Index

Aarts, Emile 60
AB research/testing 87, 260
absolutism 164
abstract thought 162–3
accountability data controllers, of 189, 212
government, of 155–8, 189
harm approach 202
human agency 53, 56, 58–9
purpose binding 155–8, 202–3, 212
action vs. behaviours 86, 185, 260
actor network theory (ANT) 169
advertising, and consumer manipulation 89–91
affective computing 70–71, 184–5, 260
affordances 260
definition 47–50, 170–71
online world, of 47–50, 183–5
printing press, of 180–81
script, of 177–81
agency affordances, and 47–50
animism 128–30
autonomy, and 22–3
complete agents 27–30
definition 22–3, 30, 260
deterministic algorithms, and 23–4, 185
enaction 28, 40, 57, 225, 261
global agency 26
machine learning, and 24–6
mindless agency vs. ‘mindness’ 22–3
multi-agent systems (MAS) 26–7
perception, role of 28, 47
relational nature of 47–8
self-organization 26–7
smart agents vs. smart environments 27

see also artificial agency; data-driven agency; human agency; smartness
Agre, Philip E. 80, 118
aida (inbetween) 114–15
algorithms agency, and 23–6, 185
bias 34
Big Data Space, and 30
data mining 24–5
definition 23–6
deterministic algorithms 23–6, 185
knowledge discovery in databases (KDD) 33–4
machine learning 24
training sets 24–5
unpredictable outcomes, impact of 23–4, 26
Altman, Irwin 79–80, 103, 105
amae (indulgence, dependence) 121–2
ambient intelligence (AmI) 7–8, 27, 46–7, 60
see also ubicomp
ambiguity 67, 142–3, 149, 188
analytics, benefits of 196–7
Anderson, Chris 25, 37–8
Animism 112–13, 128–30
‘anyware’ 9
Arendt, Hannah 85–6, 114
Aristotle 150
artificial agency action and perception 28
autonomous computing, and 55–7
cognitive resources, and 28
definition 22–3, 260
legal personhood, and 73
legal subjectivity, and 12–13
liability of 73
machine learning, and 24–6
multi-agent systems (MAS) 26–7
supervised learning 24–6
unsupervised learning 24, 33
artificial intelligence (AI) 22, 34, 195–6, 224–5
see also Japan
artificial neural networks 34–6
Asimo (robot) 112
Astroboy (robot) 112
atoms vs. bits 42–4, 109
attention-management 69–72
audience management 84
Austin, J.L. 145–6
Austin, John 137–8, 140
autonomic behaviour, computing, action 55–7
autonomy
accountability, and 58–9
autonomous law 167–9
autonomous technology 165–7
autonomy trap 90
consumer manipulation, and 89–91
digital sorting, and 92–3
emotions and feelings, importance of 71–2
first and second order beliefs and desires 91–2
identity, and 65–76
personhood and freedom 91–3
privacy, and 190–91
social sorting, and 88–9, 92–3
threats against 87
avatar 29, 261
basho (place) 114–17
Baxter (robot) 110–12
behaviour
accountability, and 58–9
audience management 84
automated action programs, and 70–71
autonomic behaviour 55–6
autonomous action, and 56–7
bounded rationality, and 55–6
criminal profiling 97–8
emotions 70–72
herding behaviours 87, 262
human instinct, and 57
observed data 32
personhood and freedom 91–3
prediction, and 58–61
regulation, approaches to 165
‘the social’ (Arendt), and 85–6
vs. actions 86, 185, 260
behavioural data 32, 61, 84, 87, 90, 92, 135, 191, 204
behavioural economics 191
Being Digital 42–3
Big Data Space 226
algorithms 30
analytics of 31–6, 196–7
atoms vs. bits 42–4
bias 34
characteristics of 30, 45–6
cloud computing 44–5
data aggregation 33, 92–3
data dictatorship 40
data doubles 92–3
data-driven agency 15, 30–40, 46–7
data mining 25
data monetization 59
data storage 33
definition 45–6, 261
digital unconscious 40, 113, 194–6, 204, 225
distributed access 45–6
networked timespace 42–7
non-homogeneous 45
open data 194–5
terminology 42–4
transparency and opacity
implications 74–5
volunteered vs. observed data 32
bits vs. atoms 42–4, 109
Bongard, Josh 29, 108
Bradford, Anu 206–7
brain 29, 49, 56
Brooks, Rodney 110–11
Brussels effect 206–11
Butler, Judith 56–7
California effect 207
cars, self-driving 1, 9, 22, 68, 122–3
categorization 191–2, 196–7
causality 12–13, 37–40
Index

Charter of Fundamental Rights of the EU 140–41, 186–7, 209–11, 261
Clark, Andy 28–9, 108
classification 178
cloud computing 16, 44–5
clustering 25
cognitive science 55–6, 103, 114
Cohen, Julie 14
Coke, Edward 179
complete agents 27–30, 110, 224–5
compliant robotics 261
cookies 12, 215–16, 261
copyright 139, 186, 202
corrective justice 150–52, 157
correlation 37–40
counter-profiling 214, 222–4
criminal law 138, 179
profiling, and 97–100, 198–9
due process rights 100–102, 198–9
equality of arms, and 100–101
presumption of innocence, and 97–100, 198–9
purpose 100–101
surveillance, conflicts with 98–100
criminal profiling 97–100, 198–9
Cukier, Kenneth 31, 39–40
consumer manipulation 89–91, 95
cybersecurity 12–14, 138

Damasio, Antonio 70
data aggregation 33
data dictatorship 40
data doubles 92–3
data-driven agency
analytics 31–6
autonomous and autonomic computing 55–7
Big Data Space, in 15, 30–40, 46–7
causality vs. correlation 37–40
characteristics 30
constructive distrust 36
datafication and data science 39–40
determinism, and 185
invisible manipulation, vulnerability to 15
knowledge discovery in databases (KDD) 31–5
machine learning 35–6
data filtering 69–72
see also emotional targeting
data mining 24–6, 34, 46, 90, 193
data processing 190, 204–6, 209–13
data protection
conflicts 211–13
consent 203
counter-profiling 214, 222–4
countervailing powers 187
criminal offences, data on 197–9
data controller, role of 222–3
data security, and 212
data sharing 211–13
default, by 220
definition 186
discriminate-aware data mining 193
due process, right of 198–9
EU judicial interpretation 186–7
exceptions 192, 194
fundamental right, as 186–7
legal certainty, and 195
legality principle, and 189–90
necessity, and 203
negative rights 190
non-discrimination, and 191–5
opacity, and 189–90
presumption of innocence, and 197–9
privacy protection, and 186–8
purpose binding principle 156,
204–6, 212–13
right to be forgotten 209–11, 221
self-determination, and 79, 190–91
sensitive data 192–4
transparency rights 190
see also data processing; privacy
Data Protection by Design (DpbD) 214,
219–22, 261
Data Protection Directive 186, 192,
197–9, 261
data science 39–40
data security 78–9
Davies, Roger J. 106, 120
degrees of freedom 261
Delaware effect 207
democracy 10
equal treatment principle 94
legal relativism, and 154–5
legality and legalism 155–8, 173–4
sovereign power, role of 114, 152–3, 173–4
written law, role in 177–81
Derrida, Jacques 149
design, definition of 170
determinism
deterministic algorithms, and agency 23–6
technological determinism 11, 165–7, 185, 208–9
diagnosis by machines 65–8
digital data 194–7
see also data processing; data protection
digital sorting 89–93
see also social sorting
digital unconscious 40, 65–8, 196–7, 261
discrimination see non-discrimination
distributive justice 150–52, 209
double contingency 15, 53–4, 67, 93, 222–3, 261
due process, right of 100–103, 198–9
Dworkin, Ronald 136, 140–41, 152
Dwyer, Catherine 103
dystopian determinism 165–7
eccentricity (Plessner) 53
eCommerce Directive 186
Eisenstein, Elizabeth 48, 178
Ellul, Jacques 167
emotional targeting 69–72
emotions
music, influences of 1, 3, 59–60, 68
synthetic 184, 264
vs. actions and feelings 70–72
enact 28, 40, 57, 225, 261
engineering 170–71
enryo-sasshi 121–2
environment 28
Welt and Umwelt 50–54, 57–8
ePrivacy Directive 186
equality
equal respect, right to 87, 152
justice, and 150–52, 209
proportionality, and 152
see also non-discrimination
Esposito, Elena 25

European Convention on Human Rights 186
extended mind 16, 29, 46–7, 262
see also digital unconscious
face, politeness and 115–17
Facebook 121
fair information principles 103, 262
balancing private and public interests, and 201
burden of proof implications 202
harm-based approach 202–3, 206, 212
limitations 200–201
multiple legal regimes, applicability 201–2
OECD Guidelines 200
property-based approach 201–2, 206
purpose binding principle, and 156, 204–6, 212–13
fair trial, right to see due process
Floridi, Luciano 228–9, 238
forgotten, right to be 209–11, 221
France, Anatole 128
Frankfurt, Harry 91
fundamental rights
counter-profiling, and 223–4
data protection 186–7, 189–90, 211–13
freedom from unlawful interference 189–90
freedom of contract restrictions, and 94
pre-emption computing, and 93–7, 216–17
privacy conflicts 211–13
privacy, judicial interpretation 188
right to conduct a business, conflicts with 94
right to non-discrimination 192–4
social sorting prohibitions 93–7
Future of Identity in the Information Society 8

Gallie, W.B. 134–5
General Data Protection Regulation (proposed) 77–9, 197–9, 219–20, 263
Index

Gibson, J. 170
Gleick, James 71
Glenn, H. Patrick 176–7
global agency 26
Goffman, Erving 83–4, 115
Google 207–11, 221
Grotenhuis, Frits 60
Grotius, Hugo 127
groupism 116–17
Gutwirth, Serge 236–7

Habermas, Jürgen 84–5, 191
Harcourt, Bernard 97
harm-based data protection 202–3, 206, 212
proof, required for 193–4
Hart, H.L.A. 139–40
Haugh, Michael 116
Heidegger, Martin 167
herding behaviours 87, 262
Hert, Paul De 236–7
Holmes, Oliver Wendell 142
homme (truthful) 119–20
hotoke (ancestors) 106–7
human agency
action and perception, interaction of 28–9
ambiguity, role of 67
awareness of data use, development of 103–5, 123–5
biological agency, and 51–3
bounded rationality 165
co-determination, importance of 102–3, 123–5
cognitive resources, artificial uses of 28–9
counter-profiling 214, 222–4
definition 73, 260
embodiment of 28–9
human subjectivity, and 73
intuition 35
knowledge of unfairness, need for 101–3
personhood and freedom 91–3
pre-emption, implications of 60–61
prediction, role of 57–8
trust development, and 125
human dignity, right of 79
human machine interaction or interfacing (HMI) 112, 221–2, 262
human mind see brain; human agency;
unconscious mind
human privacy, definition of 105
human rights 126–8, 133, 191
see also fundamental rights
hyperconnectivity 50, 182, 262
ichi or tachiba (position) 116
identity
audience segmentation, and 83–4
data filtering, and 69–72
double contingency 15, 53–4, 67, 93, 222–3, 261
emotional targeting 69–72
idem and ipse 81
identity building 80, 82–3
impression management 84
interpretation 80–82
persona 83–4
personal identity or selfhood 80–82
privacy, and 80–83, 190–91
publicness, and 84–5
social sorting, and 88
technological vulnerability 15
third person perspective, and 81–2
transparency and opacity challenges 73–5
virtual reconfiguration 66–7
Ihde, Don 171
Ikeno, Osamu 106, 120
impact assessments 77
inbetween, of human society 114–15
information and communication infrastructure (ICI)
affordance, concept of 47–50, 170–71
agency, importance of 60–61
anthropomorphization, and 185
behaviour predictions, and 59–61
brain and mind development, influences on 49
Data Protection by Design 219–22
definition 174–5, 262
freedom from local constraints, and 182
hidden complexities 181
human understanding, relevance of 11–12
Legal Protection by Design, and 216–17
multistability 169–72
onlife world, emergence of 47–50, 181–3
oral culture transition to script culture, and 175–6
parallel vs. sequential processing 50
printing press, influences of 176–81
regulatory impacts 11–12
regulatory paradigm, and 183, 185
revolutionization of 195–6
script, influences of development of 175–6
spatial impacts 11–12
information, mathematical theory of 195–6
institutional theory of law 145–6
institutions 127–8, 262
instrumentalism 155, 160, 162–3, 184–5
instrumentality 154–7, 164, 172–3
insurance 6–7, 65–9, 194
intelligence 29–30
see also artificial intelligence (AI)
Internet, jurisdictional interpretations 207–11
Internet of Things (IoT) 8–9, 27, 47
intertextual reference (semiotics) 89
intervention by machines 68–9
ittoko-dori 106
Japan, privacy concept in alternate conceptions of 104–5
animism 112–13, 128–30
‘as-if’ culture 118–21
audience segregation practices 120–21
axiological orientations 107, 113
Confucian and Buddhist influences 106, 112–13
cultural influences 106–7, 118–22
deference 117
duty or gift, privacy as 115, 125–6
embodied moral order 107
environment influences 104–5
foreign elements, adaptation processes 106–7
groupism, and 116–17
identity/image (ura/omote) model of self 119–23
inbetween concept (aida), and 114–15
inclusion/exclusion (uchid/soto) relationships model 119–23
indulgence, presumption of 121–2
legislative developments 104
normative privacy 118–21
oral tradition 106
place, concept of 115–17
politeness, as face or place (basho) 114–17
privacy recognition and non-disclosure 121–2
reading humans, restrictions on robotics/ubicomp abilities 123–5
relational concepts 104–5, 114–15, 118–23
restraint and acuity concepts (amaes/enryo-sasshi) 121–3
robotics 110–13, 122–5, 128–30
self, perceptions of 118
situated discernment (wakimae) 116–21
truthful/deceitful (honne/tatemae) model of speech 119–23
ubicomp 107–10, 123–5, 128–30
Western influences 104
jurisdiction
Brussels effect 206–11
Internet, judicial interpretations of 207–11
modern law, relation to 10
justice
corrective justice 150–52, 157
definition 136, 149–50
distributive justice 150–52, 209
equality, and 150–52, 209
legal certainty, and 148–9, 152–4
reconstructive justice 152
theory of 135–6
Index

Kafka’s Trial 13

address, see also artificial intelligence

McLuhan, Marshall 49–50

Manifesto on Being Human in a Digital World 41

mass media 49–50

Mayer-Schönberger, Viktor 31, 39–40

Mead, George Herbert 53

media studies 47–8, 167

medical and life insurance see insurance; medical diagnosis

medical diagnosis by smart technologies 6–7, 65–6, 68–9, 184

Mitchell, Tom M. 35

modern law 10

absolutism 164

ambiguity in 142–3, 149

autonomous conception of 168–9

balance, challenges of 136

basic norm (Grundnorm) 138–9

behaviour, influences on 165

challenges of 17, 217–18

character of 10, 139, 148–9

classification and codification 178–9

command theory of law 137–8

contested concept, as 134–7

cultural artefact, as 148–9

definitions 134–7, 217

force of law concept 149

functions of 143, 157–8

goals and objectives of 143–6, 148–9

hermeneutic conception of 140–42

institutional theory of law 145–6

instrumentalist conception of 164–6

instrumentality, and 154–6, 154–7, 172

instrumentalization of 184–5

integrity 136, 141

interpretation 140–43, 180–81, 188

jurisdictional challenges to 138

legal certainty, and 148–50, 152–4

jurisdictional challenges to 138

legal effect 142, 144–5, 168–9

legal order, importance of 144

legal personhood 12–13, 73, 144–5

legal positivism 137–40, 143, 152–4, 168

legal pragmatism 142–3

Legal Protection by Design 218–19

Legal Protection by Design (LPbD) 263

compensation objective 215–16

contestability requirement 10–12, 218

Data Protection by Design (DpbD) 214, 219–22, 261

democratic participation requirement 10–12, 216, 218–19

importance 17, 214

resistance or disobedience requirement 10, 12, 17, 218

technologically neutral law 217–18

technology neutral law 215–17

techno-regulation, difference with 11–12, 165, 184, 214, 218–19

legal realism 142

legal relativism 154–5

legalism 155–6, 173–4, 262

legality 155–8, 173–4, 189, 263

Lessig, Lawrence 165, 177

Luhmann, Niklas 191

Macfarlane, Alan 106–7

machine learning (ML) 24–6, 35–8, 142–3, 263

Kelsen, Hans 138–40

knowledge discovery in databases (KDD) 31–6, 262

see also artificial intelligence

Kranzberg, Melvin 162

Kurzweil, Ray 166–7

LaMonte, Karen 223–4

language 53–5, 175


law see Legal Protection by Design; modern law

Lefort, Claude 114

legal certainty 148–50, 152–4, 189, 195, 208–9

legal hermeneutics 140–42

legal personhood 12–13, 73, 144–5

legal positivism 137–40, 142, 152–4, 168

legal pragmatism 142–3


LaMonte, Karen 223–4

language 53–5, 175


law see Legal Protection by Design; modern law

Lefort, Claude 114

legal certainty 148–50, 152–4, 189, 195, 208–9

legal hermeneutics 140–42

legal personhood 12–13, 73, 144–5

legal positivism 137–40, 142, 152–4, 168

legal pragmatism 142–3

Legal Protection by Design (LPbD) 263

compensation objective 215–16

contestability requirement 10–12, 218

Data Protection by Design (DpbD) 214, 219–22, 261

democratic participation requirement 10–12, 216, 218–19

importance 17, 214

resistance or disobedience requirement 10, 12, 17, 218

technologically neutral law 217–18

technology neutral law 215–17

techno-regulation, difference with 11–12, 165, 184, 214, 218–19

legal realism 142

legal relativism 154–5

legalism 155–6, 173–4, 262

legality 155–8, 173–4, 189, 263

Lessig, Lawrence 165, 177

Luhmann, Niklas 191

Macfarlane, Alan 106–7

machine learning (ML) 24–6, 35–8, 142–3, 263

see also artificial intelligence

McLuhan, Marshall 49–50

Manifesto on Being Human in a Digital World 41

mass media 49–50

Mayer-Schönberger, Viktor 31, 39–40

Mead, George Herbert 53

media studies 47–8, 167

medical and life insurance see insurance; medical diagnosis

medical diagnosis by smart technologies 6–7, 65–6, 68–9, 184

Mitchell, Tom M. 35

modern law 10

absolutism 164

ambiguity in 142–3, 149

autonomous conception of 168–9

balance, challenges of 136

basic norm (Grundnorm) 138–9

behaviour, influences on 165

challenges of 17, 217–18

character of 10, 139, 148–9

classification and codification 178–9

command theory of law 137–8

contested concept, as 134–7

cultural artefact, as 148–9

definitions 134–7, 217

force of law concept 149

functions of 143, 157–8

goals and objectives of 143–6, 148–9

hermeneutic conception of 140–42

institutional theory of law 145–6

instrumentalist conception of 164–6

instrumentality, and 154–6, 154–7, 172

instrumentalization of 184–5

integrity 136, 141

interpretation 140–43, 180–81, 188

jurisdictional challenges to 138

legal certainty, and 148–50, 152–4

jurisdictional challenges to 138

legal effect 142, 144–5, 168–9

legal order, importance of 144

legal personhood 12–13, 73, 144–5

legal positivism 137–40, 143, 152–4, 168

legal pragmatism 142–3

Legal Protection by Design 218–19

legal realism 142
legal relativism 154–5
legality vs. legalism 155–8, 173–4, 262–3
legitimacy, and 164
litis finiri oportet 153
mode of existence 133, 146–9, 160–61, 163–5, 167–9, 172–4
natural law 127, 137–8
neutrality of 164, 168–9
politics, and 168–9
preconditions for 141–2
primary and secondary legal rules 139–40
printing press, precondition for 133, 141–2, 176–81
proportionality 140, 152–4, 188
pure theory of law 138–9
purpose binding principle 156–8, 204–6, 212–13
purpose of 161–2, 226
purposiveness 154–6
regime of veridication 145–7, 161, 219
regulatory paradigm, and 164–5, 183
relational conception of 172–4
res iudicata est 153
Roman Law, interpretation of 180–81
script and text, influences on 141–2, 174, 176–82
self-regulation, as 10
separation of powers 137–8, 163–4, 168–9, 173–4
separation thesis 137–41, 168–9
sovereignty, and 114, 152–3, 168, 173–4
speech act theory, and 145
technologically neutral law 174–83, 217–18
technology neutral law 128, 174, 199, 215–17
ultimate rule of recognition 139–40
unilateral decision-making, and 153–4
value-laden concept, as 146–9
written law, externalization by 177–81
see also justice; modes of existence; Rule of Law
modes of existence 133, 160–61, 181
of law
as independent autonomous
discipline or practice 167–9
law as relational 172–4
as neutral instrument for social
ingineering 163–5
of technology
as autonomous and independent
force 165–7
as multistable 169–72
as neutral instrument 162–3
Montesquieu 179
morality 112–13, 125, 137–40, 169
Morozov, Evgeny 14
morphological computation 111–12, 214–15, 224–5
multi-agent systems (MAS) 26–7
music, influences on mood 1, 3, 59–60, 68
Negroponte, Nicholas 42–3
neural networks 34–6, 40, 199
ningen (human being, society) 114
Nissenbaum, Helen 83, 216
non-discrimination
data protection, and 191–5
direct discrimination 95–6, 192–3
discriminate-aware data mining 193
distributive vs. corrective justice 151
due process rights, and 102
equal treatment, right to 94
freedom of contract, and 94
hidden discrimination 96–7
indirect discrimination 96, 192–3
legal rights to 192–4
open data 194–5
pre-emptive targeting, and 96–7, 102
preferential treatment justifications 95–6
prevention challenges 103
price discrimination 95
proportionality 95–6
social sorting 93–7
stereotyping 191
Norman, Donald 170
Norvig, Peter 30
observed (behavioural) data 32
Odysseus metaphor 156, 194, 199, 220
OECD fair information principles 200
omote (projected image) 119–20
onlife world 263
affordances of 47–50, 183–5
autonomic behaviour 53–7
autonomous actions 53–7
blurring boundaries 41–2
computational infrastructures 55, 88, 91, 97, 102
digital sorting, and 89–91
emergence of 47–58
hyperconnectivity 50, 182
imagining future realities 8–9
information and communication infrastructure (ICI) 181–3
instrumentalization of law, and 184–5
legal challenges of 138, 181–3
multi-tasking, and 50
observer, role of 52–3
pre-emptive computing 47, 60, 67, 96
privacy, value as isolation or seclusion 83
private enterprise role in 182
profiling 51–7
theory of mind, and 54–5
vs. offline world 50
Welt and Umwelt 50–54, 57–8
online personas 41
opacity 73–5, 189–90
open data 194–5
oral language 48, 175–6

Packer, Herbert 100–101
pattern recognition technologies 9, 22, 24, 28, 34, 51, 88
personal data ecosystems (PDE) 202
personal digital assistant (PDA) 263
agency status, legal implications of 73
alarm, interruption by 3–4, 73–4
benefits, interpretation of 72
health and wellbeing, influences on 1–7
inference or instruction, based on 72–3
passive mode 4, 73–4
privacy and liberty implications of 72–3
relationship with 1–7, 72–3
translucency and opacity 73–5
unplugging 73–5
use vs. interaction 47
personalization 42–3, 61, 69–72
personhood, and freedom 91–3
Pfeifer, Rolf 29, 108
philosophy of law
conceptions of law 147–9, 160
instrumentalism 155, 160
law as instrument for social engineering 163–5
law as multistable 172–4
law as relational concept 172–4
philosophy of technology
technology as autonomous and independent force 165–7
technology as mere instrument 162–3
technology as multistable 169–72
utopian and dystopian determinism 165–7
Picard, Rosalind 70
Plessner, Helmuth 53
pluralism, relational 171–2
politeness theory 115–17
political economy 14–15
pre-emption 263
benefits of 60
discrimination, and 96–7, 102
due process rights, and 101–2
fundamental rights affected by 102–3
human agency implications 15, 60–61, 216–17
‘inbetween’ concept, and 115
individual freedoms, conflicts 211–13
interactions, constitutive impact on 11–12
invisible manipulation, vulnerability to 15, 216–17
personalization, and 42
prediction, and 59–61
profiling, and 51
transparency and opacity, reconfiguration of 75
trends 60–61
prediction 58–61
presumption of innocence 97–100, 197–9
price discrimination 95
printing press 49–50, 88
affordances of 180–81
education, influences on 58
modern law, contingent upon 141–2, 176–81
Rule of Law, impact on 17, 177
shift from oral language and written text to 48
privacy
access control, as 78–9
ambiguity of 188
animated things, and 105
anonymity, as 83
appropriateness of data flows 83
‘as-if’ concepts of 118–21
attention-management 69–72
audience segregation 83–4, 86–7
autonomy 190–91
boundary negotiation, as 79–87, 103, 105, 115
conceptions of 79–80
confidentiality, as 78–9, 83
contextual integrity, as 83–4
control over personal data, as 102–3
definitions 103, 188
descriptive and normative privacy 118
due process rights 102
duty, as 105, 115, 125–6
emotional targeting 69–72
freedom from unlawful interference 189
freedom from unreasonable constraint 80, 86–7
freedom vs. liberty 189
gift, as 105, 115, 125–6
habit, as 105
human privacy, specifics of 105
identity, and 80–83, 190–91
informational self-determination, and 190–91, 212–13
institutional privacy 86–7, 120–21
interpretations of 78–88
isolation or seclusion, as 83
judicial interpretation of 188
legal certainty, and 189
legitimate expectations, and 189
machine diagnoses that infringe 65–9
machine interventions that infringe 68–9
monetary value of 77
normative privacy 118–21
opacity right, as 189
participatory nature of 79–80
private interest or public good, as 79, 82–5, 87
protection, development of 75
reasonable expectation of 83
reciprocal process, as 79
right to 80–83, 105, 115, 125–8
self-identity, and 80
situated discernment (wakimae) 116–21
social privacy 86–7, 120–21
social sorting, and 88
subliminal intervention 69
substance of 128
things, granted by 105–6
third party doctrine 189
tyranny of the social, as 85–6
ubiquitous monitoring, and 98–9
US legal framework 189
see also data protection; Japan
privacy by design 220–21
see also Data Protection by Design
privacy settings 11, 68, 84, 92–3, 121
profiling
abstraction 53–4
animal vs. human 51–2
anticipation of expectations 58–9
autonomic behaviour and autonomous actions 54–7
consumer manipulation, and 89–91
counter-profiling 214, 222–4
data doubles 92–3
data protection, and 197–9
decision and application 57–61
digital sorting 89–91
Index

double contingency 15, 53–4, 67, 93, 222–3, 261
due process, right to 198–9
enaction of action and perception, as 57
language, relationship with 53–4
mutual anticipation, and 222–4
neural networks, role in 199
non-distributive profiles 66
observer, role of 53–4
outsourcing 89–91
personalization 66
pre-emption, and 51
prediction, and 57–61
presumption of innocence, and 197–9
right to object 221–2
self-reflection capabilities 52
social sorting, and 88
transparency, and 17, 198–9
Welt and Umwelt 50–54, 57–8
property based protection 201–2, 206
proportionality 95–6, 140, 152–4, 188
public good 82–3, 85, 87
public interest 85
public sphere 82–7, 151–2
puraitbash (privacy) 104
purpose binding principle 156–8, 204–6, 212–13
purposiveness 154–6
Radbruch, Gustav 147–55
radio frequency identification (RFID) 9, 263
Rawls, John 135–6
reading and writing 43, 49, 89, 184, 263
Real-time Operating system Nucleus (TRON) Intelligent House 108
reconstructive justice 152
regime of veridiction 145–7, 161, 219
regulatory paradigm 164–5, 183, 185, 219
Brussels effect, and 207–8
Reidenberg, Joel R. 208
Ricoeur, Paul 48, 81
right to be forgotten 209–11, 221
rights see fundamental rights
risks 77–8
robotics
acuity and restraint, need for 123–5
agency, identification challenges 124
Animism 112–13, 128–30
Asimov’s Laws of 122–3
behavioural robotics 110–11
cloud technology 9
complete agents 27, 30, 110
definition 110, 263
human machine interaction (HMI) 112
Japan, developments in 110–13, 122–5, 128–30
morality, and 112–13, 122–3
morphological computation 111, 214–15, 224–5
numerical computation 111–12, 225
public perception limitations 110
reading humans, restrictions on
abilities 123–5
service or companion robots 112
soft or compliant robotics 6–7, 112, 224–5
ubicomp, differences from 110
Rotenberg, Marc 80–118
Rule of Law 219
action and behaviour, responsibility for 185
data science, challenges for 40
development of 179–81, 183
equal treatment principle 94
formal conception of 169, 237
Legal Protection by Design (LPbD), required by 193, 214, 217–18
legalism of 169, 173–4
legality, and 155–6, 173–4
legality vs. legalism 155–8, 173–4, 262–3
paradox of 126–7
printed text, constitutive relationship of 17, 177
procedural conception of 173, 237
public good, and 85
purpose binding, 155–8, 203–6
regulatory paradigm vs. 164–5, 183–5, 218–19, 226
Smart technologies and the end(s) of law

separation of powers 163–4, 168–9, 173–4
sovereignty, and 180–81
substantive conception of 141, 155, 168–9, 237
vs. rule by law 163–4, 178–9
Russell, Stuart 30

Sakamura, Ken 108
scenario studies 8
Schauer, Frederick 191
Schmitt, Carl 147
scientific research 25–6, 36–7
script
importance 43
interpretation 88
modern law, constitutive relation with 141–2, 176–82
orality, difference with 48, 175–6
printing press, differences with 141–2, 176–81
society, constitutive relation with 41–2, 175–6
technological character of 48
security and resilience, of technology 13–14, 212
self-determination, informational 79, 190–91
separation of powers 137–8, 168–9
Rule of Law, and 163–4, 173–4
shinto (indigenous oral tradition) 106
shudan-shugi (groupism) 116–17
situated discernment (wakimae) 116–21
smart energy grid 13, 23, 26–8, 263
smartness
agency, and 22–30
complete agents 27–30
embedded systems 44
interpretation 15, 21–2
levels of 22–30
self-organization 26–7
smart agents vs. smart environments 27
see also agency
Snowden, Edward 13–14
social construction of technology (SCOT) 169
social networks (online) 41, 121, 263
social shaping of technology (SST) 169
social sorting 88–9, 92–3
discrimination, prohibited 93–7
see also digital sorting
socio-technical infrastructure (STI) 11, 47–8, 216, 219, 223
soft or compliant robotics 112, 224–5
Solove, Daniel, J. 13
Sontag, Susan 67
soto (outside) 119–20
Stengers, Isabelle 128–30
stereotyping 191
subliminal intervention 69
subliminal regulation 9–10, 13–14
surveillance
criminal law, conflicts with 98–100
governmental security, and 13–14
ubiquitous monitoring 98–9
universal and non-discrimination 98
synthetic emotions 184, 264
tanin (beyond outside) 119–21
Target 89–90
tatemae (deceitful) 119–20
techniques, definition 160
techno-regulation 165
cookies 12, 215–16, 261
law, differences from 11–12, 218
regulatory paradigm, and 183–5, 219
see also technologically neutral law;
technology neutral law
technological determinism 11, 165–7, 185, 208–9
technologically neutral law 174–83, 217–18
technology
autonomous conception of 165–7
definition 160–61, 165–7
embodiment of law, and 174–6
instrumentalist conception 162–3
mode of thinking, as 161
moral evaluation 162–3
multistability 169–72
neutrality of 162–3
normative impact of 162–3
pluralist conceptions, need for 171–2
security and resilience 13–14, 212
Index

technology neutral law 128, 174, 199, 215–17
theory, definition of 38–9
thermostats, smart 23
threats 9, 77–8, 187
tokoro or uchi (location) 116
  transparency 73–5
  counter-profiling 222–4
  data protection rights 190
  hidden discrimination 96–7
  law, purpose of 73–5, 155, 157
  privacy as opacity right, and 189
  profiling, and 198–9
  Rule of Law, and 73–5, 101, 157, 189–90
ubicomp 7–8, 264
  agency, identification challenges 124
  Animism, and 128–30
  Big Data Space, and 47
  dangers of 27
  digital unconscious 125
  due process rights, and 102
  embedded systems and agents 109
  Japan, developments in 107–10, 123–5, 128–30
  prediction vs. pre-emption 60
  privacy implications 123
  reading humans, restrictions on abilities 123–5
  robotics, differences from 110
  traditional computing, differences from 108–9
  ubiquitous computing see ubicomp
uchi (inclusion) 119–20
Umwelt 50–52, 57–8, 88, 264
  unconscious mind 40, 42, 51–2
Welt and Umwelt 50–54, 57–8
  see also digital unconscious
  United States 189, 209–11
  ura (core identity) 119–20
  utopian determinism 165–7
  Varela, F.J. 28
  volunteered data 32
wakimae (situated discernment) 117–21
wearable technology 113
Web of Things 9
webbots 27, 29, 264
Weiser, Mark 108
Welt 50–54, 57–8, 264
  complexity reduction 191–2
culture 148
  double contingency 15, 53–4, 67, 93, 222–3, 261
epistemic trust, and 222
  Husserl 229
  language, text, and 50–54, 93
  life world 51, 146
  Mead, George Herbert 53
  mode of existence, and 146
  onlife world, and 195–6
  Plessner, Helmuth 53, 229
  printing press, and 58
  Ricoeur, Paul 56, 229
  social sorting, in 88–9, 93
  tradition 106
  Wittgenstein, Ludwig 229
  Wesel, Uwe 134
  Wolf, Maryanne 49, 184
Yahoo vs. Google 207–9
Zarsky, Tal 90–91

Mireille Hildebrandt - 9781849808774
Downloaded from Elgar Online at 04/01/2019 10:47:33PM
via free access
Between the covers

While meandering through San Francisco’s de Young Museum of modern art, I encountered a large cast-glass statue of a woman. The statue shows the form and inclination of her body by the folds and draping of her dress. Upon inspection, the woman herself has evaporated into thin air; there is only the dress that traces the imprint of her delicate and lush bodily appearance, thus highlighting her disappearance. The dress is an empty mould that stands around the empty space of the woman, drawing the contours of her physical absence, thus preserving the memory of her evanescent being in the flesh. Like any work of art, Karin LaMonte’s Dress 3 invites onlookers to muse about the meaning of the work. Its opacity and robustness disrupt the association of glass with transparency and fragility, confronting the spectator with the materiality of absence and the tangibility of memory. Some have suggested that the statue reminds us of the decay of the flesh and the loss of youth and beauty; the dress has thickened into a relic of what the absent woman once looked like, highlighting the merciless process of aging and death.

For me Dress 3 evokes the materiality of the immaterial, the contours of what cannot be defined, the casting of a person of flesh and blood in the costume that covers her role. It relates to privacy, to the hiding of the body, but also to the freedom to display and accentuate the curves of a woman who dresses up to show her self. It relates to role-playing, to the projection of an image, to staging a persona, while still masking the living body that breathes life into the mould. Like legal personhood, the dress enables a person to act her role while also protecting her from overexposure. In evoking elegance and the luscious enjoyment of being alive the statue – a contrario – reminds me of the rigidity of conventional robots, caught up in the limited degrees of freedom (DOF) that restrict their motoric skills to mechanical iterations. It raises the question of whether compliant robots will soon persuade us into taking an intentional stance, guessing there is something like a living entity on the inside, expressing itself in the embraceable softness of its approach.

The link with privacy, identity and persona became even more evident when I discovered LaMonte’s kinstugi sculptures of Japanese kimonos. They confirm the idea that privacy can be designed into an environment...
up to the point where one’s clothes form an environment that helps to protect against the gaze of the other; against being read by significant others whose proximity makes impossible to not-read whatever one’s body gives away. Different kimonos are used for different situations, during the course of a lifetime, depending on one’s status, rank or community. A kimono therefore carries a message, projects a role, situates the person it envelops; it hides curves and movement, it suppresses enjoyment and spontaneity, requiring training to drape the garment and to move with dignity while keeping the folds in place. The affordances of the kimono differ from those of the lush dress typified by *Dress 3*. They are part of another tradition where politeness, rank and groupism keep people in check while requiring them to respect each other’s privacy without necessarily translating this into a right to privacy.

If the technological landscape changes course, we cannot assume that the protection it affords remains unchanged. A dress is a technology; a tool used for a specific function, incorporating and generating a web of meaning. To preserve privacy, non-discrimination, due process and the presumption of innocence, we may have to ‘dress up’ differently, reconsidering the affordances of the covers we need to present and to shelter ourselves in view of the intrusions of hot and cold weather – and impertinent surveillance.

NOTES