

## References

- Anonymous. 1965. "Age of the Patchwork." *Time* September 24.
- Ariza, C. 2008. "Python at the Control Rate: athenaCL Generators as Csound Signals." *Csound Journal* 9.
- Ariza, C. 2009a. "Pure Data Object Glossary." Internet: <http://flexatone.net/docs/pdg>.
- Ariza, C. 2009b. "Two Experiments in the Early History of Computer-Aided Algorithmic Composition."
- Ballora, M. 2003. *Essentials of Music Technology*. Upper Saddle River: Prentice Hall.
- Behrman, D. 1965. "What Indeterminate Notation Determines." *Perspectives of New Music* 3(2): 58-73.
- Benjamin, W. 1936. "The Work of Art in the Age of Mechanical Reproduction." *Zeitschrift für Sozialforschung* 5(1).
- Bijker, W. E. 1989. "The Social Construction of Bakelite: Toward a Theory of Invention." In *The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology*. W. E. Bijker, T. P. Hughes and T. J. Pinch, eds. Cambridge: MIT Press. 159-190.
- Bijsterveld, K. 2002. "A Servile Imitation. Disputes about Machines in Music, 1910-1930." In *Music and Technology in the Twentieth Century*. H. Braun, ed. Baltimore: The Johns Hopkins University Press. 121-135.
- Bijsterveld, K. and M. Schulp. 2004. "Innovation in Today's Classical Musical Instruments." *Social Studies of Science* 34(5): 649-674.
- Bimber, B. 1990. "Karl Marx and the Three Faces of Technological Determinism." *Social Studies of Science* 20(2): 333-351.
- Boulanger, R. C. 2000. *The Csound Book: Perspectives in Software Synthesis, Sound Design, Signal Processing, and Programming*. Cambridge: MIT Press.
- Brady, E. 1999. *A Spiral Way*. Jackson: University Press of Mississippi.
- Braun, H. 2002. *Music and Technology in the Twentieth Century*. Baltimore: The Johns Hopkins University Press.
- Brown, B. 1981. "The Noise Instruments of Luigi Russolo." *Perspectives of New Music* 20(1-2): 31-48.
- Burr, S. L. 2004. *Entertainment Law*. St. Paul: Thomson West.
- Burroughs, W. S. 1964. "The Cut-Up Method of Brion Gysin." Internet: [http://www.ubu.com/papers/burroughs\\_gysin.html](http://www.ubu.com/papers/burroughs_gysin.html).

- Cardew, C. 1961. "Notation: Interpretation, etc." *Tempo* 58: 21-33.
- Cavell, S. 2002. *Must We Mean What We Say?: A Book of Essays*. Cambridge: Cambridge University Press.
- Chadabe, J. 1997. *Electric Sound: The Past and Promise of Electronic Music*. New Jersey: Prentice-Hall.
- Chanan, M. 1995. *Repeated Takes: A Short History of Recording and its Effects on Music*. London: Verso.
- Chang, J. 2005. *Can't Stop Won't Stop: A History of the Hip-Hop Generation*. New York: St. Martin's Press.
- Chang, K. O. and W. Chen. 1998. *Reggae Routes: The Story of Jamaican Music*. Temple University Press.
- Collins, K. 2007. "In the Loop: Creativity and Constraint in 8-bit Video Game Audio." *twentieth-century music* 4(2): 209-227.
- Collins, N. and J. d'Escriván. 2007. *The Cambridge Companion to Electronic Music*. Cambridge: Cambridge University Press.
- Collins, N. 2009. *Handmade Electronic Music: The Art of Hardware Hacking*. 2nd ed. New York: Routledge.
- Crab, S. 2004. "120 Years Of Electronic Music." Internet: [http://www.obsolete.com/120\\_years/](http://www.obsolete.com/120_years/).
- Dennis, B. 1991. "Cardew's 'Treatise' (Mainly the Visual Aspects)." *Tempo* 177: 10-16.
- Doornbusch, P. 2004. "Computer Sound Synthesis in 1951: The Music of CSIRAC." *Computer Music Journal* 28(1): 10-25.
- Eargle, J. 2004. *The Microphone Book*. 2nd ed. Boston: Focal Press.
- Fildes, J. 2008. "'Oldest' computer music unveiled." *BBC News*.
- Fouché, R. 2006. "Say It Loud, I'm Black and I'm Proud: African Americans, American Artifactual Culture, and Black Vernacular Technological Creativity." *American Quarterly* 58(3): 639-661.
- Gabor, D. 1947. "Acoustical quanta and the theory of hearing." *Nature* 159(1044): 591-594.
- Gennet, R. and S. Fortner. 2007. "Rhodes! Wurly! Clav!." *Keyboard* 33(10): 26-27.
- Ghazala, Q. R. 2004. "The Folk Music of Chance Electronics: Circuit-Bending the Modern Coconut." *Leonardo Music Journal* 14(1): 97-104.
- Gladwell, M. 2008. "In the Air: Who says big ideas are rare?." *The New Yorker* May 12.
- Gross, T. 2005a. "Interview on 26 December 2002: DJ and hip-hop forefather Grandmaster Flash." National Public Radio. Internet: <http://www.npr.org/templates/story/story.php?storyId=889654>.

- Gross, T. 2005b. "Interview on 30 March 2005: Kool Herc: A Founding Father of Hip Hop." National Public Radio. Internet: <http://www.npr.org/templates/story/story.php?storyId=4567450>.
- Hocker, J. 2002. "My Soul is in the Machine — Conlon Nancarrow — Composer for Player Piano — Precursor of Computer Music." In *Music and Technology in the Twentieth Century*. H. Braun, ed. Baltimore: The Johns Hopkins University Press. 84-96.
- Holmes, T. 2008. *Electronic and Experimental Music*. Third ed. New York: Routledge.
- Horning, S. S. 2004. "Engineering the Performance: Recording Engineers, Tacit Knowledge and the Art of Controlling Sound." *Social Studies of Science* 34(5): 703-731.
- Huber, D. M. and R. E. Runstein. 2001. *Modern Recording Techniques*. Boston: Focal Press.
- Hughes, T. P. 1979. "The Electrification of America: The System Builders." *Technology and Culture* 20(1): 124-161.
- Hughes, T. P. 2004. *Human-Built World: How to Think About Technology and Culture*. Chicago: University of Chicago Press.
- Katz, M. 2002. "Aesthetics out of Exigency: Violin Vibrato and the Phonograph." In *Music and Technology in the Twentieth Century*. H. Braun, ed. Baltimore: The Johns Hopkins University Press. 174-185.
- Katz, M. 2004. *Capturing Sound: How Technology Has Changed Music*. Berkeley: University of California Press.
- Kenney, W. H. 1999. *Recorded Music in American Life*. Oxford: Oxford University Press.
- Klein, H. K. and D. L. Kleinman. 2002. "The Social Construction of Technology: Structural Considerations." *Science, Technology, & Human Values* 27(1): 28-52.
- Kline, R. and T. Pinch. 1996. "Users as Agents of Technological Change: The Social Construction of the Automobile in the Rural United States." *Technology and Culture* 37(4): 763-795.
- Krasilovsky, M. W. and S. Shemel. 2003. *This Business of Music*. Billboard Books.
- Kreidler, J. 2009. "Programming Electronic Music in Pd." Wolke Publishing House. Internet: <http://www.pd-tutorial.com>.
- Krueger, T. 2008. "This is Not Entertainment: Experiencing the Dream House." *Architectural Design* 78(3): 12-15.
- La Motte-Haber, H. de. 2002. "Soundsampling: An Aesthetic Challenge." In *Music and Technology in the Twentieth Century*. H. Braun, ed. Baltimore: The Johns Hopkins University Press. 199-206.
- Lehrman, P. D. and T. Tully. 1993. *MIDI for the Professional*. New York: Amsco Publications.

- Lessig, L. 2005. *Free Culture*. New York: Penguin Books.
- Lombardo, V. and A. Valle, J. Fitch, K. Tazelaar, S. Weinzierl, W. Borczyk. 2009. "A Virtual-Reality Reconstruction of Poème Électronique Based on Philological Research." *Computer Music Journal* 33(2): 24-47.
- Loy, D. G. 1985. "Musicians Make a Standard: The MIDI Phenomenon." *Computer Music Journal* 9(4): 8-26.
- Magoun, A. B. 2002. "The Origins of the 45-RPM Record at RCA Victor, 1939-1948." In *Music and Technology in the Twentieth Century*. H. Braun, ed. Baltimore: The Johns Hopkins University Press. 148-157.
- Marx, L. 1978. "Reflections on the Neo-Romantic Critique of Science." *Daedalus* 107(2): 61-74.
- Mathews, M. V. 1969. *The Technology of Computer Music*. Cambridge: MIT Press.
- Mathews, M. V. and J. R. Pierce. 1987. "Some Recollections of James Tenney." *Perspectives of New Music* 25(1-2): 534-535.
- McCartney, J. 1996. "SuperCollider: a New Real Time Synthesis Language." In *Proceedings of the International Computer Music Conference*. San Francisco: International Computer Music Association.
- McCartney, J. 1998. "Continued Evolution of the SuperCollider Real Time Synthesis Environment." In *Proceedings of the International Computer Music Conference*. San Francisco: International Computer Music Association.
- Millard, A. 2002. "Tape Recording and Music Making." In *Music and Technology in the Twentieth Century*. H. Braun, ed. Baltimore: The Johns Hopkins University Press. 158-167.
- Moog, R. 1954. "The Theremin." In *Radio and Television News*. January: 37-39.
- Moore, F. R. 1988. "The Dysfunctions of MIDI." *Computer Music Journal* 12(1): 19-28.
- Moser, D. J. 2006. *Moser on Music Copyright*. Boston: Thompson Course Technology.
- Nielsen, S. H. and T. Lund. 2003. "Overload in Signal Conversion." *AES 23rd International Conference*.
- Olson, H. F. and H. Belar. 1955. "Electronic Music Synthesizer." *Journal of the Acoustical Society of America* 27(3): 595-612.
- Oswald, J. 1985. "Plunderphonics, or Audio Piracy as a Compositional Prerogative." *Wired Society Electro-Acoustic Conference*.
- Pareles, J. 2009. "Les Paul, Guitar Innovator, Dies at 94." *New York Times* August 14.
- Petzold, C. 1999. *Code*. Redmond: Microsoft Press.

- Pinch, T. J. and W. E. Bijker. 1984. "The Social Construction of Facts and Artefacts: Or How the Sociology of Science and the Sociology of Technology Might Benefit Each Other." *Social Studies of Science* 14(3): 399-441.
- Pinch, T. J. and K. Bijsterveld. 2003. "Should One Applaud?": Breaches and Boundaries in the Reception of New Technology in Music." *Technology and Culture* 44(3): 536-559.
- Pinch, T. and K. Bijsterveld. 2004. "Sound Studies: New Technologies and Music." *Social Studies of Science* 34(5): 635-648.
- Pinch, T. and F. Trocco. 2002. "The Social Construction of the Early Electronic Music Synthesizer." In *Music and Technology in the Twentieth Century*. H. Braun, ed. Baltimore: The Johns Hopkins University Press. 67-83.
- Pinch, T. and F. Trocco. 2004. *Analog Days: The Invention and Impact of the Moog Synthesizer*. Cambridge: Harvard University Press.
- Porcello, T. 2004. "Speaking of Sound: Language and the Professionalization of Sound-Recording Engineers." *Social Studies of Science* 34(5): 733-758.
- Puckette, M. 1985. "A real-time music performance system." *MIT Experimental Music Studio*.
- Puckette, M. 1988. "The Patcher." In *Proceedings of the International Computer Music Conference*. San Francisco: International Computer Music Association. 420-429.
- Puckette, M. 1997. "Pure Data." In *Proceedings of the International Computer Music Conference*. San Francisco: International Computer Music Association. 224-227.
- Puckette, M. 2002. "Max at 17." *Computer Music Journal* 26(4): 31-43.
- Riskin, J. 2003. "The Defecating Duck, or, the Ambiguous Origins of Artificial Life." *Critical Inquiry* 29(4): 599-633.
- Roads, C. 1978. "Automated Granular Synthesis of Sound." *Computer Music Journal* 2(2): 61-62.
- Roads, C. 1980. "Interview with Max Mathews." *Computer Music Journal* 4(4): 15-22.
- Roads, C. 1996. *The Computer Music Tutorial*. Cambridge: MIT Press.
- Roads, C. 2002. *Microsound*. Cambridge: MIT Press.
- Robertson, A. and M. D. Plumley, N. Bryan-Kinns. 2008. "A Turing Test for B-Keeper: Evaluating an Interactive Real-Time Beat-Tracker." *Proceedings of the New Interfaces for Musical Expression Conference (NIME08)* 319-324.
- Rogers, H. 2009. "Western Historic Radio Museum." Internet: <http://www.radioblvd.com/BCMICS.htm>.
- Rosen, J. 2008. "Researchers Play Tune Recorded Before Edison." *New York Times*.

- Rossing, T. D. and F. R. Moore, P. A. Wheeler. 2001. *The Science of Sound*. Boston: Addison Wesley.
- Russolo, L. 1913. "The Art of Noises."
- Schaeffer, P. 2004. "Acousmatics." In *Audio Culture: Readings in Modern Music*. C. Cox and D. Warner, eds. New York: Continuum. 76-81.
- Schedel, M. 2002. "Anticipating interactivity: Henry Cowell and the Rhythmicon." *Organised Sound* 7(3): 247-254.
- Schwarz, R. 1996. *Minimalists*. London: Phaidon Press.
- Scranton, P. 1995. "Determinism and Indeterminacy in the History of Technology." *Technology and Culture* 36(2): 21-53.
- Smith, M. R. and L. Marx. 1994. *Does Technology Drive History? The Dilemma of Technological Determinism*. Cambridge: MIT Press.
- Sorensen, A. and A. R. Brown. 2007. "aa-cell in Practice: An Approach to Musical Live Coding." In *Proceedings of the International Computer Music Conference*. San Francisco: International Computer Music Association. 2: 292-299.
- Sousa, J. P. 1993. "Machine Songs IV: The Menace of Mechanical Music." *Computer Music Journal* 17(1): 14-18.
- Standage, T. 2007. *The Victorian Internet*. New York: Walker & Company.
- Sterne, J. 2006. "The mp3 as cultural artifact." *new media & society* 8(5): 825-842.
- Taylor, T. 2002. *Strange Sounds: Music, Technology and Culture*. London: Routledge.
- Thomas, M. 2000. "Nancarrow's temporal dissonance: Issues of tempo proportions, metric synchrony, and rhythmic strategies." *Integral* 14: 137-180.
- Théberge, P. 1997. *Any Sound You Can Imagine: Making Music / Consuming Technology*. Hanover: Wesleyan University Press.
- Théberge, P. 2004. "The Network Studio: Historical and Technological Paths to a New Ideal in Music Making." *Social Studies of Science* 34(5): 759-781.
- Turntablist LLC. 2005. "T\*TM: Turntablist Transcription Method." Internet: <http://tmethod.com/>.
- Waksman, S. 2004. "California Noise: Tinkering with Hardcore and Heavy Metal in Southern California." *Social Studies of Science* 34(5): 675-702.
- Walser, R. 1995. "Rhythm, Rhyme, and Rhetoric in the Music of Public Enemy." *Ethnomusicology* 39(2): 193-217.
- Wells, T. 1999. "JAMES MCCARTNEY SUPERCOLLIDER 2.0 (MAC)." *Electronic Musician*.

- Wessel, D. and M. Wright. 2002. "Problems and Prospects for Intimate Musical Control of Computers." *Computer Music Journal* 26(3): 11-22.
- Whiteley, S. 1990. "Progressive Rock and Psychedelic Coding in the Work of Jimi Hendrix." *Popular Music* 9(1): 37-60.
- Wishart, T. 1996. *On Sonic Art*. New York: Routledge.
- Wright, M. and A. Freed. 1997. "Open Sound Control: A New Protocol for Communicating with Sound Synthesizers." In *Proceedings of the International Computer Music Conference*. San Francisco: International Computer Music Association. 101-104.
- Xenakis, I. 1992. *Formalized Music: Thought and Mathematics in Music*. Indiana: Indiana University Press.
- Xenakis, I. 1996. "Determinacy and Indeterminacy." *Organised Sound* 1(3): 143-155.

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