Chapter 17
Shifting Perceptions – Shifting Realities

Margaret Dolinsky

17.1 Introduction

As an artist working in a practice of portraying psychic dilemmas, I am interested in perception, portraiture, how dilemmas express themselves and how the thoughts and events fueling dilemmas reconstruct reality. Virtual objects offer a methodology for shifting perception and evoking a sense of other-worldliness that allows us to cognize our perceptions, their shifts and affectations.

The placement of 3D computer graphical imagery in virtuality and in space, across time so that one can revisit it anew -is an act of situating consciousness. Augmented reality incorporates the act of placing computer generated imagery in locative space for visitors to discover. AR is an experiential phenomenon that must be positioned and subsequently located or discovered. AR is fleeting as it is oscillating between being invisible and being made visible by situating the body and pointing a device into the atmosphere. The computing device, a data processor, a thinking machine, recognizes an artificial entity and unveils its presence. The physical movement of the body in synchronicity with the device combines the corporeal and the machine to produce a virtual entity. A visitor recognizes the AR entity in the viewing device and perceives it as an articulation between self and world. One must suspend their disbelief in order to integrate the virtual information within the real environment. In turn, the apperception of the AR object causes one to reconstruct their understanding of the presence of objects within that space. Moreover, direct confrontation and assimilation with the virtual causes the repositioning of physicality and acclimatizes neuronal activity. As a result, the real world transforms into an augmented reality.

M. Dolinsky (✉)
HR Hope School of Fine Arts, Pervasive Technology Institute, Institute of Digital Arts and Humanities, Indiana University, Bloomington, IN, USA
e-mail: dolinsky@indiana.edu; http://www.dolinsky.fa.indiana.edu/

17.2   Perceptual Shifts

The creation of AR situations requires a methodology of a creative process for exposing art motifs and formulas, exploiting locative space and generating experiential discovery in order to situate consciousness (Dolinsky 2004). The aesthetic moments in an AR experience are multi-layered ascertainments of locative spaces, artistic designations and psychic dilemmas. It is in the process of locating the artwork and identifying its existence that generates experiences that are geographical, corporeal and subjective. A confrontation with AR combines the experimental moment with conscious awareness and offers a shift in perception. Offering heightened awareness, this sensation becomes an extra-marginal moment in an intellective engagement, or a perceptual shift (Dolinsky 2004).

A perceptual shift is the cognitive recognition of having experienced something extra-marginal, on the boundaries of normal awareness, outside of conditioned attenuation. Promoting a "perceptual shift" for the visitor is a historical tradition in some art forms that aim towards altering perception. Perceptual shifts are often provoked by such art as *trompe l'oeil,* Cubism, Cornell boxes, labyrinth gardens, and Brecht's political theater. These motifs are a reason that I exploit AR as a virtual environment. As a type of interactive media, AR has a quality that requires a specific engagement unique to the peripheral devices and its ability to situate particular artistic performances. Once the visitor becomes complicit in his or her role within that interaction relationship, possibilities are expanded for cognitive recognition and perceptual shift. In my work, I am not necessarily attempting to shape emotion in particular, but I do hope to shape perceptual possibilities within environments by situating AR experiences.

The most important performance measure of effectiveness for media experiences is psychological immersion. Psychological immersion occurs when a visitor's senses are so aroused by the virtual experience that their emotions and intellect react as if they are in the actual world or participating in another world event (Rosen et al. 1994). We are most familiar with this phenomenon as we tend to weave ourselves into the plot of a film or the drama of a video game. AR art offers a sense of immersion when a locative activity engages the visitor in transforming a seemingly neutral, albeit public space into a subversive and aesthetic communication scene.

AR art allows us to incorporate virtual objects into our physical space and promote psychological immersion by repositioning our body's physical relationship to the world and moreover, affecting our emotional thinking. As a result, AR can restructure mundane existence. In AR, we must construct an understanding of how the 3D computer graphical object consummates with our world. Through psychological immersion, we gain an understanding of how we function in relation to its ubiety. We consider rules that were previously transparent and permutate them to orchestrate a shared sense of augmented reality. The integration of imaginative virtual art objects in public spaces not only gives us the opportunity to experience an "other" type of "being" in the world, the space itself exists as both real and

virtual (Virilio 2002). This recognition of the transformative environment allows us to reconsider representations in our everyday world and our own relationships to them (Dolinsky et al. 2005).

In order to achieve psychological immersion, action is key. Interactivity is critical for optimized enjoyment. Action enhances the sense of immersion and the efficacy of the graphics. Standing alongside the AR in the park and confronted by a man, I remained immersed within an augmented environment. The resultant conversation occurred with me in the virtual world and him in the park world. Our thoughts were dove-tailing in a strange manner but we seem to understand one another all the same. Our actions- our physical proximity and our dream like descant- intensified the immersion of the space for both of us. Somehow, we stood our ground and stood together while we enjoyed our conversation. We were listening to one another, engaged in a discursive reaction and ultimately we established our private interconnected network. We were immersed. Immersion can occur between one person and the AR object as I experienced the magic of the initial discovery of the artwork. Immersion can also occur between multiple persons who are acting in relation to the existence of the AR artwork as in when the interlocutor began our conversation.

This psychological connectedness of immersion occurs when there is an emotional response to the AR system. This is gauged by the sense of presence. The efficacy of presence can be formulated in different ways. Typically, presence is defined by a sense of being in the virtual environment instead of being in the space where the physical body actually resides (Draper et al. 1998; Slater and Wilbur 1997). Another definition of presence occurs when the experience is "... tantamount to successfully supported action in the environment" (Flach and Holden 1998; Zahorik and Jenison 1998). AR can offer a multiplicity of types of experiences. The former occurring in my initial situation with recognizing my AR art. I became a part of a magical moment that fused me with the existence of the object in a virtual space. My heart was racing in reaction to seeing it. I was mesmerized by the movement of the balloon hovering in the air. I felt impressed and immersed. The latter type of presence depends on action that locates one in the virtual environment. This occurred with the AR art when it became a part of my physicality in conversation with another person, even though they did not realize it was there. I felt its presence.

By focusing attention, shifting perception, and directing consciousness, the AR objects become a type of locative ink mark that combines with the environment to lead to a type of virtual painting or aesthetic overlay integrated into the real world. The objects can be realized as creating a virtual environment and establishing the action of a theatrical moment. The visitor has the responsibility to inculcate their degree of presence and assimilate the object accordingly. In effect, the creative process situates consciousness and augments reality by incorporating AR art into the active experience of locative awareness.

"The phenomenon of presence is based on the transportation of consciousness into an alternate, virtual reality so that, in a sense, presence is consciousness within that virtual reality" (Sanchez-Vives and Slater 2005). So despite an object being

simulated and not real at all, visitors can respond as if it is real by eliciting an emotional response and genuinely engaging with the virtual object. According to Dixon, "Virtual reality is all about illusion. It's about computer graphics in the theater of the mind. It's about the use of technology to convince yourself you're in another reality . . . " (Dixon 2007).

17.3   A Moment in the Park

A young skateboarder rolling past circled several times and slowed down long enough to ask "Is that a computer?" I was surprised by the question, perhaps some people do not know what this iPad is. I felt like an alien, holding an alien object, rendering myself an outlander and alien in the world. It was a surprised considering we were practically on campus. Regardless, standing searching, the computer looking up at a tree saw an illusion of a heart-shaped object. The balloon with the image of Lenin raising his finger is pointing towards the sky. The balloon is there! Lenin is there! Suddenly my heart was pointing to the sky . . . It is the arOCCUPY May Day exhibition and the heARt looms with a sense of vulnerability (see Fig. 17.1).

Fig. 17.1   HeARt arOCCUPY May Day 2013. Bloomington, Indiana, USA

   Then, suddenly, out of nowhere, someone moves adjacent to my shoulder. With a slight swivel of my face, a warm breath pulses against my cheek. Turning completely, he comes into view. His breath reaches into my mouth like an ominous shadow rolling across a plain. Simultaneously, his voice is a soft growl and a matter of fact Indiana-Southern style whisper: "You're scaring people."

   Alongside marking the scene with AR is now a newfound sense of trouble. To be certain that trouble is accompanied with alarm, the man repeats himself. Taking stock of the situation in the People's Park, a place where transients come to linger during the day, I see the world continues to pass by. Now someone-namely me-from that world passes into the park, space invades alongside AR art and brandishes a computer device in the air. Clearly such swashbuckling antics are not appreciated. Perhaps it is the computer that concerns them: an object waving around, a screen exploring the environment and a stranger creating an unknown quiddity. The people in People's Park feel screened. I am a surveyor that is being subject to surveillance.

   We look straight ahead, nearly nose to nose, eyes in essence touching. His sunburned skin, long hair and military garb appears war town and weather beaten. He stands not much taller and he means business. He repeats himself, "You're scaring people." I do not move. My body is still as my mind registers standing close to this stranger. Our locked gaze continues, I reply softly, "I'm not scaring' anyone. I'm looking for my heart." Immediately his body relaxes, he withdraws ever so slightly, makes a bow and returns to me. Moving in close, he replies, "Well, I'm looking for my heart too." We began to have a consensual hallucination in a conversation of soul quest, symbolic language and sententious poetry. We each profess a type of pronunciamento regarding hearts. Two disparate sensibilities dovetailing around one another through conversation and confrontation and summing up with a profound sense of moment and place. It helps to further understand crazy. Contemporaneously, the discourse makes perfect sense and broken nonsense but ends in mutual satisfaction. It ends as if there exists a private acquiescence to recognize a heart when it is presented.

17.4 Subversive Confrontation

The discovery of AR artwork in a People's Park situates the visitor not only in a location but within a social structure that is transforming with both particular and random circumstances. The community transubstantiates the public area creating an ever changing dynamic established by a flow of situations. The AR experience is situated not for this marginalized group of people but those who travel there in order to recognize the affordances of the computer graphics as presence, action and relationships intrinsic to the reconfiguration of reality by the introduction of virtuality. Ascott states that "virtual reality corrupts and absolute reality corrupts absolutely, whenever the constraints and limitation of its construction are preordained, predefined or pre-set." The search for AR art is a search for the definition

of the space. One must begin to negotiate the space with an intrepid sense of exploration. One begins by searching the space slowly and more intimately than one would who is not brandishing a device. The AR visitor becomes aware of the space to discover the AR art but in turn may realize how fully present in the space we can become.

We can intensify our worlds experientially through an act of discovery with AR. AR systematizes Lenin as he hovers over People's Park in a heart shaped computer generated hallucination. Lenin becomes visible through a device and digital window that situates him towards the visitor in a relationship wrought with multiple interpretations of private, public and social identities. The visitor is being fused in a subversive confrontation with a virtual object that references a history of social systems in a place called People's Park, a circumstantial public space. The majority of the visitors to the park are among the AR uninitiated and will never know of the heart's existence. Through an adventure in search of AR art, comes a way of knowing a city, a neighborhood park, and its inhabitants. Moreover, AR upheaves a mundane occurrence in a park. By repositioning the visitor in the park with Lenin's effigy a distance forms between the sense of self and the park. AR causes the visitor to recognize the existence of the object, assimilate the object with not only space but self and form a reaction. The reaction modifies self, park and self with art. Step by step beginning with an invitation to discover the AR, the visitor finds a way to identify the work and identify with it alongside the streets. Each of the elements of this process intertwine one with another to create an experience of multiplicity and action that involves space – artistic space, cyberspace, and mental space. Virtual reality enhances reality (see Fig. 17.2).

The visitor becomes complicit in the AR artwork by attending its exhibition in the park. The visitor is yet another object, hovering among with virtual entities, recognizing the existence of other objects. The visitor, through the act of visiting, becomes the augmentation of the day. The visitor becomes the extra entity that affords discovery and assimilation for the regular inhabitants of the park. AR and its acolytes are shifting the reality and the perceptions of the people in the park. Those who visit AR have the potential to be labelled as an outsider and to become suspect in their activity.

The irony compounds itself as these events occur on May Day. May Day coincides with International Workers' Day and typically involves rallies and peaceful demonstrations in support of laborers and labor rights. On May Day 2013, there were two different demonstrations occurring in the People's Park. One demonstration was the exhibition of AR art and the other was the demonstration by the people who rallied to complain about the presence of a stranger, specifically the AR acolyte in the park.

"arOCCUPY May Day" was an AR art exhibition and subversion directed and produced by Mark Skwarek, a faculty member and researcher-in-residence at Polytechnic Institute of New York University. Inspired by New York City's Occupy movement, Skwarek re-built the encampment in AR. He extended the encampment by inviting artists to create AR pieces that would enhance efforts to support the Occupy Movement. AR allowed him to situate the protest in cities across the United
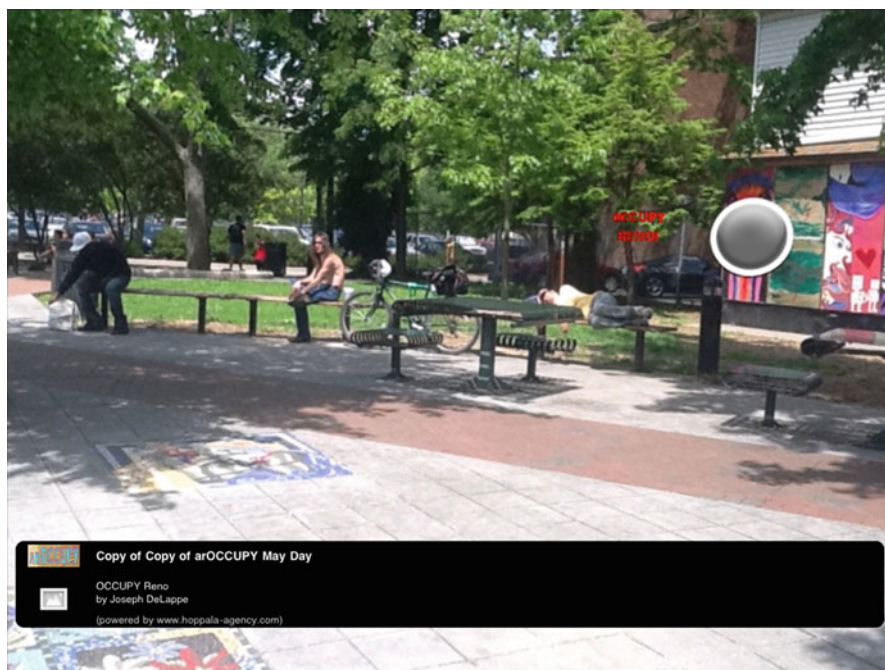
Fig. 17.2 People's Park in Bloomington Indiana during the art exhibition, arOCCUPY May Day 2013. Many of the people gathered to the left side of the park when they saw a stranger in the park walking around pointing an iPad. As a result, the benches and tables on the right side of the park are empty. The upheaval in the air can be seen literally, figuratively and virtually with the hovering AR objects

States as well as across the world in such cities as Sydney, Australia, Brasilia, Brazil and Hammam Sousse, Tunisia in Africa. The exhibition reached as far as Shanghai and a photo was smuggled out of China in support (see Fig. 17.3) (Skwarek 2012).

Lenin is being reintroduced to a new generation of social activists (Žižek 2002, 2004; Kellogg 2014) through reprints of his critical writings composed from the overthrow of the tsar. The choice of using the image of Lenin on the arHEART is motivated by a Ukrainian heritage. The Ukrainians were an independent nation in 1917 that was invaded by Lenin's Red Army. By 1921, Lenin began to give the Ukrainians back some of their independence by allowing a national revival movement that celebrated their customs, language, arts, music, poetry and the Ukrainian Orthodox religion. However, this was short lived when the Ukraine was devastated in 1929 by Stalin who imprisoned and/or executed leading scholars, scientists, cultural and religious leaders by falsely accusing them of armed revolt. This was followed by the Holodomor, Stalin's forced extermination by hunger in 1932–1933. The arHEART at arOCCUPY MAY DAY is a testament to the strength of heart of the Ukrainian people. The ephemerality of the arHEART is a pointer to the extreme changes of heart that the Russian leaders demonstrated towards

Fig. 17.3 Documentation
from Shanghai arOCCUPY
MAY DAY of the HeARt.
This was a very difficult
photograph to secure and was
sent to the USA from
Shanghai, China during the
May Day worldwide protests.
Photographer unknown
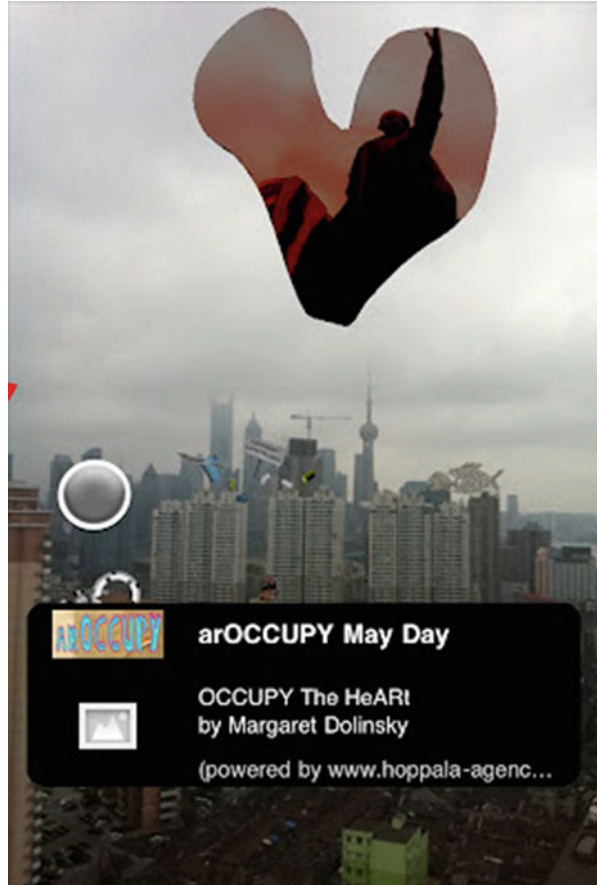
the Ukrainians. As a result the arHEART flutters in many cities, in the air, in
the park and in the sanctuary of nature, pointing towards a place of renewal (see
Fig. 17.4).

The creation and placement of AR art is integral to provoking an experience
and causing a shift in perception. Conception, presence and communication is
established through an aesthetic juncture. Placing the object in a particular setting
co-locates aesthetic production, social milieu and subversive confrontation. AR
affords an opportunity for an experience that facilitates an earnestness of space and
place in the community. AR artwork helps to establish a relationship to city, alters
that space and invites spectacle. That experience situates consciousness and forms
memories of the artwork that reconfigures the self, the object as a place and the
overall location.

Fig. 17.4 HeARt arOCCUPY May Day nestled in the trees of Bloomington, Indiana

References

Dixon S. Digital performance: a history of new media in theater, dance, performance art, and installation. Cambridge: MIT Press; 2007. p. 365.

Dolinsky M. Visual navigation structures in collaborative virtual environments. In: Stereoscopic displays and virtual reality systems XI, proceedings of international society of optical engineering's electronic imaging science and technology technical conference: the engineering reality of virtual reality. San Jose; 2004.

Dolinsky M, Anstey J, Pape D, Aguilera J, Kostis H, Tsoupikova D, Sandin D. Collaborative virtual environments art exhibition. In: Stereoscopic displays and virtual reality systems XII, proceedings of international society of optical engineering's electronic imaging science and technology technical conference: the engineering reality of virtual reality. San Jose; 2005.

Draper JV, Kaber DB, Usher JM. Telepresence. Human Factors: The journal of the human factors and ergonomics society. 1998;40(3):354–75.

Flach JM, Holden JG. The reality of experience: Gibson's way. Presence Teleoper Virtual Environ. 1998;7(1):90–5.

Kellogg P. Slavoj Zizek's failed encounter with Leninism. Links. Available at http://links.org.au/node/1500 (April 2010). Accessed 2 Jan 2014.

Rosen S, Bricken W, Martinez R, Laurel B. Determinants of immersivity in virtual reality: graphics vs. action. In: Proceedings of the 21st annual conference on computer graphics and interactive techniques SIGGRAPH '94. ACM, New York; 1994. p. 496. doi:10.1145/192161.192303, http://doi.acm.org/10.1145/192161.192303

Sanchez-Vives MV, Slater M. From presence to consciousness through virtual reality. Nat Rev Neurosci. 2005;6(4):332–9.

Skwarek M. arOCCUPY MAY DAY. http://aroccupymayday.blogspot.com/ (2012). Accessed 15 Dec 2013.

Slater M, Wilbur S. A framework for immersive virtual environments (FIVE): speculations on the role of presence in virtual environments. Presence Presence-Dev Virtual Environ. 1997;6(6):603–16.

Virilio P. The Aesthetics of Disappearance. In: Spiller N, editor. Cyber Reader: Critical writings for the digital era. New York: Phaidon Press Limited; 2002. p. 91.

Zahorik P, Jenison RL. Presence as being-in-the-world. Presence Teleoper Virtual Environ. 1998;7(1):78–89.

Žižek S. Revolution at the gates: a selection of writings from February to October 1917. New York: Verso; 2002.

Žižek S. What is to be done (with Lenin)? In: These times, 28 6. Available at http://www.inthesetimes.com/article/135/what_is_to_be_done_with_lenin/ (2004). Accessed 2 Jan 2014.