WAKE VORTEX
Artwork (Video Installation)

Topic: Art

Author:
Dejan Grba, DA
New Media Program, Faculty of Fine Arts, University of the Arts, Belgrade, Serbia; Digital Art PhD Program, University of the Arts, Interdisciplinary Studies, Belgrade, Serbia
http://dejangrba.dyndns.org
http://www.digitalartprogram.info

Abstract
Digital raster image can be treated as a three-dimensional object and viewed not just frontally but also from left, right, below and above. In that case the image is perceived as a one-pixel wide line whose height equals the frontal width or height of the image depending on the new viewing axis. Continual scanning along the orthogonal viewing axis displays all the one-pixel lines of the image.
Applied to a stacked collection of video frames, orthogonal scanning produces a new set of images whose number equals the pixel width/height depending on the viewing axis, pixel length of one side equals the total number of video frames, and pixel length of the other side equals the pixel width/height of the video depending on the viewing axis. The image sets extracted from video and the pixel line sets extracted from single image can be animated, and certain combinations of the original material and the scanning axes can produce interesting results. This processing technique can be understood as slit-scanning of digital imagery.
Wake Vortex comprises high resolution videos created by orthogonal scanning of some of my earlier video works and the videos by other generative artists such as Rhyland Warthon, Benjamin Fry, and Luke DuBois. Dimensional collapse in orthogonal scanning reveals new formal values and facilitates layered observation. While visually estranged, the generated imagery retains the suggestiveness of the original so the viewer intuitively begins to watch it analytically and appreciate its visual, spatial and temporal dynamics.
In aviation, wake vortex is a dangerous turbulent trail of the aircraft, and in the context of this project the term points to the complexity of the imperceptible or unregistered default values of an artwork or cultural artefact, to their unforeseen expressive, cognitive, ethical and political consequences.
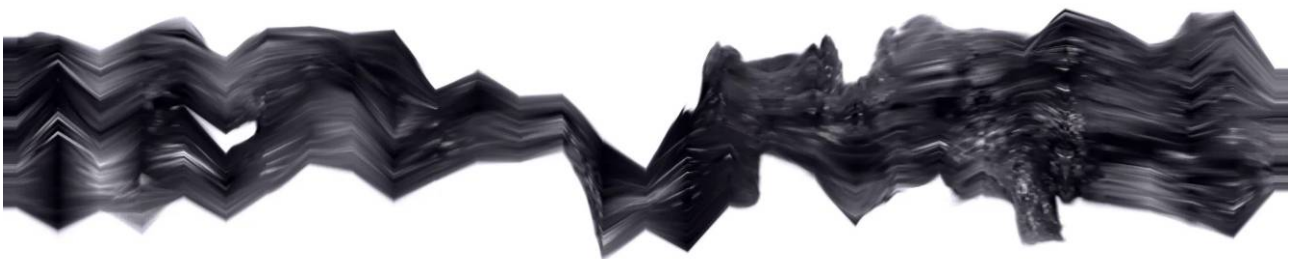
Dejan Grba, Wake Vortex: DLD Reslice RL 0.5px, digital video still, 2016.

dejan.grba@gmail.com

Main References:
[1] Dejan Grba, "Get Lucky; Cognitive Aspects of Generative Art", 18th Generative Art Conference, Venice, 2015.
[2] Dejan Grba et al., "Divergent Generative Art Practices", ISEA, Hong Kong, 2016.

Wake Vortex

Assoc. Prof. Dejan Grba, D.A.

New Media, Faculty of Fine Arts, University of the Arts in Belgrade

Digital Art PhD Program, Interdisciplinary Studies, University of the Arts in Belgrade

http://dejangrba.dyndns.org; http://www.digitalartprogram.info

dejan.grba@gmail.com

1. Project Description

1.1 Motivation

Wake Vortex is a part of my artistic and theoretical research of generative methodologies, digital art and culture. The project was built around the idea that digital raster image can be treated as a three-dimensional object and viewed not just frontally but also from any other side (left, right, below and above). This side-viewing process can be understood as slit-scanning or line-scanning of digital imagery [1].

1.2 Procedure

Viewed orthogonally from the side, the image is perceived as a one-pixel wide line whose height equals the frontal width or height of the image, depending on the new viewpoint. Continual scanning along the orthogonal viewing axis displays all the one-pixel lines. Orthogonal scanning of a stacked set of video frames creates a new set of images whose number equals the pixel width/height (depending on the viewpoint), pixel length of one side equals the total number of video frames, and pixel length of the other side equals the pixel height/width of the video (depending on the viewpoint). The image sets extracted from the video and the pixel line sets extracted from a single image can be animated, and certain combinations of source materials and scanning sides/directions produce interesting results.

1.3 Structure

Wake Vortex comprises videos and imagery created by orthogonal scanning of diverse source material from digital art and culture. Whenever feasible, the sound from the source material is synchronized back to the wake-vortexed videos. The project is ongoing and as the new source material gets processed, the output is added to the collection which can be selectively configured and presented. The project employs (re)creativity in processing the artworks and cultural artefacts which were themselves originally developed through the various modes of innovative combinatorics and generative techniques [2,3].

1.4 Concept

Dimensional collapse in orthogonal scanning reveals new formal values and facilitates layered observation. While visually estranged, the generated imagery retains the suggestiveness of the original so, with or without sound, the viewer intuitively begins to regard it analytically and appreciate its visual, spatial and temporal qualities.

In fluid dynamics, wake vortex is a turbulent trail of an object moving through the medium. In aviation and seamanship, it is often considered to be a dangerous, unpredictable effect of the craft's motion. In the context of this project, it points to the complexity of the imperceptible or unregistered default values of an artwork or cultural artefact, to their unforeseen expressive, cognitive, ethical and political consequences [4].
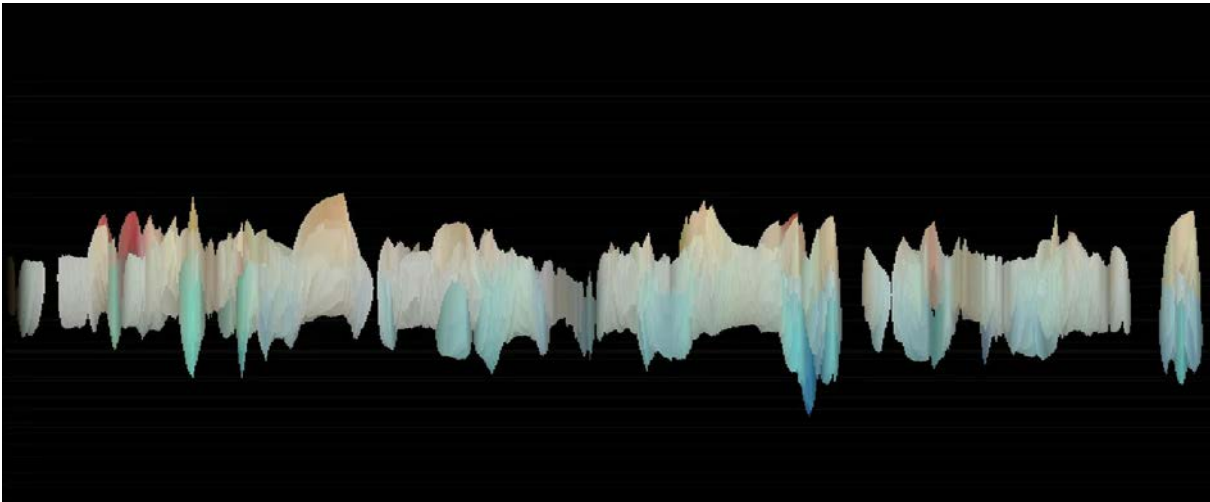
2. Images
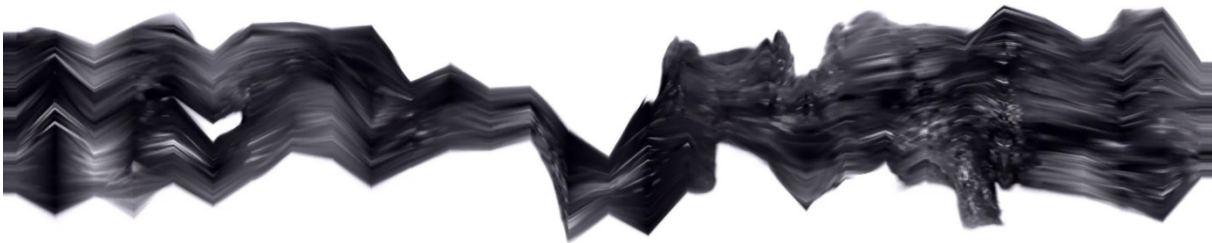
Dejan Grba, Wake-Vortexed Dejan Grba's Dog Life Days (1997) RL, video still, 2016.
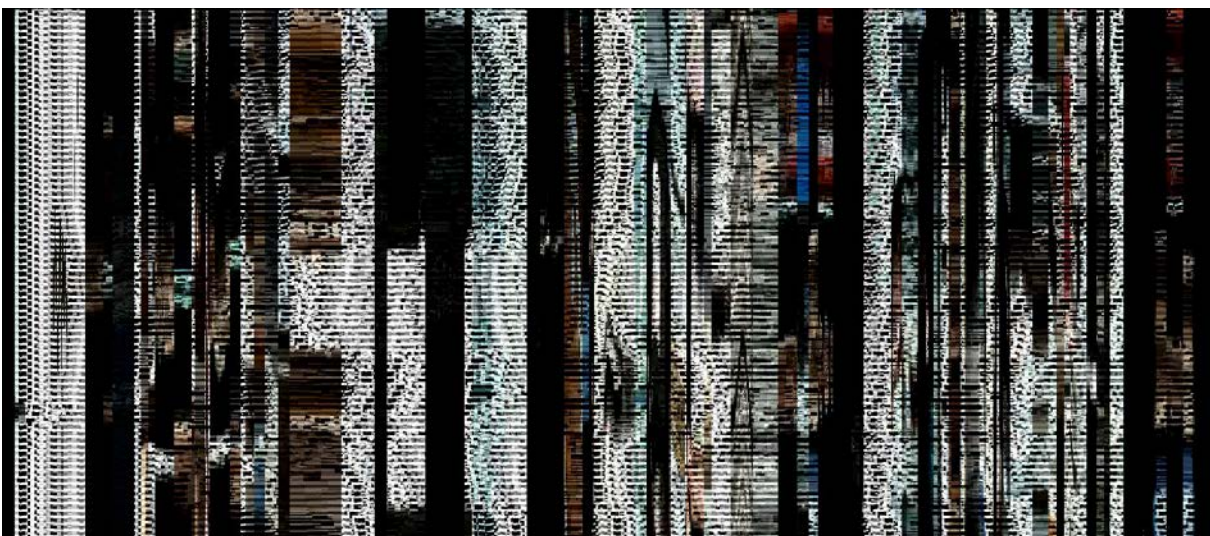

Dejan Grba, Wake-Vortexed Dejan Grba's Alibi (Black or White) (2012) RL, video still, 2016.

Dejan Grba, Wake-Vortexed Ben Fry's Disgrand (1998) RL, digital image, 2016.
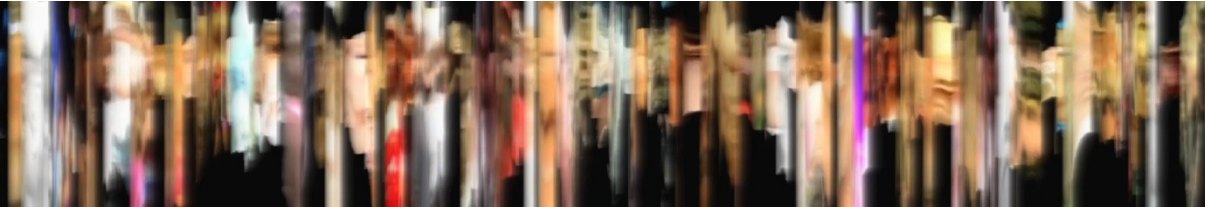

Dejan Grba, Wake-Vortexed Ben Fry's HSV Space Arrangement (1998) RL, video still, 2016.
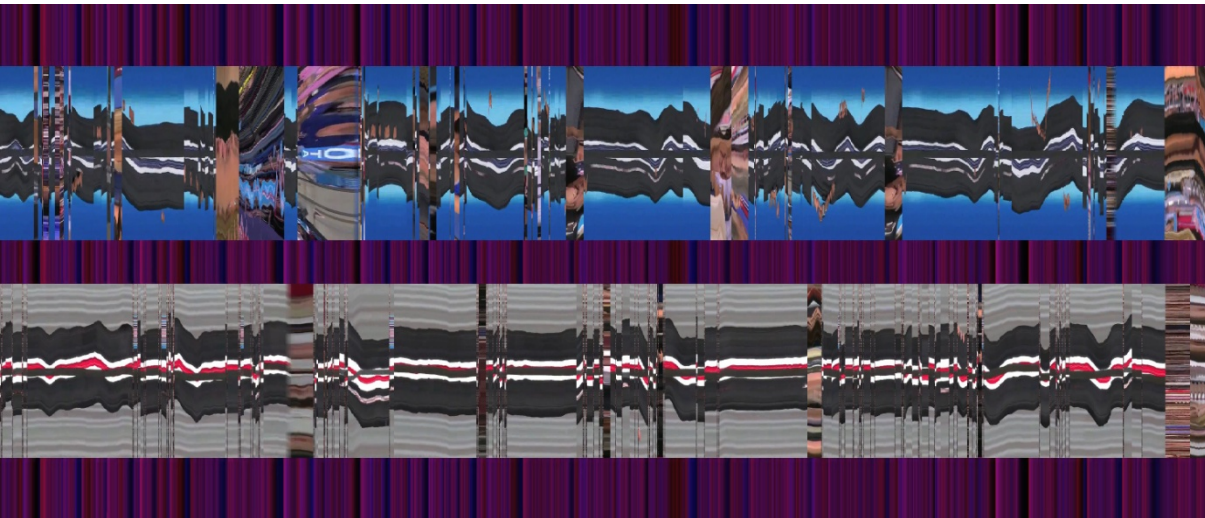

Dejan Grba, Wake-Vortexed Ben Fry's ASCII Arrangement (1998) RL, video still, 2016.
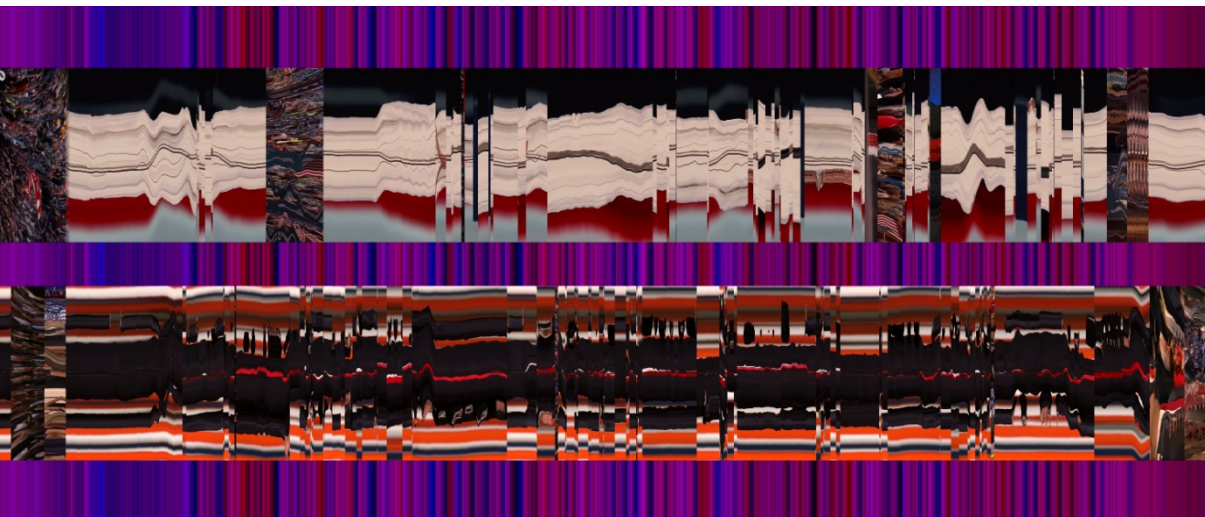
Dejan Grba, Wake-Vortexed Jason Salavon's The Late-Night Triad (2003) RL Seq., video still, 2016.
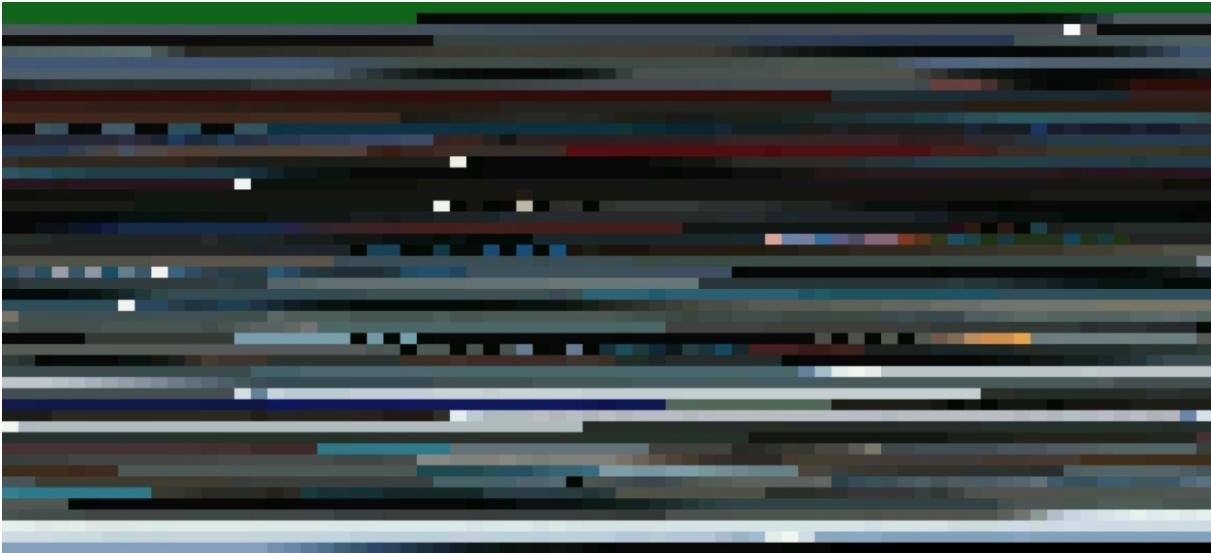

Dejan Grba, Wake-Vortexed R. Luke DuBois' (Pop) Icon Britney RL, video still, 2016.

Dejan Grba, Wake-Vortexed R. Luke DuBois' Acceptance (2012) RL, video still, 2016.

Dejan Grba, Wake-Vortexed R. Luke DuBois' Acceptance 2016 (2016) RL, video still, 2016.

Dejan Grba, Wake-Vortexed Ryland Wharton's Palette Reduction No. 4 (2009) RL, digital image, 2016.

References

[1] Levin, Golan. "An Informal Catalogue of Slit-Scan Video Artworks and Research." *FLONG*, 2015. http://www.flong.com/texts/lists/slit_scan/.

[2] Grba, Dejan. "I Cite (Very) Art: (Re)creativity in Contemporary Art." *Going Digital: Innovations in Contemporary Life Conference*, STRAND - Sustainable Urban Society Association, Belgrade, (2015): 29-36. http://dejangrba.dyndns.org/lectures/en/2014-recreativity.php.

[3] Grba, Dejan. "Avoid Setup: Insights and Implications of Generative Cinema." *Going Digital: Innovation in Art, Architecture*, Science and Technology, STRAND - Sustainable Urban Society Association, Belgrade (2016): 205-211. http://dejangrba.dyndns.org/lectures/en/2016-avoid-setup.php.

[4] Grba, Dejan. "Get Lucky: Cognitive Aspects of Generative Art." *Generative Art 2015 Conference*, Fondazione Bevilacqua La Masa, Venice (2015): 200-213. http://dejangrba.dyndns.org/lectures/en/2015-get-lucky.php.