

Mixed-realities: opening the Beijing Olympics

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The digital yearns for the organic with the same passion with which text
yearns for the reader Sean Cubitt (1998: 35)

Introduction

Not since the science fiction film *Tron* (1982) have we seen such a conspicuously visual attempt at creating a hybrid juxtaposition between computer-based aesthetics and physical artefacts in an entertainment medium. However, whereas the 1980s futuristic movie attempted encapsulation of the physical real in the digital virtual, in the Beijing Olympics opening ceremony we see a perceptual shift occurring through the extension of the digital virtual - out into the material real. A key tenet to this notion of mapping the digital into a material space is the idea that there is a distinguishable computer (or digital) aesthetic. How this aesthetic has become culturally recognisable - to the extent that it was utilised so effectively and comprehensively in the opening ceremony - will be examined in the following 3 steps: (1) through the definition of what makes up the idea of a computer aesthetic; (2) how this aesthetic has achieved cultural traction, in particular around notions of Chinese societal norms and (3) how this recognition allowed for the emergent configurations seen in the opening ceremony, where properties of computer technologies were combined with material artefacts to engender social spectacle.

Step 1: what is a computer or digital aesthetic?

Defining a set of formal digital aesthetics is useful in helping us establish the key characteristics of the digital environment, which can be ascribed to when we

contemplate a computer-based visual language. In this paper we will concentrate on the characteristics of scale; repetition; regularity of form; pattern; likeness and animation¹. Firstly, we will examine the notion of scale as a key facet of digital domains. Through the use of the Graphical User Interface (GUI) the computer user can easily zoom in and out of digitised visual material (to allow for a birds-eye overview) or zoom in to a detailed magnification, down to the individual pixel. The pixel itself is a fundamental building block of the digital that allows for the use of another innate feature, that being ease of repetition; using software it is easy to copy and repeat the same digital image. Linked to the idea of this digital unit is the idea of regularity of form or uniformity. Digital images are made up of pixels, which are arranged in a grid called a bitmap, the density or resolution of which can vary from image to image (Kerlow and Rosebush 1986: 14). Considering that all computer imagery is constructed in this way, we can see how the underlying structure of the digital is based on a uniformed regularity. Extending the idea of the pixel as the basis of the digital image - arrangements of pixels with tonal similarities or variation can be used to form patterns, visual effects or images. Furthermore, these visual effects or patterns can be varied over time by altering the tonal qualities of a pixel through the use of computer code or pre-authored transitions. In this way time-based animations are made possible, to create movement, visual sequences or narratives. In the following sections we describe how the basic digital typologies outlined above were specifically used within a number of the sequences in the opening of the games and discuss the underlying cultural significance for doing so.

However, we must also define what is meant when we talk about mixed-reality. From a technological perspective, mixed-reality refers to the computer-facilitated capacity to map digital content, spaces and interactions into a real world context. Steve Benford (2002) defines mixed-reality as the '...overlaying [of] a virtual world onto your view of the real world, so that you can experience both at the same time.' He goes on to say that through the idea of mixed-reality, '...the everyday physical world might become populated with virtual characters and objects.' In addition to this description we should include forms or experiences which address issues around how we can perceptually move between digital / physical constructs and create, define and re-define complex spaces in technologically aware environs. This extended definition allows for the inclusion of conceptual works using interaction between the digital virtual and the physical real to explore associated languages; both separately and

¹ There are a number of other visual traits and ideas, which we commonly associate with the representation of digital technologies, such as 3D wire-frame models.

combined together, to inform creative practices and social commentary. For example, in Beijing this type of mixed-reality experience was embodied in the form of the digital / material scroll installation, a hybrid environment on which we will elaborate further.

Step 2: the Olympics, Beijing and 'the digital'

From the celebratory excitement evident on the evening of July 13 2001 as the decision to award the games to Beijing was announced, to the profound scale of urban development subsequently undertaken, it was clear that for China there was a lot at stake. Tomlinson (1996: 583) suggest that it is a truism that alongside the World Cup, The Olympic games are the most widely watched media events in the history of mankind. The 'globalising' process of hosting a major international sporting event produces world cities that transcend national institutions, politics and culture (Wei and Yu 2006).

Sassen's argument (1991) that global cities are also sites for the production and marketing of innovations largely centred on the hi-tech industry resonates strongly in the case of Beijing. There is fierce competition between Asian mega-cities such as Hong Kong, Singapore and Seoul (amongst others), to be perceived as 'global' cities and Beijing's efforts since 1990 illustrate its intention to achieve this (Wei and Yu 2006; Broudehoux 2004). The Beijing games presented a unique opportunity for re-inscription of what China means to the world. It is inherent to the Chinese dual preoccupation with tradition and modernity that she would do so in a manner that showcased the depth and influence of its culture and the trajectory of innovation stemming from its ancient past, despite the disruptions of the Cultural Revolution.

Contemporary Chinese society is often perceived as materialistic, an understandable reaction to the phenomenal modernisation of recent decades. Jin (2005) suggests that hosting the games aligned with efforts to, 'reconstruct a moral order'. The Olympics promoted three civilizing influences: (1) presenting an enduring image of 'harmony' to the global community – with a view to restoration of the value system of the 5000 year old Chinese civilization; (2) offering a comprehensive, strategic, balanced and co-ordinated presentation of a 'scientific notion of development' and (3) promoting an emergent democratization by 'emphasizing human well-being and the full realization of human potential.' (Jin 2005). That an initial budget of US\$ 12.2 billion was put in place after the city won the bid, (equivalent to 41.2% of Beijing's GDP in 2000) is indicative of the crucial importance placed on the event.

The Government's stated themes of a 'green,' 'scientific and technological,' and 'human (cultural)' Olympics (Wei and Yu 2006) are strategically implemented in the visual and performative displays of artistic expression, cultural identity, ethnic diversity, political power, technological capability and national pride. Tradition and modernity are juxtaposed repeatedly in a sequence of metaphoric scenes (wonderfully orchestrated by the ceremony director, filmmaker, Zhang Yimou), with an emphasis on material cultures - textiles, wood, bamboo and paper-costume, music, dance, iconic images, staged actions and ceremonial choreography. These were overlaid with digital projections and post-production techniques imbued with symbolic depth and comprise of a multi-sensory language, which was employed to dramatic effect. Sequences in the opening ceremony presented a blurring of the real and the digital, producing a mixed-reality further enhanced through the lens of state media processes and the western media networks. Benedikt (1991: 128) observes that the conventions of the digital virtual can be seen as an extension of both the ancient worlds of 'magic, myth, and legend', and contemporary worlds of 'fantasy fiction, movies and cartoons ... replete with violations of the logic of everyday space and time'.

The themes of the Beijing ceremony profoundly contradict the picture painted globally in the lead up to the games - one of brutal political suppression of ethnic groups, insurmountable environmental problems, relentless urban displacement of the poor and a corrupt police state. That China was able to confidently articulate a highly innovative, complex, multi-layered, technological, sophisticated and resoundingly positive view of its people and culture, and facilitate the broadcast to a spellbound global audience, while western media conglomerates are generally unable to gain traction within the world's most dynamic economy, is not necessarily the message that the western media and its political concomitants would prefer to disseminate. Controversy over the use of digital effects to augment 'reality' in the representation of detailed and mass staged theatrical performances in the ceremony is therefore unsurprising, especially when one considers the general mediated concern presented continuously prior to the games by most western media outlets.

The argument presented by the western media - namely that some degree of 'subterfuge' or in-authenticity was afoot in the layering of digital effects, projections and post-production is a misnomer belying the undeniable fact that any consumption via the screen is a mediated experience. This position relies on the public's limited awareness that all televised processes are filtered by the agenda of the provider,

producers, editors, advertisers and other stakeholders to present an 'official' version of reality. This loop of mediation was ironically completed in the broadcasting of the images of a number of athletes who were shown videoing the event as they entered the Olympic arena.

Step 3: a procession of realities

As a culture becomes increasingly technologised the notion of a computer aesthetic is reinforced through its use in contemporary arts and commercial advertising which helps to build a cultural recognition of digital technologies. It follows that the digitally referenced characteristics so extensively utilised in the opening sequence of the Beijing Olympics were dependent on the audience recognising the references to a series of digital languages. Their use infers a contemporised, sophisticated, and modern computer savvy society.

In this final section we examine a selection of sequences from the opening ceremony which effectively weaved together technological and cultural references in a hybrid collage to create mixed-reality environments that combined aspects of the physical real, such as recognisable architectural forms and human performers, with the abstract potentialities of the digital virtual, like the ability to fly, change shape and multiply.

Fireworks

As the giant digital footprints rendered as fireworks made their way across the Beijing skyline, the television audience was drawn into a world designed to present a highly symbolic spectacle representative of China's return to the world. Although used globally, 'yanhua' (fireworks) hold a particular and auspicious significance in Chinese culture² and have been used at least since the Qing Dynasty (1644 - 1911) (Haiwang 2008). These digital explosions in the sky highlight the place of tradition within Chinese culture but in a Janus-like manifestation allude to China's steady journey toward superpower status.

² Fireworks are common in daily life in China as they are used to mark auspicious occasions and to ward off evil. New Year in China is characterized by a week long festival featuring constant explosions illustrates the place of fireworks in Chinese society and culture.

Images of power

Throughout the ceremony military precision, both literal and in terms of the orchestration of human and material resources, is overtly apparent. Parallels between military formations and the digital grid or bitmap are easily identified. The use of the crowd itself in emphasising the immense scale of the event visually was leveraged through framing, camera angles and large format screens. Similarly, we can draw parallels with the digital characteristics of cloning, repetition and conformity.

People as pixels

The performative representation of pixels flickering across a metaphorical screen rendered by individuals is a striking if subtle emulation of mass political spectacle, familiar in mediated propaganda and displays of state and military power. What at first appears to be a field of traditional drummers (and was) is slowly revealed to also be a complex illusion of an LED screen, tightly choreographed in a display characterised by manipulations of scale and perspective via camera angle. This interplay of the visual language of socialist traditions, and computer technologies showcased the capability and symbolic power of mass population, and was overlaid with the gloss of the digital. Elsewhere in the ceremony a thousand performers in uniformed 'electric' green body suits and white lights (which the performers could turn on and off) moved together to create animated symbols and forms in much the same way that a computer-generated algorithm can visualise a predetermined set of images or animations.

The scroll

This was an important centrepiece to the ceremony. The scroll sequence presented a multifaceted performance space, integrated across illustrative interpretations both digital and sculptural of the scroll - a traditional form of communication contextualised for a global audience. In the darkness of ignorance the scroll brings light and culture - dance, language, and the traditional arts of the brush (as well as representing the Chinese invention of paper). Here we witnessed lighting, projections and digital effects mapped orthoscopically onto the real where dance and evocative 'brushstrokes' were rendered in a performance that merged the live with digital media. Augmented sonically with traditional instruments and music, the narrative presented themes of the past and the future merging in a bricolage of traditional

references and digital futurecasting. The scroll as information graphic reinforces the symbology of cultural history, information, power, knowledge and education, which was recontextualised and brought up to date in the hybridity of the real and accompanying digital manifestation.

Conclusions

As we have outlined, the use of the digital aesthetic within the Beijing opening ceremony resonates with Chinese notions of social conformity and homogeneity, but also with individuality creativity and a forward-thinking technologised society. The premise of this paper is that this was achieved through the conjunction of characteristics from both digital and material culture in what we have described as a mixed-reality spectacle. With its voluntarily 'captive' global television audience, the Opening Ceremony of the Beijing Olympic Games 2008 had significant potential to produce a global focus, raising awareness of China's power, history and culture, cast within the context of the traditions of the games. Locally it was splendid nation building. The ceremony achieved this in a manner transcending past ceremonies in its complexity and subtle utilisation of digital technology to augment a dramatic and highly symbolic performative ritual. In recognising the significant role of the hi-tech sector in contributing to the process of becoming a first tier global city, recent policy from Beijing clearly, '...deems the development of high-tech and IT-related industries the new growth sector of Beijing's development and an engine of its becoming a global city.' (Wei and Yu 2006). What the world witnessed both live and via its' television screens at the opening of the games is evidence of the increasing maturity and sophistication in China's creative and digital industries and the accompanying recognition (by government) of its role in pushing Beijing and the country as a whole to the forefront of the global stage.

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