

Dejan Grba

Alpha Version, Delta Signature: Cognitive Aspects of Artefactual Creativity

Abstract

In this paper I explore the cognitive aspects of artefactual creativity in new media art. Starting with a concept of combinatorial inventiveness which is central to artefactual creativity, I summarize its roles in the arts and culture, leading to its applications in new media art. With regards to the diversity of practices in this domain, I focus on generative art projects created primarily by processing the material from cinema, television and the Internet. These projects blend procedural thinking with bricolage, leverage complex technical infrastructures, foster curiosity and encourage vigilance in our critical appreciation of the arts, technology, culture, society, and human nature. I discuss their methodologies, poetic features, cultural and social contexts in three sections which exemplify the effects and consequences of computational paradigm: database logic, statistical abstraction, and quantification. Throughout each section, I outline the theoretical considerations that can be deduced from the examples, and expand on them in the concluding section which examines the artists' creative motives and circumstances for analogizing and meaning making in relation to the cognitive and ethical implications of generative new media art.

Keywords: Artefactual Creativity, Artificial Intelligence, Combinatorial Inventiveness, Generative Art, New Media Art.

References

- Bishop, Chris. 2017. "Artificial Intelligence, the History and Future." The Royal Institution YouTube podcast. https://youtu.be/8FHBh_OmdsM.
- Boden, Margaret A. 2004. *The Creative Mind, Myths and Mechanisms*, 40-53 and passim. 2nd edition. London/New York: Routledge.
- Bogart, Ben. 2019. "Watching (2001: A Space Odyssey)." AI Art Gallery website. <http://www.aiartonline.com/community-2019/ben-bogart/>.
- Boon, Marcus. 2013. *In Praise of Copying*. Cambridge: Harvard University Press.
- Brambilla, Marco. 2020. "Works." Marco Brambilla's website. <https://www.marcobrambilla.com/selected-works>.
- Branger_Briz. 2017. "Muse AI Supercut." Branger_Briz website. <https://www.brangerbriz.com/portfolio/muse-ai-supercut>.

- Brodbeck, Frederic. 2011. "Cinematics." Cinematics project website.
<http://cinematics.fredericbrodbeck.de/>.
- CBC. 2018. "Dave Dymont's Watching Night of the Living Dead." CBC Arts online.
<https://www.cbc.ca/player/play/1288630851629>.
- Compton, Kate. 2012. "Tracery." Kate Compton's GitHub repository.
<https://github.com/galaxykate/tracery>.
- Curtis, Adam. 2002. "The Century of the Self," Written and directed by Adam Curtis. Aired 17 March on BBC Two.
- Curtis, Adam. 2011. "All Watched Over by Machines of Loving Grace," Written and directed by Adam Curtis. Aired 23 May on BBC Two.
- Curtis, Adam. 2016. "HyperNormalisation," Written and directed by Adam Curtis. Issued 16 October on BBC iPlayer.
- David, Martin, and Davis Martin. 2000. *The Universal Computer: The Road from Leibniz to Turing*. New York: W.W. Norton & Company.
- Dorin, Alan, Jonathan McCabe, Jon McCormack, Gordon Monro, and Mitchell Whitelaw. 2012. "A Framework for Understanding Generative Art." *Digital Creativity* 23 (3-4): 239–259. DOI: 10.1080/14626268.2012.709940.
- DuBois, Luke. 2011. "A More Perfect Union." A More Perfect Union project web page.
<http://sites.bxmc.poly.edu/~lukedubois/perfect/>.
- Dymont, Dave. 2010. "Timeline." Dave Dymont's website. <http://www.dave-dymont.com/new-project-4>.
- Ferguson, Kirby. 2011. "Everything is a Remix." Everything is a Remix website.
<http://www.everythingsaremix.info/>.
- Galloway, Alexander R. 2004. *Protocol: How Control Exists after Decentralization*. Cambridge: The MIT Press.
- Giovacchini, Saverio, and Robert Sklar, eds. 2013. *Global Neorealism: The Transnational History of a Film Style*, 2. Jackson: University of Mississippi Press.
- Gleisner, Jacquelyn. 2013. "Paolo Cirio's Lovely Faces." Art 21 magazine web page.
<http://magazine.art21.org/2013/08/12/new-kids-on-the-block-paolo-cirios-lovely-faces/#.XMLIPKQRPY>.
- Grba, Dejan. 2010. "B.A.C.H. (References in Visual Arts)." Dejan Grba's website.
<http://dejangrba.org/lectures/en/2010-bach-references.php>.
- Grba, Dejan. 2015. "Get Lucky: Cognitive Aspects of Generative Art." *XIX Generative Art Conference Proceedings*: 200-213.

- Grba, Dejan. 2019. "Forensics of a Molten Crystal: Challenges of Archiving and Representing Contemporary Generative Art." *ISSUE Annual Art Journal: Erase* 08.
- Groß, Benedikt, Joey Lee et al. 2016. "The Aerial Bold Project." The Aerial Bold Project website. <http://type.aerial-bold.com/tw/>.
- Haber, John. n.d. "The Reusable Past (Rosalind E. Krauss: The Originality of the Avant-Garde)." HaberArts website. <https://www.haberarts.com/krauss.htm>.
- Harris, Jonathan. 2015. "Network Effect." Jonathan Harris's website. <http://number27.org/networkeffect>.
- Harvey, Adam. 2017. "MegaPixels." Adam Harvey's website. <https://megapixels.cc/>.
- Heaney, Libby. 2019. "Euro(re)vision." AI Art Gallery website. <http://www.aiartonline.com/highlights/libby-heaney-2/>.
- Hofstadter, Douglas, and Emmanuel Sander. 2013. *Surfaces and Essences: Analogy as the Fuel and Fire of Thinking*, 17. New York: Basic Books.
- Hosein, Lise. 2018. "Night of the Living Dead Has a Scariest Story Than You Think... because Copyright is Terrifying." CBC website. <https://www.cbc.ca/arts/night-of-the-living-dead-has-a-scarier-story-than-you-think-because-copyright-is-terrifying-1.4768307>.
- Kay, Alan. 1997. "The Computer Revolution Hasn't Happened Yet." YouTube website. <https://www.youtube.com/watch?v=oKg1hTOQXoY>.
- Kay, Alan. 2013. "Keynote at the 6th Annual Fujitsu North America Technology Forum." Computer History Museum website. <http://www.ustream.tv/recorded/29156602>.
- Lavigne, Sam. 2019. "Videogrep." Sam Lavigne's GitHub repository. <https://github.com/antiboredom/videogrep>.
- Lavigne, Sam. 2020. "Audiogrep." Sam Lavigne's GitHub repository. <https://github.com/antiboredom/audiogrep>.
- Lehman, Jessi, Sara Nelson et al. 2014. "After the Anthropocene: Politics and Geographic Inquiry for a New Epoch." *Progress in Human Geography*, 7 Feb: 445. <https://doi.org/10.1177/0309132513517065>.
- Lessig, Lawrence. 2001. *The Future of Ideas*. New York: Random House.
- Lessig, Lawrence. 2008. *Remix: Making Art and Commerce Thrive in the Hybrid Economy*. London: Bloomsbury Academic.
- Lévi Strauss, Claude. 1962. *The Savage Mind*. Chicago: University of Chicago Press.
- Mambrol, Nasrullah. 2016. "Claude Levi Strauss' Concept of Bricolage." Literary Theory and Criticism website. <https://literariness.org/2016/03/21/claude-levi-strauss-concept-of-bricolage/>.

- Marcus, Gary F., and Ernest Davis. 2019. *Rebooting AI: Building Artificial Intelligence We Can Trust*, 8-31. Kindle edition. New York, NY: Pantheon Books.
- Mark, Kelly. 2020. "Video." Kelly Mark's website. <http://kellymark.com/V.html>.
- McCoy, Jennifer, and Kevin McCoy. 2020. "Projects." Jennifer and Kevin McCoy's website. <http://www.mccoyspace.com/projects/>.
- McLuhan, Marshall. 1964. *Understanding Media*, 4. London: Routledge & Kegan Paul.
- Miller, Arthur I. 2019. *The Artist in the Machine: The World of AI-Powered Creativity*. Kindle edition. Cambridge: The MIT Press.
- Miller, Geoffrey. 2001. *The Mating Mind: How Sexual Choice Shaped the Evolution of Human Nature*, 258-291. New York: Anchor Books/Random House, Inc.
- Mitchell, Melanie. 2019. *Artificial Intelligence: A Guide for Thinking Humans*. Kindle edition. New York: Farrar, Straus and Giroux.
- Moll, Joana. 2017. "The Dating Brokers." Joana Moll's website. <https://datadating.tacticaltech.org/>.
- Muse. 2017. "Dig Down [A.I. Lyric Video]". Muse's YouTube channel. <https://youtu.be/GNn8LZnSfd0>.
- Nake, Frieder, and Susan Grabowski. 2011. "Computational in Art and Trivialization in Computing." HyperKult XX Lecture website. <https://vimeo.com/27318263>.
- Nielsen, Michael. 2019. "Neural Networks and Deep Learning." Online book. <http://neuralnetworksanddeeplearning.com/>.
- nn. 2014. "Apophenia." Skeptic's Dictionary website. <http://skeptdic.com/apophenia.html>.
- nn. 2017. "SHARE Lab: Exploitation Forensics Press Release." Aksioma – Institute for Contemporary Art website. <http://www.aksioma.org/press/exploitation.forensics.zip>.
- nn. 2019. "Christian Marclay - Telephones, 1995." Public Delivery's YouTube channel. <https://youtu.be/DW1D2rzPDw>.
- Palacz, Julian. 2010. "Algorithmic Search for Love." Julian Palacz's website. <https://julian.palacz.at/en/found-footage/algorithmic-search-for-love>.
- Palacz, Julian. 2012. "Play it, Sam." Julian Palacz's website. <https://julian.palacz.at/en/found-footage/play-it-sam>.
- Penrose, Roger. 1994. *Shadows of the Mind: A Search for the Missing Science of Consciousness*, 64-126 and passim. Oxford: Oxford University Press.
- Pitch Interactive. 2011a. "The Holy Bible and the Holy Quran: A Comparison of Words." Pitch Interactive's website. <https://www.pitchinteractive.com/bibleQuran/>.

Pitch Interactive. 2011b. "Globe Small Arms Imports and Exports." Pitch Interactive's website. <http://armsglobe.chromeexperiments.com/>.

Poole, Steven. 2016. *Rethink: The Surprising History of New Ideas*, 81-99. Kindle edition. London: Random House.

Ralske, Kurt. 2007-2009. "Motion Extractions / Stasis Extractions." Kurt Ralske's website. <http://retnull.com/index.php?/project/motion-extractions/>.

Reas, Casey, Chandler McWilliams, and LUST. 2010. *Form+Code in Design, Art, and Architecture*, 17. New York: Princeton Architectural Press.

Salavon, Jason. 1998. "Figure 1: Every Playboy Centerfold 1988-1997." Jason Salavon Studio website. <http://www.salavon.com/work/Figure1EveryPlayboyCenterfold/>.

Salavon, Jason. 2001. "Everything, All at Once." Jason Salavon Studio website. <http://www.salavon.com/work/EAO/>.

Salavon, Jason. 2002a. "Every Playboy Centerfold, the Decades (Normalized)." Jason Salavon Studio website. <http://www.salavon.com/work/EveryPlayboyCenterfoldDecades/>.

Salavon, Jason. 2002b. "Everything, All at Once (Part II)." Jason Salavon Studio website. <http://www.salavon.com/work/EAO2/>.

Salavon, Jason. 2003. "The Late-Night Triad." Jason Salavon Studio website. <http://www.salavon.com/work/LateNightTriad/>.

Salavon, Jason. 2004. "100 Special Moments." Jason Salavon Studio website. <http://www.salavon.com/work/SpecialMoments/>.

Salavon, Jason. 2010. "Portrait." Jason Salavon Studio website. <http://www.salavon.com/work/Portrait/>.

Taylor, Grant D. 2014. *When the Machine Made Art: The Troubled History of Computer Art*. New York and London: Bloomsbury Press.

Todorović, Vladimir, and Dejan Grba. 2019. "Wandering Machines: Narrativity in Generative Art." *CITAR Journal of Science and Technology of the Arts, Special xCoAx Issue*. DOI <https://doi.org/10.7559/citarj.v11i2>.

V.A. 2019a. "The Clock (2010 film)." Wikipedia entry. [https://en.wikipedia.org/wiki/The_Clock_\(2010_film\)](https://en.wikipedia.org/wiki/The_Clock_(2010_film)).

V.A. 2019b. "Relational Database." Wikipedia entry. https://en.wikipedia.org/wiki/Relational_database.

V.A. 2020a. "Histoire(s) du cinéma," Wikipedia entry. [https://en.wikipedia.org/wiki/Histoire\(s\)_du_cin%C3%A9ma](https://en.wikipedia.org/wiki/Histoire(s)_du_cin%C3%A9ma).

V.A. 2020b. "Matthias Müller 'Home Stories'." Media Art Net website.

<http://www.medienkunstnetz.de/works/home-stories/>.

V.A. 2020c. "Tracey Moffatt." Wikipedia entry. https://en.wikipedia.org/wiki/Tracey_Moffatt.

Viégas, Fernanda and Martin Wattenberg. 2007. "Word Tree." Fernanda Viégas and Martin Wattenberg's website. <http://hint.fm/projects/wordtree/>.

Viégas, Fernanda and Martin Wattenberg. 2009. "Web Seer." Fernanda Viégas and Martin Wattenberg's website. <http://hint.fm/seer/>.

Viégas, Fernanda, Martin Wattenberg and Frank van Ham. 2009. "Phrase Net." Fernanda Viégas and Martin Wattenberg's website. <http://hint.fm/projects/phrasenet/>.

Viégas, Fernanda, Martin Wattenberg and Moritz Hardt. 2016. "Fairness in ML." Google's Big Picture Group portal. <https://research.google.com/bigpicture/attacking-discrimination-in-ml/>.

Watson, Ian. 2012. *The Universal Machine: From the Dawn of Computing to Digital Consciousness*. New York: Springer.

Watz, Marius. 2006. "Fragments on Generative Art." *Vague Terrain* 03 (June), <https://www.artengine.ca/electricfields/2010/vagueterrain-watz-en.php>.

Watz, Marius. 2010. "Closed Systems: Generative Art and Software Abstraction." in *Eléonore de Lavandeyra Schöffner*, edited by Marius Watz and Annette Doms, 1-3. Dijon: Les presses du reel.

Widrich, Virgil. 2003. "Fast Film." Virgil Widrich's website. https://www.widrichfilm.com/en/projekte/fast_film.