

## Reading List

Cole Schiffer

Carleton Cybernetics Exploration Group

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### **Defining Cybernetics**

- Dubberly, Hugh, and Paul Pangaro. "How cybernetics connects computing, counterculture, and design." *Hippie modernism: The struggle for utopia* (2015): 126-141.
- <http://www.asc-cybernetics.org/foundations/definitions.htm>
- <https://www.are.na/david-hecht/cybernetics-primers-definitions>

### **The Macy Conferences**

- Hayles, N. Katherine. How we became posthuman: Virtual bodies in cybernetics, literature, and informatics. University of Chicago Press, 2008
- Ashby, W. Ross. "Requisite variety and its implications for the control of complex systems." Facets of systems science. Springer, Boston, MA, 1991. 405-417.
- Shannon, Claude E. "A mathematical theory of communication." Bell system technical journal 27.3 (1948): 379-423.
- Umpleby, Stuart A. "A history of the cybernetics movement in the United States." Journal of the Washington Academy of Sciences (2005): 54-66.

### **Control: Norbert Wiener and Arturo Rosenblueth**

- Rosenblueth, Arturo, Norbert Wiener, and Julian Bigelow. "Behavior, purpose and teleology." *Philosophy of science* 10.1 (1943): 18-24.
- Rosenblueth, Arturo, and Norbert Wiener. "The role of models in science." *Philosophy of science* 12.4 (1945): 316-321.
- Galison, Peter. "The ontology of the enemy: Norbert Wiener and the cybernetic vision." *Critical inquiry* 21.1 (1994): 228-266.
- Wiener, Norbert. "Sound communication with the deaf." *Philosophy of science* 16.3 (1949): 260-262.
- Mills, Mara. "On disability and cybernetics: Helen Keller, Norbert Wiener, and the hearing glove." *differences* 22.2-3 (2011): 74-111.

-Jackson, Bruce. ""The Greatest Mathematician in the World": Norbert Wiener Stories." *Western Folklore* 31.1 (1972): 1-22.

### **Logical Calculus of the Mind: Warren McCulloch & Walter Pitts**

- McCulloch, Warren S., and Walter Pitts. "A logical calculus of the ideas immanent in nervous activity." *The bulletin of mathematical biophysics* 5.4 (1943): 115-133.

- Lettvin, Jerome Y., et al. "What the frog's eye tells the frog's brain." *Proceedings of the IRE* 47.11 (1959): 1940-1951.

- <http://nautil.us/issue/21/information/the-man-who-tried-to-redeem-the-world-with-logic>

- McCulloch, W. St. "Toward some circuitry of ethical robots or an observational science of the genesis of social evaluation in the mind-like behavior of artifacts." *Acta Biotheoretica* 11.3-4 (1956): 147-156.

- McCulloch, Warren S. *Embodiments of mind*. MIT press, 2016.

### **Anthropology/Psychology: Margaret Mead and Gregory Bateson**

- Mead, M (1968) Cybernetics of Cybernetics, in Foerster, H von, White, J, Peterson, L and Russell, J (eds) (1968) Purposive Systems, New York, Spartan Books

- Mead, Margaret, and Gregory Bateson. "For God's Sake Margaret." CoEvolutionary Quarterly, Edited by Stewart Brand, June 1976.

- Bateson, Gregory. "A theory of play and fantasy." The Game Design Reader. A rules of play anthology (2006): 314-328.

- Geoghegan, Bernard Dionysius. "The Family as Machine: Film, Infrastructure, and Cybernetic Kinship in Suburban America." Grey Room (2017): 70-101

- Bateson, Gregory. \*Steps to an ecology of mind: Collected essays in anthropology, psychiatry, evolution, and epistemology\*. University of Chicago Press, 2000.

- Bateson, Gregory. "The position of humor in human communication." Cybernetics, ninth conference. Vol. 147. Josiah Macy, Jr. Foundation New York, 1953.

### **Second Order Cybernetics: Heinz Von Foerster and Biological Computing Laboratory**

- Von Foerster, Heinz. "Perception of the future and the future of perception." *Instructional Science* 1.1 (1972): 31-43.

- Von Foerster, Heinz. "Cybernetics of cybernetics." *Understanding understanding*. Springer, New York, NY, 2003. 283-286.

- Franchi, Stefano, Güven Güzeldere, and Eric Minch. "Interview with Heinz von Foerster." *Stanford Humanities Review* 4.2 (1995): 288-307.
- Von Foerster, Heinz. "Ethics and second-order cybernetics." *Understanding understanding*. Springer, New York, NY, 2003. 287-304.
- Clarke, Bruce. "From Information to Cognition: The Systems Counterculture, Heinz von Foerster's Pedagogy, and Second-Order Cybernetics." (2012).
- Von Foerster, Heinz. "On constructing a reality." *Understanding understanding*. Springer, New York, NY, 2003. 211-227.

### **Autopoiesis: Francisco Varela and Humberto Maturana**

- Varela, Francisco G., Humberto R. Maturana, and Ricardo Uribe. "Autopoiesis: The organization of living systems, its characterization and a model." \**Biosystems*\* 5.4 (1974): 187-196.
- Von Foerster, Heinz. "On self-organizing systems and their environments." \**Understanding Understanding*\*. Springer, New York, NY, 2003. 1-19.
- Varela, Francisco J. "The early days of autopoiesis: Heinz and Chile." \**Systems Research*\* 13.3 (1996): 407-416.

### **Political/Managerial**

- Cybersyn and Stafford Beer- Medina, Eden. "Designing freedom, regulating a nation: socialist cybernetics in Allende's Chile." *Journal of Latin American Studies* 38.3 (2006): 571-606.
- Medina, Eden. *Cybernetic revolutionaries: Technology and politics in Allende's Chile*. Mit Press, 2011.
- Beer, Stafford. \**Designing freedom*\*. House of Anansi, 1993.- Beer, Stafford. "The world, the flesh and the metal: the prerogatives of systems." *Nature* 205.4968 (1965): 223-231.
- Beer, Stafford. "The liberty machine." *Futures* 3.4 (1971): 338-348.- [https://www.radicalsoftware.org/volume1nr3/pdf/VOLUME1NR3\\_art01.pdf](https://www.radicalsoftware.org/volume1nr3/pdf/VOLUME1NR3_art01.pdf)

### **Cybernetic Serendipity: Gordon Pask and Conversation Theory**

- Pask, Gordon. "A comment, a case history and a plan." *Cybernetics, art and ideas* (1971): 76-99.
- Pask, Gordon. "The architectural relevance of cybernetics." *Architectural Design* 39.9 (1969): 494-496.
- Pask, Gordon. "Proposals for a Cybernetic Theatre" *Theatre Workshop & Systems Research* (1964).

- Reichardt, Jasia. Cybernetic Serendipity: Computer and the Arts. Studio Internat., 7037.
- Fernández, María. "Gordon pask: Cybernetic polymath." Leonardo 41.2 (2008): 162-168.
- Werner, Liss C.. "Gordon Pask's 'Cybernetic Theatre': beyond tinkering with Architecture." (2018).

### **Societies of Control**

- Deleuze, Gilles. "Postscript on the Societies of Control." *October* 59 (1992): 3-7.
- Pickering, Andrew. "Cybernetics as nomad science." *Deleuzian Intersections in Science, Technology and Anthropology* (2009): 155-162.
- Galloway, Alexander R. "The cybernetic hypothesis." *differences* 25.1 (2014): 107-131.

### **Cyborgs**

- Haraway, Donna. "A cyborg manifesto: Science, technology, and socialist-feminism in the late 20th century." The international handbook of virtual learning environments. Springer, Dordrecht, 2006. 117-158.
- Plant, Sadie. "The future looms: weaving women and cybernetics." *Body & Society* 1.3-4 (1995): 45-64.
- Kline, Ronald. "Where are the Cyborgs in Cybernetics?." \*Social Studies of Science\* 39.3 (2009): 331-362.

### **Living with Cybernetics**

- <https://www.youtube.com/watch?v=wpjnVVWXZMs>
- [https://www.edge.org/conversation/mary\\_catherine\\_bateson-how-to-be-a-systems-thinker](https://www.edge.org/conversation/mary_catherine_bateson-how-to-be-a-systems-thinker)
- Pangaro, Paul. "Why Do We Want To Live In Cybernetics?." *Cybernetics & Human Knowing* 23.2 (2016): 9-21.
- Günther, Gotthard. "Life as poly-contexturality." \*Beiträge zur Grundlegung einer operationsfähigen Dialektik\* 2 (1979): 283-306.

### **Cybernetic Futures**

- <https://www.e-flux.com/journal/102/282271/cybernetics-for-the-twenty-first-century-an-interview-with-philosopher-yuk-hui/>