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Computer Art and the Cosmopolitan Imagination

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Works in digital media have played a mixed role in recent discussions about the social implications of participatory art forms. Although bearing many of the hallmarks of a ‘relational aesthetic’ as described by Nicolas Bourriaud in his influential essay of 1998, computer art is largely absent from Bourriaud’s account of the integration between artist, artwork, and community that, in his view, formed one of the most significant trends in art production of the 1990s.¹ Similarly, in her articulation of ways in which art can contribute to the creation of an engaged cosmopolitan subjectivity, Marsha Meskimmon focuses on a range of artworks that both thematize and prompt exchanges across time, national boundaries, and cultures.² Computer art, however, plays only a minimal role in the imaginary conversations and styles of participation that Meskimmon identifies in the contemporary artworld.

Perhaps one reason for placing interactive computer art on the margins of cosmopolitan interaction is its reliance on sophisticated technologies. Typically, users must have access to their own computing facilities or mobile devices in order to participate in the works other than simply as a viewer. While such technologies are widespread, they are not open to all citizens in contemporary societies. Indeed, there are many societies in which very few people have access to technology.³

There seems, therefore, to be an implicit limitation on the global reach of interactive practices in electronic media and on their ability to service a cosmopolitan ideal.⁴ Another reason why the computer art form has played such a minor role in contemporary discussions of cosmopolitanism in today's artworld might also be the suspicions that attach to ways in which we use technology. These range from the identification of similarities between interactive computer artworks and participation in online games and extend to concerns about the erosion of social relations in the wake of individuals' increasing enjoyment of, and reliance on, a range of mobile computing devices.⁵

The purpose of this chapter is to examine how computer artworks can transform interactivity from a private to a collective social activity in a way that impacts positively on relationships between strangers in public urban spaces. Specifically, I will argue that participatory works in this medium can both provoke reflection on and influence cosmopolitan life in contemporary cities. In the following analysis of 'cosmopolitanism', I am not seeking to elucidate tensions between concepts of nationhood and the identification of transnational rights, duties, and obligations between individuals and/or institutions. Instead, my focus is, broadly, on the notion of 'moral cosmopolitanism' and its impact on associational life.⁶ I am, therefore, primarily concerned with the extent to which interactive computer art can foster a social imaginary that is shaped, as David Held puts it, by appreciation of the 'bedrock of interest in what it is that human beings have in common, independently of their particular familial, ethical, national and religious affiliations'.⁷

The argument of this chapter is motivated by a series of large-scale, public installations by Rafael Lozano-Hemmer.⁸ I shall argue that Lozano-Hemmer simultaneously exploits and subverts the interface between art and technology for the purpose of testing a concept of political agency and reorienting the ways in which strangers negotiate difference in public. Countering the idea that interactive computer art encourages insularity on the part of its users, I shall also show ways in which Lozano-Hemmer's artworks function as a form of 'public sculpture' that interfaces with the architecture of urban environments. His installations reveal the histories of particular buildings, reshape individuals' encounters with the familiar spaces they inhabit, and alter the ways in which computer technologies are used within those spaces.

Art, Spectacle, and Political Agency

In her book, *Alone Together: Why We Expect more From Technology and Less from Each Other*, Sherry Turkle considers how the use of computer technologies (mobile technologies in particular) has affected social relationships and the ways in which individuals behave in public spaces.⁹ She makes the point that train stations, airports, cafés, and parks are no longer communal spaces, but simply places of ‘social collection’: people gather in them, but instead of speaking to each other, they are attached to mobile devices and hence to the people and places to which those devices serve as portals. For Turkle, contemporary mobile technology fosters the creation of a ‘tethered self’ that impoverishes public space and fosters insularity. She argues that we fail to see and experience new places because we now bring our ‘homes’ with us on our travels. For Turkle, this produces the result that we no longer truly inhabit public space by sharing it with those around us because technology allows us to remain emotionally and socially ‘tethered’ to our homes.¹⁰

Lozano-Hemmer’s interactive computer artworks offer a counterpoint to this concern about the impact of digital technologies on personal behaviour and social relations. The pieces on which I shall focus in this chapter fall into the artist’s set of ‘relational architecture’ works. They are all large-scale, visually spectacular works which, in different ways, rely on audience participation in public spaces of the city. They use sophisticated computer technologies to create a new form of public art. As suggested by the term ‘relational architecture’, the works are designed to interface strongly with local buildings, their histories, and their contemporary usage.¹¹ Countering the point made by Turkle, I shall argue that these works turn spaces of social collection back into communal spaces, and hence reorient the way in which people inhabit and relate to each other within such spaces.

The two works on which I shall focus in this section draw contemporary art audiences into a reflection on particular events in European history. The first is called *Two Origins*, and was shown in the Place du Capitole in Toulouse, France, in 2002. Comprising light projectors, a digital interface, language, and local architecture, the work staged a projection of *The Book of Two Origins*, a thirteenth-century heretical manuscript that chronicled the beliefs of the Cathar sect about the dual origins of the universe. The work was designed



Figure 2.1 Rafael Lozano-Hemmer, *Two Origins, Relational Architecture* 7, 2002. Place du Capitole, Printemps de Septembre, Toulouse, France. Photo by Antimodular Research. Image provided courtesy of the artist.

to reflect the role of the Cathars in the local past of the city; they had been violently suppressed in the twelfth and thirteenth centuries, with much of the conflict playing out in Toulouse and its surrounding region. Invoking the dualism that informed Cathar belief, identical pieces of text from *The Book of Two Origins* were projected by separate machines onto the façade of the Capitole, and those two projections overlapped to produce linguistic nonsense. With the assistance of viewer intervention, however, it became possible to render the writing legible: when a passer-by blocked one projection with his or her body, the other projected text became visible (Fig. 2.1).¹²

While the work is based on a very simple form of interactivity, a powerful symbolism underlies it. A viewer quite literally ‘steps in’ to reveal aspects of a belief system and metaphorically to counter an act of religious suppression on one of the sites where that suppression took place. Lozano-Hemmer explained his intentions with the work as follows: ‘*Two Origins* attempts to connect disparate planes of experience, inviting people to discover texts that have been *covered-up* [sic] by history and intolerance’; he goes on to suggest that the work references ‘the “minor histories” that characterise European trends of

pluralism and dissent'.¹³ Through the requirement for interactivity, individual viewers thus use their own bodies to bring to light a piece of local history and, implicitly, to reflect on the role of religious toleration within the contemporary public sphere. Crucially, Lozano-Hemmer's work makes it the decision and responsibility of each individual viewer (rather than a state-level authority) to enact a move from the suppression of difference to the acceptance of potentially clashing belief systems. By drawing individual audience members into the work's display both physically and imaginatively, the work attains a new kind of 'site specificity' that thematizes the development of a cosmopolitan public sphere. It is designed to act in dialogue not only with local architecture and history, but also with the physical presence of individuals who are invited to reflect on the toleration of diversity in the contemporary social fabric of the city.

The role of interactivity (even at this most basic level) is central to both the aesthetic and political effects of Lozano-Hemmer's style of public art. Dominic McIver Lopes has argued that computer art is distinctive because the interactivity it solicits on the part of its viewers (or, in this case, 'users') changes the display of the work of art – something that does not happen in traditional art forms.¹⁴ While Lopes views this type of interactivity as a feature of computer art forms in general, I think a more limited formulation is appropriate in order to distinguish computer artworks that solicit participation for the purpose of changing a visual display from those works that are produced on a computer but whose content remains stable (for example, artworks produced on an iPad or iPhone).¹⁵

Taking up Lopes's point, however, the form of interactivity solicited by Lozano-Hemmer's computer art is a potent way of making the viewer's body newly relevant to both the theme of *Two Origins* (by reflecting on histories of intolerance) and its ontology (by triggering a change in the work's display). Lozano-Hemmer has commented on the notion of computer art as a participatory medium that has specific consequences for the interpretation of art and its impact on contemporary audiences. Referencing Walter Benjamin's discussion of the 'aura' of artworks, he states:

[W]ith digital technologies I believe that the aura has returned, and with a vengeance, because what digital technology emphasizes, through

interactivity, is the multiple reading, the idea that a piece of art is created by the participation of the user. The idea that a work is not hermetic but something that requires exposure in order to exist is fundamental to understand this 'vengeance of the aura'.¹⁶

There is a sense in which I disagree with Lozano-Hemmer's characterization of the interactive computer art form. I think it is incorrect to suggest that participation by the viewer (or user) *creates* the artwork. While the presence of the viewer is relevant to the type of display that is triggered, it does not follow that the work does not exist without the viewer or that there is an overlap between the functions of artist and viewer. As Lopes correctly points out in his analysis of interactive media, 'the work isn't the same as its display and an intention to generate a display isn't an intention to make the work'.¹⁷

Nevertheless, Lozano-Hemmer's comment is important because it identifies the aesthetic and, I shall argue, social importance of interactivity in the computer art form. By undermining the notion of a 'hermetic' work of art, as he puts it, Lozano-Hemmer envisages the artwork as a dialogical space that encourages a new form of responsibility on the part of its participants. In other words, the computer artwork's 'aura' is derived from multiple instantiations that are triggered by, and have different personal relevance for, the individuals who contribute physically and imaginatively to the work's outcome. This point comes to the fore in a work entitled *Re:Positioning Fear* that was staged in Graz, Austria, in 1997.

This work took as its backdrop the Landeszeughaus, a military arsenal built in the mid seventeenth century to house weapons that Austria used to defend itself against invasion by the Ottoman Empire. In this artwork, viewers were detected by surveillance cameras (a point to which I shall return below), and their shadows were, once again, projected onto the façade of the building; each shadow revealed the typescript of a real-time discussion about the idea of 'fear' and its historical transformations (Fig. 2.2).¹⁸

In this work, an outline of the viewer's own body becomes the locus of both self-reflection and political debate. While the Landeszeughaus was designed with the aim of securing a nation's borders against external encroachment, viewers of Lozano-Hemmer's work are invited to locate themselves against this historical example and to read their own



Figure 2.2 Rafael Lozano-Hemmer, *Re:Positioning Fear, Relational Architecture 3*, 1997. Landeszeughaus, Architecture and Media Biennale, Graz, Austria. Photo by Joerg Mohr. Image provided courtesy of the artist.

bodies as part of a discussion about the impact of fear on contemporary discussions concerning the role of national borders, immigration, and cultural identity. Taken together, *Two Origins* and *Re:Positioning Fear* invoke aspects of European history that reference religious intolerance and a mistrust of outside influence. The requirement for interactivity draws contemporary viewers into that history and its legacies. Through the invitation to individuals to see themselves as part of the artwork, an aesthetic participatory practice is thus linked to concepts of individual agency within a broader public sphere of debate.

In *Global Justice and Avant-Garde Political Agency*, Lea Ypi discusses various ways in which cosmopolitan political change can be effected in contemporary liberal democracies.¹⁹ In her examination of methods

by which citizens ‘mobilize’ (or may be mobilized) to bring about such change, Ypi draws an analogy between political agency, as a special kind of ‘creative activity’, and avant-garde art forms. She rightly points out that histories of the artistic avant-garde reveal a strong link between aesthetic innovation and ambitions to effect social transformation. She then shows ways in which familiar forms of expression can be appropriated for the purposes of encouraging a new critical stance on tradition and reinvigorating it with contemporary significance:

In a way similar to artists, avant-garde political agents must use imagination and invest creative energies in giving concrete shape to abstract interpretations of the function and purpose of shared institutions. Both kinds of movements aim at transforming society by introducing new conceptual categories, leading a particular public to become aware of the limits of existent discourses and of the opportunities available for innovation in each particular sphere.²⁰

In developing this analogy, Ypi draws out the complementary ways in which political and artistic agents use creative means both to structure their ideas and to communicate them to a mass audience. While her political examples are drawn from contemporary circumstances, however, the notion of the artistic avant-garde through which she propels the discussion is based on analyses of nineteenth- and early twentieth-century visual art and literature.

In my view, Lozano-Hemmer’s public pieces of ‘relational architecture’ can be understood as a contemporary form of avant-garde art that contributes subtly to the creation of political agency on the part of individuals. Not only do the public pieces of ‘relational architecture’ discussed above turn spaces of mere ‘social collection’ (to use Sherry Turkle’s phrase) into ‘communal spaces’, but they prompt participants to reflect on the dominant political discourses that have shaped such spaces. By drawing the participant’s body into the display of the works, *Two Origins* and *Re:Positioning Fear* directly implicate their audiences in reflections on national and religious fear and intolerance. In this context, interactivity plays more than an aesthetic role; it is designed to make the political themes of the works personally relevant to the participants. They advance debates about contemporary cosmopolitanism by inviting reflection on ways in which communities have responded to



Figure 2.3 Rafael Lozano-Hemmer, *Body Movies*, *Relational Architecture* 6, 2003. Duisburg Akzente Festival, Duisburg, Germany. Photo by Anti-modular Research. Image provided courtesy of the artist.

the toleration of difference (both within and between nations). While these works achieve this goal through the use of historical examples, I now want to turn to ways in which Lozano-Hemmer's interactive computer artworks engage with the experience of 'otherness' and difference in contemporary urban spaces.

Conversations between Strangers

Body Movies (2001) was first staged in a public venue in the Netherlands (Rotterdam), and has subsequently been shown in cities in China, Austria, Portugal, Germany, New Zealand, Canada, and the United Kingdom. As another large-scale, interactive piece of 'relational architecture', the work projects the shadows of passers-by, in a vastly enlarged scale, onto a wall or screen. Portraits of inhabitants of the host city then appear within the projected shadows. It is important to the overall effect of the work that the portraits appear only within the silhouette of the viewer; not only does the physical presence of the viewer trigger the display of the artwork, but his or her bodily outline limits and frames the images that appear on the screen (Fig. 2.3).²¹

Viewer and viewed are, therefore, doubly implicated in the work's production: images taken of other people require the viewer's presence to be made visible, and the viewer's shadow remains empty unless someone metaphorically steps into its silhouette and animates it. The shadow becomes, as Lozano-Hemmer puts it, 'a window to an artificial reality'.²² According to the artist, the work not only offers viewers an opportunity to reflect on their own presence in a city space, but – crucially – to see themselves as other people within that space.²³ In this regard, *Body Movies* re-casts the role of the facing subject in conventional portraiture and enables viewers temporarily to embody the viewed subject. An image of shared physicality becomes a metaphor for awareness of a common humanity.

This interactive feature of the work has a direct bearing on the way in which individuals inhabit public spaces and, in particular, on encounters between strangers within those spaces. In his book on cosmopolitanism, Kwame Anthony Appiah uses the metaphor of 'conversation' as a way of describing 'engagement with the experience and ideas of others'.²⁴ Conversation across the boundaries of personal and cultural identity does not necessarily lead to consensus, but, for Appiah, it can service a cosmopolitan ideal simply by helping people to 'get used to one another'.²⁵ This may not amount to the level of avant-garde political agency envisaged by Ypi, as discussed in the previous section, but it does offer a way of understanding the contribution that Lozano-Hemmer's interactive computer art can make to the development of a cosmopolitan social imaginary.

As a work that is staged in public, *Body Movies* both brings strangers together and invites them to participate in a new conversational forum. My argument is that the work fosters associational life not just by inviting individuals to linger in a public space of the city, but by imaginatively blurring the boundaries between self and other in that space. *Body Movies* can be said to contribute to the creation of a public sphere in which 'deliberation across difference', to adopt one of James Bohman's formulations, encourages a form of toleration that is 'both a means and an end for furthering democratization in a situation of undiminished pluralism'.²⁶ By asking participants to commit their own bodies to the artwork, Lozano-Hemmer invites a personal encounter with difference, and asks us to experiment with a form of cosmopolitan engagement as part of our own lived reality.

The work also reorients participants' relationships to visual and communication technologies. Lozano-Hemmer has stated that *Body Movies* 'attempts to misuse technologies of the spectacular so they can evoke a sense of intimacy and complicity instead of provoking distance, euphoria, catharsis, obedience or awe'.²⁷ This is achieved, I would argue, by a deliberate 'misuse' of surveillance techniques. The work depends upon the use of technology to detect, film, and project images of the city's inhabitants. In this regard, it can be viewed as complicit with the ubiquitous CCTV monitoring with which inhabitants of many large cities have become familiar. However, in *Body Movies*, it is precisely this kind of intrusive technology that is used to connect strangers and to make individuals face each other in new ways. Paradoxically, a digitally mediated vision of city life is designed to reinforce a sense of embodied subjectivity and sociability.

For Lozano-Hemmer, the superimposition of imagery in the work comments not only on the relationship between individuals and technology, but also on the way in which the physical make-up of urban environments impacts on personal relations. The artist has discussed a growing distance between individuals and the buildings they inhabit, commenting that 'globalized cities no longer represent' their citizens, but instead are planned for the purposes of promoting the efficient generation and circulation of capital.²⁸ Epitomizing the description of his work as a piece of 'relational architecture', *Body Movies* is designed to interrupt the routine ways in which we relate physically and imaginatively to the built environment.²⁹ Forced to abandon their everyday function, buildings become stages upon which strangers are newly connected to each other. In this regard, interactive computer art is given a transformative appeal: an artificial reality is used to reconfigure both urban geography and the social relationships that are forged within it.

Under Scan (2005/6) took this strategy a step further. Designed for various pedestrian city spaces in the United Kingdom, it detected the presence of passers-by using a tracking system. When the system is triggered, an interactive video portrait of an individual from the host city appears on the ground within the shadow of the viewer. The projected figure is first shown to be asleep, then wakes up and (crucially) maintains eye contact with the viewer for as long as he



Figure 2.4 Rafael Lozano-Hemmer, *Under Scan, Relational Architecture 11*, 2008. Trafalgar Square, London, UK. Photo by Antimodular Research. Image provided courtesy of the artist.

or she is present (Fig. 2.4). The projected figure goes to sleep as the viewer moves away, and then gradually disappears.³⁰ Developing the technology of *Body Movies*, the work offers a more sophisticated simulation of a face-to-face encounter with a stranger in public. Once again, a typically intrusive technology is used to facilitate an enactment of sociability.

The work was commissioned by what was then the East Midlands Development Agency (subsequently replaced by a local enterprise partnership scheme) as part of its mission to establish the East Midlands as a 'top 20 region' in Europe by 2010. The contribution of visual art to the presentation of cities within the East Midlands region as vibrant, cosmopolitan spaces was a recurrent theme in promotional material attaching to the *Under Scan* project. According to various development officers involved in the commission, *Under Scan* would help to promote an image of the East Midlands as 'a flourishing region with a diverse and dynamic culture'. Secondly, it would offer people the opportunity to interact playfully in public, urban spaces. Thirdly, it would tour internationally, thereby taking part of the East Midlands abroad with it.³¹ In addition to its intrinsic aesthetic merits, therefore, *Under Scan* was envisaged by policy-makers as a means of promoting a particular vision of regional life that was destined to appeal to the idea of a cosmopolitan society.

One way in which Lozano-Hemmer's works achieve this effect is by unsettling familiar boundaries that define geographical spaces and relations between strangers. His pieces of 'relational architecture' may be said to encourage the displacement of such boundaries by a broader 'sense of moral community', as described by Michael Kenny.³² In his discussion of the rise of this idea in transnational civil societies, Kenny identifies the following key contributory factors: computer-mediated developments that facilitate the sharing of information; the rise of a global media system that promotes mutual understanding; and the participation of both individuals and groups in collective action that takes place across national borders.³³ I want to suggest that Lozano-Hemmer's public computer artworks can be seen as contributing to a 'sense of moral community' as discussed by Kenny, but that they do so in a unique way. While they form part of a 'computer mediated development', this does not merely consist in the sharing of information across boundaries in the manner that we have come to expect from digital communications and internet technologies. Instead, his works also test the audience's expectations about the role of mobile computer technologies in facilitating global communication. This point comes to the fore in the final work I shall consider in this chapter, *Amodal Suspension*.



Figure 2.5 Rafael Lozano-Hemmer, *Amodal Suspension*, *Relational Architecture 8*, 2003. Yamaguchi Center for Art and Media, Yamaguchi, Japan. Photo by ArchiBiMing. Image provided courtesy of the artist.

Subverting Technology

Amodal Suspension was presented in 2003 at the Yamaguchi Center for Arts and Media in Japan. Whereas the form of interactivity solicited by the works discussed in the previous sections takes the form of direct physical participation by the viewer, *Amodal Suspension* combined site-specificity with the use of mobile computing technologies. In this work, individuals were invited to send short text messages to each other using their cell phone or via a web browser. Instead of being sent directly, however, messages were intercepted and encoded as sequences of flashes that were projected onto the night sky by searchlights. In this first stage of the work, therefore, a linguistic, electronic communication is picked up, encoded in a different format, and given a non-linguistic visual display. Furthermore, a private communication between two individuals is made public, but remains ‘illegible’ (Fig. 2.5).³⁴

While these messages were projected by the searchlights, they could be ‘caught’ by individuals using a cell phone or a 3D internet interface. To ‘catch’ a text, users who had registered on the work’s website had to place a ‘catch tool’ over the ray of light that they wanted to catch and to click on it. The message would then be revealed, removed from

the sky, and added to an archive.³⁵ Overcoming the problem of access to technology for the purposes of participating in the work, computer terminals were set up in locations in Spain, Germany, Mexico, India, the Netherlands, Korea, Poland, the United States, and the United Kingdom.

When the message was removed from the projection, it then appeared (translated back into linguistic format – in Japanese and English) on the participant's cell phone or online interface; it was also briefly projected onto the façade of the museum. Both the author of the message and its intended recipient were notified that this had taken place, and all archived submissions were open to public search. This phase of the work consists in a second process of interception and translation: an interception by a human being (rather than a computer) and a translation back into words. According to information on the official website of the work, over 400,000 visitors from 94 countries (79 per cent from Japan) participated in the project. It is estimated that around 10,000 messages were sent and downloaded.³⁶

Discussing the effect of the work, the artist suggested that it 'provided a connective platform in which local residents and remote participants from different regions and countries could establish ad hoc relationships', and that it represented a 'deviation from the assumed transparency of electronic communication'.³⁷ For the purposes of this chapter's discussion of cosmopolitanism, there are two things to note in this statement. First, the artist suggests that interactive computer art can generate relationships across national boundaries and second, he envisages a way in which strangers can participate in otherwise private conversations. In this regard, the work gives Appiah's 'conversational model' of cosmopolitanism a particularly tangible form.

Lozano-Hemmer's comment also points to a technological paradox that underpins the work: *Amodal Suspension* uses sophisticated technology for the purpose of staging the failure of that technology in dramatic fashion. It achieves this by subverting direct forms of communication: messages arrive at the wrong destination; private texts become public; words are translated into an unreadable, though visual language; the instantaneity of contemporary communication is disrupted. Not only does the work interject twists and turns into what we have come to think of as instant messaging, but it gives communication a new density that is designed to engage our senses more fully.

Lozano-Hemmer mentions that another ‘objective of the piece was to make a public spectacle by using the private medium of text messaging, slowing down communication and introducing the possibility of interception’.³⁸ While we usually think of interception as an intrusion or a form of monitoring, here it becomes a vital step in the mediation of personal communication. The work takes up a technology that is potentially private and isolating and transforms it into a medium that is both public and communal.

This interruption of technological isolation offers a counterpoint to Turkle’s idea that the use of personal computer technologies gradually erodes social relations. *Amodal Suspension* deliberately exploits our habitual use of private messaging for the purpose of opening it up to new sensory possibilities and to interaction between strangers. In that regard, at least, interactive art is implicated in reformulating norms of social interaction between individuals in urban spaces, and re-casting the way in which our use of mobile technologies shapes behaviour in such spaces.

Kriss Ravetto-Bagioli has argued that Lozano-Hemmer’s works ‘bypass the false dichotomies between technophilia and technophobia’, and that they ‘neither celebrate the new media’s potential to create innovative forms of interactivity and socially meaningful ways to reclaim public space nor claim to foster freedom of expression, whether that is human or nonhuman’.³⁹ Instead, she argues that the artist seeks to conflate power relationships through his invocation of surveillance techniques and public visibility. I agree with Ravetto-Bagioli that Lozano-Hemmer’s works should not be viewed as simply staging (or trying to resolve) a conflict between arguments for or against the impact of digital technologies on everyday life. However, this focus on surveillance undermines the broader social impact of Lozano-Hemmer’s works, and also overlooks comments made by the artist himself about the positive uses to which technology can be put in the computer art form.

Lozano-Hemmer has drawn a distinction between the roles of technology in promoting ‘collective’ and ‘connective’ intelligence. He describes the former as an ‘unbearable utopian vision of communities that form a global village’, but also notes the flattening and elitist notion of ‘community’ that underpins this idea.⁴⁰ By positing, instead, the idea of a ‘connective’ platform, Lozano-Hemmer suggests that

technology can establish relations between people while preserving and acknowledging different ‘planes of existence’.⁴¹ This supports the link between computer art and cosmopolitanism that I have discussed here. Illustrating James Bohman’s idea that ‘deliberation across difference’ can contribute to the creation of a more tolerant society, Lozano-Hemmer’s emphasis on ‘connectivity’ identifies a role for interactive computer art in drawing people together in real and virtual environments while preserving and accepting differences of identity, experience, and lifestyle. I have tried here to show ways in which the participatory practices fostered by this art form can be understood as contributing to the creation of such a cosmopolitan imagination among its audiences.

I have discussed a range of artworks that prompt reflection on the way in which we structure, and are structured by, the physical and technological infrastructure of globalized systems of communication and the physical make-up of public spaces. The way in which they achieve this is important. Each of the works by Lozano-Hemmer that I have discussed in this chapter invites a form of participation – each depends on a level of audience interactivity for its look, meaning, and effectiveness. That interactivity takes place by means of a sophisticated technology, but it is one that also draws people to physical sites of collective participation, and that fosters relationships between people in those spaces in unexpected ways. Meskimon has argued that one of the vital contributions of art to the cosmopolitan imagination is to ‘enable us to participate in, and potentially change, the parameters through which we negotiate the world’.⁴² The purpose of this chapter has been to identify ways in which Lozano-Hemmer’s interactive computer art opens up a range of physical, imaginary, and virtual spaces within which to effect such change.

Notes

- 1 Nicolas Bourriaud, *Relational Aesthetics*, trans. Simon Pleasance and Fronza Woods with the participation of Mathieu Copeland (Paris: Les Presses du réel, 2009). Bourriaud’s discussion of technology focuses primarily on screen-based imagery, and on the ‘production-oriented relationships’ that he considers are symbolized by technological models: ‘Art only exercises its critical duty with regard to technology from the moment when it shifts

its critical challenges. So the main effects of the computer revolution are visible today among artists who do not use computers. On the other hand, those who produce so-called “computer graphic” images, by manipulating synthetic fractals and images, usually fall into the trap of illustration’ (pp. 67–8).

- 2 Marsha Meskimmon, *Contemporary Art and the Cosmopolitan Imagination* (London/New York: Routledge, 2011).
- 3 Consider, for example, Clay Shirky’s account of the ‘digital divide’ and the background information he provides on access to basic telephony in Clay Shirky, ‘Half the World’ (Version 1.03, 3 September 2002), at shirky.com/writings/half_the_world.html. (accessed 7 December, 2012)
- 4 It could be argued, however, that similar limitations also apply to the global accessibility of many other artworks in traditional media such as painting, film, and sculpture.
- 5 Grant Tavinor examines gaming as an artform, and considers debates about the social and ethical implications of participation in this medium in *The Art of Videogames* (Malden, MA/Oxford: Wiley-Blackwell, 2009).
- 6 Pauline Kleingeld examines and contrasts different concepts of cosmopolitanism in ‘Six Varieties of Cosmopolitanism in Late Eighteenth-Century Germany’, *Journal of the History of Ideas* 60: 3 (1999), pp. 505–24. She points out that the notion of ‘moral cosmopolitanism’ (‘the view that all human beings are members of a single moral community’) is closest in conception to the ancient view of this idea as developed by the Stoics (p. 507).
- 7 David Held, *Cosmopolitanism: Ideals, Realities and Deficits* (Cambridge/Malden MA: Polity Press, 2010), p. x.
- 8 Rafael Lozano-Hemmer was born in Mexico City in 1967, and currently lives and works in Canada. Recent solo exhibitions have been held at the San Francisco Museum of Modern Art (2012–3), the Fundación Telefónica, Argentina (2012); bitforms gallery, New York (2012); the Museum of Contemporary Art, Sydney (2011); La Gaité Lyrique, Paris (2011); and the Manchester Art Gallery, Manchester (2011), among others. His public artworks have been staged in cities around the world, and have been specially commissioned for particular events, including the fiftieth anniversary of the Guggenheim Museum (New York) and the Winter Olympics in Vancouver (2010). He represented Mexico at the 2007 Venice Biennale.
- 9 Sherry Turkle, *Alone Together: Why We Expect More from Technology and Less from Each Other* (New York: Basic Books, 2011), pp. 154ff.
- 10 *Ibid.*, p. 155.

- 11 Lozano-Hemmer discusses his use of the term 'relational' in this context, and distinguishes it from Bourriaud's 'relational aesthetics' in an interview with José Luis Barrios, 'Reflections around Loose Ends' in Rafael Lozano-Hemmer et al., *Some Things Happen More Often than All of the Time*, exhibition catalogue, Venice Biennale (Madrid: Turner, 2007), pp. 142–51, at pp. 147–8.
- 12 A full description of this and the other works discussed in this chapter can be found on the artist's website, at www.lozano-hemmer.com/two_origins.php. (accessed 18 July, 2012)
- 13 Lozano-Hemmer, *Some Things Happen*, p. 81.
- 14 Dominic McIver Lopes, *A Philosophy of Computer Art* (London/New York: Routledge, 2010), pp. 26–7.
- 15 Consider, for example, David Hockney's iPhone drawings, images of which are available on his website, at www.hockneypictures.com/iphone_pages/iphone_etcetera-01.php. (accessed 18 July, 2012)
- 16 Conversation between José Luis Barrios and Rafael Lozano-Hemmer, 'Reflections around Loose Ends', in Lozano-Hemmer, *Some Things Happen*, pp. 142–51, at p. 143.
- 17 Lopes, *Philosophy of Computer Art*, p. 75.
- 18 For further details of the installation, see the project description on the artist's website, at www.lozano-hemmer.com/repositioning_fear.php. (accessed 12 December, 2012)
- 19 Lea Ypi, *Global Justice and Avant-Garde Political Agency* (Oxford: Oxford University Press, 2012).
- 20 Ibid., p. 161.
- 21 For further description, see Lozano-Hemmer, *Some Things Happen*, p. 75. See also the project description on the artist's website, at www.lozano-hemmer.com/body_movies.php. (accessed 12 December, 2012)
- 22 Lozano-Hemmer, *Some Things Happen*, p. 146.
- 23 Ibid., 146.
- 24 Kwame Anthony Appiah, *Cosmopolitanism: Ethics in a World of Strangers* (London: Penguin, 2007), p. 85.
- 25 Ibid., 85.
- 26 James Bohman, 'Discursive Toleration', *Political Theory* 31: 6 (December 2003), pp. 757–79, at p. 775.
- 27 Lozano-Hemmer, *Some Things Happen*, p. 75.
- 28 Ibid., 146.
- 29 Ibid.
- 30 A detailed description of the project and its underlying technology can be found in Rafael Lozano-Hemmer and David Hill, eds, *Under*

Scan (Nottingham/Montreal: East Midlands Development Agency and Antimodular Research, 2007), pp. 9–28. See also the description on the artist's website, at www.lozano-hemmer.com/under_scan.php. (accessed 12 December, 2012)

- 31 See Lozano-Hemmer and Hill, *Under Scan*, pp. 6–7.
- 32 Michael Kenny, 'Global Civil Society: A Liberal-Republican Argument', *Review of International Studies* 29 (2003), pp. 119–43, at p. 128.
- 33 Ibid.
- 34 The artist describes the project in Lozano-Hemmer, *Some Things Happen*, p. 87.
- 35 See the detailed description of the work on the artist's website, at www.lozano-hemmer.com/amodal_suspension.php. (accessed 12 December, 2012)
- 36 Statistics taken from the *Amodal Suspension* website, at www.amodal.net/intro.html. (accessed 12 July, 2012)
- 37 Rafael Lozano-Hemmer, quoted on the *Amodal Suspension* website, at www.amodal.net/concept.html. (accessed 22 July, 2011)
- 38 Rafael Lozano-Hemmer, quoted on the artist's website, at www.lozano-hemmer.com/amodal_suspension.php. (accessed 22 July, 2011)
- 39 Kriss Ravetto-Bagioli, 'Shadowed by Images: Rafael Lozano-Hemmer and the Art of Surveillance', *Representations* 111: 1 (2010), pp. 121–43, at p. 123.
- 40 Lozano-Hemmer, *Some Things Happen*, p. 147.
- 41 Ibid.
- 42 Meskimmon, *Contemporary Art and the Cosmopolitan Imagination*, p. 6.