Index

Abbate, Janet 138, 153
Abernathy, William 115, 161
AC/DC example 107–8
actants 58–9
action, definitions 75
action together 94
Actor Network Theory (ANT) 60, 62–5
actors, in Latour and Callon networks 58–60
Advanced Research Projects Agency (ARPA) 138
Aitken, Hugh 65, 147
Akrich, Madeleine 55, 59, 61, 66–7, 71–2
Alsène, Eric 37
Altair 136
Alter, Norbert 31, 33
alternative frames of use 84–5
Amblard, Henri 62–3
Ancelin, Claire 162
Apple 136–7
appropriation 68
arenas 78
Arnal, Nicole 93
Aron, Raymond 100, 109
Arpanet 138, 153
Arrow, Kenneth 8, 119
Arthur, Brian 102–6
ATT triode example 64–5
automatic metro (Aramis) example 59, 61
Bachelard, Gaston 50
Baczko, Bronislaw 125
Ballé, Catherine 33
Barbichon, Georges 31
Barère, Bertrand 149
Barras, Richard 22, 118
Baszanger, Isabelle 77
Battelle, John 161
Baudelaire, Charles 132
Baxandall, Michael 29, 91, 121, 154
Bazerman, Charles 134
BBS (bulletin board systems) 140
Beaudouin, Valérie 69
Becker, Howard 77
Beguin, Pascal 79
Bell, Alexander Graham 146
Bellamy, Edward 126
Beltran, Alain 143
Benjamin, Walter 132
Berliner, Emile 151
Bertrand, Gisèle 94
beta testers 94
bicycle examples 50–52
Bijker, Wiebe 49–52, 71–2, 80
Bimber, Bruce 25
Blaug, Mark 3, 7
Bloch, Marc 24, 119
Bloor, David 48
Boudon, Raymond 72
Boullier, Dominique 18
boundary frames 81
boundary-object phase 160–61
boundary objects 78–9
Bourdieu, Pierre 56
Boyer, Robert 119
Braudel, Fernand 24
Breton, Philippe 121–3
bridge construction example 91–2
Brown, Jerry 137
Bucciarelli, Louis 79, 148, 162
bulletin board systems (BBS) 140
Busson, Alain 93
Callon, Michel 54–7, 59–61
Carey, James 132
Caron, François 150
Carré, Patrice 143
Castoriadis, Cornelius 17–18, 39, 159
Castronova, Edward 94
Downloaded from PubFactory at 09/16/2023 07:38:45AM
via free access
catchall-object phase 158–9
causal imputation 100
Ceruzzi, Paul 123
Chanaron, Jean-Jacques 37–8
Chandler, Alfred 25
Chappe, Claude 134, 151, 154
Chase, Stuart 132
Chevalier, Michel 131, 144
cinema example 89
Citroën 2CV example 146–7
Civilisation matérielle, Économie et capitalisme (Braudel) 24
Clark, Kim 79, 115
Clarke, Adele 77–8
Clayton, Nick 72
coal mines examples 31–2
Coleman, James 11
Collins, Harry 48
common artifacts 85–6
common worlds 79
communications technology, effects 26–30
Community Memory 135–6
computer development example 121–3
computers see ICT studies
concretization 111–12
concurrent history phase 157–8
Constant, Edward 21, 113
consumer innovations 6–7
consumption junction 65
conventional objects 94
conversion of ICT objects 68
Corn, Joseph 130
Cortada, James 90
Coulon, Alain 96
Cowan, Robin 104, 106
Cowan, Ruth Schwartz 65, 68
Cresswell, Robert 46
critical mass 13
Cros, Charles 128–9
cultural focus 45–6
cultural technology 43–8
Danto, Arthur 99
Daumas, Maurice 14
David, Paul 105–8, 148
De Certeau, Michel 87–8, 92
De Fleur, Melvin 12, 26
De Forest, Lee 153
De Fornel, Michel 69, 85–6, 95
De Lamartine, Alphonse 125
De Oliveira Domingues, Cristiano 117
Debray, Régis 28
decoding 66–7
demand–pull theories 19–23
design engineers’ culture 36–7
determinism
historians’ views 23–6
see also Ellul, Jacques
detribalization 27
diffusion
economic models 7–9
sociological models 9–13
Dixon, Robert 7
Dockès, Pierre 107, 118–19, 162
Dolbear, Amos 129–30
domestication of ICT objects 68
Dosi, Giovanni 20, 110–11, 113–14
Douglas, Susan 130, 134
Du Gay, Paul 69
Du Mode d’existence des objets techniques (Simondon) 111
Dupuy, Jean-Pierre 94
Durand, Claude 33
Edge, David 49
Eisenstein, Elizabeth L. 29–30
electric vehicle example 56, 60
electricity imaginaire 131–3
Ellul, Jacques 15–17
entrepreneurs, definitions 77
ethnomethodology 73–6
Eve future (Villiers de L’Isle-Adam) 127–8
evolution of technical object 8
evolutionary economics 109–12
excluded users 69
expelled users 69
expert systems examples 36
Febvre, Lucien 13–15
Felsenstein, Lee 135–6
Fessenden, Reginald 153
Figuier, Louis 130
Fischer, Claude 96, 103, 151
Flammarion, Camille 129, 143
Fleck, James 35–6
Flichy, Patrice 12, 69, 72, 89–90, 96, 134, 140, 143, 149–51, 154, 159
Index

Foray, Dominique 9, 18, 102–3, 105, 107–9, 148
Ford/GM example 89
Forth rail bridge example 91–2
Fragments d’histoire future (Tarde) 128
frames of functioning 82

see also imaginaire, technological imaginaire and frame of functioning
frames of reference 80–87, 123–4
frames of use 82–5
France, Anatole 128–9
Freeman, Christopher 22–3, 90, 114–15, 117–19
Freysenet, Michel 36–7
Fridenson, Patrick 146
Friedmann, Georges 32
Fujimura, Joan 76
Fulchiron, Jean-Claude 150
Furet, François 28–9
Gallie, D. 33
Garfinkel, Harold 74–5, 96
Gash, Debra 70
Gaston Lagaffe 56
Gates, Bill 137
Gaudin, Thierry 120, 125, 146
Geddes, Patrick 131
Gernsback, Hugo 129
Gerson, Elihu 76
Giard, Luce 92
Giedion, Siegfried 37
Gilfillan, S. Colum 25
Gille, Bertrand 14–15, 104–5, 107
Giraud, Alain 152
Goffman, Erving 80, 85
Google 161
Gouletquer, Pierre 47
Granovetter, Mark 13
Gras, Alain 149
Griesemer, James 78–9, 160
Griliches, Zvi 7, 10
Gross, Neal 9–10
Guterl, Fred 162
Hall, Stuart 66–7, 69
harnessing example 23–4
Haudricourt, André-Georges 15
Hawkes, Terence 59
Hawkins, Richard 148
Heilbroner, Robert L. 25
Hennion, Antoine 154
Heritage, John C. 74
Herskovits, Melville 45–6
Hert, Philippe 69
Hiltz, Starr Roxane 139
Hirsch, Eric 68
Hoddeson, Lilian 65
Hoffsæs, Colette 33
holography example 22
Homebrew Computer Club 136
Hounshell, David A. 88, 146
Hughes, Thomas 26, 84, 104, 112, 132, 157
Hugo, Victor 127
hybrid corn studies 7, 9–10
ICT studies
business environments 70–71
ethnomethodology 75–6
uses 68–70

see also information technology, uneconomic adoption
imaginaire
discourse examples 130–33, 138–43
genealogies of 120–23
producers 126–30
role in technological development 133–5
slow development 123–4
social imaginaire and frame of use 125–6, 149–52
technological imaginaire and frame of functioning 145–9
incorporation of ICT objects 68
incremental innovation 114
influence 121–2
information technology, uneconomic adoption 134
‘innerness’ of technical objects 86
Innis, Harold 27–8
innovation
analysis 163–5
definitions 6–7, 55
phases 157–62
innovation taxonomy 114–15
innovation users 153
Intel 136
interactionist sociology 76–9
Internet imaginaire 138–43
interpersonal contact 11
interplanetary communication 128–9
Inuit example 45
Invention and Economic Growth (Schmookler) 20
Isambert, François-André 72
Jennings, Tom 140
Jobs, Steve 136
Jouët, Josiane 48, 65, 68–9, 82, 93, 161
Katz, Elihu 11, 67
Kline, Ronald 69, 84
Kling, Rob 140
Knight, Kenneth 110
Kondratiev, Nikolai 116–17
Kroeber, Alfred 25
Kuhn, Thomas 48, 112
La Science et ses réseaux (Callon) 54
La Vie électrique (Robida) 127
Laboratory Life, The Construction of Scientific Facts (Latour and Woolgar) 53, 63–4
Lacaze, Dominique 127
Landes, David 5
Latour, Bruno 3, 53–61, 147
Laughlin, Charles 47
Lazarfeld, Paul 27
Le Bas, Christian 9, 18
Le Chateau des Carpathes (Verne) 127
Le Travail (Zola) 128
Le Vingtième Siècle (De Robida) 127
learning by doing 8, 104
learning by using 8, 103
Lefebvre des Noëttes, Richard 23
Leroi-Gourhan, André 43–6
Les Misérables (Hugo) 127
letter sender example 81–2
Lévy, Pierre 40
Levy, Steven 135, 144
Licklider, Joseph 138–9
Lievroux, Leah 119
Linhart, Danièle 32
literature see science fiction
Livet, Pierre 94
Livingstone, Eric 74
Livingstone, Sonia 68
lock-ins see non-optimal lock-ins; technical lock-in
long cycles 116–19
Looking Backward (Bellamy) 126
Lorenz, Konrad 155
Lynch, Michael 72, 74, 96
Mackay, Hugh 66
Malerba, Franco 22
Mallet, Serge 32
Mangematin, Vincent 60
Mansfield, Edwin 7
Marchand, Marie 162
Marconi, Guglielmo 117, 129, 146, 151, 153, 161
market characteristics, as mediating technology and organization 38–9
Marshall, Alfred 101
Martí, Bernard 148
Martin, Michéle 103
Marvin, Carolyn 124, 130–31
Marx, Karl 3, 31, 101
Marx, Leo 130–31
material culture 46
matterism 28
Maunoury, Jean-Louis 18
Mauss, Marcel 43–4, 163
McCloskey, Donald 109
McGuire, J.E. 72
McLuhan, Marshall 27
Mead, George H. 86
Méadel, Cécile 151
media, sociology of uses 67–70
mediology 28
Melia, T. 72
Mendelbaum, Maurice 65
Mensch, Gerhard 22, 116–17
Midler, Christophe 63, 162
milieu extérieur 45
milieu intérieur 44–5
milieu technique 45
Minitel examples 69, 93, 161
Misa, Thomas J. 25–6
Monjardet, Dominique 38
Montgollier, Joseph de 146
Moore, Fred 138
Morley, David 67
Moscovici, Serge 31
motor car example 82–5, 146–7
see also Citroën 2CV example
Mowery, David 19
Mueller, Milton 119
Index

Mumford, Lewis 143–4

Nadar (pseudonym of Gaspard-Félix Tournachon) 127

Naville, Pierre 40

Nelson, Richard 13, 18, 110, 114

network externalities 103–4

The Network Nation, Human Communication via Computer (Hiltz and Turoff) 139

networks of influence 10

see also technoscience networks

Networks of Power (Hughes) 104

Noble, David 34–5

non-optimal lock-ins 106–7

nuclear reactors example 106–7

numerical control machine tools examples 34–5

object worlds 79

objectification 68

Odasz, Frank 140

Ogburn, William 25

operative sequence 44

opinion leaders, distinction from first adopters 12

optical pulsar discovery study 74

Orlikowski, Wanda 139–40

Orsenigo, Luigi 110–11, 113

Ortsmann, Oscar 40

Oudshoorn, Nelly 72

Ozouf, Jacques 29

Pacey, Arnold 71

Painting and Experience in Fifteenth Century Italy (Baxandall) 154

Pasquier, Dominique 69

Pasteur, Louis 55

Patterns of Intention (Baxandall) 154

Peaucelle, Jean-Louis 33

The People’s Choice (Lazarsfeld) 27

People’s Computer Company 135

Perez, Carlota 114

Perriault, Jacques 69, 120–21

Perrin, Jacques 37–8, 118

Perrot, Michelle 38

Personal Computer imaginaire 135–8

Pestre, Dominique 71

Pharo, Patrick 73

Pinch, Trevor 49–52, 71–2, 80, 84

plans, definitions 75–6

Poirier, Jean 71

The Poverty of Philosophy (Marx) 31

Prece, William 129

printing press, effects 28–30

process innovation

distinction from product innovation 6

as having predictable demand 20

product information 11

product innovation, distinction from process innovation 6

Prouls, Serge 94

Quéré, Louis 51, 64, 73, 86

Quirk, John 132

qwerty keyboard example 106

radical innovation 114

railway carriage example 155

Rallet, Alain 94

Ralph 124C 41+ (Gernsback) 129

re-invention 13

Real, Bernard 6

reference groups 77

rejecters 69

repairs 84

resisters 69

Resource One 135

retribalization 27

Reynolds, Barrie 46–7

Rheingold, Howard 139, 141, 143

Ricardo, David 3

Rice, Ronald 13

Ricoeur, Paul 75, 99–100

Rip, Arie 134, 162

Robbins, Lionel 4

Robida, Albert 127

Robinson, Mike 76, 85–6

Rogers, Everett 10–11, 13, 18, 119

Roosevelt, Theodore 132

Rosenberg, Nathan 8, 14, 19, 21, 103–4, 110

Rosier, Bernard 107, 119, 162

Roszack, Theodore 137

Ryan, Bryce 10

Sadoul, Jacques 144

Sahal, Devendra 114

Sappho project 23, 90
Index

Schaffer, Simon 49
Schmookler, Jacob 20
Schumpeter, Joseph 5–6, 102
Schütz, Alfred 73
science, as organizing work 37–8
science fiction 126–30
Science in Action (Latour) 54
science in-the-making
  as negotiation 48–9
  as rhetorical 53
SCOT (Social Construction of Technology) 49–50
script 66–7
Segal, Howard 126
Segrestin, Denis 156
Serrès, Michel 72
Shapin, Steve 49
Shapiro, Carl 103, 106
Shibutani, Tamotsu 77
Silverstone, Roger 67–8
Simondon, Gilbert 92, 111–12, 147
simultaneity of inventions 25
Singer, Charles 18
Smith, Adam 3
social constructivism approach see technology, as social artifact
social worlds 77–8
socio-technical frames 79–87, 152–7, 161–2
socio-technical history, definitions 100–101
socio-technical systems school 32
Sol 136
solar house example 79
Solow, Robert 5
spokesperson metaphor 54–5
SST (Social Shaping of Technology) 49
Star, Susan Leigh 76, 78–9, 160
steam engine imaginaire 131
stirrup example 23
strategic actors 60
strategists 87–91
Strauss, Anselm 77
strong programmes 48
Suchman, Lucy 75, 96
supply–push theories 21–3
Sur la pierre blanche (France) 128

tacticians 87–8, 92–6

Tarde, Gabriel 128
Taylor, Robert 32, 37–8
Taylorism 32, 37–8
technical convergence 45
technological change 5
technological competition 101–9
technological complementarities 104–5
technological controversies 49–50
technological determinism, and the organization of labour 31–40
technological frameworks 49
technological lock-in 105–6
  see also concretization
technological moments 26
technological paradigms 112–15
technological revolutions 114–15
technology
  as cultural transformation 15–18
  historians’ analysis 13–15
  as a language 47
  as missing factor of production 3–7
  as social artifact 48–53
technology analysis model
  frames of reference 80–87, 123–4
  objectives 79–80
  socio-technical action
    during innovation 87–91
    during stability 91–6
technoscience networks
  actors 58–60
  context 60–62
  limitations 62–5
  networks 57–8
  overview 53–7
  telegraphy examples 28, 84, 90, 128, 134, 150–52
telephony examples 83–4, 150, 151
Tesla, Nicolas 129
Thévenot, Laurent 94, 99
Thomas, Dorothy 25
threshold models 13
Thuillier, Pierre 72
time passage
  as evolutionary 109–12
  long cycles 116–19
  as multiple paradigms 112–19
  technological competition 101–9
  viewed as history 99–101
Toda example 45–6
tools, and gestures 44
Index

Touraine, Alain 56
Tournachon, Gaspard-Félix see Nadar
triode example 64–5
Turkle, Sherry 68
Turoll, Murray 139
Twenty Thousand Leagues under the Sea (Verne) 127
‘two-step flow’ thesis 27

user-strategists 90–91
users’ roles
  adjusting technical objects 92–4
  cooperation 94–6
  during innovation 87–91
  in information technologies 70–71
  overview 65–6
  semiotic approaches 66–7
uses, sociology of 65, 67–70
Usher, Abbott P. 25
Utterback, James 19, 161

Valente, Thomas W. 13
Van Lente, Harro 134, 162
Varian, Hal 103, 106
VCR example 93
Velkovska, Julia 69, 93
Vercruysse, Jean-Pierre 150
Verhoest, Pascal 150
Verne, Jules 126–7
Veyne, Paul 100
videophone examples 95

Villiers de L’Isle-Adam, Augustine, de 127
The Virtual Community (Rheingold) 141
Von Hayek, Friedrich 4
Von Hippel, Eric 90, 153, 156
von Siemens, Werner 131

Walras, Léon 6
water mill example 24
weak determinism 25
Weber, Max 100
Webster, Juliet 35
The Well 139–41
Wheelwright, Steven 79
White, Lynn 23
Williams, Raymond 123
Williams, Robin 35, 49
Williams, Rosalind 130, 132–3, 144
Winner, Langdon 52
Winter, Sidney 13, 110, 114
Wired (journal) 143
Woolgar, Steve 53, 60, 64, 66, 72
Wozniak, Steve 136
Wyatt, Sally 69
Yates, JoAnne 70, 91, 134

Zitt, Michel 20
Zola, Émile 128
zoology museum study 78–9