

Index

- Andersen, Hanne, 11, 27, 29
 anomaly/anomalous, 19, 23, 37–38, 48,
 51–52, 70, 85, 86, 97, 111, 127, 138, 139, 143,
 145, 147, 159
 anthropology, 84–85, 94, 100–102, 137
 Aristotle experience, the. *See* Kuhn's education/
 career
 astronomy, 60, 63, 91, *See also* revolutions in
 science: Copernican Revolution in
 astronomy, the
 atom, 38, 72, 124, 131, 175, 183, 192
 atomic bomb, 26–27
 atomic theory, 57–59, 98, 161, 175
- Barnes, Barry, 45, 110–111, 114, 115, 116–117,
 184–185
 biology, 150, 195
 Bird, Alexander, 11, 67, 68, 146, 150–151
*Black-Body Theory and the Quantum
 Discontinuity, 1894–1912*, 63, 125–132, 138,
 163, 200
 Bloor, David, 45, 109, 110, 116
 Bohr, Niels, 4, 123–124, 131, 175,
 176–177, 180
 Bruner, Jerome, 38, 52, 85, 139, 203
 Bush, Vannevar, 27, 28
- Carnap, Rudolf, 60, 65–68, 70, 72–73, 168, 175,
 177–178
 case study method, the, 17, 57, 171–172, *See also*
 Harvard College/University: Harvard Case
 Histories in Experimental Science, The
 Cavell, Stanley, 4, 69, 73, 134
 chemistry, 31, 38, 42, 47, 159
 Cohen, I. B., 6, 74
 Cold War, the, 7, 26, 62
 Cole, Jonathan R., 105–107, 147
 community, scientific, 22, 29, 35, 37, 38, 45,
 47–49, 70, 90, 93, 103, 106, 109–110, 112, 117,
 131, 147, 160, 165, 166, 188–189, 197
 Conant, James, 5, 200, 204
- Conant, James B., 1, 3, 4, 5, 9–12, 17, 21, 23, 25–49,
 50, 56–59, 64, 69, 74, 133, 141, 147, 155, 160,
 200, 203
 conceptual scheme, 21, 34–35, 37, 40–42, 44,
 56, 110
 confirmation/verification, 20, 36, 51, 69, 70, 78,
 142, 162, 164, 177
 context of discovery/context of justification,
 74, 162
Copernican Revolution, The, 12, 35, 41–42, 56, 59,
 85, 130, 132, 161, 203
 crisis, 35, 38, 44, 47, 52–53, 55, 76, 86–87, 96, 97,
 109, 113, 126, 143, 182, 184, 197
- Dalton, John/Daltonian, 53–54, 58–59, 98, 170
 Darwin, Charles/Darwinian, 99, 137, 189
 Daston, Lorraine, 136, 139–140, 144, 145, 147, 149
 disciplinary matrix, 92–93, 163
 discovery, scientific, 18, 42, 43, 51–53, 71, 77, 105,
 127, 130, 138, 145–147, 158, 196
 Doppelt, Gerald, 170, 190–191
 duck/rabbit image, 13, 17, *See also* Gestalt
 psychology/figure
 Duhem, Pierre, 60–61, 176
 Durkheim, Émile, 93, 144
- economics, 6, 42, 84–85, 88–89, 91, 94–95, 97,
 98–100, 137, 148, 196
 Edge, David, 29, 108–109
 Edmonds, David, 59–60, 67, 157, 168
 Einstein, Albert, 37, 51, 125, 131, 176, 178, 181
 entities, theoretical, 38, 175–176, 177, 179, 180,
 190–191, 192
 epistemology, 46, 107, 117–118, 192
 naturalized, 68, 172, 203
 social, 26, 48, 116
Essential Tension, The, 12, 74, 107, 156, 166, 200
 essential tension in science, the, 27, 143
 evolution, biological, 22–23, 70, 99, 145, 169, 205
 exemplar, 20, 39, 43, 44, 55, 78–79, 86–87, 92–93,
 162–163, 200–201

- falsification/falsificationism, 70, 159, 167, 177
- Feyerabend, Paul, 34, 47, 69, 77, 159, 160–162, 167, 170, 173, 175, 181
- First World War, 104
- Fleck, Ludwik, 21–22, 25, 28–29, 31, 41, 48, 69, 105–106, 147–148
- Frank, Philipp, 59–60, 72, 74, 104, 148, 176, 178, 181, 184
- Friedman, Michael, 45, 67, 116, 184
- Fuller, Steve, I, II, 26–28, 45, 62, 116, 155
- Galilei, Galileo, 4, 12–13, 15, 117, 131
- Galison, Peter, 18, 56, 126–127, 134, 138–140, 148
- Gestalt psychology/figure, 13, 85. *See also* duck/rabbit image
- Giere, Ron, 171, 191
- Grene, Marjorie, 30, 65
- Hacking, Ian, 40, 45, 58, 73, 143, 146–147, 163, 182, 184, 194
- Harvard College/University, 44, 64, 123, 132–133
 - General Education courses, 3, 4, 9, 11–12, 17–18, 21–23, 25, 31–34, 41, 42–43, 48, 50, 56–58, 62, 69, 104, 133, 137, 141, 147, 160, 203
 - Harvard Case Histories in Experimental Science, The, 32–33, 56–58
 - Harvard Crimson, The*, 1, 203
 - Harvard Society of Fellows, 3, 21, 72–73, 115, 133, 137, 147
 - Nobel Prize winners, 2–3, 57
 - Radio Research Laboratory, the, 1–2, 72
 - William James Lectures, the, 22, 74
- Haugeland, John, 5, 200
- Heilbron, John L., II, 14, 69, 124–125, 128–129, 131, 161, 168
- Hesse, Mary, 114, 115–116, 141–142, 160, 173, 182–183, 203, 205
- historicism, 148–151
- history
 - of art, 62
 - of astronomy, 9, 87
 - of chemistry, 3, 5, 9, 35–36, 50–64, 75, 87, 90, 92, 139, 170
 - of economics, 95
 - of mechanics, 17, 23
 - of medicine, 29
 - of philosophy of science, 61, 64
 - of physics, 9, 37, 59–61, 63–64, 87, 92, 130–131, 138–139, 181
 - of science, 4, 13–14, 15–16, 37, 39–40, 43, 47, 50–52, 68, 69, 71, 105, 108, 112–113, 114, 121, 136–142, 144, 145, 147, 148, 151, 160, 163, 167, 171, 186, 187–188, 190–192, 196, 200, 202, 203, 205
 - history and philosophy of science, 121, 134–135, 137, 138, 158, 171
 - holism, 36, 41, 56
 - Hoyningen-Huene, Paul, II, 46, 47, 51, 70, 74, 117, 142, 165, 167, 205
 - hypotheses, scientific, 35–36, 96, 115, 117, 142–143, 159, 175, 180, 188
 - incommensurability, 14, 26, 38, 41, 46–47, 48, 74, 87, 95, 99, 164, 166–167, 182, 184, 190, 196, 204
 - instrumentalism, 174–175, 176–177, 178–181, 191
 - Kaiser, David, II, 84–85, 133, 137, 139–140, 203
 - Kant, Immanuel, 133, 189
 - knowledge, scientific, 4, 7, 15, 19, 23–24, 26, 30, 36–37, 40, 44, 53, 55, 61, 68–69, 70, 74, 75, 76–77, 78–79, 85–87, 89, 98, 103, 107, 109–110, 115, 118, 143, 148, 150, 165–166, 167, 170, 181, 187, 200, 201–202
 - Koyré, Alexandre, 21, 23, 162
 - Kuhn's education/career
 - Aristotle experience, the, 4, 8, 11–19, 20–21, 23–24, 32, 63, 121
 - Center for Advanced Study in the Behavioral Sciences, 7, 11, 20, 66, 73, 83, 88, 93, 140, 148
 - Harvard. *See* Harvard College/University
 - history and philosophy of science, 56, 123–124, 126, 205
 - History of Quantum Physics Project, 3–4, 121, 123–125, 199
 - history of science, 6–8, 11, 18, 21–24, 59, 61–63, 64, 86, 104, 119–135
 - Massachusetts Institute of Technology. *See* Massachusetts Institute of Technology (MIT)
 - philosophy, 3, 18, 72, 121–123, 126, 137, 140, 198
 - philosophy of science, 11, 122, 131
 - physics, 1–5, 8, 25, 31, 50, 56, 107, 133, 137, 141, 147–148
 - Princeton University, 23, 73, 102, 123, 126, 134, 137, 162, 198, 204
 - University of California, Berkeley, 3–4, 44, 121–123, 126, 137, 140
 - University of Chicago Press, I, 5, 69, 105, 147, 195, 198
 - vita of Kuhn, 8
 - Kuhn-loss, 46, 55–56, 182
 - Lakatos, Imre, 91, 99, 149, 157, 158–159, 161, 164, 167, 173, 184
 - Latour, Bruno, 45, 78
 - Laudan, Larry, 116, 156, 174, 179, 182, 184, 191
 - lexicon/lexical change, 89, 163, 187–189, 204. *See also* taxonomy/taxonomic change

Index

231

- logic, 33–34, 42, 48, 60, 66, 68, 70, 73, 75, 78–79, 109, 110, 162, 164, 166–167, 168, 185, 200
- Logical Empiricism/Logical Positivism, 9, 20, 34, 64, 65–69, 70–76, 78–79, 162, 164–165, 167, 168, 174, 177–178, 181, 184, 192
- Vienna Circle, The, 5, 59–60, 67, 69, 104–105, 168, 177–178, 181, 184
- Lowell Lectures, the, 5, 9, 18, 59, 65–66, 75–79, 126, 148, 203
- Mach, Ernst, 60, 175, 179
- Marcum, James, II, 64
- Massachusetts Institute of Technology (MIT), 132, 204
- T. S. Kuhn Archives, 6, 74, 76, 84, 88, 147
- Masterman, Margaret, 43, 92, 97, 157–158, 162, 173, 202
- McMullin, Ernan, 72, 171, 186, 190
- Melogno, Pablo, 19, 41
- Merton, Robert K., 2, 3, 5, 6, 29, 48, 57, 94, 104–106, 108, 110, 112, 138, 142, 147, 170–171
- metaphysics, 55, 65, 157, 177–178, 181, 188
- method(s)/methodology
- hermeneutical, 91
 - science studies, 23–24, 33–34, 41, 46, 68, 129, 134, 138, 171. *See also* case study method, the scientific, 39–40, 86, 93–94, 128, 148, 161, 165–166
- methodological change, 101
- models, 20, 22, 31, 35, 38, 43, 87, 92, 96, 129, 131, 146, 149, 161, 163, 175, 196, 200, 202
- Nagel, Ernest, 69, 71, 78, 176
- Nash, Leonard, 50, 56–59, 64, 69, 159–160, 203
- National Science Foundation (NSF), 3, 8, 121, 123–124, 203, 205
- natural sciences, 7, 9, 19, 28, 60, 62, 70, 81–84, 87–91, 94–98, 100–101, 102, 110, 117, 144, 145, 148, 150, 168, 196–197. *See also* Harvard College/University: General Education courses
- Newton, Isaac/Newtonian, 4, 15, 37, 51, 59, 62, 92, 138
- no-overlap principle, the, 89, 163, 187
- normal science, 5, 19–20, 23, 26, 35, 38, 41, 44–45, 47–48, 70, 78–79, 86–87, 88, 95, 97–99, 108–109, 111–112, 118, 125, 126, 131, 140, 143, 146, 149, 150, 159–160, 163, 166, 168, 182, 185, 196, 201, 204
- normative/descriptive issues, 46, 70, 77, 156, 159, 161–162, 171–172
- paradigm (the concept), 5, 7, 20–21, 26, 30, 41, 43–44, 46–47, 48, 66, 75, 78–79, 81–83, 88, 92–98, 102, 138, 140–141, 156–158, 162–164, 190–191, 194
- as disciplinary matrix, 92, 93
- as exemplar, 78–79, 86–87, 92–93, 162–163, 202
- as theory, 92
- paradigm change, 40, 46, 53–56, 81, 89, 96, 98–99, 100–101, 126, 158, 163–164, 185, 192, 196. *See also* revolution, scientific
- paradigm(s)
- adjusting to anomalies, 145
 - application of, 73, 139, 205
 - competing, 97, 164, 183, 196
 - emergence of, 195–196
 - Kuhnian, 68, 130
 - limitations of, 19
 - presence or absence of, 11, 88, 90–91, 96
 - psychological effect of, 27
 - reasoning from, 39–40, 44
 - reigning, 53, 92, 95, 147
 - role in science, 200–201
- Pessimistic Induction, 182–184, 191
- philosophy, 14, 22, 66–67, 74, 77, 96, 132–134, 149, 156, 159, 162, 175–176, 177, 199
- philosophy of science, 7, 9, 21, 23, 34, 43, 45–46, 50, 52, 59–61, 63, 64, 67–68, 69, 71–72, 103–104, 106, 114, 117–118, 126, 134–135, 138, 140–142, 149, 150–151, 153–156, 160, 162, 164–167, 171–172, 174–175, 176, 182, 199, 200, 202, 205
- phlogiston theory, 35, 53, 57, 59, 94, 191
- physics, 76, 97, 176–177
- Aristotelian, 4, 9, 12–17, 23, 31–32, 37, 47, 63
 - classical mechanics, 12–13, 15, 41, 125, 127, 177
 - Newtonian mechanics, 12–14, 17, 31–32, 37, 63
 - quantum, 4, 60, 63–64, 126–128, 130–132, 138, 161, 175, 177, 180, 199–200
- Piaget, Jean, 85, 139, 203
- Planck, Max, 59, 63, 125, 126–127, 130–131, 138, 163, 200
- planets, 46, 89, 204–205
- “Plurality of Worlds, The”/“Words and Worlds” (Kuhn), 74, 131, 203, 204
- Poincaré, Henri, 144
- Polanyi, Michael, 25, 29–31, 41, 48–49
- political science, 84–85, 90, 95–96, 100
- Popper, Karl/Popperianism, 20, 22, 45, 67, 68, 70, 71, 96, 145, 148–151, 155, 157, 159–160, 164, 167–168, 170, 173, 174–175, 176–182, 192
- Postman, Leo, 38, 52, 85, 139, 203
- pragmatism, 65, 179
- pre-paradigm state/stage, 47, 88, 91, 94, 143, 196
- problem of scientific revolutions, the, 7–8, 26, 45–46, 47–48, 153, 174, 181–185, 189–193

- problem of theory change, the. *See* problem of scientific revolutions, the
- progress, scientific, 7, 11, 18–19, 21, 23, 34, 36–37, 45–46, 56, 70, 88, 143, 151, 167–171, 180, 181–182, 187, 190, 192
- psychological factors, 42, 62, 158, 162
- psychology, 6, 42, 84–85, 88, 91, 93, 137, 139–140, 202–203, 205
- puzzle-solving research, 37, 39, 44, 78, 86, 88, 91, 97, 99, 110, 111, 113–114, 150, 159
- Quine, Willard Van Orman, 9, 36, 66, 71, 72–74, 79
- rationality, scientific, 45, 87, 99, 100, 103, 114, 116, 153, 156, 158–161, 163–165, 166–167, 168, 182, 184–185, 190, 200
- realism/anti-realism, 8, 142, 153, 174–175, 176, 178–181, 182–184, 185–193
- Reisch, George, 1, 11, 21, 60, 62, 66–67, 104, 106
- relativism, 16, 103, 153, 156, 160–161, 169–171, 184–185
- research community. *See* community, scientific
- research program, 71, 72, 99, 157, 174, 177
- revolution, scientific
 - as a change of worldview, 191
 - as a lexical change, 89, 163, 187–188, 204–205
 - as a part of a developmental cycle, 85–87
 - as compared to evolutionary development, 30–31, 205
 - as connected to Kuhn's Aristotle experience, 4–5, 9, 11, 17–24
 - as distinct from normal science, 44–45
 - as social change, 47, 165–166
 - as taken up by student radicals, 27
 - as taken up by the social sciences, 96–102
- revolution, scientific (Kuhn's account compared to)
 - Carnap's view, 67–68
 - Conant's view, 37–38, 40, 51–56
 - Popper's view, 75
 - Strong Programme's view, the, 108
- revolutions in science
 - Chemical Revolution, the, 35, 50–52, 55, 57, 64
 - Copernican Revolution in astronomy, the, 41, 46, 50–51, 62, 63, 89, 91, 94, 97–98, 117, 131, 204–205
 - Darwinian Revolution in biology, the, 97–98, 196
 - development of non-Euclidean geometries, the, 181
 - drawn from the history of science, 202
 - Newtonian Revolution, the, 12–14, 18, 32, 55
 - Quantum Revolution in physics, the, 4, 50, 63–64, 123, 125–126, 131, 138
 - rationality of, 159–160, 164, 166–167
 - Richardson, Alan, 66, 71
 - Road since Structure, The*, 17, 85, 191, 200
 - Sankey, Howard, 11, 167, 180, 191–192
 - Scerri, Eric, 60–61
 - Scheffler, Israel, 160, 182, 184
 - Schlick, Moritz, 59–60, 66, 168, 176, 177–178
 - Second World War, 1–2, 23, 26–27, 28, 46, 60, 132, 133
 - selection
 - natural, 70, 74
 - social, 14
 - Shapere, Dudley, 43, 97, 157
 - Shapin, Steven, 24, 58
 - social sciences, the, 7, 11, 25, 28, 60, 81–102, 105, 136–137, 145, 148
 - sociological dimensions of Kuhn's project, the, 117–118, 128, 147–148, 162, 165
 - sociology, 84, 89–91, 92–94, 107, 118, 127, 142, 145, 147, 165
 - sociology of science, 7, 22, 29, 45, 81, 103–104, 106–109, 110, 116–118, 126, 130, 138, 147–148, 151, 165, 199, 203, 205
 - specialties, scientific, 13, 38, 47–48, 90, 96–97, 106, 109, 169
 - Strong Programme in the Sociology of Scientific Knowledge (SSK), 26, 45, 103, 106, 108–118, 128, 156, 158, 169, 184–185
 - structure (as an analytical concept in science studies), 23, 51–52, 136, 142–148, 149, 151, 167
 - structure, the
 - of lexicons, 187, 188
 - of revolutions in science, 38, 136, 143–144, 146, 149, 150–151
 - of scientific research communities, 47, 109, 118, 197
 - of the world, 42, 111, 117, 188
 - taxonomy/taxonomic change, 131, 188. *See also* lexicon/lexical change
 - terms, theoretical, 87, 126, 174, 177, 192
 - textbooks, scientific, 14, 20, 55, 68–69, 79, 90, 93–94, 104–105, 110, 130, 132
 - theoretical entities. *See* entities, theoretical
 - theoretical terms. *See* terms, theoretical
 - theories, competing, 46–47, 74, 86–87, 94, 99, 110, 113, 164, 166, 182, 184, 186, 197
 - theory change. *See* revolution, scientific
 - theory evaluation, 40, 70, 150, 187
 - theory-laden, 84
 - Toulmin, Stephen, 25, 29–31, 34, 41, 48, 173, 176
 - truth, 15, 18, 37, 46, 66, 70, 73, 86, 90, 113, 116, 149–150, 158, 159–160, 169–170, 179, 180–183, 186–192
 - Tsou, Jonathan, 68, 71

Index

233

- unity of science, 30, 34, 104, 148
- values/interests, 112–113, 149
- values/virtues, theoretical, 38–39, 41–42, 113, 117, 163, 185–186, 197
- van Fraassen, Bas, 70, 71, 174, 176, 179, 181
- Van Vleck, John, 2–3, 5, 121, 133
- verification/confirmation. *See* confirmation/verification
- Wittgenstein, Ludwig, 65, 71, 73, 157, 159, 178
- World War I. *See* First World War
- World War II. *See* Second World War
- Worrall, John, 142, 155, 168–169, 183–184, 190–191
- Wray, K. Brad, 5, 31, 34, 38, 43, 46–48, 70, 71, 92, 96–98, 100, 110–111, 117, 118, 135, 137, 140, 143, 146, 149, 162, 166, 174, 180, 183–184, 196, 205
- Zuckerman, Harriet, 2, 3, 105–107, 147