

Index

Note: Page numbers in *italics* indicate figures.

- A&T (LACMA Art & Technology Program), 77–104, 107–132; Chamberlain, 114, 120; exhibition, 7, 127–129; as “hippie modernism,” 186; Kahn, 122; Livingston, 130–131; reanimation of, 170, 173–177; report, 116, 132; techno-utopianism, 189–190; Tuchman, 110–112
- A+T (LACMA Art + Technology Lab), 8, 170–171, 172, 173–177, 177–185
- Abel, Richard, 144
- Abstract Expressionism, 28
- Abstract Expressionism show (1941), 147
- Accenture, 171
- Adamic, Louis, 25
- Addams, Jane, 19
- Adorno, Olga, 84; *The Authoritarian Personality*, 39
- Albers, Anni, 25
- Albers, Josef, 22, 25, 26–27, 49; “Art as Experience,” 28; “Concerning Fundamental Design,” 27
- Alliance for the Arts in Research Universities (a2ru), 178–179
- Amadae, S. M., 165
- American Abstract Artists movement, 147
- American Artists in India, 105
- American Bauhaus, 48
- American Foundation on Automation and Employment (AFAE), 89–90
- Ampex, 114
- anti-dualistic thinking, 14, 25
- Antin, David, 111, 127
- Apollinaire, Guillaume, 142
- Architecture Machine Group, 69, 75, 76
- Armbruster, Frank, 123
- Arrow, Kenneth, 164, 199n5
- Artforum*, 69, 91, 127
- ARTnews*, 127
- Arts and Architecture*, 137
- “authoritarian personality,” 39, 42
- Barbrook, Richard, 172
- Barr, Alfred, 22–25, 48; torpedo, 131
- Bassett, Ross, 93
- Bateson, Gregory, 61, 134–135, 179
- Baudrillard, Jean, 141
- Bauhaus: in America, 49–52; Barr, 22–23, 48; Burnham, 69, 71; collaboration, 30; craft and industrial modernity, 44; Dewey, 13, 22, 25, 188, 189; emigre artists, 2; experimentation, 33; Fuller, 65; graphic design, 59; Kepes, 56; Livingston, 131; and MIT, 53; Moholy-Nagy, 49, 62–63; movement, 142–148; Movie-Drome, 154, 159; social responsibility, 46; “tactilism,” 67; thinking-by-doing ethos, 6; “total environment,” 153
- Bayer, Herbert, 143; “Diagram of 360 Degrees of Vision,” 151–153, 152
- Bayh-Dole Act (1980), 74, 166
- Beckett, Samuel, 17
- Belgische Radio en Televisie, 124–125
- Bell, Larry, 114

- Bell Laboratories, 77–84, 80; Cold War, 6, 192; and E.A.T., 96; and Fluxus, 45; Billy Klüver, 84–85, 91; Multi-Dimensional Scaling, 105; Murray Park, 105; 9 Evenings, 175; Larry Owens, 101; R&D, 93; VanDerBeek, 68.
See also Nokia Bell Labs
- Bennis, Warren, 194n10
- Berkeley, 42–43
- Biederman, Patricia, 194n10
- Bigelow, Julian, 60
- Big Science, 54, 105, 157, 159
- Bildung*, 20
- Black Mountain College, 6; Josef Albers and, 49; American progressive liberalism, 44; Cage, 84; Chamberlain, 121; Dewey, 25, 26, 29, 30–31, 189; Fuller, 159; Gestalt therapy, 193n1; Greenberg, 33; “hippie modernism,” 186; Motherwell, 28; progressivism, 106; Rauschenberg, 90; VanDerBeek, 68
- Bloch, Ernst, 190–192; *Heritage of Our Times*, 187–189
- “blue sky research,” 157
- Bourriaud, Nicolas, 198n1
- Brand, Stewart: Fuller, 157; markets, 198n1; MIT Media Lab, 8, 74; Negroponte, 76; *Powers of Ten* (1968), 139; techno-utopianism, 168, 172; *Whole Earth Catalog*, 63
- Braque, Georges, 155
- Brecht, George, 83–84
- Breer, Robert, 97
- Breton, André: *The Breach*, 138
- Brooklyn Museum: *Some More Beginnings: An Exhibition of Submitted Works Involving Technical Materials and Processes*, 97
- Brown, Harold, 166
- Brunelleschi, Filippo, 150–151
- Brussels World’s Fair (1958), 143
- Buchanan, James, 165
- Buchloch, Benjamin, 168
- Bürger, Peter, 168, 169–170
- Burnham, Jack: A&T, 127–129, 132, 176–177, 185–186; “The Aesthetics of Intelligent Systems,” 69; arts and science, 194n9; *Beyond Modern Sculpture*, 67, 69; CAVS, 67–68, 69; “The Future of Responsive Systems in Art,” 69–72, 70; “Systems Esthetics,” 69, 70, 72
- Bush, Vannevar: “blue sky research,” 157; *Modern Arms and Free Men*, 35–36; postwar science, 79, 108, 189; science and the public, 31; *Science—The Endless Frontier*, 32–33, 52; World War II, 53
- Business Week*, 78, 79, 81
- Byars, James Lee, 112, 114–116, 122–126, 131, 132
- Cage, John: Bauhaus, 51; Dewey, 29; experimentation, 26–27, 56; *I Ching*, 181; neo-avant-garde, 1–2; 9 Evenings, 85; Rutgers University, 84; VanDerBeek, 68; as wildcard, 190; *A Year from Monday*, 164
- Cahill, Holger, 28
- Calder, Alexander, 137
- “Californian ideology,” 172
- Cal Tech, 196n2
- Cameron, Andy, 172
- Carnegie Corporation of New York, 41, 42
- Carter, Jimmy, 166
- Center for Advanced Visual Studies (CAVS): A&T, 172–173; “Arts at MIT White Paper,” 74; Bauhaus, 6; Burnham, 69–72; CAST, 171; *Explorations* exhibition, 72–73; Kepes, 47, 48–49, 54–55, 66–68; Piene, 73–74; reanimation of, 170, 173–177; VanDerBeek, 68; Vision+Value, 56, 59
- Center for Art, Science, and Technology (CAST), 8–9, 171
- Chamberlain, John, 112, 113–127, 131, 132, 182; *The Secret Life of Hernando Cortez*, 118
- Chandler, Missy, 110, 129
- Chicago Bauhaus, 51, 52
- Clair, Rene, 144
- Cohen, Harold, 198n14
- Cohen-Cole, Jamie, 39, 43, 194n11
- Cold War: A&T, 112, 132; Bauhaus, 24; CAVS, 176; *A Communications Primer*, 151; corporate liberalism, 13, 14–15, 48, 192; Dewey, 29, 30–31; Eames Office, 140, 145, 155; European avant-garde, 130; Fluxus, 142; Fuller, 64, 160; *Glimpses of the USA*, 150; Greenberg, 195n13; interdisciplinarity, 5; liberalism, 173, 183; militarism,

- 9–10; Mirowski, 164; MIT, 53; Osaka World's Fair, Expo '70, 111; research, 11–12, 105; "scientific community," 36; scientific democracy, 108; scientist as creator, 81–82; security, 167; techno-futurism, 35; think tanks, 127; Truman Doctrine, 162–163; *Utopia or Oblivion: The Prospects for Humanity*, 156; VanDerBeek, 73
- collaboration, 18, 43–45, 188; advantage, 194n10; handicaps, 89
- collectivism, 13, 19; enterprise, 30–31; experimentation, 133–163; practice, 2
- Colomina, Beatriz, 150, 155
- Compton, Karl Taylor, 53
- Conant, James, 10, 31, 37, 40–41, 43, 189, 194n11
- Conceptual Art, 118, 126, 171–172
- Constructivists, 71, 130–131, 142, 168
- corporate art, 127–132, 188
- Council for Conscious Existence, 73–74
- Cowles Commission, University of Chicago, 164
- Creative Mind and Method, The* (Summerfield and Thatcher), 195n15
- creativity, 18, 188; contra conformity, 38–43
- Cunningham, Merce, 68
- cybernetics: Eames Office, 151; ecosystems, 139; "feedbacks," 156–157; Gestalt theory, 4; Macy conferences, 60, 134, 141; markets, 164–165; systems theory, 60–61; Norbert Wiener, 66, 76, 134–135
- Dada, 44, 56, 142, 157, 168
- Daedalus* (journal), 46–47
- Dalkey, Norman C., 99
- Daqri, 171, 177–178, 180–181
- Darwinism, 19, 21, 27, 194n1
- Davis, Mike, 196n2
- Debreu, Gérard, 164
- de Certeau, Michel, 117
- Defense Advanced Research Projects Agency (DARPA), 165, 167
- de Kooning, Willem, 33, 147
- Delphi method, 99–101
- dematerialization, 67
- democracy: and education, 19–22; experimental, 182–183; participatory, 188, 189, 191; scientific, 13, 18–19, 28–33, 108
- Department of Energy's National Laboratories, 166–167
- Deren, Maya: *Meshes of the Afternoon*, 154
- Design Institute, Chicago, 159
- Dewey, John: anti-dualistic thinking, 14, 25; *Art and Experience*, 33; *Art as Experience*, 27–28, 77; Burnham, 69; Darwinism, 194n1; democracy, 188; democracy and education, 19–22; *Democracy and Education*, 26; experimental democracy, 182–183; experimentation, 26–28; "learning by doing," 49–50, 178–179, 199n5; Moholy-Nagy, 48; participatory democracy, 189, 191; progressive liberalism, 90; *The School and Society*, 19; scientific democracy, 13, 18–19, 28–33; Wiener, 134
- Dewey School, 19
- Díaz, Eva, 22, 26
- Douglass College, New Jersey, 45, 83–84
- Dreier, Theodore, 25
- Duchamp, Marcel, 169; *The Bride Stripped Bare*, 154; *The Large Glass*, 142; *Rotoreliefs*, 87; *Three Standard Stoppages*, 181
- Dymaxion house, 159, 161
- Eames, Charles, 139, 146, 179
- Eames, Charles and Ray, 135–139; *A Communications Primer*, 138; *Powers of Ten* (1968), 57
- Eames, Ray, 146–148
- Eames Office, 66, 135, 142–148, 160; as Cold War design lab, 135–139; *A Communications Primer*, 151; *A Film Dealing with the Relative Size of Things in the Universe, and the Effect of Adding Another Zero*, 139–140; *Glimpses of the USA*, 140–141, 143, 144, 146, 147, 149–150, 160; *Powers of Ten* (1968), 139–141; *Think*, 143, 144, 146, 147, 148–155
- E.A.T., 6–7; avant-garde, 172–173, 190; corporate art, 186; documentation, 111; engineering collaboration at, 77–106; Maciunas, 146; 9 Evenings, 9; *Operations and Information*, 95–96; outside Art, 104–106; reanimation of, 170, 173–177; Salon, 9, 171, 172, 175–176; Technical Service Program, 96
- Edgerton, Harold: "cybernetic sculptures," 72
- Eisenhauer, Letty, 84

- Eisenhower, Dwight D., 34–36
- Eisenstein, Sergei, 145–146, 155, 198n13
- Emerson, Ralph Waldo, 142
- Engineer, The* (Time Life volume), 93
- engineering, 92–94, 146; collaboration at
E.A.T., 77–106
- European avant-garde, 24
- European modernism, 85
- experimentation, 18, 26–28, 135–139, 145
- Experiments in Art and Technology (E.A.T.).
See E.A.T.
- expertise, 107–132; and freedom, 28–33
- Federal Arts Project, 28
- federally funded research and development
centers (FFRDCs), 36
- Ferus Gallery, 107
- Film Culture*, 146, 153–154
- First Avant-Garde, 144
- Fletcher, Harvey, 82
- Fluxus, 44–45, 71, 84, 105, 118, 142–148, 169
- Fogg Art Museum, 23
- Ford Motor Company, 160
- Fortune*, 77, 91
- Foster, Hal, 168–170, 172, 173, 184, 186–187,
189, 192
- Freeman, John Craig: *EEG AR: Things We Have
Lost*, 180–181
- Fremont-Smith, Frank, 44
- Friedan, Betty, 195n14; *The Feminine
Mystique*, 40
- Friedman, Ken, 142
- Fuller, Buckminster, 156–163; “A Citizen of the
Twenty-First Century Looks Back,” 156, 158;
Critical Path, 158; cybernetics, 134–135, 139,
141; “design science,” 63–65, 72; “Dymaxion
Air-Ocean World Map,” 162–163; Eames
Office, 136; geodesic dome, 149; *Operating
Manual for Spaceship Earth*, 64–65, 133;
techno-futurism, 8; techno-utopianism,
26, 76; *Utopia or Oblivion: The Prospects for
Humanity*, 156–158; VanDerBeek, 68, 73; as
wildcard, 190; “The World Game—How to
Make the World Work,” 158–159
- Futurism, 130–131, 168
- Galison, Peter, 54
- Gance, Abel, 142–148; *J'accuse*, 197–198n10; *La
roue*, 144; montage, 155; *Napoleon*, 145
- Gardner, John W., 41–42
- Gensler, 171, 178
- geodesic dome, 158–62, 161
- Gerard, Ralph W., 51, 62
- Gertner, Jon, 78
- Gestalt psychology, 4, 29, 51, 56, 193n1
- Giedion, Sigfried, 54
- Gielen, Pascal, 179–180
- Giovanni, Joseph, 147
- Glicksman, Hal, 122–123
- Goodman, Paul, 193n1
- Google, 171, 178
- Gorky, Arshile, 147
- graphic design, 59
- “Great Groups,” 194n10
- Great Society, 106, 167
- Greenberg, Clement, 33, 195n13
- Gropius, Walter, 49, 50, 143, 153; “The Theory
and Organization of the Bauhaus,” 22
- Group Zero, 72
- Guilford, J. P., 42
- Guillory, John, 116–118
- Habermas, Jürgen, 121
- Hacking, Ian, 182, 185
- Hamid, Alexander: *Mesbes of the Afternoon*,
154; *To Be Alive!*, 154; *We Are Young*, 154–155
- “hands-on-process,” 77–106
- Haraway, Donna, 54
- Harvard University, 23, 27, 49, 193n2; *General
Education in a Free Society*, 40–41, 194n11;
Program on Technology and Society, 7, 91
- Hayakawa, S. I., 54
- Haydon, Brownlee, 119, 126–127
- Hegel, Georg Wilhelm Friedrich, 20–21
- Heidegger, Martin, 139, 162, 163
- Heims, Steve, 134–135
- Hendricks, Geoffrey, 83–84
- Hightower, John, 87
- Hoffman Committee: *Creative Renewal in a
Time of Crisis*, 59
- Hofmann, Hans, 147–148

- Hollinger, David, 32
- Homeland Security Advanced Research Projects Agency (HSARPA), 167
- Hopps, Walter, 107
- Hudson Institute, 112, 113, 114, 115–116, 122–124, 127
- Hull House, 19
- Huxley, Julian, 48
- Hyundai, 171, 178
- IBM, 77–104, 143, 144, 146, 148–155
- Institute of Design, Chicago, 51–52
- Institute of Electrical and Electronic Engineers' Journal of Quantum Electronics*, 91
- Institute of Personality Assessment and Research (IPAR), 42–43
- interdisciplinarity, 4–5, 44, 49, 54, 60, 82–83, 108
- Irwin, Robert, 178
- Jameson, Fredric, 190–192
- Jewett, Andrew, 31
- Jewett, Frank Baldwin, 77
- John D. Rockefeller Foundation, 105
- Johns, Jasper, 87; *Map (Based on Buckminster Fuller's Dymaxion Airocean World)*, 162–163
- Johnson, Lyndon B., 36–38, 41–42, 167
- Jones, Caroline A., 60–61, 66, 71
- Josiah Macy Jr. Foundation, 60
- Kabul fair (1956), 160
- Kahn, Herman, 114, 115–116, 121–123, 125, 131; *On Thermonuclear War*, 113
- Kaiser, David, 81
- Kaprow, Allan, 83–84; “happenings,” 68
- Kelly, Mervin J., 78
- Kendall, Donald, 102
- Kennedy, John F., 173
- Kepes, György, 52–59, 61–63; CAST, 171; CAVS, 6, 49, 59, 66–68; collaboration, 128; Eames Office, 136–137, 153; E.A.T. Salon, 175–176; “expanded cinema university,” 65; *Explorations* exhibition, 72–73; Gance, 144; *Language of Vision*, 46, 52, 52–59, 68; “learning by doing,” 49–50; militarism, 142–143; Moholy-Nagy, 48; *The New Landscape in Art and Science*, 50, 51, 55, 57–59, 58, 61–62; Piene, 72; *Powers of Ten* (1968), 139; progressivism, 70; social responsibility, 46–47; STEAMedu, 178–179; systems theory, 60–61; *Toward Civic Art*, 73; VanDerBeek, 154
- Kerschensteiner, Georg, 22
- Kheel, Theodore W., 91
- Khrushchev, Nikita, 102
- Kienholz, Edward, 107–108, 132
- Kiesler, Frederick: *Raumbühne*, 153
- King, Norman, 143
- Klüver, Billy: 84–94; Bell Laboratories, 82–83; collaboration, 98–101, 105–106, 108; E.A.T., 6; E.A.T. Salon, 171; engineering, 179; 9 Evenings, 9, 70, 175; Osaka World's Fair, Expo '70, 96–98; *Pavilion*, 98; PepsiCo, 97, 102–104; Tuchman, 128–130
- Korean War, 34, 53
- Kozloff, Max, 127–129, 132
- Krauss, Rosalind, 171
- Kraynik, Ted, 68
- Kuhn, Thomas, 72
- laboratory of form and movement, 45, 46–76
- Laboratory School, University of Chicago, 19
- LACMA, 107–132
- LACMA's Art & Technology Program (A&T). See A&T
- LACMA's Art + Technology Lab (A+T). See A+T
- Lakatos, Imre, 184–185
- Laura Spelman Rockefeller Memorial, 44
- “learning by doing,” 22, 49–50, 178–179, 199n5
- Le Corbusier: *Poème électronique*, 143–144
- LEF (journal), 142
- Leslie, Stuart, 36
- Lewis, Sid, 73–74
- liberalism: American, 10; Cold War, 173, 183; corporate, 13, 14–15, 48, 192; neoliberalism, 173; progressive, 44, 90, 165; rational choice, 165; social, 18
- Lichtenstein, Roy, 83–84
- Life*, 79, 80, 110, 160, 197n5
- Lincoln Laboratories, MIT, 69
- Lindgren, Nilo, 98–101

- Lippard, Lucy, 67
- Lissitzky, El: *Kabinett der Abstrakten*, 153
- “livingry,” 157, 161–162
- Livingston, Jane, 113–14, 122, 130–131
- Look* (magazine), 43
- Los Angeles Council of Women Artists (LACWA), 111
- Los Angeles Free Press*, 111
- Los Angeles Times*, 110
- Lowery, Andy, 177–178
- Lytard, Jean-François, 184
- Maciunas, George, 44–45, 71, 84, 146
- Macy conferences, 44, 134–135; cybernetics, 60, 61, 141; Fuller, 156–157; Gerard, 62; Kepes, 56, 66–67, 68; Vision+Value, 55; Wiesner, 74
- Macy Foundation, 44
- Malthus, Thomas, 158
- Manhattan Project, 15, 31, 40
- Mansfield Amendment, 165
- Markusen, Ann, 199n8
- Martin, Julie: *Pavilion*, 98
- Martin, Reinhold, 55, 59
- Mason, Francis S., Jr., 90–91
- Massey, Jack, 160
- Mathews, Max, 91
- McCulloch, Warren, 60
- McDermott, John, 164–192
- Mead, Margaret, 61, 134–135, 179, 195n17
- Mee, Thomas R., 97
- Mellon Foundation, 9, 171
- Merton, Robert, 31
- Mesthene, Emmanuel, 7, 91, 193n2
- Milan Triennial (1954), 159–160
- Military Procurement Authorization Act of 1970, 165
- Minsky, Marvin, 69
- Mirowski, Philip, 9, 26, 30, 36, 164
- MIT, 46–76; Architectural Machine, 68–69; CAST, 171; Cold War, 6, 192; Media Lab, 8, 69, 74–76, 179; nanotechnology, 167; *Powers of Ten* (1968), 139; R&D, 143; reanimation of, 172, 173–177; “White Paper,” 66, 74
- Moholy-Nagy, László: Bauhaus, 49–52, 69; “expanded cinema university,” 65; “experience with the material,” 67; graphic design, 59; Negroptone, 75; *The New Vision*, 46, 48, 49, 50, 51; projection experiments, 143; School of Design, Chicago, 47–48; Soviet Constructivists, 71; *Vision in Motion*, 51, 57, 154
- Moholy-Nagy, Sibyl, 51–52, 59, 62–63
- montage, 145–146, 150, 155, 198n13
- Mont Pelerin Society, 165
- Montreal Expo '67, 155, 158, 160, 162
- Morris, Charles W., 51
- Moscow Exhibition (1959), 140, 143, 149, 160
- Motherwell, Robert, 28
- Movie-Drome, 68, 73, 153, 154
- Mozingo, Louise, 78
- Mullins, Brian, 180–181
- Mumma, Gordon, 101
- Murray Hill, 77–84, 80, 105
- Museum of Modern Art (MoMA), 22–24, 25, 48; *The Machine as Seen at the End of the Mechanical Age*, 97; “New Furniture Designed by Charles Eames,” 137; *Road to Victory*, 151
- Musk, Elon, 177–178
- Nakaya, Fujiko, 97
- National Endowment for the Arts (NEA), 37
- National Endowment for the Humanities (NEH), 37
- National Foundation of the Arts and the Humanities Act (1965), 37
- National Military Establishment, 34
- National Security Act (1947), 34
- National Security Agency (NSA), 34
- “National Security Council Report 68” (NSC-68), 34
- Negroptone, Nicholas, 69, 74, 75–76, 158, 175–176
- Nehru Foundation for Development, 105
- Nelson, George, 66, 149; *Problems of Design*, 66
- neo-avant-garde, 1, 5, 168–169, 172
- Neurath, Otto, 44
- New Bauhaus, 47, 49
- New Deal, 3, 29–30, 32, 48, 131, 164–165
- New Frontier, 173
- New Jersey School, 83
- New Masses*, 23

- New School for Social Research, New York City, 84
- New Yorker*, 23, 97, 98
- New York film festival (1966), 154
- New York Review of Books* (1969), 7
- New York School, 102
- New York State Council on the Arts, 87
- New York Times*, 89
- New York Times Sunday Magazine*, 121
- New York World's Fair (1964), 143, 148–155, 154
- 9/11, 167
- 9 Evenings: Theatre and Engineering, 9, 70, 84–87, 91, 93, 175, 196n5
- Nixon, Richard, 102, 166
- Nokia Bell Labs, 9, 171, 172, 173–177, 186, 189.
See also Bell Laboratories
- Northrop, Filmer S. C., 61
- Norton, W. W., 48
- Nvidia, 171, 178
- Office of Scientific Research and Development (OSRD), 32
- Oldenburg, Claes, 83, 86; “happenings,” 84–85
- Ono, Yoko: “Earth Piece,” 133
- On Point Technologies, 167
- organization man, 79, 82
- Osaka World's Fair, Expo '70, 97–98, 101, 103–104, 111
- Owens, Larry, 101
- Pacifica Radio, 129, 130, 131
- “Paleocybernetic Age,” 65, 68
- Paris exhibition (1930), 151
- Pavilion*, 102–103
- pavilions, 97–104, 111, 136–137, 143
- Pearce, John, 100–101
- PepsiCo, 94–104
- Perry, William, 166
- Picasso, Pablo, 155
- Piene, Otto, 68, 72, 75, 76; “cybernetic sculptures,” 72; “sky art,” 72, 73–74
- Pierce, John R., 82–83, 91, 94
- Pinder, Wilhelm, 187
- Piscator, Erwin, 143–144
- Planetary Skin Institute, 159
- Poem Field, 68
- Pop Art, 138
- positivism, 195n13
- post-Conceptual Art, 171–172
- Pound, Ezra, 145–146
- Powers, John G., 91
- Progressive Era, 18, 112–113
- Projects Outside Art, 104–106
- R&D: Cold War, 17; defense, 7–8, 11, 34–35, 36, 164, 166, 167; E.A.T., 100; interdisciplinarity, 187; MIT, 6, 52, 74, 143; organization man, 79; tech, 12, 178
- Ragain, Melissa, 67
- Rainer, Yvonne, 85
- RAND Corporation: Chamberlain, 112, 118–121, 131, 182; Chamberlain and Byars, 116, 124, 125–127; Cold War, 164–165; Delphi method, 99; Eames Office, 136–137; *Life*, 197n5; Mesthene, 193n2; neoliberalism, 173; think tank, 113–114; wildcards at, 190
- Rauschenberg, Robert, 1–2, 6, 70, 85, 89–92, 175; *Oracle*, 87
- Red Book, 40–41
- Reporter* (Bell Labs magazine), 82
- Report on the Art and Technology Program of the Los Angeles County Museum of Art 1967–1971*, 110–112
- Reuters, 177
- Rice, John Andrew, 25, 26
- Roberts, John, 44, 168, 170–172, 184, 186–187, 189, 192
- Rockefeller Foundation, 42
- Rogers, Carl, 43
- Rollins College, Florida, 25
- Roosevelt, Franklin D., 32
- Rose, Barbara, 102–104; *Pavilion*, 98
- Rosenbluth, Arturo, 60
- Russian Constructivism, 44, 45, 71
- Russian Productivism, 45
- Rutgers University, New Jersey, 45, 83–84, 85
- Sachs, Paul J., 23
- Sadao, Shoji, 162
- Saletnik, Jeffrey, 33

- Samaras, Lucas, 83–84
- Sarabhai, Vikram, 105
- Schneemann, Carolee, 84
- School of Design, Chicago, 47–48, 51–52
- Schuldenfrei, Eric, 139–140, 149
- Science, Technology, Engineering, Art, and Mathematics Education (STEAMedu), 178–179
- Scientific American*, 113
- scientific democracy, 13, 19, 28–33, 108
- Segal, George, 83–84
- Serra, Richard, 7
- Shannon, Claude, 61, 135, 156–157; *The Mathematical Theory of Communication*, 138
- Sholette, Gregory: *Dark Matter*, 10–11
- Silicon Valley, 8, 11
- Smith, Harry, 146; *Mahagonny*, 154
- Smith, James Allen, 113
- Smith College, 39–40, 41, 195n14
- Snow, C. P., 38
- Sontag, Susan: “One Culture and the New Sensibility,” 107
- Southern Illinois University, 158, 198n14
- Soviet Constructivism, 44, 45, 71
- Soviet Union, 34, 38, 102, 165–166
- Spaceship Earth, 139
- SpaceX, 171, 177–178
- Spark, Clare, 130, 131
- Spencer, Herbert, 19, 194n1
- Stan VanDerBeek: The Computer Generation!!*, 68
- STEAMedu, 178–179
- Steichen, Edward, 151; *The Family of Man*, 149, 160
- Stein-Einstein-Wittgenstein triad, 125–126, 131
- Stevenson, Adlai, 39–41, 43
- Stevenson-Wylder Technology Innovation Act, 166
- Stokowski, Leopold, 82
- Surrealism, 44, 56, 138, 144–146, 168; “narrative surrealists,” 144
- Sutton, Gloria, 68, 144
- Svoboda, Josef, 143–144; *Polyekran*, 143
- synchronicity, 189–191
- systems theory, 60–61, 63–64
- Takis, Vassilakis, 68
- Tatlin, Vladimir: *Monument*, 103
- Taut, Bruno, 153
- techno-avant-garde, 142–148
- techno-futurist pioneer-consultancy, 8
- techno-optimism, 7, 37–38
- techno-utopianism, 14, 29, 49, 172, 192
- television, 69, 77, 82, 85, 105, 137, 141
- Tenney, James, 83
- think tanks, 107–132, 167
- Thomas, David, 97–98, 104
- Thompson, Francis: *N.Y., N.Y.*, 154; *To Be Alive!*, 154; *We Are Young*, 154–155
- Thoreau, Henry David, 142
- Tinguely, Jean, 82, 87
- Tomkins, Calvin, 97–98, 102, 103–104
- Torrance, E. Paul, 42–43
- Torrance Tests of Creative Thinking, 42–43
- totality of patterns, 59–65
- Tovish, Harold, 68
- Truman, Harry S., 34
- Truman Doctrine, 162
- Tsai, Wen-Ying, 68, 69
- Tuchman, Maurice, 6, 109–112, 128–132, 174, 182–183, 189–190
- Tudor, David, 101
- Tulloch, Gordon, 165
- Turner, Fred, 155, 198n1
- Turrell, James, 178
- unity of science movement, 44, 48, 51
- University of Technology, Sydney, 178
- USIA, 143, 149–150, 160
- Utopier et Visioner 1871–1981*, 105
- Vallye, Anna, 52, 55–56
- VanDerBeek, Stan, 68–70; Macy conferences, 134; Movie-Drome, 68, 153–154; *Panels for the Walls of the World*, 73, 195n5; *Think*, 146
- Vanity Fair*, 23
- Varèse, Edgard: *Deserts*, 83
- Veblen, Thorstein, 30
- Vertov, Dziga: *Man with a Movie Camera*, 149

- Vietnam War: A+T, 175; expertise, 189; MIT, 59; techno-optimism, 37; techno-utopianism, 14; think tanks, 167–168; VanDerBeek, 73
- Vision+Value, 49, 55, 56, 58, 59, 66
- von Bertalanffy, Ludwig, 61
- von Neumann, Johann, 60, 135
- Vuillermoz, Émile, 145
- Waldhauer, Fred, 85
- Warhol, Andy: *Chelsea Girls*, 154; *Factory*, 118; *Inner and Outer Space*, 154
- Watts, Robert, 83–84
- Weaver, Warren, 61
- Weiss, Linda, 34, 167
- Weldon, Marcus, 171, 175, 186, 187
- Wellesley College, 23
- White, Theodore H., 197n5
- Whitman, Robert, 85, 91, 105
- Whyte, William H., 79
- Wide White Space Gallery, Antwerp, 124
- Wiener, Norbert: Jack Burnham, 70; cybernetic “feedbacks,” 156–157; cybernetics, 60–61, 66, 76; *Cybernetics*, 66; engineering, 179; *The Human Use of Human Beings: Cybernetics and Society*, 134–135; “Pure Patterns in a Natural World,” 61–62; Wiesner, 74
- Wiesner, Jerome, 74–75, 76
- Williams, R. John, 125
- Wisnioski, Matthew, 37–38, 179
- Works Progress Administration (WPA), 28
- World Game, 158–159, 160, 162
- World Question Center, 115–116, 122, 123, 124–126, 132
- World War II: Black Mountain College, 30; Bush, 35; corporatism, 48; creativity, 42; education, 13; Kepes, 46–47; MIT, 53, 60; Piene, 72; RAND Corporation, 113, 137
- Yates, JoAnne, 117
- Young, Stephanie, 126
- Youngblood, Gene, 68, 72, 134; *Expanded Cinema*, 64–65
- Zacharias, Kari, 179