

Index

Aart, Henk, 111–12	endurance of installations and monitoring
abduction	of, 373–76
in betterment loop, 189–92	installations as unit for, xix-xxii, 16
defined, 425	in natural setting, 8
interpretation as, 189–92	in organisms, 128n21
learning as, 189–92	in Russian activity theory, 425
Abelson, Robert, 62-63	segments of, 4
Abric, Jean-Claude, 82	social regulation of, 126–31
academic method, in science, 298	three-layered installations and production
accidents	of, 95–97
embodied interpretation and, 110	trajectory of, 84-85
in representation redescription, 341–46	Activity Theory. See also Russian activity theo
resilience in installation layers and, 17, 22,	interventions and application of, 399–402
165–67, 207	motives and goals in, 59-61
accommodation, learning and, 188–89	scripts and, 62–63
accretion, learning by, 240-41	self-confrontation protocol in, 121–22
actant	valence and, 52-53
in Actor-Network Theory, 73–75	Western versions of, 58–59
social regulation and, 282-85	Actor-Network theory, 73-75
action	actors
context for, representation as production	in Actor-Network Theory, 73-75
of, 250–56	Cicourel's interpretive procedures and, 90-
defined, 425	sanctions against, 123-24
determinants of, 106-07, 113n8	in social representation theory, 77
distributed cognition and, 73, 75–76	adaptation, paradigmatic learning and, 240
distribution of, 29	adoption of innovation, 309
embodied interpretive systems and, 108–18	affordances
imitation and, 133–34	collaboration for change and, 378–80
individual perspective on, 286–89	of decision-making, 54–57
layers of determination for, 25-32	defined, 425
limitations of psychological theories	ecological psychology and, 45, 51–53
concerning, 85-92	effectivity and, 54–57
Norman's seven stages of, 190113	in embodied competences, 112-15
object specification and, 276	external representations, 352-53
paradigms of, 238–39	funneling of behaviour and limits on, 116-
predictability in, 6–7	Gibson's theory of, 57
real world context for, 28	installation and learning and, 259-60, 261-
activity	institutional rules and, 104–06
affordances as connotations of, 98-99	large-scale social regulation installations
channeling of, 3	and, 380–85
defined, 32, 425	limitations of, 123

t for, xix–xxii, 16 theory, 425 f, 126–31 llations and production also Russian activity theory application of, 399–402 in, 59–61 protocol in, 121-22 f, 58–59 y, 73–75 Theory, 73-75 tive procedures and, 90–91 123-24 ntion theory, 77 atic learning and, 240 on, 309 hange and, 378–80 3, 54–57 ogy and, 45, 51–53 etences, 112–15 tions, 352-53 iour and limits on, 116-17 arning and, 259–60, 261–62 and, 104–06 gulation installations



476

Index

affordances (cont.) automaticity in material environment, 97-102 of embodied interpretation, 109-10 installations and, 6 on non-human actants, 74-75 resilience in installation layers and, 166-67 avatars, innovation and, 310-11 in Subjective Evidence-Based Éthnography, 41-43 Bachimont, Bruno, 299-301, 350-51, 428 synchronic aspects of installations Baldwin effect, 316n12 Bandura, Albert, 86-87 and, 404-09 system feed-back and feed-forward Barker, Roger, 11-13, 46-48, 115, 122-23, 404, 417–18 and, 206-10 valence concept and, 52-53 Uexküll and, 49-51 Barsalou, Lawrence W., 213, 235n44 agency of installations, 25-32 Bartlett, Fredéric, 343-44 decision-making and, 286-89 Basso, F., 241n57, 253-56 distributed cognition and, 73 Bateson, Gregory, 69-70, 185-86, 427 knowledge production and, 299-301 social regulation and, 282-85 Baudelaire, Charles, 204 Becker, Gary, 6 subject-environment interaction and, 52-53 Ajzen, Icek, 55-57, 85-86 Becker, Howard, 117-18, 183n5 Becvar-Weddle, Amaya, 201 Ákrich, Madeleine, 74, 171, 310 behaviour. See also regulation of behaviour Alexander, Christopher, 97-98 action sequences and, 1-4 algorithms, 425-26 affordances of material environment and, 103 change agents for, 168-69, 180-81 context for, 173-74 descending classification algorithm, 237-38 defined, 32, 426 hill-climbing algorithm, 191-92 in ecological psychology, 45-57 object specification and, 276 procedural rationality and, 185 embodied interpretive systems and role of, 108-18 retro-propagation algorithms, 190n14 experimental reality and modification alienation, social regulation and, 28-29 Allport, Gordon W., 87 of, 385-96 field theory of, 31-32 Alter, Norbert, 312 alter-ego instructions, social representations forbidden behaviours, 183n5 functional explanation of, 4, 427 mapping and, 121 Ananiev, Boris, 58-59 as habit, 111 anthropology, installation theory and, 28 individuals' control of, 17-19 installations as mechanism for, xix-xxii, 6, 28, anxiety, social regulation as alleviation of, 126n18 appropriate behaviour, social regulation and 88, 258-62, 399-402 institutional regulation of, 276-78 creation of, 123 large-scale social regulation installations and architectural determinism, 97-98 modification of, 380-85 Argyris, Chris, 190n14 Arnett, Jeffrey, 339 layers of determination for, 25-32 artefacts. See also cognitive artefacts micro-level, academic department example of modification in, 378-80 genesis and evolution of objects and, 357-62 societal vs. natural evolution, 332-33 models of, 89-90 objects and determination of, 43 art installations, 5n4 paradigmatic learning and variation Asch, Solomon, 134-35 in, 234–62 assimilation, learning and, 188-89 predictability of, 173-74 psychological models of, limitations psychological theories concerning, 87 as social construct, 106-07 concerning, 85-92 public space and control of, 269 authority in institutions and communities, 278-81 redesigning installations for changes to, 20, power of, 132 373-402 road traffic example of installation and social values and, 130, 268, 272, 316, 367 regulation, 14-17 automated systems, affordances and roles and status in, 137-38 representations and, 112-15



serial order of, 256	brainwashing, education as, 271
social norms as tools for interventions	breaching behaviours, 246–47, 269
in, 396–99	Milgram's obedience experiment and, 5–6
societal regulation of, 17–19, 21–22	in social control, 141
standardization and predictability of, 11–13	bricolage, Levi-Strauss' concept of, 182–86
sustainable behaviour, 167–68, 172	innovation and, 311–13
synchronic aspects of installations	Bruner, Jerome, 68–69, 187–88, 195
and, 404–09	built environment
behavioural attractor, installation as, 26, 405	affordances of objects and, 97–98, 106–07
behavioural economics, individual choice and, 6	in ecological psychology, 53–54
behaviour settings, Barker's concept of, 46–48,	embodied interpretation and, 233–34
115, 122–23, 404, 417–18	installations as component of, 171
benchmarking, innovation and, 309	material environment of installations
Berger, Peter, 64	as, 97–107
Bernard Loiseau restaurant, 104–06	traffic as installation in, 14–17
Bernstein, Nikolai A., 113n8	traine as instanation in, 14–1/
Bertron, Patrick, 104–06	Cabanac, Michel, 233–34
	Calderwood, Roberta, 286–89
beta-testing, 310–11	
betterment loops	Callon, Michel, 73–75
collaborative behaviour development and, 380	cascade phenomenon, representation as, 250–56
defined, 426	casting of objects, reproduction using, 179
diachronic aspects of installations and, 411–12	causality
embodied competences and, 281–82	correlation and, 182–86 social norms as tools for interventions
endurance of installations and, 373–76	_
evolution and 318	and, 396–99
innovation and, 311–13, 315–16, 368–72	causation, Lewin's work on, 176–77
in installations, 315–16, 368–72	censorship, behaviour and, 269
learning and, 189–92	Centre de Sociologie de l'Innovation, 73–75
paradigmatic learning and, 240–41	certified skills
in science, 298–99, 300, 301, 315–16	instruction and, 195
value and worth in, 348–49	resilience to incompetence and, 162–64
biological evolution	social regulation and, 138–40
innovation and, 316–20	change
reproduction of installations and,	creativity and, 303–05
268–69, 368–72	design of installations and role of, 376
Birdwhistell, 69–70	diachronic aspects of installations
Black, Julia, 102, 431	and, 409–14
body structure, embodiment in, 210–19	drift and, 336–38
Boeda, Eric, 341	experimental reality and meso-level
Bogotá	intervention, 385–96
contradictory social regulation installations	generation mechanisms for, 334–40
in, 168	intervention in organisations for, 376–78
social norms as tools for interventions	at micro-level, academic department
in, 396–99	example, 378–80
Bohner, Gerd, 87	organisational resistance to, 290–93, 305–08
Bohr, Niels, 419n7	representation of, 314–20
Boltanski, Luc, 346–50	channeling
boot-strapping mechanism, social	action sequences as examples of, 1–4
constructionism and, 65–66	installations as tool for, 406
bounded rationality, principle of, 430	situations as influence on, 31
Bourdieu, Pierre, 65, 204, 259, 260	choice
Bower, Gordon H., 62–63	rational decision making and, 6
brain processing. See also neurophysiology	societal framing of, 6
embodied interpretation and, 253–56	Chomsky, Noam, 90–91
paradigmatic learning and, 241ns7	Cicourel, Aaron, 90–91, 174, 260–61, 417–18



478

Index

C-K theory, creativity and, 306 in science, 293-94 Clark, Andy, 213n24 social regulation and, 138-40 Clark, Herbert, 198-99 Colombia classic introspection, 37 contradictory social regulation in, 168 classic scientific format, overview of, 294-99 social norms as tools for interventions classification in, 396-99 commonwealth, Hobbes' concept of, 27 eating as example of, 248-58 paradigm effect in, 237-38 communications Code of Federal Regulations (CFR), 273 conversational maxims, 138-40 cognemes, 252-53 external representations and, 351 cognition. See also distributed cognition innovation and, 314-20 assimilation and accommodation and, 188-89 in science, 302-03 embodiment and, 210-19 in social representations theory, 83-84 cognitive artefacts. See also artefacts communities defined, 426 authority, rule management and governance distributed cognition, 71-73 in, 278-81 as extension of self, 216n26 built environment controlled by, 273-78 external representations and, 351-52 defined, 127-28, 426 norms and, 104-06 diachronic aspects of installations and, 409-14 in social representation theory, 77 education and instruction in, 271-73 cognitive attractors, 31, 214 cognitive science. See also distributed cognition force and menace in, 146-47 components of cognition, 81-82 institutions and, 130-31 large-scale social regulation installations ecological psychology and, 52-53 sociology and, 90-91 and, 380-85 cognitive selection, evolution of installations learning in, 201-02 monitoring of embodied and material and, 333-34, 362, 368-72 installations by, 282-85 cognitive trap, behaviour and, 29 coherence of installations of practice, 269-71 community monitoring and, 282-85 regulation of installations and, 363-66 crossed impact and, 338-40 reproduction cycle for installations distributed installations and, 14-17 and, 267-81 social regulation in, 123, 126-31, 380-85 drift and, 336-38 embodied interpretive systems and, 244-46 transmission of competence in, evolution of interpretive structures and 127-28, 267-69 representation and, 356-57 comparability, of external representations, 352-53 ratchet effect and, 65-66 compatibility, innovation and, 318-19 reproduction cycle and, 368-72 competition, innovation and, 313, 314-20 resilience and, 159 compliance with social regulation science and, 296-97, 300-01 conformity and selection and, 327 selection mechanisms and, xxi learned compliance, 138-40 volunteered compliance, 144-45 social representation and, 256, 345 colistin antibiotic, 360 computability, of external collaboration representations, 352-53 at micro-level, academic department concretization, evolution of objects and, 362 example, 378-80 conditioning participative innovation, 310-11, 314-20 education and, 271-72 in science, 293–94 embodiment and, 217-19, 232-34 shared representations and, 76 installations as device for, 261-62 standardization of, 232-34 social regulation and, 138-40 collective behaviour conformity, social regulation and, 144-45, 327 large-scale social regulation and, 380-85 constructionist approach to development, 192 at micro-level, academic department in science, 293-94 example, 378-80 contagion of ideas, 80n16 content, in social representations theory, 79-80 participative innovation, 310-11, 314-20



context	cultural-history theory, 66
action and, 55–57, 250–56	cultural reactor
affordances and, 104	appropriate behaviour and, 1–4
behaviour's dependency on, 173–74	influence on norms of, 168n43
distributed cognition and, 69–70	cultural representations, Sperber's concept of,
in ecological psychology, 53–54	80n16
effectivity and, 54-57	culture
in psychological behavior models, 86-87	cognitive artefacts and, 71–73
representation and, 87-88, 250-56	education and instruction in, 271–73
synchronic aspects of, 85	embodied interpretive systems and, 108–18
continuous reciprocal feedback, learning	evolution of, 321–22
and, 203–05	feedback and, 209–10
continuous reconstruction	innovation and, 316–20
diachronic aspects of installations	installation and learning and, 259–60
and, 409–14	installations and role of, 7
reproduction of installations and, 178–79,	paradigmatic learning and, 247
262–67, 282	processes for acquisition of, 28
of social regulation, 286–89	reproduction of, 181
contradictory norms, installation layers and, 168	in social representations theory, 78–79
control	social vs. individual representations
alienation and, 28–29	and, 84–85
innovation and, 305–08	transmission of competences and, 268–69
institutional, 316	values and worth in, 346–50
motivation for acceptance of, 29	vigilante effect, interpersonal
redundancy in measures for, 162–64	feed-back, 140–44
resilience of systems for, 162	reed back, 140 44
subsidiarity and, 282–85	Damasio, Antonio, 220–21
vigilante effect, interpersonal	Damiens, Robert-François, 269
feed-back, 140–44	danger, social regulation and reduction of,
conventions	126n19
defined, 426	Darwinian evolution, installations
	and, 322–27
in social representation theory, 77–78 conversation	Dawkins, Richard, 318
communication and maxims of, 138–40	
	decision-making embodiment and, 210–19
feedback in, 209	installations and, 3
cooperation	
information and guidance and, 145–46	in intensive medical care setting, 164–65
predictability and, 3	models of, 286–89
social regulation and, 127–28	object specification and, 276
co-presence, learning in, 198–99	paradigmatic learning and, 240
Cordelois, Antoine, 239–40	rational choice and, 6
correlation, causality and, 182–86	regulation of installations and, 363–66
creativity	Shi and effectivity in, 54–57
directed creativity, 355–56	Deforge, Yves, 160n40, 361–62
innovation and, 303–05	democratic royalties, 291
mixed approaches and overview of, 311	Dennett, Daniel, 322–23, 324–27, 343–44
organizational solutions for, 308–11	descending classification algorithm, 237–38
organizations dedicated to, 304n7	design of installations
crossed impact	diachronic aspect of, 412–14
defined, 334	endurance of installations and, 374
diachronic aspects of installations	genesis and evolution of objects and,
and, 409–14	359–61, 362
evolution and, 368–72	inertia in, 290–93
selection mechanisms and, 338–40	reproduction of physical installations
cued recall debrief, 120–21	and, 262–67



480

Index

development in reproduction, 368-72 education and, 192 selection mechanisms and, 336-38 drinking habits, large-scale social regulation and learning during, 187-93 Piaget's stages of, 188-89 changes in, 380-85 Dewey, John, 49-51, 125 dual matching, 327, 329 diachronic analysis of installations, 177 dual selection process, 20 embodiment and, 227-28 defined, 427 overview of, 403-04, 409-14 evolution of installations and, 321-22, 328-40 Dieckmann, Peter, 112-15 terminology, 328-34 differential fitness, 322-23, 324-27 dual testing, innovation and, 316-20 Dijksterhuis, Ap, 111-12 durability, of external representations, 352-53 directed creativity, 355-56 Durkheim, Emile, 26-27, 66 Discipline and Punish (Foucault), 269 resistance to ideas of, 27 Rules of Sociological Method of, 109n5 dispositional properties, embodied interpretive duty of care, vigilante effect and, 141-42 systems and, 108-18 dissonance theory, learning and, 189 dynamical systems, 31113 Activity theory and, 61 distributed action cognition and, 75-76 defined, 427 context and, 84-85 endurance of installations and, 374 in science, 296-97 cultural context of, 85 shared representations and, 35-37, 77, 129, paradigmatic learning and, 236-38, 248-58 social representation of, 81-82 144, 263 distributed cognition. See also cognition ecological psychology context and, 69-70, 84-85 context in, 84-85 in daily behaviour routines, 160-61 installation theory and, 45-57 endurance of installations and, 374 ecological systems theory, 188-89 economics, evolution of objects and, 362 human interaction and, 75-76 installation theory and, 70-76 economies of worth, selection and, 346-50 interventions using installations and, 400-02 ecosystems, resistance to change and, 292n2 distributed control, reproduction cycle for education installations and, 281-89 assessment of, 120114 distributed intelligence, Pea's concept of, 75-76 community monitoring of installations distributed reproduction, reproduction cycle for and, 282-85 installations and, 281-89 development and, 192 diversity, distributed reproduction and, 289 embodied interpretation systems and, division of labour 116–17, 233–34 innovation and, 313 generic skills and interpretive systems in psychology, 90 in, 138-40 roles and, 233-34 instruction and, 193-96 in science, 293-94, 295-96, 302-03 social regulation and, 271-73 social order and, 123-24 effectivity, ecological psychology and concept document production and structure of, 54-57 external representations and, 353-54 efficiency of installations, 17, 25n4 in science, 297-98, 300 habit formation and, 171 The Doors of Perception (Huxley), 243-44 ego-alter-object triangle in social Dortier, Jean-François, 333 psychology, 95n1 double-bind, defined, 427 institutions and, 153-56 Einstein, Albert, 419n7 double-loop learning model, 190n14 Elster, John, 427 Douglas, Mary, 27, 130n24 Dourish, Paul, 48 embedded symbolic layers, evolution of, 341-57 Drewnowski, Adam, 381 embodied competences drift automaticity of, 109-10 defined, 334 behavioural variation and, 234-62 diachronic aspects of installations and, 409-14 certified skills and, 139-40



Index 481

change in organisations and, 378 external representations and, 351 communities and transmission of, 267-69 installation and learning and, 259-60 communities of practice and reproduction of lata, 368-72 of, 269-71 lata and, 220-21 community monitoring of, 282-85 paradigmatic learning and, 247 context and, 104 reproduction cycle for installations and, decay of, 161 210-34, 281-82 standardization of conditioning and, 232-34 diachronic aspects of installations and, 409-14 terminology of, 219-29 Thorndike's law of effect and, 229-32 education and instruction and, 272 embodiment and, 210-34 emic/etic difference, physical layer of evolution of, 341-46 installations and, 107n4 experimental reality and meso-level empowerment intervention and, 387 alienation and, 28-29 in installations, xx, 22-24, 94-95, of context, 54 108-23, 258-62 contradictions in installations and, 168 installation theory and, 90-91 enaction, 427 interventions and application of, 399-402 in social representations theory, 79-80 large-scale social regulation installations enactivism, 215n25 and, 380-85 endurance of installations learning process in humans and, diachronic aspects of, 409-14 181-206, 258-62 sustainable behaviour and, 373-76 in material environment, 102 enforcement, institutions and, 131 medication administration as example entities installations as, 15 of, 147-53 operationalization in research and media of social interaction and, 347-48 environment practice, 118-23 paradigmatic learning and, 234-62, 282 defective competences and, 161 reproduction cycle of, 181-262, 281-82 design of installations and, 375-76 in science, 293–94 functional loop theory and, 49-51 science and, 302-03 epigenetics, 316n12 equilibria, change theory and, 376-78 in SEBE research, 41-42, 121-22 social norms as tools for interventions equivalence, paradigmatic learning and, 240 and, 396-99 ergonomics, social representations mapping social regulation and, 125-26, 138-40 and, 120-21 subsidiarity and, 282-85 errors, in installation layers, 164-65 symbolic layer evolution and, 341-57 Escher, Maurits Cornelis, 178-79 system feed-back and fee-forward ethics, of Subjective Evidence-Based and, 206-10 Ethnography, 33-35 embodied interpretive systems. See also ethology, functional loop theory and, 49-51 interpretation European Council Directive of 1989 (89/686/ collaboration for change and, 378-80 EEC), 104-06 European Food Safety Authority (EFSA), 381 creativity and, 371 European Norm for High Visibility Standard evolution of, 341-46, 356-57 in medication preparation example, 112-15 (EN-471), 104-06 operationalization of, 118-23 European Transport Safety Council overview of, 108-23 (ETSC), 104-06 Evans, Simon, 143-44 roles and, 233-34 Everri, Marina, 152n35 social regulation and, 125-26 synchronic aspects of installations evolution and, 404-09 costs of, 290-93 theory and examples of, 108-18 Darwinian principles of, 322-27 design of installations and planning embodiment in body structure, 210-19 for, 375-76 evolution of, 341-46, 368-72 diachronic aspects of installations and, 409-14



482

Index

evolution (cont.) families of embodied interpretive systems, as communities of practice, 269-71 embodied competences in, 152n35 341-46, 356-57 of external representations, 350-57 learning in, 201-02 fanatics, social regulation and behaviour of, of installations, 19–20, 321–72 of institutions, 366-68 158n39 feedback loops, 2-3. See also system feed-back large-scale social regulation installations and and feed-forward role of, 380-85 of objects, 357-62 behaviour modification and, 29-30 certified skills and, 139n31 regulation of installations and, 363-66 resistance to change and, 292n2 continuous reciprocal feedback, learning and, 203-05 in science, 298-99 in embodied competences, 112-15 societal vs. natural, 332-33 of symbolic systems, 341-57 embodiment and, 210-34 synthetic schema for installation functional explanation and, 427 habits and, 110-11 evolution, 368-72 institutions and, 153-56 values and worth in, 346–50 evolutionary robotics, 367n17 law of effect and, 229-32 paradigmatic learning and, 247 'expanded theory of individual choice' play and, 185-86 (Becker), 6 in public space, 269 experience social regulation and, 123 embodiment and, 213-14 vigilante effect, interpersonal evolution of interpretation and feed-back, 140-44 evolution, 356-57 feedforward loops, 2-3 innovation and, 316-20 paradigmatic learning and, 247-48 behaviour modification and, 29-30 defined, 427 transmission of competence and, 267-69 personal interaction and, 257-58 experimental reality meso-level intervention and, 385–96 in public space, 269 Feng Shui, 97-98 participative innovation and, 310-11 experts, learning from, 201 field theory, 85 installation theory and, 31-32 explicitation interviewing, 120-21 exploration motivation theory and, 38 Fischler, Claude, 346 development and, 193 innovation and, 316-20 Fisherian runaway model, 301n5, 323n2 learning and, 182-86 evolution and, 322 extension, in set theory, 81-82 selection and, 327 external representations Five Arts of Chinese Metaphysics, 97-98 Activity theory and, 6on8 change in organisations and, 378 Fleck, Ludwik, 27 diachronic aspects of installations forbidden behaviours, learning from, 183n5 and, 411-12 force, social regulation and, 146-47 evolution of, 350-57 diachronic aspect of installations experimental reality and meso-level intervention and, 385-96 objects' specification and investment in, installation theory and, xxii institutional control, 158 276, 278 Foucault, Michel, 11-13, 138, 204, 269 objects' specification and control and, 273-74 in science, 296-97 Fox, Armando, 374 "frames of interaction," 67-68 eye contact, cooperation and, 145-46 Eymard-Duvernay, François, 276 framing evolution in representation and, 345 structuration theory and, 65 failure analysis, design of installations free associations, paradigmatic framing of and, 375-76 familiarity, bias of, 343-44 responses and, 237-38



free will	groups
behaviour patterns and, 1–4	influence of, 132, 134–35
paradigmatic learning and, 235	institutions and, 153–56
social regulation and, 27	Guelinckx, Isabelle, 381
synchronic aspects of installations and, 406	guidance, social regulation and need for, 145–46
Freud, Sigmund, 117–18, 204–05, 211, 213,	
240n53	habits
functional explanation in sociology, 130n24,	defined, 428
427	embodied interpretation and, 110–11
functional loop theory, 49–51, 57	installations and development of, 171
embodied competences and, 112	in installations theory, 13
embodiment and, 222–24	Lamarck's laws and, 316n12
interpretation and, 224–27	paradigms and, 238n51
functional unit, installation as, 9, 16	habitus, 428
function creep, installations and, 171	paradigmatic learning and, 259, 260
fundamental attribution error, 53–54	as social construct, 106–07
change theory and, 376–78	structuration theory and, 65
fusion of components, object evolution	Hald Clemmensen, Marianne, 112–15
and, 361–62	half-consciousness, installations and, 6
fuzziness of installations, 24-25	Hamilton, Walton H., 129
1 1 0	Hatchuel, Armand, 306
game theory, communities and, 127–28	Hayek, Friedrich, 220–21
Garbage Can Theory, 387	hedonic networks, 255
Garfinkel, Harold, 67–68, 141, 162, 246–47	Heptonstall, Bonnie, 164–65
gender, skills certification and, 139n32	heredity, evolution and, 322
genesis of objects, selection mechanisms	heuristics, 428
and, 357–62	paradigmatic learning and, 240 procedural rationality and, 182–86
genocide, representation and preparation for,	hill-climbing algorithm, 191–92
116n9, 117n10 genotypes, of behaviour settings, 46–48	Hodgson, Geoffrey, 129
gestalt theory, embodied consequences	Hollan, James, 201
and, 118–19	homeostatic networks, 255
Gibson, James, 45–46, 49–51, 52–53, 57, 64–65	societal evolution and, 290–93
Giddens, Anthony, 26, 178–79, 432	Homo economicus, 6
locales concept of, 48	horizontal innovations, 311–13
structuration theory of, 63–65	human computer interaction research
Gigerenzer, Gerd, 240	Actor-Network theory and, 74–75
Giulani, Rudy, 98n3	Barker's behavioural settings and, 48
goal-directed learning, 201–02	Husbands, Phil, 367n17
goals	Hutchins, Edwin, 71–73, 388–89
as action determinant, 113n8	Huxley, Aldous, 243–44
activity and, 84–85	hypotheses, in science, 293–94
in Activity theory, 59-61	**
defined, 427	ideal type concept
identification in replay interviews, 38–41	language and, 246–47
of organizations, 128	paradigmatic learning and, 244–46
Goffman, Erving, 11–13, 63–64, 67–68,	ideological frameworks, embodied interpretation
115–16, 209	systems and, 116–17
governance	imagination, evolution and, 333, 344
in communities and institutions, 278–81	imitation
community monitoring of installations	innovation and, 309
and, 282–85	learning and, 186–87
grammar, object coherence and, 246n59	social regulation and, 133–34
Grice, Paul, 246–47	inappropriate behaviour, installations and
grounded cognition, 428	consequences of, 7



484 Index

incompetence, resilience to, 431-32 individual representations (IRs) embodied competence and, 119 functional aspects of, 82-83 in social representation theory, 80-81, 83-84 individuals action from perspective of, 286-89 behavioural controls of, 17-19 embodied interpretive systems learned by, 115 as modelling unit, 86-87 system feed-back and feed-forward on behaviour of, 206-10 individuation, technological change and, 292n2 industry innovation in, 303-14 value and worth in, 348-49 inertia in institutions, societal evolution and, 290-93 inferred properties of objects, representation and, 115 influence conformation and volunteered compliance and, 144-45 of groups, 134-36, 208 historical evolution of, 132-33 of institutions, 153-56 of minorities, 135-36 as social feedback, 208 social regulation and, 134-36, 282-85 information management external representations and, 351-52 large-scale social regulation installations and modification of, 385n5 object evolution and, 361-62 processing of, 353-54 psychological processing of, 113n8 in representational state, 71–73 selection mechanisms and, 350 social regulation and need for, 145-46 initiation, instruction as, 193-96 innovation Actor-Network theory and, 73-75 betterment loop in, 315-16 biases in research against, 301115 constraints in, 316-20 creativity and, 303-05 defined, 334 diachronic aspects of installations and, 409-14 dual testing and, 316-20 format of, 355 function creep in, 171 imitation and adoption and, 309 in industry, 303–14 material/symbolic duality and, 316

mixed approaches and overview of, 311 organizational solutions for, 308-11 participative innovation, 310-11 as problem solving, 309 selection mechanisms and, 314-20, 340 structures in organizations for, 311-13 symbolic installation systems and, 316, 368-72 inscriptional systems, external representations as, 350-51 in situ learning instruction and, 193-96 resilience to incompetence and, 162 roles and, 233-34 installations behavioural change and redesign of, 20, 373-402 changes in, 180-81 components of, 4 as conditioning device, 261-62 constraints and bias in, 343-44, 368-72 contradictions in layers of, 168 creativity and, 303-05 crossed impact of, 338-40 Darwinian evolution and, 322–27 defined, 1, 403, 428 distribution of components in, 95-97 drift in, 336-38 dysfunctionality in, 168-69 education and instruction and, 271-73 embodied interpretive systems in, 108-23 embodiment and, 217-19 etymology of, 4-5 evolution of, 19-20, 321-72 functions of, 9 funneling of behaviour and, xix-xxii, 6, 28, 88 hospital as example of, 147-53 institutional evolution and regulation of, 366-68 institutions as deep layer of, 131 large-scale change and, 380-85 law of effect and, 229-32 layers as functional system in, 159-69 learning process and role of, 196-203, 205-06, 258-62 limitations of, 328n6 limits on resilience of, 169-74 material environment in, 22-24, 94-95, 97-107 paradigms as tool for, 241-42 physical environment layer of, 90-91, printing metaphor for layers in, 93-4, 159, 288 regulation of, 363-66 reproduction of, 19, 178-81



> Index 485

resilience to incompetence in, 103, 152 resistance to change in, 290-93 social regulation layer of, xx, 22-24, 94-95, 123-58 installation theory abstract of, 403-14 Actor-Network Theory and, 73-75 arguments in, 9 Barker's influence on, 46-48 change in organisations and, 378 Cicourel and Schütz and, 90-91 components of, 154n36 decision-making in, 286-89 diachronic aspects of, 403-04, 409-14 distributed cognition and, 70-76 ecological psychology and, 45-57 experiences as examples of, 1-4 framework for, xx, 19 future challenges in, 415 institutions and, 153-56 interventions and application of, 399-402 landmark theories and, 7-8, 19 Lewin's influence on, 170 limits of, 173-74, 328n6 Milgram's obedience experiment and, 5-6 overview of theories relevant to, 44-45 participants and stakeholders in, xxi schematic structure of, 172 social constructionism and, 63-70 social representations and, 76-84 Subjective Evidence-Based Ethnography research and, 38-43 synchronic aspects of, 404-09 threefold structure of, xxi, 19, 93-97 institutions authority, rule management and governance and, 278-81 communications and organizations and, 130-31 as communities of practice, 269-71 crossed impact of installations and, 338-40 defined, 129-30, 428 diachronic aspects of installations and, 409-14 dysfunctional installations and, 168-69 education and instruction in, 271-73 evolution of, 366-68 experimental reality and meso-level intervention in, 387 functional explanation of, 427 innovation and, 316 mechanisms of operation, 132-47 operationalization of, 156-58 power of, 132

regulation of installations by, 363-66 reproduction cycle for installations and, 267-81 resilience to incompetence in, 162 selection mechanisms monitored by, 330-34 social interaction in, 104-06 social regulation and, 123, 124-31, 153-56, 158 synchronic aspects of, 404-09 transmission of competence in, 267-69 instruction learning and, 193-96 social regulation and, 138-40, 271-73 intension components of social representation and, 82-83 embodied competence and, 119 in set theory, 81-82 intent community participation learning and, 186-87, 201-02 social regulation and, 269-71 intention-behavior gap, 10 internal states, Activity theory and, 60n8 interpretation as abductive process, 189-92 debate over, 418-19 defined, 428 (See also embodied interpretive systems) evolution of, 341-46, 356-57 functional loop theory and, 224-27 lata and, 221-22 paradigmatic learning and, 242-48 pragmatic correspondence and, 250-56 procedures, Cicourel's concept of, 90-91 terminology of, 219 interventions collaborative behaviour fostered by, 378-80 experimental reality and, 385-96 influence on norms through, 168n43 innovation and, 310-11 installation theory applications in, 399-402 institutions and, 153-56 large-scale social regulation and, 380-85 models of, 88-89 organisational change and, 376-78 social norms as tools for, 396-99 investments in form, 276, 428 creativity in organizations as, 305-08 innovation and, 318-19 scientific publications, 302-03 selection mechanisms and, 330-34 James, William, 133-34 Jodelet, Denise, 79-80

Jullien, François, 54



486

Kahneman, Daniel, 26n6, 184-85 Kalampalikis, Nikos, 120n15 Kaptelinin, Victor, 57 Karmiloff-Smith, Annette, 247-48, 341-46 Kemal, Mustapha, 330 Kindberg, Tim, 374 Kirkpatrick, Randolph, 416n4 Klein, Gary, 286-89 knowledge agency of, 299-301 communities of, 301 defined, 428 education and instruction for transmission of, 272 evolution of interpretation and evolution, 356-57 external representations and, 351-52 generation or selection of, 353-54 instruction and transmission of, 193-96 resilience to incompetence and, 103 science and reproduction of, 302-03 situated knowledge, 218n28 social constructionism and role of, 243 social regulation and acquisition of, 138-40 in social representation theory, 77 Kotter, John, 309 Kuhn, Thomas, 301 Lamarck, Jean-Baptiste de, 316n12 language embodied interpretive systems and, 118-19 paradigmatic learning and, 236n45 as social feedback, 207-08 social representations and, 120n15 typification and, 246-47 Lashley, Karl, 256 defined, 219, 428-29 embodied interpretation and, 109n6, 228-29 embodiment of, 220-21, 368-72 evolution of, 341-46, 350, 368-72 functional loop theory and, 222-24, 227-28 installations and, 261-62 interpersonal interactions and, 257-58 interpretation and, 221-22 law of effect and, 229-32

Index

law of effect embodied interpretation systems and, 138-39 embodiment and, 229-32 interpersonal interactions and, 257-58 Lazurskii, Alexander, 118, 122-23 leadership, influence of, 132, 135 learned compliance, social regulation and, 138-40 learning by accretion, 240-41 continuous reciprocal feed-back and, 203-05 during development, 187–93 embodied competences and, 181-206, 281-82 embodiment and, 216-17 installations and process of, 205-06, 258-62 instruction and, 193-96 intent community participation and, 196-203 law of effect and, 229-32 legitimate peripheral participation on the job as, 196-203 observation and imitation and, 186-87 paradigmatic learning, behavioural variation and, 234-62 transformation into meaning, 242-48 trial-and-error and exploration and, 182-86 ubiquitous control and, 203-05 Le Bellu, Sophie, 99-102 Le Fort, Léon, 268 legitimate peripheral participation defined, 428-29 learning through, 196-203 Lem, Stanislaw, 141-42, 203-04 Lenay, Charles, 216n26 Leontev, Alexei, 57, 58-59, 232-33 Levi-Strauss, Claude, 182-86 Lewin, Kurt action research by, 380 change theory of, 376-78 on context and behaviour, 85, 176-77 dynamic psychology of, 98-99 embodied competence and work of, 31-32 influence on installation theory of, 11–13, 170 on leadership, 135 on nonpsychological factors in psychology, 90 psychology and work of, 86-87 valence concept of, 51–53, 57 Lewontin, Richard, 66 liberty, Mill's concept of, 27 "lines" experiment, imitation and, 134-35 lobbying, installations theory and, 265 locales, Giddens' concept of, 48 logical type, individual vs. social representation of, 81

paradigmatic learning and, 236

synchronic aspects of installations

Latour, Bruno, 73–75, 75n13, 294, 352n13

law, regulation of behaviour through, 28-29

roles and, 233-34

Lave, Jean, 196

and, 406-07

pragmatic correspondence and, 250-56



Lomov, Boris, 58–59, 115, 376	meaning
Luckmann, Thomas, 64	functional loop theory and, 49–51
Luria, Alexander, 57, 417n5	transformation of learning into, 242–48
	media
machine learning, 190n14	education and, 272
man-machine systems, operator behaviour and,	external representations and, 351–52, 353–54
189n12	of social interaction, 347–48
mapping, Hayek's concept of, 220–21	mediating structure, 429
market research, genesis and evolution of objects	Actor-Network theory and, 74–75
and, 359–61	distributed cognition and, 71–73
Marková, Ivana, 154n36	operationalization of, in research and
Martin, Christophe, 104	practice, 106–07
Marx, Karl, 58	medication preparation example
Maslow, Abraham, 38, 60n9, 331n8	embodied competences in, 112–15
Masson, Estelle, 248	social regulation and, 147–53
material environment. See also physical layer of	Meeus, Wim, 132
installations	memes
affordances in, xx, 97–99	innovation and, 318
community control of, 273–78, 282–85	Social Representation vs., 82-83
crossed impact of installations and, 338-40	memory
examples of, 99–102	familiarity bias and, 343–44
genesis and evolution of objects and, 357–62	representation redescription and, 341–46
innovation and, 316–20	menace, social regulation and, 146–47
in installations, 22–24, 94–95, 97–107	mental models
interventions and role of, 399–402	set theory and, 81–82
large-scale social regulation installations	in social representation theory, 76-77, 79-80
and, 380–85	meso-level interventions
paradigmatic learning and, 247	diachronic aspects of installations
reproduction cycle and, 262–67, 282	and, 409–14
social norms as tools for interventions	social regulation and, 380–85
and, 396–99	"me-too" innovations, 309
symbolic systems and, 316	Meyerson, Ignace, 345
material layer of installations. See also material	"Micropsychology," 68
environment	micro-reconstruction
affordances in, 97–99, 104–06	change and intervention in organisations
behavioural guidance and, 22–24	and, 378–80
change in organisations and, 378	diachronic aspects of installations
collaboration for change in, 378–80	and, 409–14
installation theory and, 90–91, 97–107	large-scale change and, 380–85
interventions and role of, 399-402	scientific knowledge and, 302–03
large-scale social regulation installations	Microsoft PowerPoint®, 355
and, 380–85	Milgram, Stanley, 5–6, 85, 132
operationalization of, in research and	milieu
practice, 106–07	behaviour settings and, 47–48
reproduction cycle and, 262–67	individual development and, 58
resilience of, 162	mimicry, as social feedback, 207-08
science and, 302-03	minority group, influence of, 135–36
selection and, 329	Minsky, Marvin, 213
social norms as tools for interventions	Mirdal, Gretty, 243–44
and, 396–99	mirror neuron system, learning and, 186-87
synchronic aspects of, 404–09	mis-learning, examples of, 183
material/symbolic duality, innovation	Mockus, Antanas, 168n43, 396-99
and, 316	models, betterment loop and variants in, 315–16
Mauss, Marcel, 109n5	Moles, Abraham, 68, 123
Mead, George-Herbert, 136, 203-04, 333-34	monitored dual selection, 20



morality, embodied interpretive systems

and, 116-17

488

Index

morphogenesis, evolution of installations and. 177n1 morphostasis, evolution of installations and, 177n1 Moscovici, Serge, 48-49, 69-70 motivation theory activity and, 84-85 Activity theory and, 59-61 design of installations and, 375-76 feedback loops and, 231n43 influence on norms and, 168n43 Maslow and, 38, 60n9 social regulation and, 132 valence and, 52-53 Mounin, G., 236n45 movement Bernstein's theory of, 113n8 paradigmatic learning and, 256-57 mutual knowledge, learning and, 198-99 naïve model of science, 293-94 Nativist position, 117n10 natural evolution of objects, 359-61 societal evolution vs., 332-33 "Natural History of an Interview" (Birdwhistell), 69-70 natural human activity in embodied competence analysis, 122-23 installation theory and, 8 microscopic structure of, SEBE analysis of, 38 Subjective Evidence-Based Ethnography and, 8-9 natural objects, reproduction of physical installations and, 267 natural selection, societal vs. natural evolution and, 332-33 negative externalities design of installations and, 375-76 institutional rules and, 130–31 in public space, 269 resistance to change and, 290-93 negotiation, innovation and, 314-20 Neisser, Ulric, 192-93 neuro-imagery, 8n8 embodiment and, 210-19 neurophysiology. See also brain processing of action, 108-18 of embodied competences, 111-12 embodied interpretation and, 253-56 embodiment and, 210-19 of imitation, 133-34 imitation and, 133-34

learning and, 184 of re-enactment, 220n31 vigilante effect and, 141-42 neutralization, techniques of, 117-18 niche construction theory, 66 nominalism, embodied competence and, 119n13 non-human actors in Actor-Network Theory, 73-75 scaffolding and learning by, 187n9 social regulation and, 282-85 Norman, Donald, 190n13, 207, 238-39 norms community monitoring of installations and, 282-85 contradictions in, 168 education and role of, 271-72 installations theory and, 13 interventions and, 88-89 objects' specification and control and, 274-76 social regulation and, 123, 126n17 in social representation theory, 77-78 as tool for intervention, Colombia case study in, 396–99 Nosulenko, Valery, 57, 58-59 Not Invented Here (NIH) syndrome, 310-11 nudging (nudge theory), 10 agency of installations and, 26 defined, 429 installations and, 170, 423-24 institutions and, 131 interventions and, 88-89 medication administration as example of, 147-53 traffic as installation and, 14-17 "Nummolosphere" theory, 416n4 "Obedience" (film), 5-6 obedience experiment, 5-6, 85, 132 obesity interventions, large-scale social regulation installations and, 380-85 objects in activity theory, 58 in Actor-Network Theory, 73-75 affordances of, 97–99, 106–07, 406 betterment loop and variants in, 315-16 community monitoring of, 282-85 continuous reconstruction of, 368-72 defined, 429 determination of behavior and, 43 diachronic aspects of installations and, 409-14 evolution in representation of, 345 genesis and evolution of, 357-62 individual representations of, 80-3 as installations, 328n6



institutions as, 154n36	learning and, 324
material vs. symbolic forms of, 330-34	transformation of learning into meaning
representation and use of, 115	and, 242–48
reproduction of physical installations,	Parsons, Talcott, 18n13, 347–48
262–67, 282	participation
resilience of, 162	design of installations and role of, 375–76
in social representation theory, 76–78	learning through, 201–02
specification and control of, 273–78	participative innovation, 310–11
structuration theory and, 64–65	Pasteur, Louis, 268
typification of, 244–46	patents, objects' specification and control
observables, in social representation theory, 78	and, 274–76
observation, learning and, 186–87	path-dependency, social constructionism
Occam's razor, 327n5	and, 65–66
Ochs, Elinor, 140–41	pattern language, 97–98
on-the-job learning, 196–203	Pavo cristatus, 323n2
open innovation, 311–13	Pea, Roy, 74–76, 95, 98n3, 187–88, 350–51
operant learning, 182–86	Peirce, Charles Sanders, 425
law of effect and, 229–32	perceived quality analysis, 106–07
in public space, 269	perception
operation, 429	embodied interpretive systems and, 118–19
operational closure, 429–30	intention and, 108–18
fuzziness of, 96n2	psychedelic alteration of, 243–44
opposing forces, change theory and, 376–78	system feed-back and feed-forward and,
organisations	206n2i
aversion to change in, 305–08	perceptual symbol systems, 213
creativity and, 303–05	personal interaction, feedforward loops
defined, 128, 429–30	and, 257–58
external control of, 158	personal protective equipment, 330
hospital as example of, 147–53	as social control-norms example, 104–06
inertia in, 290–93	persuasion, social regulation and, 134–36
innovation in, 303–14	phase space
institutions and, 130–31	in Activity theory, 61
intervention and change in, 376–78	dynamical systems, 427
social regulation and, 126–31, 290–93	phenomena
solutions for change in, 308–11 structures of innovation in, 311–13	encoding of, 353–55 microscopic structure of, SEBE analysis
organism	of, 38
defined, 128n21, 429–30	scientific models of, 293–94
feedback reception and, 209–10	phenomenological sociology, 90–91
Oshanin, Dimitri, 113n8	phonemes/phonetics, comparison of, 107n4
Other	Piaget, Jean, 188–89
social regulation and role of, 123–24	place, Barker's behavioural settings and
vigilante effect, interpersonal	concept of, 48
feed-back, 140–44	play
1000 00011, 140 44	conditioning and, 232–33
"palpation," Freud's concept of, 240n53	learning through, 185–86
Panofsky, Erwin, 291	pointillist imagery, installation theory
paradigm	and, 93–94
behavioural variation and paradigmatic	Polanyi, Michael, 351
learning, 234–62	policing, social regulation and, 146–47
defined, 235, 430	position-fixing theory, installation change
descending classification algorithm	and, 388–89
and, 237–38	posture, as social feedback, 207–08
eating example of, 236–38, 248–58	practice reconstructing practice, reproduction of
installations and use of, 241–42, 258–62, 282	installations and, 178–79



490

Index

ratchet effect, 431 practices communities of practice, 269-71 social constructionism and, 65-66 objects matched to, 262-67 symbolic representation and, 316-20 pragmatic correspondents, in representation and transmission of competence and, 267-69 rational choice context, 250-56 precautionary principle, 430 decision making and, 6 resistance to change and, 290-93 social regulation and, 27 precedents, rules and, 306n9 rationality. See also procedural rationality; predictability of behaviour substantive rationality installations and, 6-7 defined, 431 societal framework for, 11-13 reality testing, innovation and, 314-20 predmet (Russian activity theory), 259, 430 real-world interventions, installation theory prevention, embodied interpretation systems and, 9-10 and, 116-17 Reason, James, 165 priming, feedforward and, 427 reasoned action, theory of principles-based regulation (PBR), 279-80 interventions and, 88-89 limitations of, 85-86 prisoners, re-education of, 271 prisoner's dilemma, social regulation predictability of behaviour and, 11-13 and, 127-28 reciprocal feedback, learning and, 203-05 problem solving Recognition-Primed Decision (RPD) experimental reality and meso-level model, 286-87 intervention and, 387 recursion, 431 recursive loop, TOTE (Test Operate Test innovation as, 309 procedural rationality Operate Exit) model, 86-87 redundancy in installation layers defined, 431 learning and, 182-86, 189 examples of, 171-72 procedure, 431 limits of, 169-74 format of, 355 resilience and, 162-64, 166-67 Prochaska model of intervention, 88-89 synchronic aspects of, 408-09 projective testing, learning theory and, 189111 re-enactment, activation vs., 220n31 propaganda, 269 reflective vest example, social interaction and proportionality, precautionary principle institutions and, 104-06 reflex arc, functional loop theory and, 49–51 and, 430 psychedelic drugs, perception and, 243-44 regulation of behaviour. See also behaviour; psychology social regulation of embodied competences, 111-12 authority, rule management and governance installation theory and, 28 and, 278-81 limits of, concerning action theories, 85-92 cultural reactors and, 2-3 nonpsychological factors in, 90 individual controls for, 17-19 representations analysis in, 120 in public space, 146-47, 269 public space road traffic example, 14-17 control of behaviour in, 269 societal regulation, 17-19 enforcement in, 146-47 by technologies, 102 installations in, 29, 261-62 regulation(s). See also rules; social regulation regulation of installations in, 363-66 community monitoring of installations transmission of competence in, 267-69 and, 282-85 punishment, in public space, 269 crossed impact of installations and, 338-40 defined, 431 qualitative analysis, embodied interpretation of installations, 363 objects' specification and control in, 273-78 systems and, 120 queueing, social rules of, 88-89 subsidiarity and distribution of, 282-85 reinforced learning, 184 religion, embodied interpretation systems Raaijmakers, Quentin, 132 rapid sequence induction, 197-98 and, 116-17 Rasmussen, Jens, 189 repetition, habit and, 110-11



repisodes, 3-4, 43I-32	system feed-back and fee-forward
habits and, 110–11	and, 206–10
replay interview	variations in, 368–72
embodied competences analysis, 121–22	resilience
example of, 38–41	affordances and representations and, 112-15
in Subjective Evidence-Based	defined, 431–32
Ethnography, 35–37	distributed reproduction and, 289
replication, evolution of installations and,	human action as, 164–65
322, 368–72	to incompetence, 103, 162
representational state	installation redundancy and, 159–69
distributed cognition and, 71–73	limits of, 169–74
in social representation theory, 76–77	in science, 300–01
representation redescription (RR), 247–48	resonance loop, paradigmatic learning
evolution of, 341–46	and, 250–56
representation(s). See also social	resources for installations, accessibility of, 106
representation theory	responses, paradigms of, 239–40
action preparation and, 250–56	retro-propagation algorithms, 190n14
collaboration for change and, 378–80	Rieken, Johannes, 146–47
context and, 87–88, 250–56	ripple effect in installations, 338–40
in embodied competences, 112–15	risk analysis
embodied representations, 341–46	change and, 318–19
evolution of, 350–56	installation layers and, 165
external, 350–56	road traffic example of installation, behavioural
funneling of behaviour using, 116–17	determination and, 14–17
of institutions, 154n36	Roberts, John, 400–02
lata as, 220–21	robotics, Actor-Network theory and, 74–75
object evolution and, 361–62	Rogoff, Barbara, 186–87, 201–02, 269–71
object use and, 115	role(s)
of physical installations, 262–67	in communities, 127–28, 267–69
in social representations theory, 79–80	contradictions in, 168
reproduction cycle for installations	defined, 431–32
behavioural variation and paradigmatic	embodied interpretation and, 233–34
learning and, 234–62	"frames of interaction" and, 67–68
biases in research and, 301n5	perception and identification based in, 244
communities of practice and, 269–71	play and learning of, 185–86
community monitoring of, 282–85	social feedback and, 209
diachronic aspects of, 409–14	in social regulation, 136–38
distributed control and reproduction	Rosch, Eleanor, 120–21, 244–46, 342–43
in, 281–89	Rubinstein, Sergei, 57, 58–59
drift in, 336–38, 368–72	rules. See also regulation(s)
education and instruction and, 271–73	acceptance of, 132
embodied consequences reproduction cycle,	in communities, 127–28, 267–69
181–262	community monitoring of installations
embodiment and, 210–34	and, 282–85
institutional monitoring of, 278–81, 368–72	creativity and, 305–08
investment in form and, 302–03	in institutions, 130–31
learning and, 258–62	interventions using installations
learning processes and, 181–206	and, 400–02
objects' specification and control and,	management in communities and institution
273–78	of, 278–81
overview, 178–81	objects' specification and control and, 273-7
physical components, 262-67, 282	social construction of, 125–26
practice and, 205–06	social regulation and finding of, 156–58
scientific evolution and, 299n4	Rules of Sociological Method, 109n5
social regulation and, 267–81	Rumelhart, Daniel, 238–39



492

Russian activity theory, 425. See also Activity Theory predmet in, 430 scripts and, 57–63

Samoylenko, Lena, 57 sanctions, social regulation and, 123-24 satiation, valence and, 52-53 satisficing solutions, 87-88 learning and, 182-86 operational closure and, 96n2 Saussure, Ferdinand de, 235, 430 scaffolding defined, 431-32 early childhood education and, 192 instruction and, 193-96 interventions and role of, 399-402 in material environment, 99-102 in Subjective Evidence-Based Ethnography, 41-43 subsidiarity and, 282-85 zone of proximal development and, 187-88 scallop domestication, as Actor-Network Theory example, 74 Schank, Roger, 62-63 Schein, Edgar, 271 schemata

learning and acquisition of, 192–93 paradigm effect and, 238–39 Schütz, Alfred, 6, 31, 67–68 embodied competence and theories of, 115–16 on ideal types, 244–46 phenomenological sociology of, 90–91 pregiven world concept of, 97 on social regulation, 128 "we-relation" concept of, 198–99

Schwarz, Norbert, 87 science assessment of progress in, 302–03

betterment loop in, 315–16 classic scientific format in, 294–99 innovation in, 313, 314–20 properties of, 293–94 selection process in, 299–301 societal evolution in, 293–303 sociology of, 294 scripts theory and, 62–63

behaviour and, 4, 11–13
components of, 4
paradigmatic learning and, 241–42
synchronic aspects of, 409
SEBE. *See* Subjective Evidence-Based
Ethnography

Index

"Second Life" virtual world, social regulation in, 143-44 selection mechanisms classification of, 327 commonalities in, 314-20 crossed impact and, 338-40 diachronic aspects of installations and, 412-14 drift and, 336-38 dual selection process, xxi, 20, 350, 427 embodied interpretive systems, 341-46 evolution and, 10, 313-17, 322, 330-34, 362-68 generation mechanisms, 334-40 information coding, storage and distribution and, 353-55 innovation processes and, 303-14, 340 institutional evolution and, 362–68 institutional monitoring of, 330-34 investment in form and, 302-03 model properties, 328-40 object genesis and evolution and, 357-62 regulation of installations and, 363-66 in science, 293-303 terminology, 328-34 values and worth in, 346–50 self-awareness distributed cognition and, 75-76 roles and status and, 136-37 self-confrontation, 120-21 self-control, learning and, 203-05 self-efficacy model, 86-87 self-regulation, embodied competence and, 117-18 semantic Rubicon, 374, 432 Sémelin, Jacques, 116n9 semiosis situations, 79-80 set theory intension and extension in, 81-82 reproduction of physical installations and, 266 social representations and, 80-2 settings, predictability of behaviour and variability in, 11-13 sexy son hypothesis, 301n5, 323n2 shape, affordances of objects and, 97-98 shared representations activity theory and, 59-61 collaborative actions and, 76 action and, 35-37, 77, 129, 144, 263 embodied competences and, 115 mechanisms of, 115, 118, 232-4 in unknown setting, 31 Shaw, Robert, 54-57 Sherif, Muzafer, 134-35 Shi, Chinese concept of, 54-57



sign-situations, 80n15	embodied competence and, 117–18, 125–26,
inertia of, 291	138–40, 233–34
Simon, Chantal, 381	evolution of, 290–93
Simon, Herbert, 52-53, 88, 189, 431	external social control and internal
Simondon, Gilbert, 361–62	motivations, 158
simulation	force and menace and, 146-47
defined, 432	imitation, influence, and persuasion
embodiment and, 213	and, 132–36
single-loop learning model, 190n14	information and guidance concerning, 145-46
situated conceptualization concept, 235n44	installations and, xx, 22-24, 94-95,
situated data collection	123–58, 261–62
in embodied competence analysis, 122-23	institutions and, 123, 124–31, 153–56, 366–68
in Subjective Evidence-Based	instruction, compliance and certified skills
Ethnography, 34–35	and, 138–40
situated learning, 201–02	intent community participation and, 269–71
situations	interventions and role of, 399–402
cognition and, 31, 52-53, 84-85	large-scale change and, 380–85
distributed action and, 84–85	mechanisms of operation in, 132–47
embodied interpretive systems and, 108–18	medication example of, 147–53
habits and, 110–11	objects' specification and control
momentum of, 132	and, 273–78
object specification and, 276	
	operationalization in research and practice
operant learning in, 182–86	of, 156–58
paradigms of, 238–39	in organizations, 126–31
social representations mapping and, 120–21	paradigmatic learning and, 247
three-layered installations and, 95–97, 170	in public space, 269
Skinner, Burrhus Frederic, 231–32	rational choice and, 27
Smith, Adam, 133–34	reproduction cycle for installations
Snow, John, 268	and, 267–81
social constructionism	role and status and, 136–38
evolution of installations and, 176–77	scientific knowledge and, 302–03
evolution of institutions and, 367–68	in situations, 170
installation theory and, 63–70, 90–91,	social norms as tools for interventions
173-74	and, 396–99
social contract theory, 27	subsidiarity principle and, 282–85
social drives, institutions and, 158	theory and examples of, 124–31
social facts, Durkheim's concept of, 26–27,	vigilante effect, interpersonal
109n5	feed-back, 140–44
social feedback, embodied competences	social representation theory, 48-49. See also
and, 207–08	representation(s)
social learning theory, 186–87	components of, 82
social psychology, ego-alter-object triangle	eating as example of, 248–58
in, 95n1	embodied competences and, 115, 120–21
social regulation	functional aspects of, 82–83
alienation and, 28–29	individual representations (IRs) vs. social
authority, rule management and governance	representations (SRs) in, 80–81, 83–84
and, 278–81	objects' specification and control
of behaviour, 17–19, 21–22	and, 273–78
communities and, 126–31, 269–71	overview, 76–84
conformism and volunteered compliance	paradigmatic learning and, 242–48
and, 144–45	research methodology for, 78-79
continuous reconstruction of, 286–89	social science
contradictions in, Colombia as example	installations theory and, 415
of, 168	landmark theories in, 7–8
education and instruction and, 271-73	social systems, Parsons' theory of, 18n13



494

Index

societal evolution Subjective Evidence-Based Ethnography (SEBE) natural evolution vs., 332-33 of behaviour in daily situations, 160-61 overview of, 290-93 defined, 8-9 in science, 293-303 embodied interpretive systems analysis societal installations and, 121-22 framing of choice, 6 installations research and, 38-43 reproduction of society and, 9-10 interventions using installations and, 400-02 microscopic structure of phenomena and, 38 role of, 7 sociology of science, 294 overview of, 32-43 soil mapping, Actor-Network theory and, 75113 physical layer of installations and, 99-102 specificities of installations, 24 protocols used in, 33-35 speech recognition, embodied interpretive replay interview used in, 35-37 systems and, 118-19 subjects Sperber, Dan, 80n16 action and role of, 55-57 SRK (skills, rules and knowledge) learning in activity theory, 58 model, 189 embodied interpretive systems and, 108-18 Stafford, Charles, 196 paradigmatic framing of responses by, 237-38 stakeholders subsidiarity, principle of, 432 design of installations and role of, 375-76 community monitoring of installations evolution of institutions and, 366-68 and, 282-85 interventions using installations and, 400-02 experimental reality and meso-level intervention and, 385-96 scientific knowledge and, 302-03 substantive rationality, 431 interventions using installations and, 4011110 objects' specification and control and, 274-76 learning and, 184n7 Suchman, Lucy, 52-53, 342-43 participative innovation, 310-11 regulation of installations by, 363-66 Sunstein, Cass, 26, 170, 423-24, 429 in social regulation, 123-24 super-ego, self-control and, 204-05 supervised dual selection, terminology, 328-34 standardization, objects' specification and control and, 274-76 sustainable behaviour endurance of installations and, 373-76 Stanovich, Keith, 184-85 states-of-things, Actor-Network theory installation layers and, 167-68, 172 and, 74-75 sustainable behaviours, framework for, 22-24 Swiss cheese model of risk analysis, 165 status certified skills and, 139-40 symbolic installation systems in communities, 127-28, 267-69 evolution of, 341-57 of persons, 432 innovation and, 316, 368-72 in social regulation, 136-38 object evolution and, 361-62 sticky information, 351 objects in, 262-67, 276 paradigmatic learning and, 250-56 stigmergy, 432 affordances of installations and, 98 science and, 302-03 synchronic analysis of installations, 177 stimulated recall, social representations mapping and, 120-21 interpretation and, 227-28 stimuli, embodied interpretation and, 233-34 overview of, 404-09 synomorphic dimensions, in Barker's Stoetzel, Jean, 137-38 structuration theory, 63-65 behavioural settings theory, 48-49 structures system 1/system 2 concept, 184-85 in Barker's behavioural settings theory, 48-49 system feed-back and feed-forward, embodied defined, 432 competences and, 206-10 of innovation, 311-13 systemic cognitive neuroscience, 113n8 power of, 11-13 subcams Tabec system example, experimental reality and in installation research example, 38-43 meso-level intervention in, 388-96 technologies in Subjective Evidence-Based Ethnography, 33-35 biases concerning, 301n5 subculture, scripts theory and, 62-63 design of installations and, 374



Index 495

experimental reality and meso-level intervention and, 385-96 "fusion of components" in, 160n40 object evolution and, 361-62 regulation by, 102 resistance to change and, 292n2 text-mining, embodied interpretation systems and, 120 Thaler, Richard, 26, 170, 423-24, 429 Theory of Planned Behaviour, 55-57, 85-86 Thévenot, Laurent, 276, 346-50 thinking Durkheim's concept of social facts and, 26-27 Kahneman's Systems theory and, 26n6 Thorndike, Edward, 229-32 thought experiment, selection and, 329 token, type vs., 81 Tomasello, Michael, 431 Tomkins, Silvan, 62-63 topological psychology, 31n13 total social phenomena embodied interpretation and, 215-16 Mauss' concept of, 109ns TOTE (Test Operate Test Operate Exit) model, 86-87, 207 traffic management as assembled installation, 14-17 individual and societal regulation of, 17-19 micro-decisions concerning, 22 as social regulation, 125-26 tragedy of the commons, social regulation and, 127-28 translation, 432 transmittability, of external representations, 352-53 trial-and-error learning, 182-86 betterment loop and, 189-92 examples of, 199-201 variations in, 314-20 tuning, of social regulation, 282-85 Turing test, 155n38 Turvey, Michael, 54-57 typification, paradigmatic learning and, 244-46 ubiquitous control, feedback distribution

and, 203–05
Uexküll, Jakob von, 49–51, 57, 222–24
embodied competences and work of, 112
evolution of symbolic layers and, 341
on objects, 97–99
valence concept and, 51–53

universal industrial sucess curve, 359–61 unplanned operations, in daily behaviour routines, 160–61 Utrecht studies of obedience, 132

valence, Lewin's concept of, 51-53, 57 Valsiner, Jaan, 34–35, 173–74, 331n8 value systems authority and, 130, 268, 272, 316, 367 evolution of, 346-50 regulation of installations and, 363-66 Varela, Francisco, 129 variation, evolution and, 322 videoconferencing, example of innovation and, 307-08 video game, as installation, 15-16 vigilante effect contradictions in installations and, 168 interpersonal feed-back and, 140-44 learning and, 204-05 medication administration as example of, 147-53 in public space, 269 social norms as tools for interventions and, 396-99 voluntary servitude, theory of, 27 Vrabcovà, Tereza, 111 Vygotsky, Lev, 57, 66, 187–88, 196

Warde, Alan, 173–74
Warren, William, 45–46
Weber, Max, 244–46
Weil, Benoît, 306
Weltanshauung, installation theory and, 418–19
Wenger, Etienne, 196
West, Richard, 184–85
Wheeler, William, 128n21
Whorf, Benjamin Lee, 246–47, 345
Winograd, Terry, 375–76
Wittgenstein, Ludwig, 119n13
Wood, Wendy, 111
worth, evolution of, 346–50

Yamin-Slotkus, Paulius, 25n4, 396–99 yield results, of interchange, 347–48

zone of proximal development, 187–88, 196, 432 education and, 192