AR[t]

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AUGMENTED REALITY, ART AND TECHNOLOGY

ARlab

COLOPHON

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WELCOME…

to the fifth edition of **AR[t]**, the magazine about Augmented Reality, art and technology!

Two and a half years ago the AR Lab, a collaboration between The Royal Academy of Art, Delft University of Technology and Leiden University, started the AR[t] magazine series with the ambition to compile and design an inspiring magazine for the emerging AR community inside and outside the Netherlands. Our experience and influence in the field grew over time, and our various contributors have written thought provoking and sometimes outspoken articles about AR. In all our issues we have shared our interest in Augmented Reality, discussed its applications in fine arts and provided insight into the underlying technology. We are proud of what we have established with the magazine in such a short space of time and the international audience we have reached.

In this fifth issue of AR[t], we look at AR from various perspectives, however, the articles do have a common denominator: *the future of Augmented Reality*. In some of the articles the future of AR is explicitly outlined, in others it is more implicit. We hope that this collection of articles guides you in prospective projects. Stop predicting, start producing: the future of augmented reality is bright!

In random order, I would like to give you a quick impression of some of the articles you will find in this issue.

Wim van Eck continues his series 'How did we do it', but it is now turned into a 'How *will* we

do it' focusing on the future and past of 3D animation and Augmented Reality. He looks at how software has developed throughout the years and uses this expansion to see where we are heading. Hanna Schraffenberger continuous with her interview articles. For this issue, she has interviewed, together with Jouke Verlinden, designer Theo Botschuijver. Two former US presidents are also featured in this issue: John F. Kennedy in Maarten Lamers' article 'The AR Curse' and Benjamin Franklin in my article 'The Augmented Self'. The other articles cover, amongst others, critical views on Augmented Reality, artistic approaches, natural phenomena that are combined with the latest technology and we learn what Urban Dance can teach us about Augmented Reality.

Our thanks goes out to all researchers, artists and lecturers at the AR Lab (whether based at the Royal Academy of Arts, The Hague or Delft University of Technology or Leiden University) and all other authors from all around the world who have contributed in this and previous issues. Moreover, a special thanks to you, the reader of AR[t] magazine.

I hope we keep sharing our experiments and ideas about AR and other intriguing, new techniques. We look forward to meeting you somewhere in the near future, in one reality or another!

Yolande Kolstee, Head of AR Lab ■

Site Venice Site Biennale:

The Manifest.AR Augmented Reality Intervention into the 2011 Venice Biennial

by Tamiko Thiel

INTRODUCTION

In 2011, using geolocative augmented reality (AR), the author was the primary organizer of the Manifest.AR cyberartist group intervention into the Venice Art Biennale, together with fellow artists Sander Veenhof and Mark Skwarek (Manifest.AR Venice Biennale Manifesto 2013). Using GPS coordinates we placed virtual artworks – visible in smartphone displays as overlays on the live camera view of the surroundings – inside the curatorially closed spaces of the Biennale.

Unlike physical interventions, the artworks cannot be removed or blocked by authorities. The artworks exploit the site as their canvas while simultaneously questioning the value of location, and the power of the curator as gatekeeper, to canonize works of art.

The Venice Biennale, founded in 1895, is the world's oldest art biennial and the city's main claim to relevance as a contemporary art destination. In the intervention we wished to question the biennial system, and the art world's use of that system to define artistic value, but also address the site as artists: the reality of Venice's contemporary concerns and of life in the city today.

CHALLENGING AND EXPLOITING THE PRIMACY OF SITE

Manifest.AR [1] originally formed around an AR intervention into the United States' most iconic contemporary art space: the Museum of Modern Art in New York. In 2010 Sander Veenhof and Mark Skwarek realized that the institutional walls of the white cube were no longer solid, and organized a guerilla exhibit of augmented reality artworks inside the walls of MoMA.[1]

Since time immemorial location has been used to consecrate objects and people. In the art world too, access to a location – a gallery, a museum or other curatorially closed space – is tightly controlled to confer value and thus, via this exclusivity, to canonize the works shown there as "high art." What does it mean however to control physical space when in geolocated virtual space anyone can place whatever they want? [2]

Technically, it is a trivial difference in GPS coordinates that moves a virtual object from a public space such as Central Park to the curatorially closed space inside the sacred walls of MoMA. The epiphany of AR however is that although the artworks are virtual, their presence at the site is real, "actually existing as a thing or occurring in fact; not imagined or supposed" [3], reproducible by anyone who views the artwork at that location. In this "consensual hallucination," that was the dream of the early cyberpunk authors and virtual reality evangelists [4], augmented reality redefines the barriers between "the real" and "the virtual."

The artworks engage viewers with the site physically as well. Like bird watchers with binoculars, AR viewers scan their surroundings with their smartphones, dodging real world obstacles in search of the artwork, situating themselves and the act of viewing in their physical experience of that site.

Artistically, our works often stand in dialogue with the "official" artworks at a venue, and with the curator's theme and concept – with the visual presence of our artworks at the site increasing the potency of their argument.[2] In a time when many question the relevance of galleries, museums and biennials – the gated communities of the art world – we bring a new form of dialogue into their institutions. [5]

MANIFEST.AR VENICE BIENNALE INTERVENTION: THEMES AND CONCERNS

At the 2011 Venice Biennale we wished to reflect not on Venice's past glory, but on its current condition: not only wrestling with climate change and overrun by tourists, but also fighting for relevance in the art world. The national pavilions that dominate the Venice Biennale reflect its origins at the end of the 19th century and the rise of the nation-state with a presumed monolithic ethnic or cultural identity. They stand now in direct contrast to the globalized, itinerant world of contemporary artists and their multiple systems of cultural reference. [6]

Curator Bice Curiger's opening statement questioned this structure as well: "By adopting the title ILLUMInations the 54th International Art Exhibition of the Venice Biennale also aspires literally to shed light on the institution itself, drawing attention to dormant and unrecognized opportunities, as well as to conventions that need to be challenged... Far removed from culturally conservative constructs of 'nation,' art offers the potential to explore new forms of 'community' and negotiate differences and affinities that might serve as models for the future." [7] Curiger also posed five questions on identity to each of the artists officially included in the Biennale: "Where do you feel at home? Does the future speak English or another language? Is the artistic community a na-

tion? How many nations do you feel inside your-self? If art was a nation what would be written in its constitution?" [3]

As an international artist collective that co-alesced around challenging conventions of in-clusion and participation, we saw this as a per-sonal invitation to participate. Sander hijacked Curiger's curatorial statement and the Venice Biennale website to create our Venice Manifesto, in which we proclaimed:

As "one of the world's most important forums for the dissemination and 'illumination' about the current developments in international art" the 54th Biennial of Venice could not justify its reputa-tion without an uninvited Manifest.AR Augmented Reality intervention. In order to "challenge the conventions through which contemporary art is viewed" we have constructed virtual AR pavilions directly amongst the 30-odd buildings of the lucky few within the Giardini. In accordance with the "ILLUMInations" theme and Bice Curiger's 5 ques-tions our uninvited participation will not be bound by nation-state borders, by physical boundaries or by conventional art world structures. The AR pavilions at the 54th Biennial reflect on a rapidly expanding and developing new realm of Augment-ed Reality Art that radically crosses dimensional, physical and hierarchical boundaries. [8]
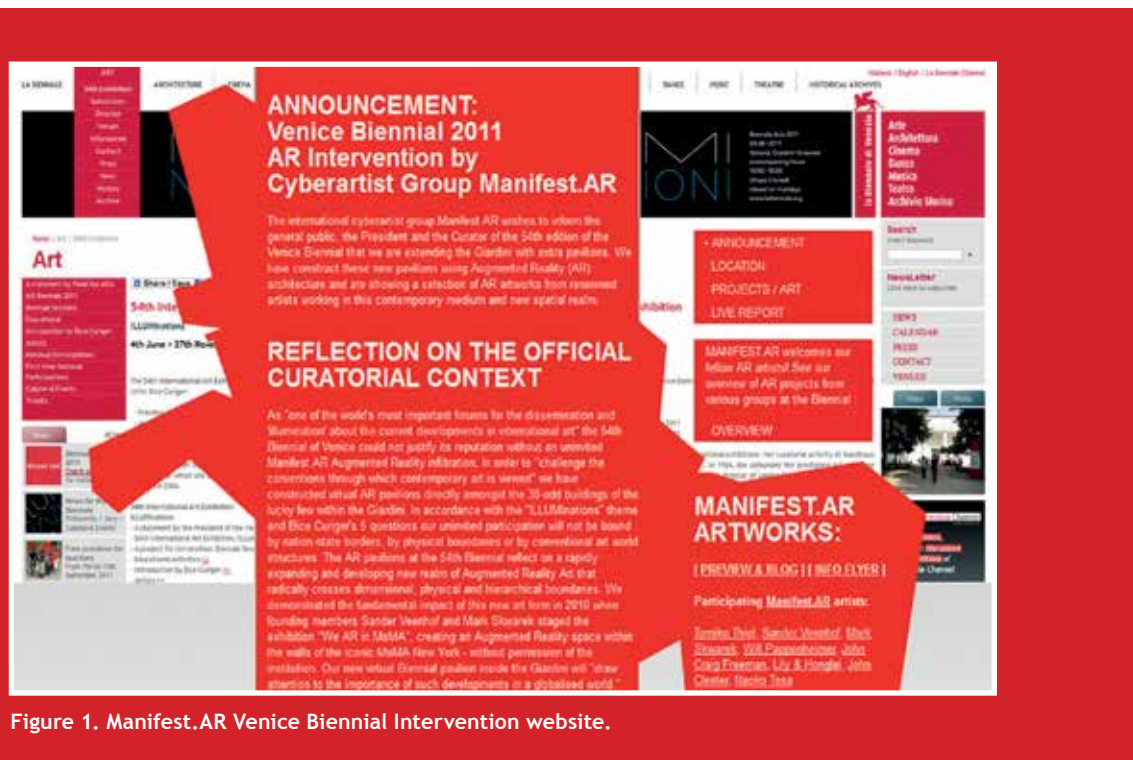

Figure 1. Manifest.AR Venice Biennial Intervention website.

Questions about control of space are not confined to art venues; "public" art is always dependent on permissions from authorities, and many a "public" space is actually closely controlled. We therefore placed our artworks not only in the controlled curatorial space of the Venice Giardini, but also in the public space of Piazza San Mar-co, which has itself seen censorship of officially planned artworks. [9]

MANIFEST.AR ARTWORKS IN THE VENICE BIENNALE INTER-VENTION

Tamiko Thiel's *Shades of Absence* is a series of three "virtual pavilions" in the Giardini, in Piazza San Marco and inside the German National Pa-vilion. Anonymized golden silhouettes of artists whose works have been censored are enclosed by terms of censorship. In reply to Bice Curiger's questions: "Is the artistic community a nation? If art was a nation what would be written in its con-stitution?" they posit a transnational community of censored artists. Touching the artworks in the display of a smartphone calls up a website with cases of censorship. [10]

Sander Veenhof's *Battling Pavilions* directly ad-dresses the role of the curator, the exclusivity of the Giardini and the limited number of national pavilions allowed within its Sacred Grove. Users outside the Giardini can subvert Curiger's author-ity and create new virtual pavilions for nations of their choice inside the Giardini. Users inside the Giardini, in contrast, can help Curiger defend the Giardini against intruding pavilions by delet-ing them. In a classic twist, Sander's interven-tion also became an official part of the Biennale: dropstuff.nl invited him to show his Battling Pa-vilions on their large screens in three locations around Venice. [11]

Mark Skwarek's *Island of Hope* addresses the perpetual threat of Venice sinking into the la-goon. Skwarek posits new forces of continental uplift erupting as fully formed baroque gardens into the Giardini and in Piazza San Marco. The islands are full of objects of hope, and tweets with the hash tag #hope, in order to bring hope back to Venice. [12]

John Craig Freeman's *Water wARs: Squatters Pavilion* is a virtual squatter's camp for refugees of water wars, one inside the protecting walls of the Giardini, and another "public" camp in Piazza San Marco. In Venice, a city founded by refugees

Figure 2. *Shades of Absence: Public Voids*, Tamiko Thiel, 2011. Augmented Reality, Piazza San Marco, Venice. A memorial for artists whose works in public spaces have been censored.

Figure 3. *Battling Pavilions*, Sander Veenhof, 2011. Augmented Reality Game. Scoreboard on dropstuff.nl screen during the Venice Biennale, displaying scoreboard of unauthorized virtual pavilions in the Giardini.

Figure 4. *The Island of Hope*, Mark Skwarek, 2011. Augmented Reality. Seen in the Venice Giardini.

Figure 5. *Water wARs*, Giardini, John Craig Freeman, 2011. Augmented Reality. Pavilion for undocumented artists/squatters and water war refugees in front of the Giardini Central Pavilion.

Figure 6. *Sky Pavilions*, John Cleater, 2011. Augmented Reality and audio. Alien Mothership Sky Pavilion floats over Piazza San Marco.

and threatened by constant flooding, Water wARs calls attention to the escalating global struggle for this basic human need. It questions the ability of sovereign nations to isolate themselves from the rest of the world, as worldwide ecological disasters drive people in desperation to violate the boundaries of the nation-states in pursuit of sheer survival. [13]

In John Cleater's *Sky Pavilions* ships from outer space take over Venice: The mothership hovers over Piazza San Marco emitting a mixture of nonsense and guidance to confuse and help tourists, natives, and art seekers. In the Giardini alien "Floaties" lie in wait, begging to be touched, and when activated by obliging visitors spin upwards, carrying secret messages to the mother ship. Sky Pavilions goes beyond the concept of the nation-state, beyond the concerns of mere earthbound humanoids and reminds us that the last word in the control of space may not be ours to decide. [14]

Lily and Honglei's *The Crystal Coffin: Virtual China Pavilion* is inspired by China's petrified symbol of eternal Party rule, Mao Zedong's crystal coffin. In the Giardini it questions the traditional hierarchy of privilege among national pavilions in the Biennale and thematizes the rise of China as an important center of contemporary art. Another pavilion in Piazza San Marco dominates the heart of Venice, whose native son Marco Polo "discovered" China for the West, with this symbol of Chinese Party power. [15]

Will Pappenheimer/Virta-Flaneurazine's *Colony Illuminati* appropriated both the Biennale title "ILLUMInations" and the actual visual imagery of many artworks in the Biennale. A secret colony of virtual bufo toads draws sustenance from high art; as a form of camouflage their skins appropriate imagery from artworks around them in the Giardini and spread out into the city, seeking the outlying venues of the Venice Biennale. When touched on the smartphone screen, the toads release psychotropic drugs that trigger hallucinations in the viewer: a swirl of Internet information on the Biennale and waves of Tintorettoesque ecstasy that Curiger proclaimed to be the true essence of ILLUMInations. [16]

Naoko Tosa's *Historia* addresses Curiger's question "Does the future speak English or another language?" and her view that "art offers the potential to explore new forms of 'community' and negotiate differences and affinities that might serve as models for the future." Historia appropriates iconic images from all nations and world cultures, modern and ancient, and allows visitors to arrange them in sequences, assigning them new meanings. It thus playfully examines the process by which artists appropriate and redefine existing cultural symbols to create their own individual languages. [17]

TO END WITH A QUOTATION FROM BICE CURIGER'S CURATORIAL TEXT FOR THE VENICE BIENNALE:

"ILLUMInations presents contemporary art characterized by gestures that explore notions of the collective, yet also speak of fragmentary identity, of temporary alliances, and objects inscribed with transience. If the communicative aspect is crucial to the ideas underlying ILLUMInations, it is demonstrated in art that often declares and seeks closeness to the vibrancy of life. This is more important now than ever before, in an age when our sense of reality is profoundly challenged by virtual and simulated worlds. This Biennale is also about believing in art and its potential." [7]

I could not agree more. Perhaps in ways that Bice Curiger did not anticipate.

At the latest since the Salon des Refusés in 1863, questions about the validity of the art canon and the institutions that define this canon have been an important part of the evolution of modern art. Augmented reality interventions are the continuation of this modernist dialogue with 21st century means.
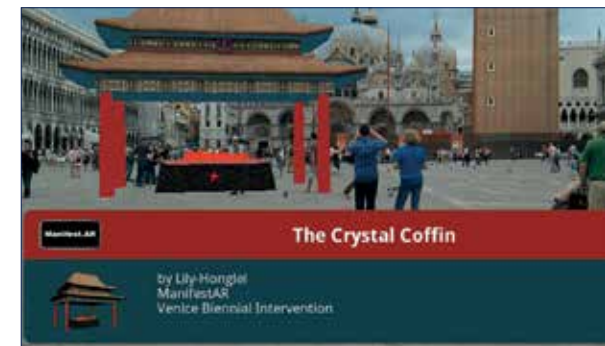
Figure 7. *The Crystal Coffin*, Piazza San Marco, Lily & Honglei, 2011. Augmented Reality. Artwork inspired by the crystal coffin in the Mausoleum of Mao Zedong in Tienanmen Square, seen here in Piazza San Marco.

Figure 8. *Colony Illuminati*, Will Pappenheimer/Virta-Flaneurazine, 2011. Augmented Reality. Colony group on Giardini main concourse.

Figure 9. *Historia*, Naoko Tosa, 2011. Augmented Reality. Users compose messages by appropriating historic icons floating in the space and assigning a new meaning to their message. Seen in front of the Giardini Central Pavilion.

CODA: THE FUTURE OF AR INTERVENTIONS

But how will the law react to increasing transgressions in virtual space? By 2013 technologies such as Google's Street View and Glass were provoking wide public discussion of the confluence of locative, mobile, recording and display technologies, and what negative effects could come of the blurring of boundaries between real and virtual space. Most public unease comes however not from AR display technology, but from recording ("surveillance") technology. As Yolande Kolstee points out, the real debate here is not technological but social, and can probably be negotiated using existing legislation [18].

Can institutions use these existing laws to assert "virtual air rights" to "their" GPS coordinates, thus blocking AR interventions? Intellectual property lawyer Brian Wassom thinks not: "Property law is about the right to exclude others from physical space. But an infinite number of people can each create their own AR layer superimposing digital data over the same physical space without impeding anyone else's ability to do so, and without invading the rights of the real property owner." [19] ■

NOTES

1. "We AR in MoMA" [20] was part of the Conflux Festival of Psychogeography [21]. Cyberpunk author Bruce Sterling blogged the intervention on WIRED [22], MoMA tweeted a somewhat nonplussed acknowledgment [23], and in a New York Times interview MoMA's director of digital media welcomed our engagement [5].

2. The author's contribution to "We AR in MoMA" was a matrix of screaming faces titled "ARt Critic Face Matrix," a self-referential artwork that critiqued its own validity as an artwork, reflecting on the role of MoMA NY to define what did or did not constituted art. [24]

3. Although Curiger refers frequently to the "five questions," they are not to be found on the official Venice Biennale website. See however Flash Art [25]

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TAMIKO THIEL

Tamiko Thiel is an internationally known visual artist exploring the interplay of place, space, the body and cultural memory. She is a founding member of Manifest.AR, participating in 2010 in the pathbreaking augmented reality intervention at MoMA NY, and being the main curator and organizer of their 2011 AR intervention at the Venice Biennale.

Her works are featured in the reference books Digital Art (Whitney curator Christiane Paul - Thames and Hudson World of Art), The World of Digital Art (DAM director Wolf Lieser) and "Not Here Not There" AR special issue of Leonardo Electronic Almanac.

Her grants and fellowships include the MacDowell Colony, WIRED Magazine, Japan Foundation, MIT, Berlin Capital City Cultural Fund (Hauptstadtkulturfonds), Goethe-Institut, IBM Innovation Award for Art and Technology, FACT Liverpool and Zero1 Biennial. She is also augmented reality artistic advisor for the Caribbean Cultural Center and African Diaspora Institute's augmented reality project 'Mi Querido Barrio' in Spanish Harlem, NY, for which she helped bring in a Rockefeller Foundation Cultural Innovation Award.

Her guest professorships include Carnegie-Mellon University, UC/San Diego, Bauhaus-University Weimar, the Berlin University of the Arts and in 2014 at Nanyang Technological University School of Art, Design and Media (ADM), Singapore.

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