Technoetic Arts: A Journal of Speculative Research
Volume 10 Numbers 2 & 3
 doi: 10.1386/tear.10.2-3.329_1

GE WU, PHILLIP GOUGH AND CAITILIN DE BERIGNY WALL (ONACLOV)
The University of Sydney

Multiple-channel video installation as a precursor to transmedia-based art

ABSTRACT

The use of cross-media and transmedia-based art installation has generated new ways for the audience to appreciate, understand and experience art. Transmedia, the integration of multiple media forms to augment a single narrative, has not only been largely used in commercial films, but has also been used by artists to communicate their message more effectively. In this article, we explore some remarkable multi-channel video installations and transmedia artworks to highlight how this technology has shaped new uses of technology as a new medium to express artistic concepts. We discuss one artwork, an experimental collaboration between artists and scientists, entitled Reefs on the Edge, *which communicates valuable information about climate change to a general audience.*

KEYWORDS

transmedia
multiple-channel video
video installation
installation art
data visualization
user experience

1. INTRODUCTION

Transmedia, a developing mode of cross-media entertainment, is a seamless and artistic way of conveying messages and themes or telling stories to mass audiences through media platforms (McCandless, 2012). Transmedia uses a persistent narrative across multiple media to create immersive storytelling opportunities by conceiving, producing and distributing messages expressly for multiple media, rather than pushing media from one platform to another. As an emerging form of cross-media entertainment, the theme of a

transmedia installation will allow a consistent message to be communicated, much like a symphony, where many instruments play different notes, but contribute to the whole piece of music (Phillips, 2010). In this way, transmedia elements of a story are dispersed systematically across distinct media platforms, each making its own unique contribution to the whole (Dena, 2009) and becoming more valuable to the audience as a whole (Long, 2007). At the Transmedia Victoria Conference, held in Melbourne, Australia, in January 2011, Michel Reilhac, Executive Director of Arte France Cinema, affirmed the importance of collaboration between different media forms as a part of the necessary evolution of film. Reilhac points out that life itself is transmedia and always has been. With emerging technologies we can now go back and play with multiple media, mixing the experts and the participants (Reilhac 2011).

Transmedia technology is being widely used within many visual art domains, including installation art, electronic art, digital art and video art installations. This article will discuss one such installation, *Reefs on the Edge* (Figure 6). This transmedia installation artwork fuses marine biology, environmental science and numerous art forms, including multi-channel video, visualization, painting and sound.

Historically, the use of technology in multi-channel video installation emerged from exceptional artists who incorporated new forms of technology into their work, such as Nam June Paik, Bill Viola and Issac Julien. Importantly, these artists pioneered a road for innovative new forms of cross-media technology in art to evolve.

2. MULTIPLE-CHANNEL VIDEO INSTALLATION ART

Multi-channel video installation art is a tangent of contemporary art that consists of video viewed on numerous screen channels. In this art form, multiple screens are set up around an installation space. The key element of multi-channel video installation is that the audience is able to view and experience multiple film channels simultaneously, in an installation environment. This greatly differs from the experience of watching a single film on a two-dimensional screen. Video installation art is a combination of video technology and installation art practice, dating back to the 1970s, the era of video art (Bishop, 2005).

Korean American artist Nam June Paik (1932–2006), known as the pioneer of video art and video installation, introduced technology to spectators from the early 1960s and is referred to as the father of video art, as well as 'the artist most identified with the transformation of video and television into new art forms'. His creative process and passion in composition and performance encouraged him to manipulate electronic moving images and media technologies to create new forms of art. Paik's work has had a profound and sustained impact on media culture, and redefined broadcast television and transformation video in the late twentieth century. Furthermore, Paik's use of multiple video channels helped develop the field of video installation art (Hanhardt, 2006).

Paik successfully combined live performances, striking concepts and new forms of technology to create innovative installation artworks. For instance, *TV Cello* (1971) (Figure 1) enabled a cello instrument to produce multiple video pictures as well as sound.

He placed three televisions integrated with strings and wires that worked together as a cello. The performer-cellist Charlotte Moorman described this artwork as the most innovative cello design she had ever seen (Atkins, 1990).

Figure 1: Nam June Paik, TV Cello *(1971).*

As Moorman plays the cello with a regular bow, there is a series of electronic sounds, transforming the television into a musical instrument. Notably, *TV Cello* (Figure 1) is an example of one of the earlier forms of video installation art.

Another strong illustration of an early video installation is *Electronic Superhighway: Continental US* (Figure 2), a closed-circuit video installation

Figure 2: Nam June Paik, Electronic Superhighway: Continental US *(1995).*

made up of 47 channels and 313 monitors (Paik, 1995). Each section represents a single state in the United States, which has looped video images. Paik used neon to outline the monitors, and successfully created an electronic version of a map with multiple coloured themes that implied different cultural backgrounds in each state. In this artwork, Paik tried to express his own perception and the desire for the electronic age. Paik's concept of making video art was highly innovative, and his use of new technologies has inspired numerous video artists over the last 40 years.

Another outstanding artist who employs multi-channel video is Issac Julien. Julien's films focus on the representation of race and masculinity from a

Figure 3: (Top) Issac Julien video still Ten Thousand Waves *(2010), (bottom) multi-channel screens in the installation.*

poetic standpoint. Julien began his career as a film-maker and slowly moved away from working with a single screen towards utilizing multiple screens set up in an installation space. Julien states that this arrangement has allowed him to discover particular compositional ideas that are impossible with a single screen. Moreover, his use of multiple screens has drastically reshaped the viewer's perception of film (N.A, 2000).

An excellent example is Julien's *Thousands of Waves* (2010), a 55-minute film installation. The work is designed to be viewed on nine double-sided screens (Figure 3 top and bottom). This engaging visual experience allows the audience eighteen different views of the installation. In the space, audiences can freely move around and view the screen from whatever vantage point they prefer (Gritten, 2010). The work poetically weaves together stories between China's ancient past and present. This multi-channel film explores the movement of people across different countries and continents on unfinished journeys. Surrounded by ideas such as death, spiritual displacement, and the uniquely Chinese connection with ghosts or 'lost souls', *Thousands of Waves (2010)* links both the present and the past of Shanghai. Julien's film represents China's unique way of transitioning towards modernity, aspiration and affluence (Julien, 2011).

The evolution of video installation has radically changed the progress of digital arts. As video technology has become more and more sophisticated, video art has been evolving at the forefront of the aesthetic revolution. As video and digital art continue to evolve, more and more art forms have started to emerge for exhibition and display (Chris, 2006), which brings out a new technique of telling stories across multiple platforms.

3. TRANSMEDIA INSTALLATION: THE IMPLEMENTATION IN VISUALIZATION TECHNOLOGIES

Artists and designers are engaging audiences in representing scientific data and government reports as beautiful visualizations (McCandless, 2010). Artists incorporating data visualization into transmedia artworks have created a message that develops profound meaning in the users.

Transmedia has typically been used to augment storylines for Hollywood movies or television shows (McCandless, 2010). Though transmedia is often used in the context of a commercial franchise, to an artist the most significant opportunity when using transmedia is to create opportunities for the user to identify with the theme of the artwork. Christy Dena, Director of Universe Creation 101, highlights the reason that artists use transmedia in this way:

> one does not analyze the meaning of all the elements in the creative work, the end-product, but during the various points leading to that end-product as well.
>
> (Dena, 2009, p. 7)

By inviting the user on a journey, transmedia installations invite us to do more than find meaning as an end product of an artwork (McCandless, 2010). Transmedia allows the user to develop meaning by experiencing the artwork. Beautiful and clear data visualization has become an art in itself, presenting reflections on life (Koblin, 2011).

Our society is generating data at an incredible rate: our ability to generate and store discrete data exceeds the rate at which we can process data. In

light of this, many artists are now using visual analytic techniques to combine strengths from information analytics, scientific analytics and knowledge representation for the presentation, dissemination, cognition and perception of information through beautiful visualization (Julien, 2011). Visualization of scientific data has typically been limited to simple representations, graphs and charts, which often focus on realistic renderings of information. While this approach is valid for propagation among scientists, the art community is using their expertise to achieve the goal of disseminating information with understanding as a journey, an experience, not just as an end product. Many artists are incorporating this visualization expertise into transmedia installations (De BerignyWall, 2009); examples of such artworks include *Cardiomorphologies* by George Khut, and *Inter*ANTARCTICA by onacloV.

Cardiomorphologies by Australian artist George Khut is a striking example of an art installation that uses multi-channel video and transmedia data visualization to create meaning through experience (Khut, 2011). The installation takes physiological information from the user, and his or her breathing and heart rate is collected as data, analysed and represented through an aural and visual display.

Khut's intention, however, was to create a mental engagement with the artwork, to create a state of mind in the user that provokes him or her to consider correlations between his or her own mind and body. Participants experienced intensely personal emotions, which demonstrated the affective power of the visualization (Muller et al. 2011).

An illustration of a transmedia artwork using both multi-channel screens and data visualization is *Inter*ANTARCTICA (Figure 4). Entering the exhibition space, the viewer is surrounded by a three-screen video installation of the Antarctica landscape. The viewer hears Antarctic compositions, created by other viewers in real-time audio interaction. This artwork designed by onacloV and built by artists and students from the Design Lab, the University of Sydney

Figure 4: onacloV, Inter*ANTARCTICA multi-channel video and data visualization.*

Figure 5: Reefs on the Edge, *photographic stills of video,* Coral Acropora Formosa, *one of the many species found on One Tree Island Reef in the Great Barrier Reef.*

(Wall, 2009), provided a technological platform for the public to interact, experience and gain vital knowledge about climate change. By creating sound, the viewer engages in an additional interaction by modifying data visualization. *Inter*ANTARCTICA helped viewers understand critical scientific data through a multi-sensory experience. The outcome of this artwork was numerous exhibitions, including one show at the National Gallery in Hobart, Tasmania in 2010.

4. *REEFS ON THE EDGE:* TRANSMEDIA INSTALLATION ART

Reefs on the Edge is a transmedia installation, and experiments with scientific data, underwater video and sound, collected at One Tree Island Reef, located on the Great Barrier Reef (GBR) in tropical Australia. The installation uses transmedia technologies comprising multi-channel video, painting, sound and visualization. In the installation, multiple channels of video are projected around the installation environment. The photographic material is edited into numerous sequences and projected onto the sculptural surfaces. Photographic imagery of the reef surrounding One Tree Island is used (see Figure 5), including footage of the coral spawning after the November full moon. Other materials include large-scale paintings.

Artistic works can emphasize environmental audio to create poetic experiences. Sound designer Michael Bates composes soundscapes using samples taken from the natural reef environment. These sounds are transformed and recontextualized in various ways to resonate and intermediate with images, blurring the distinction between organic marine atmospheres and music. This creates a sonic architecture for the installation (see Figure 6).

Reefs on the Edge gives users the opportunity to learn about climate science in an entertaining and interactive way. Data taken specifically for this project are converted into artistic visualizations, designed by onacloV and contributing artists Ge Wu (Goldy), Phillip Gough and Adityo Pratomo. Visualizations of

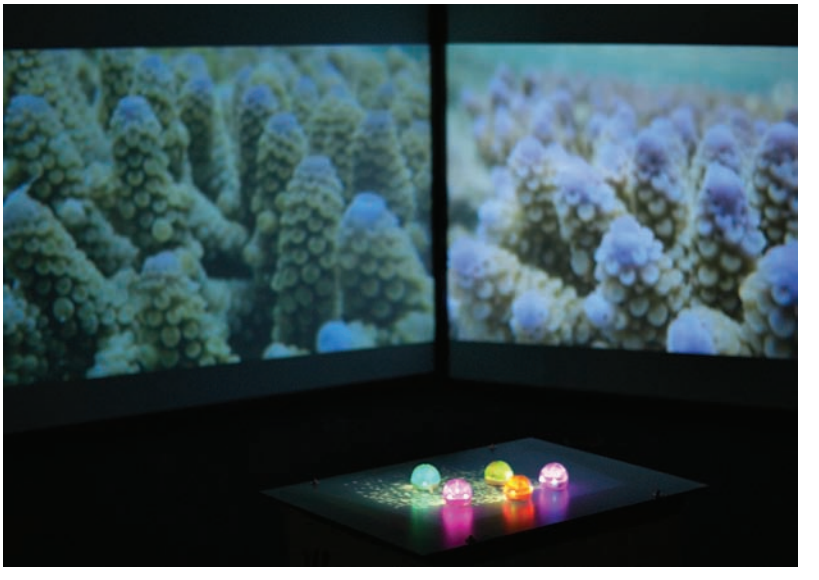

Figure 6: Reefs on the Edge *multi-channel video and data visualization.*

data, created using open-source software called Processing, are controllable by a tangible interface, which help users identify with information and develop their own understanding of the issues *Reefs on the Edge* presents. Processing is a programming environment and language that allows the creation of animations and images, and meaningful and interactive displays, which can be delivered to the public. Processing has been used for purposes ranging from the artistic to the analytical to communicate data (N.A, 2011), and is an ideal platform for interactive installations, such as *Reefs on the Edge*, to enhance artworks and help users relate to information.

British designer David McCandless argues that many people suffer from an 'information overload, or data glut' (McCandless, 2010). By moving beyond raw data, sets of discrete elements can be represented, through designing and mapping information and knowledge, and we can create an understanding of the intention of scientific research (Keim et al, 2006). The visualization in *Reefs on the Edge* engages the audience in such a way as to create understanding, rather than just to display knowledge. *Reefs on the Edge* seeks to foster important partnerships in science and art by developing a potential exhibition in Munich at the ERES Stitung, a foundation that fosters dialogue between the arts and sciences, and in San Francisco at the Exploratorium, which provides information on how scientists study climate change.

5. CONCLUSION

New transmedia technologies have developed from a strong historical background in video installation art established by Nam June Paik and other pioneer artists. These art forms have evolved into new uses of multiple technologies such as data visualization in transmedia installation artworks. In conclusion, the transmedia installation *Reefs on the Edge* not only has a strong video, but also focuses on the use of visualization technologies.

The experimentation with innovative forms of transmedia technology is vital to the development of art. This article discussed how video installation art has shaped and informed new forms of transmedia visualization technologies in art (Freeland, 2001). These advances have allowed the message to be translated seamlessly across multiple technological platforms, creating a new user experience (Jenkins, 2008).

The possibilities of transmedia-based technologies are endless (Griffiths, 2011).

With very special thanks to marine biologist and leading scientist working on *Reefs on the Edge* Erika Woolsey, James Cook University, ARC Centre of Excellence for Coral Reef Studies candidate. Thanks also to the University of Sydney; Associate Professor Andy Dong, Head of the Design Lab; Professor Maria Byrne, Director One Tree Island Research Station; One Tree Island managers Jennifer Reiffel and Russell Graham; and Michal Bates, sound designer and composer.

REFERENCES

Atkins, R. (1990), 'Fluxus/Charlotte Moorman', *Artspeak*, New York: Abbeville Press, pp. 78–81.

Bard College (2000), *The Film Art of Issac Julien*, http://www.bard.edu/ccs/view/publications/the-film-art-of-isaac-julien/. Accessed 28 May 2011.

Bishop, C. (2005), *Installation Art a Critical History*, London: Tate Publishing, pp. 13–15.

Chris, A. (2006), 'The origins of video art', *A History of Video Art: The Development of Form and Function*, London: Berg Press, pp. 13–17.

De Berigny Wall, C. (2009), '*InterANTARCTICA: Project Collaborators*'. http://www.interantarctica.com. Accessed 27 May 2011.

Dena, C. (2009), 'Transmedia practice: Theorising the practice of expressing a fictional world across distinct media and environments', Ph.D. dissertation, NSW, Australia: Department of Media and Communications, University of Sydney.

Freeland, C. (2001), 'Digitizing and dissemination', But Is It Art?', London: Oxford University Press, pp. 177–205.

Griffiths, M. (2011), *Transmedia – the experience of the future,* http://www.thescavenger.net/media-a-technology/transmedia-the-experience-of-the-future-585.html. Accessed 20 May 2011.

Gritten, D. (2010), *The Telegraph,* http://www.telegraph.co.uk/culture/film/filmmakersonfilm/8045498/Isaac-Julien-on-Ten-Thousand-Waves.html. Accessed 25 May 2011.

Hanhardt, J. (2006), *Nam June Paik (1932–2006): Video art pioneer*, 20: 2, Art in America, New York, pp. 148–153.

Jenkins, H. (2008), *Convergence Culture: Where Old and New Media Collide*, New York: New York University Press.

Julien, I. (2011), *Ten Thousand Waves*, press release, http://www.isaacjulien.com/tenthousandwaves/downloads/PRESS_RELEASE_TTW_v3.5.pdf. Accessed 28 May 2011.

Keim, D. A., Mansmann, F., Schneidewind, J. and Ziegler, H. (2006), *Challenges in visual data analysis*, *Tenth International Conference on Information Visualisation*, pp. 9–16, 5–7 July, London.

Khut, G. (2011), *Cardiomorphologies,* www.georgekhut.com/artworks/cardiomorphologies. Accessed 28 May 2011.

Koblin, A. (2011), *Artfully visualizing our humanity,* http://www.ted.com/talks/lang/eng/aaron_koblin.html. Accessed 28 May 2011.
Long, Geoffrey A. (2007), 'Transmedia storytelling business, aesthetics and production at the Jim Henson Company', Masters thesis, MA, Boston: Massachusetts Institute of Technology.
McCandless, D. (2010), 'The beauty of data visualization'. http://www.ted.com/talks/david_mccandless_the_beauty_of_data_visualization.html. Accessed 16 May 2011.
McCandless, D. (2010), 'Information is beautiful'. http://www.informationisbeautiful.net/. Accessed 16 May 2011.
Muller, L., Turner, G., Khut, G. and Edmonds, E. (2006), 'Creating affective visualisations for a physiologically interactive artwork', Tenth International Conference on Information Visualization, pp. 651–57, 5–7 July, London.
Paik, N. (1995), 'Teaching video art', *Performing Arts Journal*, 17: 2/3, p. 42–49, Boston: The MIT Press.
Phillips, S. (2010), 'Transmedia: What we've all been waiting for?'. http://www.licensemag.com/licensemag/article/articleDetail.jsp?id=704544. Accessed 16 May 2011.
Processing.org (2011), 'Exhibition archives/processing', http://processing.org/exhibition/. Accessed 16 May 2011.
Reilhac, M. (2011), 'Just because everything is different does not mean anything is changed'. http://transmediavictoria.net.au/presentations/conference-day-michel- reilhac/. Accessed 17 May 2011.
Starlight Runner Entertainment (2011), 'Transmedia', http://www.starlightrunner.com/transmedia/. Accessed 25 May 2011.

SUGGESTED CITATION

Wu, G., Gough, P. and de Berigny Wall, C. (onacloV) (2012), 'Multiple-channel video installation as a precursor to transmedia-based art', *Technoetic Arts: A Journal of Speculative Research* 10: 2+3, pp. 329–339, doi: 10.1386/tear.10.2-3.329_1

CONTRIBUTOR DETAILS

Ge Wu (Goldy) is a graphic designer and artist based in Sydney, whose background is Multi-Media. She completed a masters degree in Interactive Design and Electronic Arts from the University of Sydney. She strongly believes 'detail is everything' and always brings insight and enthusiasm in her artworks.

Australian Address: Unit 166, 90 Bonar Street, Wolli Creek, NSW 2205 Australia.

Chinese Address: 中国河北省秦皇岛市海港区玉峰南里 5-3-6.
E-mail: gewu8614@uni.sydney.edu.au

Phillip Gough is a designer and artist from Sydney, Australia. Commencing research at The University of Sydney, Phillip is interested in using art as a means to communicate important scientific research to a wide population.

Contact: 9 Benwerrin Ave. Baulkham Hills, NSW 2153, Australia.
E-mail: pgou6397@uni.sydney.edu.au

onacloV has been exhibited extensively in Australia and internationally. onacloV completed a Ph.D. from the University of Canberra. Her other degrees include a Bachelor of Arts (Visual) with Honours from the Australian National University and the École Nationale Supérieure des Beaux-Arts, Paris, France and a Post Graduate Diploma in Video Art & Contemporary Theory and Philosophy from the École des Beaux-Arts, Marseille, France.

Contact: University of Sydney, 148 City Road, Wilkinson Building (G04), City Road, NSW, 2008, Australia.
E-mail: dr.onaclov@sydney.edu.au

intellect

www.intellectbooks.com

publishers of original thinking

Journal of Visual Art Practice

ISSN: 1470-2029 | Online ISSN: 1758-9185
3 issues per volume | Volume 12, 2013

The domain of visual art hosts a multitude of artistic forms and practices. The *Journal of Visual Art Practice* supports research across the entire range of this varied field. The journal engages with the progressive nature of the subject, reflecting upon the changing terrain of art in recent years.

By acknowledging the importance of the refereed article within academic culture, the *Journal of Visual Art Practice* is also deliberately seeking to open up and extend the constituency formerly addressed by Drawing Fire. We hope to encourage high-quality reflection on the full spectrum of issues which concern those who teach in the visual art field; to engage with a wider and more diverse constituency within that expanded field, both nationally and internationally; and to establish a distinctive voice for visual art practice in relation to current debates about the future function of further and higher education, both in the UK and overseas. Where relevant, we will include papers which deal with such areas as film, in so far as we feel these can inform visual art practice generally (as we have done in the current issue).

Editor
Chris Smith
The University of Nottingham
christopher.smith@nottingham.ac.uk