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## **"Broadway Augmented" – Augmented Reality as Virtual Public Art in Sacramento**

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*"Intervals (the transitions from one movement to another) are the material, the elements of the art of movement and by no means the movements themselves. It is they (the intervals) which draw the movement to a kinetic resolution." – Dziga Vertov, 1922 [1]*

In the above quote, Dziga Vertov, the Russian master of early experimental cinema, writes of cinematic montage, cutting from one shot to the next, as the principal signifier of film. Vertov and other artists in the Kino collective were fascinated by cinema's power to create in the minds of viewers new bodies, new thoughts, and new worlds through juxtaposing images across the film cut: a face with a plate of soup, a dead sailor with a raised fist, an eye with a window open to the city. A century later, the contemporary fascination with Augmented Reality (AR), in which a computer-generated virtual object is superimposed on a real-world environment, can be attributed principally to that juxtaposition of one realm with another. New thoughts, connections, and worlds are inspired in the minds of viewers who are presented with a synthetic, curated, generated world placed on top of their own. This juxtaposition across an AR interval can create commentaries, fantasies, metaphors, and metonymies through the combination of controlled and uncontrolled visual phenomena. The immediate environment unfolding in real time merges with a superimposition partially planned.

The AR interval is the artistic material used by eleven artists to create *Broadway Augmented*, an Augmented Reality virtual art installation along the Broadway business district in Sacramento, California. To experience *Broadway Augmented*, which opened in September, viewers must download a custom smartphone app. The app enables viewers to seek out and discover a set of 16 AR installations along a one-mile stretch of the city. The works appear through the camera viewscreens of users' devices, superimposed on the surrounding scenery. To create their custom AR pieces, which include 3D models, videos, and animations, artists worked with a team of 3D modelers from California State University, Sacramento.



*Broadway Augmented: artwork locations guide, 2014.*

No doubt the novelty of an emerging technology is at work here (*Minority Report* right in your hands!) – but there is also something unique and refreshing in how this project was produced. A new artistic material – intervals of real and virtual – was provided to a set of artists that included not just media artists, but painters, sculptors, and others as well. This combination of traditional public art methods of site-specific commissions and a new medium was the original promise of *Broadway Augmented*. Sponsored by the National Endowment for the Arts and the Sacramento Metropolitan Arts Commission, *Broadway Augmented* was envisioned as a vehicle to commission public art for the Broadway Business Corridor. Instead of permanent sculpture, temporary virtual installations would be delivered to the community through special views via Augmented Reality on their own smartphones. Community members would learn about the project and how to download the custom smartphone application through local press reports, print advertisements, and announcements at art openings. What they would experience is a hybrid of public sculpture, media art, publication, and scavenger-hunt.

Augmented Reality is new to the art scene. Like other media art, its rise has been dependent on both the technologies for generation and those for distribution. In 2001, the HitLab at the University of Washington began distributing ARToolkit, a free open source AR marker/fiducial authoring platform opening the AR field to code-savvy artists and designers. In 2003, the Georgia Institute of Technology began distributing their Designers Augmented Reality Toolkit, a platform based on the then-popular Macromedia Director, in an effort to make an AR platform more accessible to general artists and designers. Interest in AR by artists accelerated in 2009 with the popular adoption of the iPhone and the availability of common platforms like Junaio

and Layar that not only provided authoring tools simple enough for a broad range of designers, but also a distribution platform that could deliver AR experiences to anyone with a smartphone. Still, in 2014, AR functions as an emerging medium, its eyes bigger than its appetite, its promise bigger than its current practicalities. In the case of *Broadway Augmented*, the goal was to create a virtual experience that could stand in for the actual experience of public sculpture: site-specific art objects installed in locations robustly enough that they can be explored from all sides by the local community. Practically, photo-realistic virtual objects – those possessing the quality of Hollywood film effects – are still only achievable after days of rendering on large arrays of computers, not instantly on a typical smartphone. And placing a virtual object in a location using GPS and other smartphone location sensors is not possible with the exactness or stability required for a sculptural illusion. Instead, the AR technical director of *Broadway Augmented* had to use natural feature detection – the same technology used to recognize faces in Instagram pictures – to recognize and track a select set of features in the landscape: signs, architectures, markers, murals. These features were then provided to the eleven artists as the possible sites for their creations. The raw creative constraints – local features conducive to tracking as artistic sites and the graphical limits of 3D models on smartphones – combined with an eclectic group of artists result in a fresh take on what can be done with this AR interval medium.



*The Peaceable Kingdom*, 2014, Malcolm Cochran, Broadway Augmented app view.

What I noticed on site in Sacramento on opening day was both the hybrid nature of distribution – part art-opening and part publication – and the unexpectedly holistic experience provided by multiple artists specializing in diverse media. That morning I was participating in a television interview at the site of Malcolm Cochran's virtual sculpture for *Broadway Augmented*, *The Peaceable Kingdom*, in which a set of 3D sculptural models inspired by his own collection of animal figurines surround a lamb sculpture grave marker in the Old City Cemetery. During the course of the morning's interview, individuals and couples would arrive, smartphones in hand, to discover the work, letting out satisfied sighs in their independent capturing of the experience, each one navigating a personal journey through the neighborhood's AR experience

after reading about the exhibition in the morning newspaper, downloading the app, and venturing forth. The audience viewing the works was outside any institution, in an exhibition space un-marked and without docents, and was exploring the works like a group of tourists in Rome referring to their Michelin Guides. Some would join us at the exhibition opening that evening, while others would experience the exhibition in a manner completely independent from the official event. This type of communicated art, shared with the community as independent reading experiences, reminds me of zines and the tradition of local print art publications. As with a zine, engagement with the work takes place outside the gallery and institution walls, and audience members equally hold, own, and touch the works on their own devices, presented to them as part of their own cultural collection (like each of our own sets of links, websites, aggregators, feeds, favorite images, and albums). Indeed, the most common practice among those viewing *Broadway Augmented* was to take screenshots of their own individual AR discoveries with the app in order to archive and share the juxtapositions of virtual and real they had observed and, in fact, had uniquely created themselves.

Another surprise I encountered when viewing the individual site works of *Broadway Augmented* was how difficult it is to tell the artists who work primarily in traditional media from those who work in electronic media. For example, the painter Mark Emerson's *Picture Motion*, in which he translated his practice of polymer-based colorful geometric paintings into animated graphical murals, had much in common with media artist Sabrina Ratté's *Façades*, which used video feedback to create graphical animated windows within the real round windows of local restaurants.



(Top left) *The Peaceable Kingdom*, 2014, Malcolm Cochran, (top right) *Tower*, 2014, Rachel Clarke, (bottom left) *Picture Motion*, 2014, Mark Emerson, (bottom right) *Portal Station*, 2014, Chris Manzione, Broadway Augmented app iPad screen captures.



*Façades*, 2014, Sabrina Ratté, Broadway Augmented app view.



*Over and Over Again*, 2014, Gioia Fonda, Broadway Augmented app view (first location).



*Over and Over Again*, 2014, Gioia Fonda, Broadway Augmented app view (second location).



(Top left) *Over and Over Again*, 2014, Gioia Fonda, (top right) *Tower*, 2014, Rachel Clarke, (bottom left) *Unknown*, 2014, Rebecca Krinke, (bottom right) *The Peaceable Kingdom*, 2014, Malcolm Cochran, Broadway Augmented app Android screen captures.

Gioia Fonda, a local painter, created through the help of the Sacramento State team of animators an animated 3D billboard titled *Over and Over Again* to superimpose on top of real billboards along Broadway. Her virtual interpretation of her playful, colorful, acrylic paintings and textile works have a similar playful presence as new media artist Rachel Clarke's independently created virtual 3D model installation, *Tower*, which superimposes an animated, magical turntable on top of the extant turntable mural at Dimple Records, a local landmark.

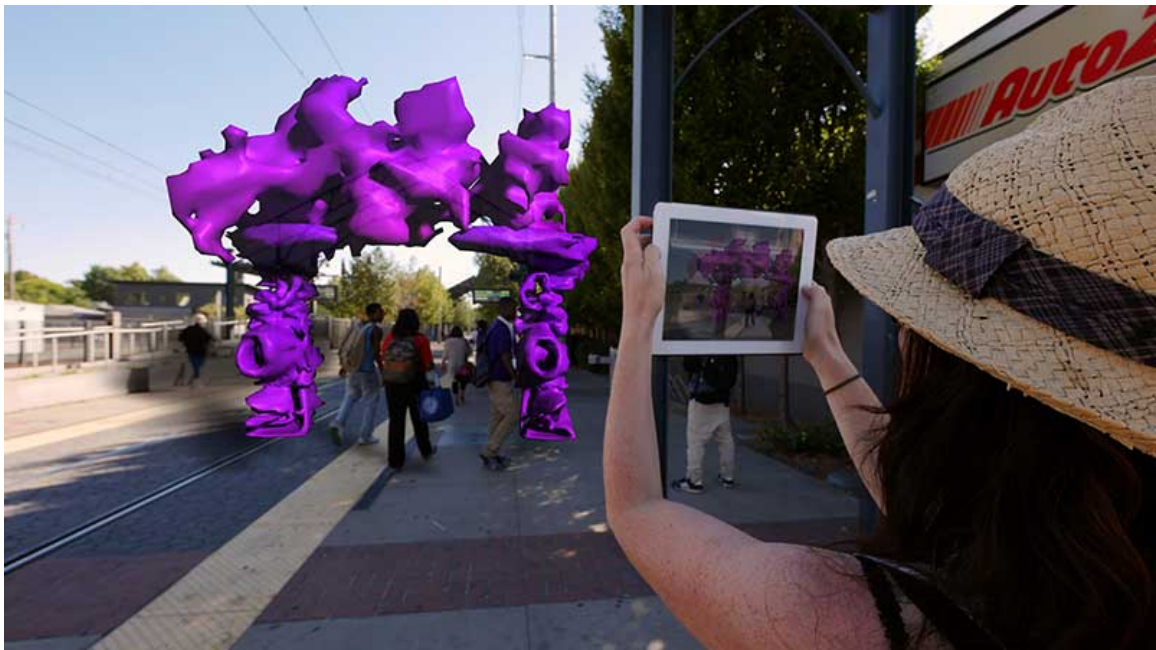
Both artists' colorful graphical animations inhabited a parallel dimension of fun-park rides seen on top of Broadway. This was true of other artists: Ben Hunt's interpretation of his gallery sculptural works that use architectural forms occupied a similar space as a virtual phone booth created by José Carlos Casado or the futuristic arch designed by Chris Manzione, though the gallery works of these artists are quite disparate. This is not to say that the voices of the artists are diminished, but that AR has its own material, just as cinema does – a material that has to be worked and that shapes the works made in it. Consider the way that Man Ray's surrealist films probably have more in common with the films of Stan Brakhage than the photographic work of his contemporaries, or that Matthew Barney's *The Cremaster Cycle* could be compared to the films of Tim Burton as well as to the work of contemporary sculptors. AR is not a transparent medium of transmission, but an artistic material of creation – a new, fresh material of this decade – and these pioneering artists and curators are some of the first to get their hands dirty.



*Floating Cities*, 2014, Ben Hunt, Broadway Augmented app view.



*Dis-placed Phone*, 2014, José Carlos Casado, and *Drones Over Broadway*, 2014, Joseph Delappe, Broadway Augmented app view.



*Portal Station*, 2014, Chris Manzione, Broadway Augmented app view.



Unknown, 2014, Rebecca Krinke, Broadway Augmented app view.



(Top left) *Dis-placed Phone*, 2014, José Carlos Casado, (top right) *Façades*, 2014, Sabrina Ratte, (bottom left) *Floating Cities*, 2014, Ben Hunt, (bottom right) *Unknown*, 2014, Rebecca Krinke, Broadway Augmented app iPad screen captures.

## References:

1. Dziga Vertov, 'We' (1922), reprinted in David Company, *Photography and Cinema* (London: Reaktion Books, 2008), 29.
2. *Broadway Augmented* official website, September 2014, <http://BroadwayAugmented.net>

## Bio:

Geoffrey Alan Rhodes is an Assistant Professor in the Department of Visual Communication Design at the School of the Art Institute of Chicago. He works across disciplines to create, for viewers and users, experiences that challenge the borders between the real and the virtual, the cinematic and the actual, fine art and popular experience. His works involve feature films, gallery video art, photographic and new media applications, and these share a sense of play in apparatus and traditional structures such as actual subjects performing roles, transparent media machinations serving as 'stage,' and collisions of one medium with another. His feature films, media installations, and augmented reality publications have been screened, exhibited, and published internationally.

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