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Dimming the scintillating glow of unwork: looking at digital visualisations of urban redevelopment projects

Gillian Rose, Monica Degen and Clare Melhuish

The urban fabric of global cities is constantly changing. And in the past three or four years, a new form of visualising those changes has become commonplace. On the billboards of almost every building site, a new kind of image is appearing: a digital visualisation of what that site will look like when the construction work has finished (see Figure 1). In particular, the iconic new buildings which no global city can now be without (Kaika 2011) are always surrounded by such visualisations on the hoardings that encircle them as they gradually rise into the city skyline. In the hustle and bustle of many big city streets, the presence of these high-definition, glossy visualisations is often striking, inviting passing pedestrians, passengers and drivers to pause and experience their high-end design, lovely weather, pretty planting, gorgeous lighting and leisureed lifestyle.

Large-scale urban redevelopment projects are pictured in a panoply of visualisations, in fact, which appear in advertising aimed at real estate investors and house-buyers, on the websites of architecture offices and visualising firms, as part of planning applications and as framed artworks in development companies' offices, as well as on building site hoardings. To date, these digital visualisations have been given very little scholarly attention. However, it is possible to argue that they exemplify one of the key aspects of contemporary capitalism, and that they do so through their particular visual qualities, qualities which are enabled by the possibilities of the digital technologies which create them. Several critics have argued that contemporary capitalism should be described as what Böhme (2003) calls an "aesthetic economy" (Klingmann 2007; Lonsway 2009; Biehl-Missal and Saren 2012). Böhme argues that contemporary capitalism relies more than ever before on the aesthetics of its commodities. It is the 'aesthetics' of an object, argues Böhme, that makes it attractive to consumers, by which he means the way that the sensory qualities of a commodity reach out and engage the (potential) consumer. Thrift has also written about the importance of such sensory seduction to contemporary capitalism, suggesting that "everyday life becomes a cavalcade of aesthetically charged moments which can be used for profit" (Thrift 2008, 13), and digital visualisations of buildings-yet-to-be-built can be seen as one way in which everyday urban spaces are becoming 'aesthetically charged'. Böhme (1993, 72) elaborates:

"These aesthetic qualities of the commodity then develop into an autonomous value, because they play a role for the customer not just in the context of exchange but also in that of use... they form, as it were, a new type of use value, which derives from their exchange value in so far as use is made of their attractiveness, their aura, their atmosphere. They serve to stage, costume and intensify life."

It could be argued, then, that digital visualisations of new urban developments serve to 'stage, costume and intensify' particular, sensorily seductive, atmospheric visions of urban life, in order to sell them.
The first section of this chapter will argue that this is indeed the case. Using a case study of a large urban redevelopment project in Doha, Qatar, we will argue that digital visualisations do emphasise the atmosphere, and by extension the attractiveness, of new buildings and spaces. The redevelopment project in question covers a 31-hectare site in central Doha, and is called Msheireb Downtown. The design of Msheireb Downtown began in 2008; construction started in 2010 and is scheduled to finish in 2016 at a cost of €4.18 billion. The developer is Msheireb Properties, a company owned by the Qatar Foundation. The concept master plan was produced by AECOM, and AECOM, with Arup and London architects Allies and Morrison, drew up the detailed master plan. There are a further range of sitewide and executive consultants with specific responsibilities, co-ordinated by the Master Development Consultants (MDC) team. Nine design architects were chosen to design the hundred or so buildings on the site. A partner at Allies and Morrison was appointed as the Architectural Language Advisor (ALA) to the project, and was a particularly enthusiastic advocate of the project’s digital visualisations as a means of cohering the project’s different components into "something one wants on the cover of a magazine". This was particularly important in the early stages of the project, when the developer insisted that the various schemes proposed by the individual design architects should cohere into an attractive overall design. The visualisations were initially created to do just that; they were a means of integrating the different buildings into a pleasing whole, to persuade Msheireb Properties to invest in the project. The MDC manager summed up the role that the images played when he said that they were intended to show "how that place will look and feel". Visualisations, then, were crucial to gaining the necessary investment in Msheireb Downtown, and their atmosphere was key to that achievement.¹

It is also the case, of course, that in visualising the buildings in an 'atmospheric' way, the digital visualisations rendered various other aspects of this redevelopment project invisible. The selectivity of place marketing images – which is the genre of visual image these visualisations most resemble – has long been recognised by a wide range of scholars. Digital visualisations have been described as a "a key marketing strategy" (Kaika 2011, 985), whose role, like any other advertising imagery, is to "affectively allure" investors into buying property (Jackson and della Dora 2011, 295). In the process, any number of omissions are made. Like all place marketing images, digital visualisations never picture the labour associated with urban redevelopment projects, for example, neither the labour that goes into building them nor the labour that their offices, apartments and shops will house. The visualisations do not show the wider economic processes and relations of the investment in them. Nor do they show a very wide range of social activities going on in the new spaces being built. Nothing much happens in these sunny spaces except the leisured and happy strolling, shopping, and sipping of coffee by apparently affluent inhabitants.

There seems, then, to be a need to critique these visualisations. Their proffered interruptions to the fast everyday rhythms of city dwellers – these still and quiet images of beautiful buildings, beautiful weather, beautiful people –

¹ The Msheireb Downtown visualisations can be viewed on the developer's website: http://mdd.msheireb.com/default.aspx
need to be interrupted in turn. But how? Well, many, perhaps most, of the pedestrians, passengers and drivers who encounter these visualisations are so used to seeing them, and so familiar with the ploys of advertisers, that they no longer pay them any attention, if they ever did. More interventionist strategies are also possible, though, and this chapter explores several.

Understanding how these interventions – or interruptions – work requires understanding what sort of images digital visualisations are and exactly how they 'stage, costume and intensify' urban life. The first section of the chapter therefore discusses how and why these visualisations are made, and identifies three key characteristics that are complicit with their selling of urban redevelopment: their visual content, their seductive atmosphere, and their erasure of any visible signs of labour. The chapter then discusses the ways in which each of these three characteristics have been challenged by a range of different tactics, from art photography to blogging to a sort of graffitti.

**what sort of image is a digital visualisation?**

Digital visualisations are a relatively new form of image, and this is reflected in the diversity of ways of naming them. They can be called 'renders', which is an existing term used by architects to describe any kind of picturing of a building design; they can be called 'computer generated images'; they can be called an 'artist’s impression'; they were even described as 'photographs' for a long while in the architecture columns of *The Guardian* newspaper before it settled on 'architectural visualisation'. Call them what you like (apart from photographs, which they patently are not), as a new kind of image, it is necessary to spend a little time considering what sort of image they are. One way to do this is to understand how they are made. (This was the basis of the case study on which this chapter draws; the production of Msheireb Downtown’s visualisations was observed, and interviews were also undertaken with architects, visualisers, representatives of Msheireb Properties, and with the ALA.)

A digital visualisation of a new urban development like Msheireb Downtown usually starts life as a file generated by the Computer Aided Design (CAD) software used by a team of architects to design a building. That file is then sent to a visualiser and imported into a visualisation software package such as, in this case, 3DS Max. The architect and the visualiser may be part of the same architectural firm, or the visualiser may work for a separate company specialising in visualisation. The visualiser begins work on the CAD file by stripping out a lot of the architects’ design details, which leaves something on his screen that looks like a wire-frame model. He then specifies the precise location of the building and a date and time, both of which dictate the direction and angle of sunlight in the eventual visualisation, and starts to add layers of colours, materials and textures to the model (which can still be manipulated in three dimensions on the visualiser’s screen). To check on the results of this work, the file is sent to be 'rendered': that is, to be converted from a working image to

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2 Some CAD packages – Rhino in particular – allow architects to work in 3D from the start of the design process. In this case, there is no transition between the design and visualisation software.
something that looks more like a 'picture'. The file then returns to the visualiser for more work.

Once the building itself is looking good in 3DS Max, the file is imported into another software package, usually Photoshop, to be worked up still further as 2D image. At this point, the visualiser will insert visually complex elements into the visualisation – the sky, perhaps, trees and very often people – by pasting photographs into the visualisation (see Figure 2) (Houdart 2008). He will source those photographs either from a library of photos that the architecture or visualising company will have built up for this purpose, or from a number of online, commercial image banks.

At one level, then, a digital visualisation of an urban redevelopment project is highly accurate. The buildings are developed directly from the architect's original design, and many other elements of the visualisation have the same realism as a photograph. However, the image nonetheless offers a very particular sensory/aesthetic vision of urban life, as we have already noted: leisured, sunny, attractive. Moreover, as Houdart (2008) notes, the content relies on the photographic images at the visualiser's disposal. This created a problem for the visualisers working to create images of Msheireb Downtown, because neither their own image-banks nor the commercial ones carried anywhere near sufficient photographs of people dressed in Qatari clothing. One solution they deployed was to search the online photo-sharing website Flickr for holiday snaps taken in Qatar that they could cannibalise. Another was to create their own. Thus one of us found ourselves in a large warehouse in London on a cold November morning in 2012, at a photoshoot organised by the studio who had been tasked to rework some of the forty-two visualisations to bring them up to date, witnessing a quite literal 'staging and costuming' of urban life. Three photographers were taking shots of individuals who had been recruited through a film extras agency in London and costumed in what the visualisers thought were Qatari-looking clothes (actually bought from Asian stores in Southall, a London suburb). Those film extras were photographed doing the sorts of things that constituted the particular of urban lifestyle that the visualisers and developer wanted to show in the visualisations: chatting with each other, having fun with children, carrying lots of shopping bags, sitting down at café tables, strolling around, and the photographs were later pasted into the revised visualisations (Figure 2).

Digital visualisations are thus made to picture a specific range of activities. These particular activities were part of the effort to convey the 'atmosphere' of this redevelopment project. But a great deal of work also went into making the Msheireb Downtown visualisations look atmospheric and glamorous in more affective ways, pace Bohme and Thrift (Degen, Melhuish, and Rose, forthcoming). In particular, most of the visualisations that were created to persuade Msheireb Properties to invest in the redevelopment, and which then became the first 'marketing' images for the project, used quite striking light effects. Just as a lot of care was taken to ensure that sufficient numbers of the people who appeared in the visualisations looked Qatari, so too care was taken to capture the distinctive quality of light in Qatar: a little dusty, a slight haze.

But light is in fact the basic element of the 3DS Max visualisation software. As we have already noted, one of the very first things a visualiser does when he starts to work on a visualisation of a new building is to locate the building in
physical space using software's inbuilt Geographical Positioning System, and to specify a date and a time of day. The software then automatically recreates how the sun's rays would fall on the building at that place and time. The visualiser then goes to work with that basic information about how light and shadow will work in the final image, in this case adding a whole range of other light effects too: the flare of the sun high in the sky; the glow of lights at dusk; fireworks at night; shafts of sunlight falling into courtyards, mosques and shopping malls. Light is used to create a jewel-like intensity and glow to the colours of the visualisations. All of this is best seen on screens, of course, and many contemporary uses of a range of digital visualisation softwares for a wide range of purposes rely on an extensive visual vocabulary of light effects (Dorrian 2008): dazzle, glint, glow, twinkle, glare, glimmer, haze, shadow...

So in both their content and in their atmosphere, these visualisations use digital methods to intensify the urban spaces they are picturing. The final aspect of their digitality is what Galloway (2012, 25) calls the 'glow of unwork'. Galloway uses this term in the context of his discussion of digital interfaces. An 'interface' is the "point of contact at which different bodily or machinic systems meet" (Gane and Beer 2008, 53). In digital studies, use of the term is often restricted to the relation between a human and a digital device. As Galloway (2012) points out, interfaces are designed to be invisible and unremarkable. The best touch screens, for example, are so responsive to fingers that they are no longer noticed when they are used; which means that, if the work done at an interface to make it work is effective, then, paradoxically, it appears as if no work is taking place. This is what he calls 'the glow of unwork'. While digital visualisations on billboards are obviously not digital devices, we have argued elsewhere that there are good reasons for nonetheless conceiving of them as interfaces (Rose, Degen, and Melhuish 2014), and that part of their glamorous atmosphere derives from the glow of unwork that permeates them. Like movie special effects and computer games, digital visualisations seem almost magical in their ability to show, in an quasi-realistic visual language, something that does not exist. In their seamless mix of photorealistic elements, the work that has gone into making them entirely disappears.

So, the digital visualisations that litter global cities are complex image forms, and when thinking about interrupting their efforts to sell very specific versions of urban life, we need to consider three components in particular: their visible content, their affective atmosphere and their erasure of their processes of production. All three of these offer different possibilities for interrupting the visions of urban futures that these digital visualisations carry. The next three sections sketch three different kinds of interruption: resisting, disappearing and networking.

**interruption 1: resisting**

The form of interruption that we call 'resisting' engages very directly with the visual content of digital visualisations of urban redevelopment projects. It takes up their invitation to be looked at, and it looks at them closely, closely enough to ask certain kinds of questions about what is being shown. Let's look at three examples.
On a visit to London in December 2013, one of us noticed a small addition to the visualisations on the hoardings surrounding the Leadenhall Building, one of the new generation of high-rise office blocks currently changing London’s skyline (see Figure 3). Stuck next to one of the figures strolling through the visualisation’s foreground space was a speech bubble that asked “do YOU wish you could skateboard?”. This small and polite question nonetheless very directly challenges the limited range of activities shown in most digital visualisations.

Our second example was reported in the London newspaper the Evening Standard in July 2013 and articulated its resistance more directly. Two visualisations had been created to show the finished redevelopment of Narrow Way in Hackney, a superdiverse area of east London. The first visualisation had gone up on the local council’s website, and had then been criticised by local black and ethnic minority activists for showing the street “inhabited almost entirely by young white people”. To the activists, this implied that redevelopment projects were created to attract white gentrifiers rather than for the existing residents, and they concluded that the visualisation “whitewashed” Hackney’s future. As a result, the council removed the visualisation from its website and replaced it with another, with a more appropriate range of figures photo-shopped in.

The third example is an equally trenchant challenge to a visualisation, this time of a much larger redevelopment project called Greenpoint in New York. In August 2013, the New York Times reported that a local pressure group, Save Greenpoint, had created their own digital visualisation to counter one produced by the architect’s office. “The [visualisations] presented to us at community meetings were coated in a gloss of trees and leaves and flowers, and translucent towers blending into the sky,” a group member was reported as saying. (Note here the attention given to the particular light effects in this visualisation – gloss, transluscence – which have the effect of diminishing the presence of the buildings.) The group’s visualisation, in contrast, showed “swollen and clearly exaggerated buildings the color of sickly flamingos loom[ing] over a diminished Manhattan skyline, threatening to swallow their neighbors in a gluttonous fit”, according to the New York Times. Exaggerated they may have been, but according to Save Greenpoint, the point was “to express the brutality” of the redevelopment plan, not make a more realistic image.

In this form of interruption, then, the efforts to make a digital visualisation of an urban redevelopment project atmospheric and attractive work, but with unintended consequences. In all of these examples, careful attention has indeed been given to the content of digital visualisations, but that content has then been challenged. More precisely, what is challenged are the values implicit in that content. This is particularly clear in the second and third examples, where what was important about the visualisations was how they were showing ‘whitewashing’ and ‘brutality’. What is happening here is not a challenge to the visualisation’s visual accuracy, then, but rather to the social relations implicit in the urbanism it is picturing, and this is true of the inserted question about skateboarding too (Yaneva 2009). And of course, given how digital visualisations are created, demands for more ‘accurate’ or ‘realistic’ visualisations are indeed difficult to make: what can be a more accurate basis for a visualisation of a building than the architect’s plans for it? Instead, this form of interruption resists visualisations by explicitly refusing to agree to the social relations scripted in the images.
interruption 2: deglamourising

The second form of interruption focusses less on the visual content of digital visualisations of urban redevelopment projects and what it represents, and more on their affective atmosphere. We have already discussed how important it is to these visualisations that they convey glamour and atmosphere. Another way to interrupt their very particular picturing of new urban spaces, therefore, is to locate visualisations whose glamour is in some way defective, and then to share that deglamourisation with various audiences.

This has been the object of at least two artist’s projects, both of which explore what happens when digital visualisations are materialised as images on hoardings in city streets. Rut Blees Luxemburg has created large-scale photographs of visualisations of a proposed tower in Bishopsgate, London.3 Many of her photos and play with how various kinds light fall on their hoarding, thus emphasising the way the visualisations offer a backdrop to the staging of urban life. The photographs also, though, stare close up at the surface of the visualisations, in order to show how “dust unmasks the fantasy of the visualisation once it is placed in the public territories of the city. The visualisation becomes hostage to the materiality of the city, which very quickly covers the images with dust, dirt, pollution. So the visualisation’s smooth surface becomes stained” (Luxemburg, 2014), and Luxemburg’s photographs emphasise that staining. Her work thus captures and displays the failure of these visualisations to project their atmosphere in city streets. In similar fashion, Randa Mirza in her project Beirutopia takes photographs of digital visualisations on billboards and hoardings, but carefully includes signs of their specific urban locations in her photograph – tatty roads and bashed-up cars, real bits of trees and cars and scooters – as well as photographing billboards with their visualisations torn and sagging.4 The smooth and glossy surfaces of visualisations materialised in urban spaces is interrupted this time by the recording of their physical deterioration and damage. Mirza not only shows these in galleries but has also installed them in Beirut’s streets, taking these photographic mementoes of unglamorous visualisations back into urban spaces, extending the reach of her photographs’ urban commentary.

A different method for interrupting the smoothness of digital visualisations also focuses on their materiality, but this time on their materiality as photo-shopped images. We earlier noted that the human figures in most digital visualisations are created by inserting photographs of people into the visualisation using Photoshop. Digital activist James Bridle has explored some of the consequences of this method in his Flickr album of ‘render ghosts’.5 He creates digital images of visualisations, crops them so that each image contains only individual people or small groups, and then enlarges the image. In that process, what becomes visible is two things. First, the enlargement process

4 http://randamirza.com/beirutopia.html accessed 1 September 2014
5 https://www.flickr.com/photos/stml/sets/72157626849497838/ accessed 1 September 2014
makes visible the often rather inaccurate way in which the human figure was extracted from its original photograph; bits of the original background become visible, as do places where small parts of the figures have been sliced off. Secondly, the way in which these figures have been cut-and-pasted into a visualisation becomes much more visible. It becomes more obvious that they are not pictured by the same light source as the visualisation; that they are doing something with something or someone no longer visible; that they are looking intently at, in the visualisation, nothing; that their digital resolution is not the same as the visualisation; that they have no shadow. These close-up views of the figures in visualisations diminishes their glamour considerably, not only by making them look rather less seamless and glossy, but also by infecting their glamour with what can only be described as a rather disconcerting weirdness. 'Ghosts' is a term well-chosen by Bridle; these are figures oddly out of place, precisely not at all at home in the urban space the visualisation is attempting to make so desirable.

Crystal Bennes does something similar. She also collects examples of digital visualisations, by photographing them on billboards and hoardings, and collates them on her blog. However, rather than emphasise the oddness of the visualisations, she focuses on the text that accompanies visualisations. That text is there to sell the development, and it often uses a particular form of marketing-speak that, when multiplied on Bennes's blog, moves from the hyperbolic to the utterly absurd.

Although these various examples use different methods, all share a concern to focus on the materiality of the visualisations as they appear in urban spaces, in order to interrupt their glamorous presence there. Their seductive atmospheres are not always sustained, as hoardings fade and tear, as dust covers them and parked cars obscure them, and as the words that accompany them tip into absurdity. Their glow does not always project into urban spaces, and all these examples identify and record that failure. All also amplify that failure by displaying photographic records of it, whether in galleries, in streets or on online image-sharing platforms.

**interruption 3: networking**

A third tactic of interruption focuses on the ‘glow of unwork’ that surrounds digital visualisations’ near-magical picturing of urban scenes not-yet-built. This tactic is about conceptualising these images precisely as sites of work, and thus attempts to see them differently. Making visible the labour that goes into the making of a digital visualisation disrupts its magical quality of somehow showing, in a more or less real-looking way, what does not exist.

This third tactic is one that emerged as we studied the digital visualisations created to picture the Msheireb Downtown project. What we realised very quickly as we observed the production process of those visualisations was that their creation is a highly complex, iterative process that involves a range of actors. At various points in the process of creating a visualisation, the visualiser will have sent the file back to the architect for viewing and feedback on their work; this might happen several times. If the

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design of the building being visualised changes (which it often did in our case study), the visualiser has to incorporate that too. In our case study, the ALA also commented on the visualisations; when he was satisfied, the visualisations were sent to Doha for comments from the developer, the project management team, other consultants and (sometimes) the architects again, as part of the ongoing process of designing the development.

So visualisations are a result of discussion and negotiation between lots of different actors, and here we can start to see how looking at the labour of making them can interrupt their aura of non-work. Because not all of these actors necessarily agree on what the finished visualisation should look like. A digital visualisation of an urban redevelopment project is the result of discussion and debate between the architect, the visualiser and the developer, in the context of any planning or advertising regulations that the visualisations also have to conform to. Throughout the Msheireb Downtown project, there were tensions between the architects, the MDC, the ALA, the developer and visualisers, who all wanted different kinds of images which would do different things by looking different. The developer rejected visualisations that didn’t look adequately Qatari. Neither the architects nor the ALA liked the marketing 'hero shot'; the architects tended to be much more fascinated by what one called "the backstreet world". Both the architects and the MDC were also uncomfortable with the sorts of visualisations made for the client, both as part of the pitch and as part of the design process. They are "one sided," according to a MDC interviewee: good at “engaging people" but not so useful for design work because they often show "things that lead to inappropriate discussions". Another architect explained, "people tend not to look at the architecture but at the image and make decisions based on liking or not liking the image." And a visualiser pointed to another tension, between his desire to produce a beautiful, well-composed image and the architects’ desire to show the details of their buildings, which he felt led to his views on how the image should look being "slightly hijacked".

This process of production, circulation, comment and revision can be understood, following Actor Network Theory, in terms of a network (Rose, Degen and Melhuish 2014). Understanding visualisations as circulating among a network of actors enables several insights into the production of visualisations. For example, it emphasises the mobility of these images. As image files, they travelled between architects and visualisers in Europe and the USA, the client and ALA in Doha, and render farms in China where they could be processed much faster and more cheaply than by servers elsewhere. Most accounts of such global networks emphasise their flow and their speed. Following Law’s (2002) account of networks, however, it is also necessary to emphasise the work that has to be done to maintain that mobility. Using this notion of network thus conceptualises the work in a network in a double sense: the network both carries the work done by visualisers and itself requires work for that carrying to function.

So, given those disagreements about what the visualisations should look like, the MDC eventually had to set up a clear system for ensuring that all the various comments on an individual visualisation were both collated and then coordinated, with "master comments" sent direct to the architects, who could not then ignore them. As one architect told us, "there was a hierarchy to the comments... [the client’s] were the most important... [the MDC manager’s] were
kind of the second most important. And, you know, [laughing] then there was sort of [the ALA] was somewhere way up there. And, you know, my comments were sort of, you know, scraping the ground somewhere." And there were many other examples of work having to be done to enable the circulation of these visualisations through the network of actors involved in the creation of Msheireb Downtown. For instance, the MDC team had to set up a cloud system for storing all the various versions of the visualisations as they were being worked on, as well as protocols for naming files and for their technical specifications (so that, for example, the various CAD models for buildings that had been designed separately could be integrated into single visualisations to evaluate their integration).

What examining the labour of creating these visualisations suggests is that they are far from being near-magical, seamless, pristine images of glossy urban futures. Instead, they are rather more like sites of debate and disagreement, which shift and change as different designs are inputted, different sorts of views desired and different sorts of audiences anticipated. And if they could be seen like that, the seamless views of urban living that they offer could also be challenged, by being seen as networked.

James Bridle’s render ghosts can also be seen as exemplifying this tactic; as well as deglamorising visualisations by suggesting that their inhabitants are spectrally out of place, his close-ups of the human figures also make visible traces of the digital cut-and-paste operation which inserted them into the visualisation by a visualiser toiling at his screen. Our research project tried different methods of revisualising these images, by placing them in their networks. One was to write about them as networked interfaces rather than as images (Rose, Degen and Melhuish 2014). The other was to design an exhibition which, in its layout, attempted to fragment and disperse these visualisations. The exhibition took place at the Building Centre in London in August 2013 (see figure 4). It consisted of a series of frames over which were stretched panels of semi-permeable banner fabric; the panels had various combinations of solid colour, images and text printed on them. The fabric suggested the pixellation through which these visualisations are created and so often seen, thus focussing attention on their digital production. The panels divided the exhibition space into seven linked areas, each of which addressed one aspect of the various kinds of work that is done to create the visualisations. And the visualisations themselves were scattered across these panels, all but one of them either embedded among many other images or printed across – broken up by – two panels. All these design elements were intended to help visitors to the exhibition see the work that is done to make these images, and to embed that work into the image itself. We also wrote a booklet to accompany the exhibition that made its intentions explicit.

So this is a final critical tactic, then: challenging digital visualisations of urban redevelopment projects by understanding how these images are produced and embedding that production into how they are seen. Because these visualisations do not have to be seen as dazzling spectacles. They can also be seen as objects crafted by people labouring to get a job done. And if some people have laboured to visualise an urban future one way, then at least in principle it is

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7 The exhibition was designed in collaboration with Studio DA, London.
possible to imagine labour that would make very different visualisations of urban futures.

**Conclusion**

Digital visualisations of buildings not yet built are highly selective in what they show, and quite particular in how they show it. They show the designs of buildings and urban spaces in, quite literally, their best light: inhabited by relaxed and shoppers and strollers, bathed in lovely weather and gorgeous dazzle and glow. This chapter has argued that in order to challenge that selectivity, it is necessary to understand what sort of images these visualisations are and how they work to sell their visions. In that context, the chapter has identified three key characteristics of these images – the selectivity of their content, their atmosphere, and their glow of un-work – and has described a range of examples of each of these elements being challenged.

Each of these examples is different from the other, and not only because they interrupt digital visualisations in different ways, by resisting their forms of urban life, by deglamourising their seductive affects, or by seeing the visualisations as networked. In particular, they deploy different strategies to intervene in the complex circuits of contemporary visual culture in order to make their challenges to digital visualisations on building site hoardings. Several used the space of an exhibition to display versions of visualisations that deglamorised visualisations, or that made visible the network (and its labour) on which their production depends. In resisting, deglamourising and networking visualisation, other means can also be deployed to make and share that critique: academic writing, blogs, Flickr albums, stickers, media coverage. What this suggests is that many of those pedestrians, passengers and drivers who notice digital visualisations in global cities do in fact take up their invitation to pause and enjoy them. It also makes very clear, however, that enjoyment is not necessarily what follows. Critique can also develop, and articulating and sharing that critique can take a wide range of forms.

Finally, though, we should not forget the fear that haunts the visualisations themselves: that they might actually be taken seriously as accurate pictures of what you’ll get if you buy one of the penthouse views they so love to show, with its dusktime view over a twinkling global city centre. On many visualisations now, you’ll find, in small print in a dark corner, the words 'Computer Generated Image is indicative only'. Quite.

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