

Index

A

Actions: for anticipation, 62–63; for containment, 80–81; contingent, in plans, 66–67; and mindfulness, 89–90; public, for changing cultures, 123–124

AES, 149

After action reviews (AARs), 144–145

Aircraft carriers: countering confirmation seeking on, 27; creation of culture on, 118–120; deference to expertise on, 78; expectations on, 25; forms of unexpected events on, 27–29; as HROs, 23–24, 164n30; mindfulness in operations of, 35–39; relevance of operations of, 39–41; reporting failure on, 50

Airline disaster, labels contributing to, 55

Allinson, Robert, 84

Anticipation: acting with, 62–63; described, 44–45; principles of, 42, 63–64; resilience vs., 68–69, 162n21. *See also* Preoccupation with failure; Reluctance to simplify; Sensitivity to operations

Apollo 13 spacecraft retrieval, 45

Artifacts: as component of culture, 115, 125; and cultural change, 121–123, 138; values realized in, 179n11

Assessments: revising, 153–154. *See also* Audits

Assumptions: as component of culture, 115, 124, 125; and expectations, 25, 26–27, 179n11

Attention: and distractions, 34–35; quality of, and mindfulness, 32–33

Audits, 83–107; how to use, 85–86; interpreting and using results of, 102–106; of mindfulness, 87, 88; of principles of mindfulness, 93–101; repeating, 106–107; simplified version of, 102, 103;

triggered by unexpected events, 1, 3–4; value of, 83–85; of vulnerability to mindlessness, 89, 90

Awareness: of events indicating developing problems, 86; situation, 12, 32; of vulnerability, 151–152

B

Bandelier National Monument, 2, 4–5, 6, 7, 142. *See also* Cerro Grande wildland fire

Baron, Reuben, 57

Bethune, Gordon, 121–122, 123–124

Blankstein, Alan M., 170n12

Bolsin, Stephen, 128, 130

Bourrier, Mathilde, 59, 77

Braun, Wernher von, 50

Brauneis, Karl, 141

Bristol Royal Infirmary (BRI): implications of culture of, 136–137; and informed culture, 129–136, 181nn39, 52; organizational culture of, 126–129, 181n31

Brown, Herb, 118

Budgets, insensitivity of, to operations, 13–14

Burn boss, 6, 11, 161n4

C

Carl Vinson nuclear carrier, 38, 50, 164n30

Categories, dangers of, 33, 54–58

Centers for Disease Control and Prevention (CDC), 44–45, 68

Centrality, fallacy of, 158–159

Centralization, 150

- Cerro Grande wildland fire, 2–3; analysis of events at, 8–9, 161n5; as audit, 3–4; chronology of events at, 4–7; deference to expertise at, 16–17; failures overlooked at, 9–10; implementing mindfulness after, 140–148, 182nn4, 6, 183n13; insensitivity to operations at, 13–14; mindful management at, 17; resilience problems at, 14–15; simplification at, 11–12, 162n10
- Challenger disaster, 30–31, 52, 155
- Change: of organizational culture, 120–124, 146–147; power to produce, 147–148; small wins strategy for, 139–140. *See also* Small wins
- Chisholm, Donald, 50
- Churchill, Winston, 83–85
- Close calls, as successes vs. failures, 61–62
- Columbia space shuttle accident, 10–11, 33, 54, 75–77, 79
- Commitment to resilience: on aircraft carriers, 38; audit of, 99; in HROs, 68–73; as principle of mindfulness, 2, 14–15; small wins in development of, 156–158. *See also* Resilience
- Complacency, 149–150
- Complexity: increasing system, 113; interactive, 92; organizational, 43–44; scale for rating, of burns, 11, 162n10
- Conceptual slack, 73
- Containment: acting for, 80–81; principles of, 42, 81–82; and problems created by planning, 66–68; as reactive, 65, 81. *See also* Commitment to resilience; Deference to expertise
- Contexts, requiring mindfulness, 85, 90–92
- Continental Airlines, 121–124, 151, 180n18
- Coupled systems, 91–92
- Credibility, and expertise, 79–80
- Culture. *See* Organizational culture
- Cummings, Michelle, 134
- D**
- De Keyser, V., 153
- Decentralization, 150
- Decision making: flexible structures for, 100, 160; level of, in HROs, 16, 74
- Deference to expertise: on aircraft carriers, 39; audit of, 101; at Cerro Grande wildland fire, 16–17; and Columbia space shuttle disaster, 75–77, 79; vs. experts, 78; in HROs, 73–80; importance of downward, 77–78; as principle of mindfulness, 2, 15–17; small wins in development of, 158–160. *See also* Expertise
- Dhasmana, Janardan, 127, 136
- Diablo Canyon nuclear power plant: commitment to resilience at, 73; deference downward at, 77–78; as HRO, 164n30; key values at, 79; mindful infrastructure of, 67–68, 142; number of employees at, 169n2; resistance to simplification at, 56; sensitivity to operations at, 58–59
- Differentiation view of culture, 112, 113, 121
- Disease outbreaks, anticipating, 44–45, 68–69
- Diversity, simplification reduced by, 56, 95–96, 153
- E**
- Edmondson, Amy, 50–51
- Eisenhardt, Kathleen, 61
- Electrical linemen, weak signals of failure by, 47
- Enlarge, focus vs., 87–88
- Errors: HRO's relationship to, 14, 21; inevitability of, 98; learning from, 152; reporting, 50–51; and resilience, 68; “Swiss cheese model” of, 52, 171n26; system vs. person approach to, 161n5. *See also* Failures
- Expectancies, 167n4
- Expectations: diverse, as reducing simplification, 56; expectancies vs., 167n4; and failure detection, 49; liabilities of, 23, 41; lightly carrying, 150; and organizational culture, 115, 178n11; as origin of unexpected events, 29; plans as embodying, 66; positive role of, 23, 25; seeking confirmation of, 25–27, 167nn5–6
- Experience, relevance of past, 157–158
- Expertise: and credibility, 79–80; experts vs., 78; and level of decision making, 16, 74. *See also* Deference to expertise
- F**
- Failures: attention to weak signals of, 46–47; close calls as, 61–62; detecting, 47–50; diagnostic value of, 93; language

- contributing to, 33, 54–58; negative perception of, 51–52; as option, 45, 170n12; overlooked at Cerro Grande wildland fire, 9–10; reporting, 50–51. *See also* Errors; Preoccupation with failure
- Fallacy: of centrality, 158–159; of pre-termination, 66
- Fay, Brett, 143
- FedEx, 70–71
- Feedback, 157
- Feelings, 31, 47, 104
- Firefighting. *See* Cerro Grande wildland fire; Wildland firefighting
- Flexible culture: at Bristol Royal Infirmary, 133–135; defined, 126
- Focus, enlarge vs., 87–88
- Fragmentation view of culture, 112, 113, 121
- G**
- Gleason, Paul, 6, 7, 13, 16–17, 159
- Goals, 140, 151
- Good news, clarifying, 152
- H**
- Halpern, Jennifer, 74
- Hatch, Mary Jo, 179n11
- Henig, Robin, 68
- Hiatt, Ed, 7
- High reliability organizations (HROs): commitment to resilience in, 68–73; counteracting confirmation seeking in, 27; decision making in, 16, 74, 100, 160; deference to expertise in, 73–80; defined, 17–18, 164n30; mindful management by, 17, 18; preoccupation with failure in, 45–53; relationship to errors in, 14, 21; relevance of management of unexpected by, 18–21; reluctance to simplify in, 53–58; sensitivity to operations in, 58–62. *See also* Aircraft carriers
- Hirschhorn, Larry, 67
- Hopkins, Andrew, 76–77
- Human error, 161n5
- I**
- Imagination: encouraging, 159–160; importance of, 29–30
- In Search of Excellence* (Peters and Waterman), 116
- Information, unexpected events as, 154
- Informed culture: and Bristol Royal Infirmary (BRI), 129–136, 181nn39, 52; defined, 124–125; subcultures of, 125–126
- Institute of Medicine, 39–40
- Integration view of culture, 112, 113, 120–121
- Interactive complexity, 92
- Interpersonal skills, valuing, 153
- J**
- Just culture: at Bristol Royal Infirmary, 131–133; defined, 125
- K**
- Kilbourne, Edwin, 68–69
- Klein, Gary, 14, 156
- Koontz, Darlene M., 142
- Koppenol, Patti, 143
- L**
- Labels, dangers of, 33, 54–58
- Lagadec, Pat, 3, 149
- Landau, Martin, 50
- Language: contributing to failures, 33, 54–58; indicating inclusiveness, 87–88
- Laval, Marc de, 135
- Learning, unexpected events as source of, 154
- Learning culture: at Bristol Royal Infirmary, 135–136, 181n52; creating, 152; defined, 126
- Leemers, 31
- Linane, Mark, 47
- M**
- Management, mindful, 17, 18, 147–148
- Martin, Dick, 38
- Martin, Joanne, 112
- Media, rich, 155
- Medicine: and anticipating disease outbreaks, 44–45, 68–69; error reporting in, 50–51; safe operations in, 39–40; validity of Mindfulness Organizing Scale (MOS) in, 102, 177n12
- Meyerson, Debra, 112

Migrating decisions, 74, 100, 160
 Milliken, Frances, 52
 Mindful management, 17, 18, 147–148
 Mindfulness: and actions, 89–90; in aircraft carrier operations, 35–39; audits of, 87, 88; contexts requiring, 85, 90–92; described, 32–35, 41–42; mindlessness vs., 88; and safe operations, 39–41; small wins in basics of, 148–151. *See also* Principles of mindfulness
 Mindfulness Organizing Scale (MOS), 102, 103, 177n12
 Mindless acts, routine acts vs., 61
 Mindlessness: audit of vulnerability to, 89, 90; described, 88–89
 Mintzberg, Henry, 66
 Misovich, Stephen, 57

N

NASA: *Apollo 13* spacecraft retrieval, 45; *Challenger* disaster, 30–31, 52, 155; *Columbia* space shuttle accident, 10–11, 33, 54, 75–77, 79; error reporting at, 50
 National Park Service, burn complexity rating scale, 11, 162n10
 Near misses, defining, 152
 Nuclear power plants: complex operations of, 43–44, 169nn1–2; deference to expertise at, 77–78, 79; distractions at, 34; limitations of maintenance procedures at, 67; mindful processes as stable routines at, 67–68; preoccupation with failure at, 46, 48–50, 170n19; reluctance to simplify in, 55–56; sensitivity to operations at, 58–59. *See also* Diablo Canyon nuclear power plant

O

Operations: relevance of, of aircraft carriers, 39–40; threats to, 60–62. *See also* Sensitivity to operations
 Organizational change. *See* Change
 Organizational culture, 109–138; of Bristol Royal Infirmary (BRI), 126–129, 136–137, 181n31; changing, 120–124, 146–147; components of, 114–115, 178n11; content of, 124–125; control through, 150–151; creation of, 116–

120; emergence of new, 110–111; theoretical views of, 111–114. *See also* Informed culture

Organizational structure: centralized vs. decentralized, 150; danger with silos in, 49–50, 142; flexible, for decision making, 74, 100, 160

P

Participation, in decision making, 16, 74, 100, 160
 Patriotta, Gerardo, 57
 Peer review, 145–146, 183n13
 Perin, Constance, 43–44, 49–50
 Perrow, Charles, 90
 Person approach, to errors, 161n5
 Peters, Thomas, 116
 Planning, problems created by, 66–68
 Positive-test strategy, 167n6
 Powell, Mike, 6, 7, 11, 16
 Predetermination, fallacy of, 66
 Preoccupation with failure: on aircraft carriers, 37; audit of, 93–94; in HROs, 45–53; at nuclear power plants, 46, 48–50, 170n19; as principle of mindfulness, 2, 9–10; small wins in development of, 151–152. *See also* Failures
 Principle of requisite variety, 113
 Principles of anticipation, 42, 63–64. *See also* Preoccupation with failure; Reluctance to simplify; Sensitivity to operations
 Principles of containment, 42, 81–82. *See also* Commitment to resilience; Deference to expertise
 Principles of mindfulness: in aircraft carrier operations, 37–39; audits of, 93–101; and Cerro Grande wildland fire, 9–17; and mindful infrastructure, 2; small wins in development of, 151–160. *See also* Principles of anticipation; Principles of containment

R

Reason, James, 48, 114, 125, 129, 133, 138
 Reliability-centered organizations, 86
 Reliability-seeking organizations, 86
 Reluctance to simplify: on aircraft carriers, 37–38; audit of, 95, 96; in HROs,

53–58; as principle of mindfulness, 2, 10–12; small wins in development of, 152–154. *See also* Simplification

Reporting: danger with lack of, 83–85; errors, 50–51; good vs. bad news, 152; and labeling and, 33, 54

Reporting culture: at Bristol Royal Infirmary, 129–131, 181n39; defined, 125

Requisite variety, principle of, 113

Resilience: anticipation vs., 68–69, 162n21; at Cerro Grande wildland fire, 14–15; components of, 71–72; described, 69–70, 98; and errors, 68; at FedEx, 70–71; patterns of, 72–73. *See also* Commitment to resilience

Resistance to simplification. *See* Reluctance to simplify

Rickover, Hyman, 59–60

Roberts, Karlene, 74

Rochlin, Gene, 38, 78

Routine acts, mindless acts vs., 61

Routines: limitations of, 67–68, 83–85; seeking confirmation of expectations in, 26

Roylance, John, 127, 128, 130

S

Safety, relevance of aircraft carrier operations to, 39–41

Schein, Edgar, 114, 120, 137, 149

Schomburg, Calvin, 76

Schulman, Paul, 56, 67, 79, 87

Sensitivity to operations: on aircraft carriers, 38; audit of, 97; at Cerro Grande wildland fire, 13–14; in HROs, 58–62; as principle of mindfulness, 2, 12–14; small wins in development of, 154–156; value of, 97–98

“Shareability constraint,” 57

Silos, and failure detection, 49–50, 142

Simplification: at Cerro Grande wildland fire, 11–12, 162n10; labels and categories as, 33, 54–58; reduced by diversity, 56, 95–96, 153. *See also* Reluctance to simplify

Situation awareness, 12, 32

Skepticism, 10, 52, 95, 96, 155

Small wins: in basics of mindfulness, 148–151; in commitment to resilience, 156–158; in deference to expertise, 158–160; described, 139–140;

in mindful management, 147–148; in mindfulness in wildland firefighting, 140–148, 182nn4, 6, 183n13; in pre-occupation with failure, 151–152; in reluctance to simplify, 152–154; in sensitivity to operations, 154–156

Starbuck, Bill, 52

STICC briefing protocol, 156

Stout, Susanne, 74

Successes: close calls as, 61–62; liabilities of, 52–53

“Swiss cheese model,” 52, 171n26

Symbols, culture change through, 121–123

System approach, to errors, 161n5

T

Terrorist attacks of September 11, 2001, and imagination, 29

Thomas, Dave, 143

Tightly coupled systems, 91–92

Tsoukas, Hari, 54

Turner, Barry, 111–112, 114

U

Unexpected events: anomalizing, 34; dismissing perception of, 30–31; examples of, 1; expectations as origin of, 29; expecting vs. preparing for, 44–45; forms of, 27–29; and imagination, 29–30; as information, 154; preparing for, 44–45; relevance of HROs’ management of, 18–21; as source of learning, 154; triggering audits, 1, 3–4

Union Carbide, Bhopal, India disaster, 9

V

Values: as component of culture, 115, 124, 125; cultural change through, 123–124; expressions of, 118

ValuJet air crash, 55

Vaughan, Diane, 30, 133

Vogus, Tim, 102

Vulnerability: audit of, to mindlessness, 89, 90; creating awareness of, 151–152

W

Waterman, Robert, 116

Wear, Larry, 30–31

Weaver, Roy, 7

- Westrum, Ron, 50, 89, 158
Whorf, Benjamin, 55
Wildavsky, Aaron, 69, 162n21
Wildland firefighting: attention to weak
signals of failure in, 47; implementing
mindfulness in, 140–148, 182nn4, 6,
183n13; prescribed burns in, 4. *See also*
Cerro Grande wildland fire
Wisheart, James, 127, 128, 130
Woods, David D., 153