

# Index

- adaptation, 9, 18, 82, 110, 133, 144, 149, 150, 152, 155
- affordance, 20, 21, 41, 53, 66, 67–86, 98, 100, 104, 106, 110, 111, 117, 123, 124, 130, 132, 134, 143, 152, 156, 157, 160–162, 167, 169, 170
- architects, 40, 41
- arithmetic, 27, 38
- articulatory loop, 6, 7
- artifact(s), 9–19, 23–26, 40, 45, 48, 51, 57, 61, 65–71, 73–94, 96, 97, 107, 110, 111, 117, 119, 123–127, 129–135, 144, 153–162, 166–170
- artificial intelligence, 27, 152, 169
- attunement, 9
- automaticity, xi, 39
- body snatchers, 11
- borders, 51, 153, 164
- boundaries, 5, 91, 153, 164
- cognitive psychology, ix, 2, 9, 14
- cognitive science, 3, 9, 11, 14, 19, 20, 24, 40, 42, 56, 62, 66, 97, 104, 109, 129, 151, 153, 168
- cognitive work analysis, 90, 92, 165
- consistency, of human activity, 18, 55, 66, 136, 144, 149, 160, 167
- constraints: on action, 41, 48, 49, 63, 70, 71, 80, 89, 91, 97–100, 105, 111, 129, 130, 136, 140, 143, 155, 156, 159, 160, 161, 164, 168; in design practice or problem-solving, 24–26, 29–32, 39, 42, 48, 57, 63, 70, 71, 99, 155, 169; on system activity, 5, 57, 98
- convergent thinking, 24, 41
- coupling-constitution fallacy, 21
- creativity, xii, 1, 17, 21, 23, 24, 26, 27, 29, 32, 35, 140, 154, 155, 156, 157, 165, 168, 169, 170
- cybernetics, 8, 40, 51, 99, 112, 113, 116, 136, 138, 141
- design thinking, 1, 23, 24, 28, 29, 30, 40, 41, 83, 159, 164, 165
- digital: assistant, 124; native, 2; related to binary coding, 2, 11, 108, 109, 116, 119; related to fingers, 2–3; technology or objects, ix, xii, 9, 13, 65, 87, 108, 109, 111, 115, 116, 117, 119, 121, 123, 124, 125, 148, 151, 153, 167
- distributed cognition, x, xi, xii, 14, 16, 96, 127
- divergent thinking, 23, 24, 25, 26
- dynamic systems, xi, 20, 66, 130, 135, 136, 144, 145, 146, 150, 167
- ecological interface design, 87, 95, 99, 103, 104, 159

- ecology, 45, 46, 47, 49, 53, 55, 56, 57, 58, 65, 90, 91, 98, 99, 100, 129, 157, 158
- embedded, xii, 55
- embodiment, 2, 4, 5, 12, 14, 18, 26, 49, 51, 109–112, 127, 129, 149, 167
- enactive, 14, 111, 134, 144
- ergonomics, ix, x, xi, 40, 59, 72, 93, 120, 121, 123, 164, 165, 166
- ethnography, 59, 61, 110, 166, 167
- experiential, 62
- extended cognition, xii, 77
- external representation, 14, 28, 38
- framing, 38
- human-artifact-environment system, 5, 14, 17, 18, 19, 24, 26, 45, 48, 57, 61, 73, 86, 87, 91, 96, 107, 110, 111, 117, 123, 129, 130, 133, 134, 135, 144, 153, 154, 156, 157, 158, 160, 166, 167, 169, 170
- information: as content, 12, 14, 15, 19, 23, 25, 35, 49, 50, 61, 72, 82, 83, 93, 99, 100, 103, 106, 109, 122, 124, 129, 151, 152, 163, 164; as context, 12, 16, 23, 24, 28, 35, 46, 49, 56, 61, 76, 82, 93, 100, 104, 105, 106, 109, 122, 124, 129, 152, 162, 164, 170; theory, 13, 143
- internalization, 3, 4
- internal representation, 3, 6, 7, 10, 17, 96, 140, 168, 169
- mark of the cognitive, 14, 15
- mental gymnastics, 7, 20
- objectives, design, 29–32, 40, 43, 54, 70, 155, 156, 158, 166, 167, 169
- off-loading, 16, 38, 96
- otto's notebook, 16
- pareto front, 30, 31, 39
- perception-action coupling, 8, 9, 20, 55, 66, 74, 97, 98, 104, 106, 111, 129, 134, 140, 143, 144, 162
- perceptual symbols, 17
- performative awareness, 17, 59
- phenomenology, 17, 24, 29, 108, 110, 167
- planning, 11, 80, 103, 112, 119
- posture, 4, 19, 26, 110, 131, 139
- probability, 13, 138, 147
- problem space, 25, 26, 27, 29, 32, 36, 37, 38, 39, 40, 41, 42, 43, 45, 58, 117, 155, 168
- production line, for information-processing, 6, 94, 140, 169
- radical embodied cognitive science (RECS), ix, xi, xii, 20, 21, 73, 76, 86, 97, 104, 105, 106, 109, 111, 129, 130, 134, 135, 136, 137, 153, 167, 168, 169
- relation-structure, 8, 140
- representation hungry, 17
- robotics, 16, 69, 112, 113
- self-organizing system, 9, 12, 19, 136, 137
- servo-mechanism, 8, 100, 138, 139, 140
- seventeen-animal problem, 38
- simultaneous equations, 3, 4, 7, 27
- situated theory, 13, 29, 47, 77, 113, 130, 162
- sketching, 41, 42, 86, 115
- skilled, 32, 41, 76, 77, 110, 122, 144, 149, 169
- skillful coping, 10, 14, 20, 41, 62, 77, 81, 84, 86, 110, 144
- symbolic, representation, 7, 10, 17, 20, 26, 46, 50, 52, 61, 67
- tacit knowledge, 10, 39, 40, 55, 62, 93, 97, 104, 122

- task-artifact cycle, 15, 87, 89, 90, 94,  
97, 123
- technical reasoning, 40
- technological frames, 90
- tetris, 32, 33
- tower of hanoi, 36, 37
- trial-and-error, 31, 39, 169
- two string problem, 34, 35, 36
  
- variability, in human activity, 13, 18,  
66, 136, 144, 145, 147, 149, 167, 194
  
- wearable computers, 111, 146, 149, 150
- wicked problems, 29
- wolves and chicken' problem, 38
- working memory, 6, 7

