, opera house and theatre construction, where people – according to her – are the ones who commend the construction of these works and not a class of nobles or rulers. She was the first woman to design a museum in the United States with her success in the 1998 competition to build the Museum of Modern Art in Cincinnati, Ohio.



Figure 5. Proposed view of the yet-to-be-completed Museum of Contemporary Art in al-Muharraq, Kingdom of Bahrain, designed by Zaha Hadid with Patrik Schumacher (2007). Photo: © Zaha Hadid Architects.

Among all the comparable solutions, Zaha was the one who tried the most to integrate the building into the urban context, expose it to public use and open it up so as not to restrict the enjoyment of its inner contents to a small isolated group of prominent and privileged visitors. (Kultermann 2002)

Udo Kultermann mentions this by way of indication that the development of Zaha's architecture is distinguished for

the closing of the gap between culture and society. It may as well be seen as an over-bridging of historic borderlines between periods and countries within the [context of] modern development and the exploration of features attempting to explore territories of the unknown.

The Design Museum considers Zaha's style to be a type of Baroque Modernism at a time when the Classical Baroque 'shattered Renaissance ideas of a single viewpoint or perspective in favour of dizzying spaces designed to lift the eyes and the heart to God.' Likewise, Zaha shatters both the classically formal, rule-bound modernism of Ludwig Mies van der Rohe and Le Corbusier and the old rules of space – walls, ceilings, front and back, right angles. She then reassembles them into what she calls 'a new fluid, kind of spatiality of multiple perspective points and fragmented geometry, designed to embody the chaotic fluidity of modern life' (Design Museum 2007). Zaha's buildings deny their own 'solidity' and are on the verge of creating forms that morph and change shape like some sort of material out of science fiction, but which construct a 'solid apparatus to make us perceive space as though it morphs and changes as we pass through' (Design Museum 2007).

The Design Museum notes that Zaha avoids theorizing about her work, contrary to other well-known architects who endeavour to conceptualize what symbolizes their architectural forms. Zaha's partner in her office, the German architect Patrik Schumacher, has taken upon his shoulders the task of theorizing, which might afford us a key to comprehending Zaha's works on the consideration that she is of the '*avant garde*' producing 'paradigmatic expositions of a new style's unique potential, not buildings that are balanced to function in all respects' (Schumacher 2008, pp. 93–94). Schumacher mentions that Zaha's work 'is at the juncture between architecture, art, and design, not always necessarily fully resolved because hers is an ongoing, formative process' (Schumacher 2008, pp. 93–94).

Schumacher coined the term 'Parametricism' to describe Zaha's 'unmistakable new style manifest within avant-garde architecture today. Its most striking characteristic is its complex and dynamic curve-linearity' (Schumacher 2008, pp. 93–94). He assesses:

Beyond this obvious surface feature one can identify a series of new concepts and methods that are so different from the repertoire of both traditional and modern architecture that one might speak of the emergence of new 'paradigm' for architecture. Parametricism is the great new style after Modernism. Postmodernism and Deconstructivism were transitional episodes that ushered in the new, long wave of research and innovation. (Schumacher 2008, pp. 93–94)

In other words, it might be argued according to this framework that 'Modernity' was founded on principles of the concept of 'space', whereas 'Parametricism differentiates fields'. The concept of field is akin to something of a 'new conquest' in world architecture, where 'from compositions of parts we proceed to dynamic fields of particles' (Schumacher 2008, pp. 93–94) and revolves around the concept of

going from composition, which involves a number of parts, to an identity of a field, which is made up of particles, none of which has a name or a number or an identity. It is only the field effects and qualities that matter where the particles are just fragments of a global mass. (Schumacher 2008, pp. 93–94)

The concept of ‘field’ is readily apparent in the building of the MAXXI Museum for Modern Art in Rome, for which Zaha received the highest accolade in British architecture, the Stirling Prize.

This notion of field, like our MAXXI Museum in Rome is not something you have an image of. It is not something tangible that you can hold like an object but something in which you immerse yourself and where you follow certain laws of proliferation. You are drawn through it.

Schumacher considers the architecture and the monumental buildings at the end of the past century to constitute an entirely new mode of architectural thinking ‘connected to the new social processes and the way in which life works on the planet.’ Dealing with the Museum in Rome was handled this way on the consideration of

the way it sits in an urban fabric, the way it complements existing structures, the way it has no signature face but only a signature character; these are to do with an urban life process that has multiple intersecting audiences, which has social territories intersecting and bleeding into each other. (Schumacher 2008, pp. 93–94)

Succeeding years will see whether or not the term ‘Parametricism’ which Schumacher has posited may come to establish itself. Jodidio draws on the formalism of the new term in dealing with the ‘fundamentals of Hadid’s architecture that clearly go behind formalist debate’ (Jodidio 2009, p. 9). Schumacher is not among the founders of Zaha Hadid & Associates, but rather began working there about ten years after it opened. Since then, the office has undergone major transformations in the last decade when the number of employees increased dramatically and where there are now around forty *teams* (with approximately 350 employees) where previously there were only a number of individuals. Critics have observed that Zaha led the process of change personally with unflinching self-possession in contradistinction to other global architectural firms that faced difficulties. Presently, her work is constrained to general oversight and supervision, except that all designs bear the name of Zaha, and many of them are in cooperation with Schumacher. Among the famous designs on which she worked individually are the Cardiff Bay Opera House and Vitra Fire Station as well the ‘Mind Zone’ in the Millennium Dome in London, and the Bergisel Ski Jump in Innsbruck, Austria, in addition to the Museum of Modern Art in Cincinnati, the Guangzhou Opera House, the Sheikh Zayed Bridge as well as Salerno Maritime Terminal in Italy.

The Complete Works of Zaha Hadid (2009), authored by Philip Jodidio, contains a special index of names of collaborators in all the office projects, beginning with the designer, the director(s) of the project; members of the work team; those who participated in the initial phase of the project or in the execution of its various stages; and it concludes with the names of those who have worked at the firm over the last 30 years. It may be noted that the book – at six hundred 30 × 40 cm pages – is one of the largest that Taschen has ever published in its major series on architecture.

The Complete Works comprises pictures of Zaha's designs from around the world including approximately twenty in the Arab region, most of which are still under construction and design, with the exception of the Sheikh Zayed Bridge, which opened officially at the end of last year with Queen Elizabeth II in attendance. Zaha was absent from the celebration due to her receiving an invitation only a day before the opening, when by chance I happened to be at her office. Possibly the reason for this was the formality of the opening that was expected to be an historic occasion. This bridge, which links the capital of Abu Dhabi with the Emirates, is counted among the attractions of world architecture. It is the first bridge to be designed by a woman in the history of engineering and architecture, and in it Zaha reveals 'the use of her talents as an architect in a project usually restricted to engineers' (Kultermann 2008). 'In sharp contradiction with standard engineering principles, the bridge was one of the most difficult structures to build in the world', according to the Six Construct company responsible for executing the final phase of the bridge (Broomhall 2010).

Another design of Zaha's in the region which invites wonder is the Abu Dhabi Performing Arts Centre on al-Sa'diyāt Island. Its design looks like a gigantic extraterrestrial jewel that has just alighted on the al-Khour coastline. Its height reaches 62 meters and extends ten floors above ground level, with four below ground. Its crystal wings spread to comprise five halls for music and theatre, a hall for ceremonies, and an opera house with more than 6300 seats. The nebulous fate of the project, the execution of which has been delayed, is shrouded in mystery; and its location was changed without informing Zaha, from whom the Arab and international architectural audience expects her performance, given her place among the geniuses of contemporary architecture, to be that of a prima ballerina. She is a daughter of the region and the al-Sa'diyāt Island project ranks as one of the largest conglomerations of museums in the world. The island's area, which is on the coast of the capital city of the UAE, is 27 km², and it is planned to build three major museums there, including: (1) a branch of the Guggenheim to be designed by Frank Ghery – but twelve times larger than the size of the headquarters museum in New York originally designed by Frank Lloyd Wright – with construction expenses reaching US\$800 million; (2) a branch of the Louvre Museum in Paris to be designed by Jean Nouvel, where US\$1.3 billion have been earmarked to lease the Louvre's collections and other international museums; and (3) a third museum that will bear the name Sheikh Zayed and which will serve as the national museum of the Emirates, designed by British architect Norman Foster, where construction will be in agreement with the British Museum in London.

Zaha presents as 'Iraqi' in her situation as the 'outsider', as she expresses it. Britain taxes her as a British citizen, but deals with her as a foreigner. Arab governments also consider her a foreigner and treat her as an Arab (woman). Although the architect is only asked about his architecture, her paradoxical situation raises the question as to what she did to fill the gap between her work and Arab society? When I asked her this, she began thinking aloud about setting up an office in the region – perhaps in Dubai, where she is involved in a number of projects and which affords professionally qualified engineering capabilities – local and international, commensurate with world standards. However, Dubai is far from North Africa where she has embarked on a number of new projects in Morocco, Algeria and Libya. If it were not for the unstable security situation in Beirut, the city would have been the appropriate place. She has the same reservations about Cairo, despite the fact that she has constructed one of her boldest works there: the 70-floor Nile Tower, the lower floors of which extend like

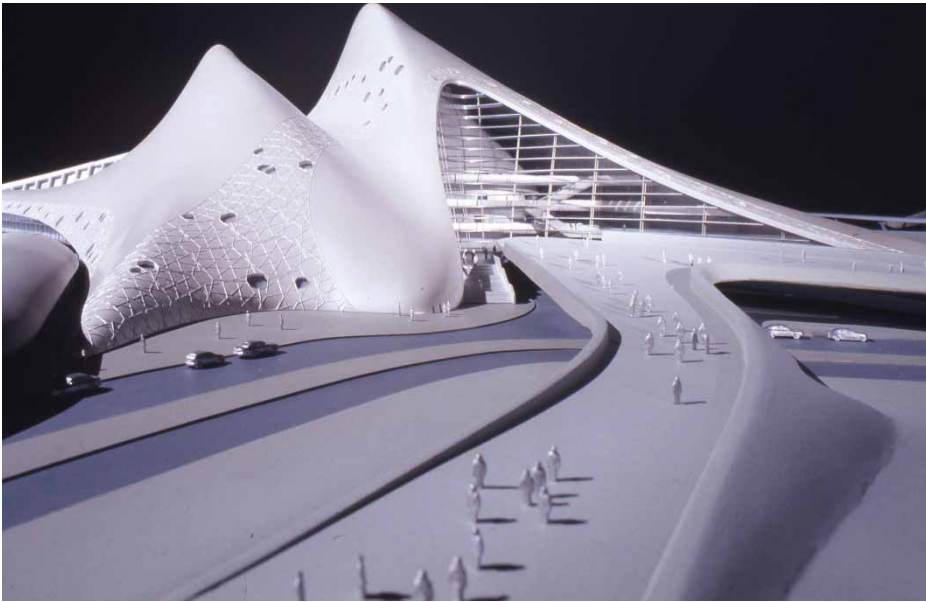


Figure 6. Model of the Opera House of the Abu Dhabi Performing Arts Centre, UAE, designed by Zaha Hadid with Patrik Schumacher (2007). Photo: © Zaha Hadid Architects.

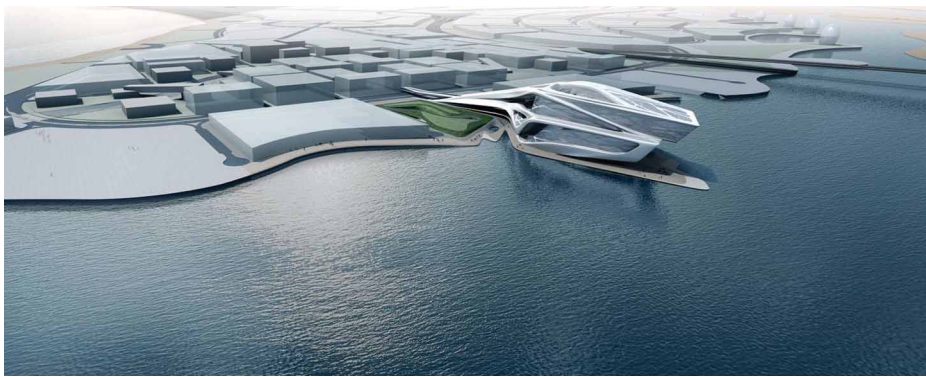


Figure 7. Proposed view of the Abu Dhabi Performing Arts Centre. Photo: © Zaha Hadid Architects.

the outstretched paws of the Sphinx in Giza in the direction of the river, and where the fin-like walls of its upper floors twist to provide a view moving with the horizon line beyond the River Nile.

Zaha avoids discussion of her projects in the Arab region as nearly all of them are under construction, and it would appear that the architecture from this angle is art restricted by costly binding contracts, which specify secrecy and which might be a source of contention or legal disputes. When I asked her about her design for the Issam Fares Institute for Public Policy in Beirut, she burst forth in fond discussion of Beirut – the city which has lived on in her memory since her studies at AUB. Like



Figure 8. North elevation of the Abu Dhabi Performing Arts Centre. Photo: © Zaha Hadid Architects.

any Beirut, she strongly criticizes what unregulated and unplanned construction work has done to the city and bemoans how she experienced difficulty locating Bāb Idrīs, the harbour and 'ABC' and elsewhere among the places whose locations have changed due to the levelling of the ground and the rebuilding after the long civil war, which destroyed the landmark features of Beirut and its chaotic beauty of a 'Brazilian' sort. Her animation returns with a digression into the art of Lebanese cuisine, praise of Lebanese handicrafts in the manufacture of works of art, jewellery, small and distinct handbags. However, perhaps the best expression of her passionate feelings towards Beirut is embodied in her design of the hall of the Issam Fares Institute, which will be situated on the AUB campus. It is the like of a 'personal and private signature design', as noted by Iraqi architectural researcher Khalid Sultani, who sees that

the 'reinforced concrete bulk' of the building is closer to a work of sculpture. Even if it appears to be rooted in the ground from which it emerges, it retains a great deal of tension and instability due to the incline of its external walls towards the east and a powerful cantilever arch extending far from supporting base agglomeration/bloc on the western side. This free cantilever arch extends from the roof of the second floor, supporting with its beam the upper two floors, conferring on the building a distinct aspect, rendering its architecture an outstanding event among the buildings of the university campus. (al-Sulṭānī 2010)

Uncovering the Arab aspect in Zaha's work shows it is connected to the human and geographical milieu that gave rise to great world civilizations, and she acknowledges this dimension of her art. In her view, a person ought to be a product of the background and culture from which he comes; and at the same time he is the product of what happens to him. 'He is not a vessel produced by a particular country, but rather he is a mixture of all that has happened to him. The origins may not be apparent to the eye because it is a symbolic relation and not a formal one' (Aref 1988, p. 116). It is not possible, in her opinion, to identify what is Sumerian or Babylonian or Arab-Islamic in her work, or what is from modern global architecture – to which she belongs – or what is from the 'deconstructionist' school. Zaha does

not consider belonging to the Arab region some sort of stereotypical label, but rather a part of the influence of the East and Islam on her and on world architecture as a whole. The abstract aspect of Arab architecture and Arabic calligraphy has always influenced Western architecture in a powerful fashion. The influence appears clearly in modern architecture's adoption of architectural concepts epitomized in authentic Arab archetypes such as the courtyard of the house, the inner space open to the air and the unimpeded transition from closed to open locations (Aref 1988).

Zaha is aware of the complexity and richness of belonging to two different worlds:

I am an Arab, and I've always been completely aware of that ... despite having lived a long time in Britain, I never lost my Arab identity. I want to do all that I can to reveal the latent unknown capabilities in the Arab region, like black holes in the universe, I mean the civilizational and cultural capabilities and not the material ones.

She recalls that she perceives the concept of eternity when she enters the courtyard of an old mosque in any Arab city or strolls along the banks of the Tigris or the Nile. She believes that her architectural work reflects a number of 'personal and general' influences and that it may be considered to be a product of the interaction between civilizations of the Arab region and those of the world. What is significant in her view is

the realization that we are the product of two situations which surround us at a single time. It is incumbent on us to know our cultural heritage and to affirm that we understand our identity as well as to realize, at the same time, our relationship to the world as a whole.

Zaha does not believe that it is sufficient for us to only look within ourselves, but rather

We must proceed in two different activities simultaneously: one of them is to keep pace with the ongoing changes in the world and the other is to look inside ourselves and endeavor to find better ways of revealing our hidden inner capabilities. This is a major task, but it is possible to achieve. (Aref 1988, p. 113)

Perhaps, this can be appreciated in Zaha's architecture through cinematography better than it can be through photography. The cinematographic view places us in the 'Zaha'ian space', which transcends English and Arabic terminology of 'place', 'surface area', 'space', 'interval', 'extent', 'location', 'volume', and even 'period' and 'timeframe'. The complexity of the Zaha'ian space and its 'flexion', 'exoticness', 'fluidity', 'deconstruction', 'disintegration', 'shattered fragmentation' and others among these – which the critics consider to be the signature characteristics of her work – do not go back to a personal decision of hers that her work should be complex, exotic, fluid or deconstructionist, or her desire to shatter the laws of architecture. Rather, these constitute the dialectic of her personal architecture, the dialectic of her place of birth – the utmost in complexity, disintegration, fluidity, flux and flow.

Iraq is present even in reaches which are the farthest distance from the place: in the 'exoticness' that researcher Khālīd al-Sulṭānī apprehends when he approaches this, enquiring:

How is it possible to describe the emergence of the carving of a winged bull as a formative element of Assyrian architecture or to explain the spiral minaret (of al-Mutawakkil) in



Figure 9. Proposed view of the Rabat Grand Theatre in Rabat, Morocco, designed by Zaha Hadid with Patrik Schumacher (2010). Photo: © Zaha Hadid Architects.

Samarra, or to clarify the feat of design in the conic architecture in the dome of Zumurrud Khātūn tomb in Baghdad?

This exoticness extant in the works of architects of other worlds is explained by al-Sulṭānī as the human imagination which

has remained, across the span of the course of history giving wing to a phenomenology teeming with complexity, contradiction, consummate obscurity and uniqueness of form as a part of the order of a dialectic of interaction between order and disorder, the rational and the irrational, the rule and the exception: whereby human creative production is enriched and acquires its uniqueness and its multiplicity in order to escape the repercussions of stagnation and falling into tedious replication. (al-Sulṭānī 2010)

‘Places can be read like faces, said the old Romans. Every place-just like every person-has its individual genius which, when observed, reveals itself as a kind of soul.’ (Hadid 1999, p. 7). Zaha is inhabited by this ‘genie’ like the ancient Iraqis; and if Western critics were to look beyond Greece or what preceded it, they would find her homeland populated by mythical creatures representing the earth, sky, rain, winds, mountains, building materials and the builders. The god of the earth ‘Anki’ created ‘Sumugan’, the guardian of mountains and forests, and Hawawa, the guardian of the Cedar forests; and the builders’ profession was itself considered holy as it was imparted by the gods to the builders, which gave rise to Kulla the god of brick manufacture; as well as Mushdamma, the god of buildings and foundations; and even the goddess of love and fertility, Inanna, whose image was associated with the bundle of bamboo – considered to be an essential construction material. Mount Hamrin, north

of Baghdad, called 'Ebih' by the ancient Sumerians, has not ceased until today to be venerated in popular litanies of mourning: 'I moaned such wails of grief that I shook Mount Hamrin!'

The obliviousness of the Design Museum to the dimension of 'the shaking of Mount Hamrin' is apparent when it notes of Zaha's refrain from comment on the place of her birth: 'Noticeably, and uncharacteristically diplomatically, she has declined to comment on the situation in Iraq.' It compensates by attempting to find an explanation: 'instead, Hadid lets her works speak for themselves.' And these are not 'merely exercises in architectural form', according to the museum that considers 'her obsession with shadow and ambiguity to be rooted deeply in Islamic architectural tradition, while its fluid, open nature is a politically charged riposte to increasingly fortified and undemocratic modern urban landscapes' (Design Museum, 2007). Zaha's silence when speaking to the British press on Iraq is *deafening*, while she bemoans the situation without restraint in her private gatherings, like any other Arab woman – in a dialect that is a mix of Iraqi Arabic and English:

Baghdad and al-Rashid Street are in ruin, Mosul and Basra are destroyed and the country has been split apart. The embargo is the worst thing that ever happened to Iraq. The war is a catastrophe but the embargo destroyed everything, just as in a bullfight where they continue to stab the bull until the death blow. The Iraqis do not deserve this situation, they should be better off than all the other countries. In the 1970s, they overcame illiteracy and they were traveling and sending delegations to every place.

When the British press asked her about her acceptance of the invitation to build the new Iraqi Central Bank building, she replied in English: 'We ought to start some place in order to give some kind of hope.' Then she elaborated by saying:

However, we ought to think about the city as a whole and not just one building. [We should] think about the structure of the city and the state. Now, they need to deal with matters in a civilized way, far removed from politics. However, I cannot go and freely offer my services without knowing what is going on. People there want us to come, and even if we think that their invitation is serious – and it is – we don't know how this is possible. There is a lot of work in building houses, schools, hospitals and public buildings. More opportunities than can be believed. Many foreigners are going there now in order to investigate the circumstances – German companies are preparing for the planning of a number of cities. The Iraqis need support, not financial support – they have wealth. We need tremendous willpower; and, security is very important.

She laments in colloquial Iraqi Arabic: 'Why did this happen to people who were among the best and brightest of intellectuals. Why? What did we do wrong? What was our sin? Not just the Iraqis, but the Arabs. What did we do wrong? They are laughing at us.' She repeats this asking in English: 'Why? Why? Why?' The architectural technique of Urbanism which Zaha calls to be utilized in reconstructing Iraq is a 'legendary' force unto her country which initiated civilization and its architecture more than 5000 years before the Common Era and where the civilization of cities flourished for two millennia before the appearance of similar ones in Egypt and China and long before those of the Incas and Aztecs. It is the genius of place, and we see it when we ask along with British researcher Gwendolyn Leick why was it that the first city in history was born in the 'lands between the two rivers' (i.e., the Tigris and Euphrates)? Does this go back to the exceptionally fertile ground, changing and unstable geographical and environmental conditions, and unpredictable natural locations or an entire lack

of material boundaries that would isolate it socially and culturally, where the lack of local material resources dictated undertaking far-reaching mutual interactive relations? What is it that brought 90% of the ancient inhabitants of Iraq to live in cities by the end of the third millennium BCE? How did Babylon, the tenth city to be erected in this place, become the sole metropolis in the world in the first century BCE (Leick 2002)?

It is fitting to end this discussion of the genius of Zaha Hadid with such questions, save only to note that, against the background of protest and transformation sweeping across the Arab world in 2011, she is the revolution within the revolution.

Notes

1. Interviews with Zaha Hadid on different occasions between 1996 and the time of writing this article.
2. Hadid, from the notes of the architect.
3. Interview with Hadid, 2004.
4. Interview with Hadid, 2005.

References

- Architectural Association, 1983. *Zaha Hadid: planetary architecture two*. Folio catalogue published to coincide with an exhibition held at The Architectural Association, London, November–December 1983, with contributions by Kenneth Frampton and Alvin Boyarsky. London: Architectural Association.
- Aref, M., 1988. Zahā' Ḥadīd zāhirah 'arabīyah fī al-'Imārah al-'ālamīyah' [Zaha Hadid: an Arab phenomenon in world architecture]. *Ālam al-Fikr (Kuwait)*, 27 (2), 109–125.
- Boyarsky, A., 1986. *The architecture of Zaha Hadid, GA Architect, 5, Zaha M. Hadid*. Tokyo: ADA Edita.
- Broomhall, E., 2010. Queen Elizabeth opens billion dirham bridge. *Arabian Business*, 25 November. Available from: <http://www.arabianbusiness.com/queen-elizabeth-opens-billion-dirham-bridge-364202.html> [Accessed 19 May 2011].
- Debray, R., 1980. *Revolution in the revolution? Armed struggle and political struggle in Latin America*, trans. B. Ortiz. Westport, Conn: Greenwood Press.
- Design Museum, 2007. *Zaha Hadid – architecture + design* [exhibition]. London: Design Museum, British Council. Available from: <http://designmuseum.org/search?query=zaha+hadid> [Accessed 19 May 2011].
- Fehlbaum, R., 2004. *Zaha Hadid becomes the first woman to receive the Pritzker Architecture Prize*. Pritzker Architecture Prize. Available from: <http://www.pritzkerprize.com/laureates/2004/announcement.html> [Accessed 9 January 2009].
- Hadid, Z., 1986. *Global architecture architect 5*, Introduction by Arata Isozaki, Interview by Alvin Boyarsky. Tokyo: ADA Edita.
- Hadid, Z., 1999. *Zaha Hadid, LF One*. New York, NY: Princeton Architectural Press.
- Hadid, Z., 2002. *Opere e progetti*, Rome, 2002. Available from: www.zaha-hadid.com/exhibitions/opere-e-progetti-exhibition [accessed 29 June 2011].
- Hadid, Z., 2005. *Zaha Hadid architects Phaeno Science Center*. Available from: <http://www.arcspace.com/architects/hadid/phaeno/phaeno.html> [Accessed 19 May 2011].
- Hadid, Z. and Boyarsky, A., 1983. *Planetary architecture two*. London: Architectural Press.
- Independent*, The 1996. A model architect, 11 February. Available from: <http://www.independent.co.uk/arts-entertainment/a-model-architect-1318413.html>.
- Isozaki, A., 1985. *Zaha Hadid's works in Tokyo*, September 28–November 3. Tokyo: ADA Edita.
- Jodidio, P., 2009. *The complete works of Zaha Hadid, 1979–2009*. Cologne: Taschen.
- Koolhaas, R., 1977. *Fifth year report at The Architectural Association in London*. London: Architectural Association.
- Kultermann, U., 1999. Architectural visions into the 21st century. In: *Contemporary architecture in the Arab states*. New York, NY: McGraw-Hill.

- Kultermann, U., 2002. *Unendliches in Bewegung*. Bratislava: Museen fuer Zeitgenoessische Kunst, ars.
- Kultermann, U., 2008. Architectural visions into the 21st century – the work of Zaha Hadid. Available from: <http://www.worldarchitecture.org/world-architects/index.asp?worldarchitects=articledetail&codde=892&tipi=3&up=205>.
- Leick, G., 2002. *Mesopotamia: the invention of the city*. London: Penguin.
- Monninger, M., Schumacher, P., and Guthardt, W., 2000. *Zaha Hadid: urban architecture: Wolfsburg–Rome–Cincinnati*. Berlin: Aedes.
- New York Times*, 1995. Britain rejects Welsh Opera's plea for financing, 25 December. Available from: <http://www.nytimes.com/1995/12/25/arts/britain-rejects-welsh-opera-s-plea-for-financing.html>.
- Schumacher, P., 2008. Zaha Hadid Architects – experimentation within long wave of innovation. In: *Out there: architecture beyond building*, Vol. 3. Venice: La Biennale, Marsilio Editori. Available from: http://www.patrikschumacher.com/Texts/Experimental%20Architecture.htm#_ednref2 [Accessed 13 May 2011].
- al-Sulṭānī, K., 2010. 'Taṣāmīm Zahā' Ḥadīd al-'Arabīyah' [The Arab Designs of Zaha], *Elaf* (Online Arab Journal), 10 July. Available from: <http://www.elaph.com/web/templates/article2010.aspx?articleid=577626> [Accessed 20 May 2011].