Academic institutions, 208–209
Access to information technology. See also Affordability; Content of digital resources; Electronic literacies; Rural areas comprising a broad array of factors, 46–48, 50, 51, 58, 199, 213 contact with other users affecting, 156–157 cost of computers and operating software, 32, 47, 62–63 cost of Internet access, 52 cultural barriers to, 45–46 educational level and literacy affecting, 56, 57–58, 59 lack of linguistic diversity, 92–96 physical access as only one aspect of, 118–119 race and ethnicity as a factor, 37, 55, 57–58 socioeconomic factors, 29, 37, 49–52, 54–58, 59 Access models. See Conduits model of access; Devices model of access; Literacy model of access Affordability cost of computers and operating software, 32, 47, 62–63 cost of Internet access, 52 plans to develop low-cost systems, 65–69 African Americans Internet access rates for, 7, 55, 56, 57–58 television diffusion rates for, 37 Africa, sub-Saharan, 19 Agency of International Development (USIA), 5 Agre, P. E., 187–188, 211, 212 Amazon.com, 64–65 American Standard Code for Information Exchange (ASCII), 203 Antiglobalism movement, 192, 193–195 Apprenticeship and mentoring, 121 Arabic language computing, 59, 101–102 ARPANET, 24 ASCII, 203 Asian Americans Internet access rates, 56 school computer use by, 130–131 Associational technologies. See Information and communication technology (ICT); Networks Audiovisual media, 27, 87 Automobile industry information-based capitalism influencing, 15–16 Banglalore, India, 60, 85 Bateson, Gregory, 110 Behavioral change, 211–212 Beijing, China, 61
Index

Beijing Normal University, 143
Bilingual programs, 135
BITNET, 24
Blind persons
access to information technologies, 28, 90, 169
Bolter, Jay David, 115
Bonding social capital, 155
Bourdieu, Pierre, 153
Bourguignon, Francis, and C. Morrison, 20
Brazil, 9, 164
Committee for Democratization of Information, 125–127
low-cost computer development project in, 63–66
Sampa.org project in São Paulo, 87, 165–166
Bresee Foundation, 166–167
Bridging social capital, 155
Broadband access, 58, 69
Brown, J. S., A. Collins, and P. Duguid, 124
Bulletin boards, 105–107, 117, 187
Bush, George W. (administration), 12, 217n.1
Bush, Vannevar, 26, 113
Cable television, 33–34, 73
California, 9. See also Los Angeles; Oxnard; Riverside
the 2001 energy crisis, 35
Capitalism. See also Market mechanisms
global capitalism, 12–13, 15–18
information stage of, 12–13, 38–39
Castells, Manuel, 9, 13, 21–22, 34, 93, 218n.3
Catalytic effects of information technologies, 212
Censorship of Internet content, 183, 184
Children’s Partnership study, 88, 89
Chile, pilot program in, 142
China, 9, 23
Beijing Normal University, 143
educational technology projects in, 142–144
Internet access in, 61–62
Internet surveillance by, 197
restrictions on Internet use in, 182–183, 185
Chinese language, 61
Christensen, C. M., 64–65
Citizen feedback interactive programs, 172–173, 177, 179–181
Civil society, 185–187
Class analysis, 209–210
Class stratification and classroom computer access, 129–137
income inequalities, 18, 20–24
and Internet diffusion, 54–55, 56
role of the English language in, 100–101, 102
Clinton, William (Bill), 1
Coding biases, 203–204
Cognitive Academic Language Proficiency, 117–118
Collective identity, 93–95, 104–105
Comitê para Democratização Informática (CDI), 125–127
Committee for Democratization of Information, Brazil, 125–127
Communication. See also Computer-mediated communication (CMC);
Language; Multimedia; Online communication; Print media symbolic, 22
technology-mediated vs. face-to-face, 146, 148–149, 159
Communication technologies. See Information and communication
technology (ICT)
Communities, 153, 186–187
assessing the information needs of, 90–91
data base development for, 91
Internet content production by,
involvement of important to
technology access, 4, 5, 163,
199–202
learning communities, 120–121, 124
virtual communities, 146, 159,
160–162, 187
Community Digital Initiative,
164–165
Community informatics, 162–163,
169
Community involvement in
technology access, 4, 5, 163,
199–202
Community news services, 87
Sampa.org project, 87, 165–166
Community Radio Internet project,
Sri Lanka, 170–171
Community technology centers, 75,
76, 127, 169
Community Technology Centers
Network (CTCNet), New York,
127
Community technology projects
community technology centers, 75,
76, 127, 169
complementing community centers,
166–167
computer kiosks, 1, 85, 91, 163,
179
mapping and connecting community
resources, 162–163, 165–166, 169
social capital promoted through,
163
telecentros, 75, 76, 77–79, 199–201
Computador popular (people’s
computer) development project,
Brazil, 65–66
Computer education, 9, 125–129,
137–138, 179. See also Skill-levels
in information technologies
Computer-enhanced education,
129–135
Computer kiosks, 1, 85, 91, 163,
179
Computer literacy, 111–113,
134–135
Computer-mediated communication
(CMC), 24, 25, 27–28, 172
literacy in, 117–119
Computer technology. See Internet;
Personal computer
Conduits model of access. See also
Teledensity
broadband connectivity, 58, 69
diffusion of conduit services, 33–34,
57–58
electrification, 13, 34–35
Internet diffusion, 50–51, 59, 60
teledensity, 33, 34–35, 35–37,
50–51
Connectivity. See Conduits model of
access; Internet access
Content of digital resources. See also
Economic development
information; Internet; Language
content of digital resources
assessing needs community-level
needs for, 90–91
censorship of or restrictions on,
182–184, 185
digital content, 47, 81
need for diversity in, 83–84
Corea, S., 210–211
Costa Rica, technology access
program in, 142–143
Cost of information technology. See
Affordability
Critical pedagogy, 123–124
Critical theory of technology,
209–210
Crossnational comparisons
costs of Internet access, 52
economic stratification and
inequalities, 18–21, 22, 23–24
electrification, 34–35, 49–52
Internet access and diffusion, 49–52,
82–84, 181–185
native language Web pages, 97
telescommunications infrastructure,
70–71
television diffusion rates, 37
Cuban, L., 41, 123
Cultural barriers to access, 45–46
Cummins, J., 117
Cyber cafés, 59, 75, 76, 77
Cyberhood, 166–167
Cyberpessimism, 159, 160
Cyberspace, 161. See also Internet

de Castell, Suzanne, and A. Luke, 40–41
Dell Computer
as a model information-based technology company, 16–18
Democratization, 172. See also Political association online
Internet diffusion and, 181–185
Design issues in information technology, 203–204
to ensure greater access, 211 (see also Social inclusion)
Desktop interface
office-based design of, 203
de Soto, Hernando, 174–175, 177
Developed countries. See also Europe; United States; and by country
high GDP in, 19
income stratification within, 21–22
Internet access in, 52–58
OECD countries, 50–52, 98–99
Developing countries. See also Brazil; China; India; Sri Lanka
access to public documents and data a need of, 173–174
computers per capita in, 63
income stratification in, 22–24
information needs of, 84–85 (see also Economic development information)
low GDP in, 18–20
uneven development effects in, 59
Devices model of access, 11–12, 31–32. See also Personal computer radio diffusion, 31, 33–34
telephone diffusion, 33, 34–35, 35–37, 50–51
television diffusion, 31, 33–34, 37

Dhar, India
rural technology project in, 85, 91, 171–172, 179–181
Diamond, L., 185–186
Digital content. See Content of digital resources
Digital divide, 1, 11, 199, 210, 222–223n.15. See also Access to information technology
in classroom computer access, 129–135
comprising an array of inequality variables, 6, 199, 213
as a concept bipolar or too simplified, 6–8, 46, 209
devices conception of, 12, 217n.1
(see also Devices model of access)
at the international level, 82–84, 138 (see also Crossnational comparisons; Language content of digital resources)
in Internet access, 51, 52, 53–58
in personal computer ownership, 63
Digital resources. See Information and communication technology (ICT)
Dikhanov, Yuri, and M. P. Ward, 20–21
Dimmagio, P. J., 199, 207, 208, 214
Disabled persons. See also Health-related information and networking
access issues of, 57, 89–90
blind persons’ access, 90, 169
use of the Internet, 28–29
Disadvantaged. See Developing countries; Low-income populations; Minorities
Disease prevention software, 85
Distance education. See Internet-based education
Districtwide intranets, 179–181
Domains on the Internet
global statistics on, 81–84
shared accounts, 59
Dot-com businesses, 11
Dystopian view of information technology, 159, 169

E-commerce Web sites, 168, 179
Economic development information, 84–85
diverse language access important to, 102–103
Economic stratification across nations, 18–20
within nations, 18, 20–24
Education. See also Learning; Literacy
bilingual, 93–94, 135
democratization of the classroom, 184
as a factor in information technology access, 59
involving communities of practice, 120–122, 146
mass education, 109–110
social context of, 119–120
social reproduction in, 123
Educational level
and Internet access, 56, 57–58, 59
Educational systems, 141–142, 181
Educational technology, 88, 124–125, 152, 221n.8. See also Internet-based education
computer access in classrooms, 123, 129–135
computer education, 125–129, 137–138, 179
computer-enhanced education, 129–135
in developing countries, 86–87, 138–144, 169 (see also by country)
examples of, in the U.S., 135–138
Internet access, 136–137, 140
Egypt, 9, 47, 59–61
educational technology programs in, 139, 144, 169
English dominating the Internet in, 99–102
Internet access in, 58–59

Ministry of Education, 139, 141–142, 184
Technology Development Center (TDC), 139–140
21st Century Clubs in, 142, 169
Electrification, 13
crossnational comparisons of, 34–35
Electronic archives, 218n.8
Electronic elections, 177–178
online voting, 222–223n.15
Electronic literacies, 111, 118, 214. See also Literacy
computer literacy, 111–113
computer-mediated communication (CMC) literacy, 117–119
information literacy, 113–115
multimedia literacy, 115–116
skill-levels in, 38, 39, 44–46, 220
Electronic meeting halls, 187
Electronic news media, 26, 187
Elite groups, 55
school computer use of, 131–134
Elite universities, 147
E-mail, 117. See also Computer-mediated communication (CMC)
Enculturation, 120–122
English language
class stratification role of, 100–101, 102
dominance of the Internet, 96–99
as the global language, 94–96
Enlaces program, Chile, 142
Ethnographic research, 9–10, 47
Europe
Internet portals for the disabled in, 90
European Computer Driving License, 169
European Union, 218n.2
Face-to-face vs. technology-mediated contact, 146, 148–149, 159
“Falling Through the Net” reports, 54
Falun Gong religion, 197
Family-related online information, 88
Feenberg, A., 209–210
Female-headed households
   Internet access rates for, 57–58
Financial information online, 88
Finland, broad Internet access in, 52, 53
Foshay Learning Center, Los Angeles, 137–138
France
   low Internet connectivity in, 52, 53
   Minitel system in, 53, 62
Frankfurt school, 209
Fresa Project, 135–137
Gee, J. P., 39, 45
Gender
   Internet access and, 55, 61
   literacy and, 46
George Foundation, 85
Germany
   electrification in, 34
Global capitalism, 12–13, 15–18
Global English, 94–96
GNP. See Gross National Product (GNP)
Government
   citizen access to public documents
      and data, 88, 173–177, 183–184
   citizen access to resources of, 88, 172, 173–174
interactive citizen feedback
   programs, 172–173, 177, 179–181
   providing electrification and
      infrastructure, 34, 35, 53
   supporting access programs, 2–3, 5, 9, 53, 65–66, 75, 76, 78–79
Granovetter, M., 155
Graphics. See Visual media on the
   Internet
Greece, low Internet connectivity in, 52, 53
Gross National Product (GNP), 219n.4
   crossnational comparisons, 18–20, 23
   and Internet diffusion, 59
Guandong, China, 61
Gurstein, M., 162, 163
Gutenberg revolution, 39–40, 204–205
Gyandoot rural technology project, 85, 91, 171–172, 179–181
Hampton, Keith N., 158
Handheld computing devices, 66–69
Hard vs. soft media determinism, 204–205
Hargittai, Ezster, 50–51, 53
Harlem
   HarlemLive Internet-based youth publication, 92
   Playing2Win, 127–129
Harnad, Stephen, 25, 26, 27
Hawai‘i
   ethnographic research in, 47
   native language content development in, 103–107
Health-related information and
   networking, 28–29, 188–191
   in India’s village knowledge centers, 85–86
He, K., and J. Wu, 144
High-income groups. See Elite groups
Hindi language, 102–103
Hirsch, E. D., 119
Hispanics
   Internet access rates of, 55, 56, 57–58
   school computer use by, 130–131
   television diffusion rates for, 37
Hole-in-the-Wall computer kiosks, 1, 85, 91, 163, 179
Holland, 34
Hornberger, Nancy, 107
Host domains. See Domains on the
   Internet
   Human resources, 47, 109
Hypertext, 26
ICT. See Information and
   communication technology (ICT)
   Identity formation, 93–95, 122
Images. See Visual media on the Internet
Income level
as a factor in Internet access, 54–55, 56–58
Independent Media Center, 195
India, 172–173
development issues of, 23, 209–210
educational technology in, 86–87, 181
Gyandoot rural technology project, 85, 91, 171–172, 179–181
Hole-in-the-Wall computer kiosks project, 1, 85, 91, 163, 179
Institute of Technology (TeNet), 71–73
Internet access in, 60–61
land issues and the land record system in, 175–177, 179, 210
local and regional language software in, 102–103
the Simputer project, 66–69
street children's project, 164
telecommunications infrastructure, 71–72, 74
village knowledge centers project, 85–86, 91, 171
Industrial revolutions, 12–13
informationalism as the third revolution, 12–13, 38–39
Infertility-related networking, 188–191
Information Age Town contest, Ireland, 2–4
Information-based technology companies, 16–18
Information and communication technology (ICT). See also Internet; Personal computer
catalytic effects of, 212
design issues in, 203–204, 211
effects on productivity of, 183–184
enhancing transparency in government and business, 183–184
importance of access to, 29–30
institutional embeddedness of, 208–209
sociotechnical models of, 206–207
supplementing other forms of interaction, 160, 162, 191
technosocial interaction of, 4, 7, 12, 183, 214–215
Information and Decision Support Center, Egypt, 58
Information economy, 11, 14–18, 18, 29–30
information-related employment, 22
Information literacy, 113–115
Information revolution, 11–12, 14–15, 93
global dimensions of, 15–18
Information, Service, Integration, and Schooling (ISIS), 169
Innovation
and behavioral change, 211–212
innovation diffusion, 219n.3
the innovator's dilemma, 63–65, 74
Institute of Technology, India (TeNet), 71–73
Institutional embeddedness of technology, 208–209
Institutions, 153, 208
Instruction online. See Internet-based education
Intellectual colonialism, 96
Interactive broadcasting technologies, 25–26
citizen feedback programs, 172–173, 177, 179–181
Internet. See also Online networks;
Online services; Virtual communities
dot-com businesses, 11 (see also Information economy)
evaluating information on, 113–115
growth, 81–83
information overload on, 26
supplementing other forms of interaction, 160, 162
Internet access
  connectivity rates, 49–52
costs of, 52
crossnational comparisons of,
  49–53, 58–62, 81–84
digital divide in, 51, 52, 53–54
  involving community structures in
  access projects, 4, 5, 163, 199–
  202
physical access as only one aspect
  of, 118–119
public access centers, 75–79
shared Internet accounts, 59
teledensity and Internet diffusion
  rates, 50–51, 59, 60
in the U.S., 53–54
Internet-based education, 144–145
  advanced placement instruction,
  146–148
economics of, 150–152
evaluation of, 148–150
for rural areas, 86–87
teacher training, 148
university courses, 150–152
Internet content. See Content of
digital resources
Intranets
  serving regions, 179–181
Ireland, “information town” contest
  in, 2–4
ISIS, 169
Italy, low Internet connectivity in, 52,
  53
Jarboe, K. P., 8
Jenkins, Henry, 7
Jjunjhunwala, Ashkok, 71, 72–73
Karnataka, India, 176–177
Kawai‘ae’a, Keiki, 105
Kiosks (computer), 1, 85, 91, 163,
  179
Kling, Robert, 7–8, 206, 207
Kothmale Community Radio
  Internet project, Sri Lanka,
  170–171
Kraemer, K., L. J. Dedrick, and S.
  Yamashiro, 16
Kranzberg, M., 183
Laboratory of Universal Access,
  Brazil, 66
Language. See also Languages
  bilingual education, 93–94, 135
  collective identity and, 93–95,
  104–105
  and identity, 93–95
  oral vs. written, 25
threat to linguistic diversity, 94
Language content of digital resources,
  81, 213–214
affect diverse access, 92–93
built-in biases of, 98, 203
domination of English, 96–99,
  100–102
machine translation techniques, 99
native languages online, 61, 97,
  103–107, 144, 179
Languages
  Chinese language online, 61, 144
  Egyptian Arabic, 99–100
  English as the global language,
  94–96
  Hawai‘ian language online,
  103–107, 179
  Hindi, 102–103
  Tamil, 103
  Vai script, 42–43
Lapin, Howard, 137
Learning. See also Education;
  Educational technology
  constructivist approaches to,
  119–120, 145
  identity formation a part of, 122
  learning communities, 120–121, 124
  situated, 123–124
Leoki bulletin board, Hawai‘i,
  105–107
Levine, P., 196–197
Levinson, P., 205
Liberia, 42
Lievrouw, L. A., 38
Lin, N., 158
Linux operating system
free software solutions on, 170
plans to bundle with low-cost
systems, 66, 68
Literacy. See also Electronic literacies;
Language; Print media
defined and characterized, 39–40,
110–111
as a factor in information
technology access, 38–39, 59
the literacy divide, 41–43
literacy pedagogy, 40–41, 220n.3
as a set of social practices, 41,
43–44, 45–46
social context of, 42, 44–46, 108,
218n.2
textual literacy, 115–116 (see also
Print media)
Literacy model of access, 38–39,
43–44, 46–48
skills acquisition, 43–45
social contextuality, 42, 44, 45–46
Longitudinal ethnographic studies,
214–215
Los Angeles
Foshay Learning Center, 137–138
public utilities in, 34, 35
Low-cost computers
efforts to develop, 65–69
Low-income populations. See also
Class stratification; Developing
countries; Minorities; Rural areas
computer education for, 125–127,
134–135
information needs of, unmet, 83,
88–89
marginalization of, 173, 209
providing greater Internet access to,
1–2, 56, 57, 79, 169–170
school computer use among,
130–131
socioeconomic factors in access, 29,
37, 49–52, 54–58, 59
television diffusion rates for, 37
the urban poor, 2
Malinformation, 114
Mandarin Chinese language, 144
Market mechanisms, 34–35, 213
encouraging high-end development,
64–65, 74
as incentives for public access
centers, 78
Márquez, Gabriel García, 112
Mar Vista Elementary School,
California, 135–137
McLuhan, Marshall, 204
Media determinism, 204–205
Meeting halls, 186
Melbourne WTO protest, 194
Mentoring, 121
Meta-language comprehension, 43
Milanovic, Branko, 20–21
Minitel system, 53
Minorities
disadvantaged groups, 214
Latino community access program,
169–170
marginalized groups, 186
Minorities. See also Disabled persons;
Low-income populations
Misinformation, 114
Mobile telephones, 60. See also
Teledensity
Model Computer Lab project, 5
M. S. Swaminathan Foundation,
168
village knowledge centers project,
85–86, 91, 171
Multilateral Agreement on Investment
(MAI), 193–194
Multimedia, 27–30, 169, 170–172
potential equalizing effect of, 116
Multimedia literacy, 115–116
Music on the Internet, 27, 87
NanTou primary school, ShenZhen,
China, 143–144
Narrowcasting, 159
National information strategy, 53
National Telecommunications and
Information Administration, U.S., 1
Native language bulletin boards, 105–107
Neo-Nazis, 196
Netville, Toronto, 158–159
Networks, 24, 187–191. See also
Online networks
function of broad networks of weak
social ties, 155, 157–158, 190, 196
health-related information and
networking, 28–29, 188–191
of learning, 121
value of informal, 149–150
New Delhi, computer kiosks in, 1,
85, 91, 163, 179
New institutionalism, 207–209
News media. See also Community
news services
electronic, 26, 187
newspapers, 186–187
New York
Community Technology Centers
Network (CTCNet), 127
HarlemLive Internet-based youth
publication, 92
Playing2Win, 127–129
Nongovernmental Organizations
(NGOs), 191–192, 193
Norm social capital, 155–156
Oddachatrammarket.com, 168
OECD countries, 50–52, 98–99
Office-based desktop interface, 203
Ong, Walter, 215
Online communication, 27–28. See also
Online networks
bulletin boards, 105–107, 117, 187
chat rooms, 28
e-mail, 117
virtual communities, 146, 160–162,
187
Online education. See Internet-based
education
Online networks, 187–191. See also
Networks
political or activist, 88, 191,
191–197
in science and research, 144–146,
218n.8
of the socially alienated, 29, 196,
197
virtual communities, 146, 160–162,
187
workplace-related, 13, 14–15
Online-offline interactions, 160, 162,
191
Online services, 28, 88–90
community news services, 87 (see
also Sampa.org)
complaint services, 179–181
e-commerce Web sites, 168, 179
Online voting, 222–223n.15
Organization for Economic
Cooperation and Development
(OECD), 98–99
connectivity of member countries,
50–52
Oxnard, California, 135–137
Package model of computing,
206–207
Participatory Rural Appraisal (PRA),
90–91
Personal computer, 66–69
costs of computers and software, 32,
47, 62–63
efforts to develop lower-cost
systems, 65–69
emergence of in the U.S., 203
learn-to-earn programs to obtain,
63
multimedia computers, 116
social biases in technology of,
203–204
Personal enrichment, 88
Physical access. See Internet access;
Personal computer
Piaget, Jean, 119
Playing2Win, Harlem, 127–129
Political association online, 88, 191,
197
of Nongovernmental Organizations
(NGOs), 191–192, 193
<table>
<thead>
<tr>
<th>Index</th>
<th>257</th>
</tr>
</thead>
<tbody>
<tr>
<td>political space for persecuted groups, 197</td>
<td>Robison, K. K., and E. M. Crenshaw, 49–50, 109, 182</td>
</tr>
<tr>
<td>of popular movements, 192–196 surveillance of, 197</td>
<td>Roosevelt, Franklin Delano, 35</td>
</tr>
<tr>
<td>Popular movements using the Internet, 191–196</td>
<td>Rural areas information needs in, 90–91, 102–103</td>
</tr>
<tr>
<td>Post-Fordist management techniques, 14–15</td>
<td>Rural technology projects e-commerce Web sites, 168</td>
</tr>
<tr>
<td>Postindustrial era, 38–39, 93</td>
<td>Gyandoot rural technology project, 85, 91, 171–172, 179–181</td>
</tr>
<tr>
<td>Poverty. See Low-income populations</td>
<td>Internet-based education, 86–87</td>
</tr>
<tr>
<td>Prayas (Brazilian organization), 164</td>
<td>village knowledge centers project, 85–86, 91, 171</td>
</tr>
<tr>
<td>Print media</td>
<td>Sampa.org project, 87, 165–166</td>
</tr>
<tr>
<td>the Gutenberg revolution, 39–40, 204–205 newspapers, 186–187</td>
<td>São Paulo, Brazil Sampa.org project, 87, 165–166</td>
</tr>
<tr>
<td>Proenza, E., J. Bastides-Buch, and G. Montero, 77–78</td>
<td>Scandinavia, 34</td>
</tr>
<tr>
<td>Programming biases, 203–204</td>
<td>School computer and Internet access. See Educational technology</td>
</tr>
<tr>
<td>Project Fresa, 135–137</td>
<td>Scribner, Sylvia, and M. Cole, 42</td>
</tr>
<tr>
<td>Proxy servers, 182</td>
<td>Seattle WTO protest, 194</td>
</tr>
<tr>
<td>Public utilities, 34, 35</td>
<td>Selective exposure to information, 159</td>
</tr>
<tr>
<td>Putnam, Robert, 154, 155, 159</td>
<td>Shandong, China, 61</td>
</tr>
<tr>
<td>Radio diffusion, 31, 33–34, 34</td>
<td>Shanghai, China, 61</td>
</tr>
<tr>
<td>Radio Internet project, Sri Lanka, 170–171</td>
<td>ShenZhen, China, 143–144</td>
</tr>
<tr>
<td>Rapid Rural Appraisal (RRA), 90–91</td>
<td>Singapore restrictions on Internet use in, 182–183, 184</td>
</tr>
<tr>
<td>Regional Information Technology and Software Support Center, Egypt, 58</td>
<td>Situated learning, 123–124</td>
</tr>
<tr>
<td>Relationships, 154, 159. See also Social interaction</td>
<td>Skill-levels in information technologies, 38, 39, 220. See also Computer education; Electronic literacies</td>
</tr>
<tr>
<td>broad networks of weak social ties, 155–156, 157–158, 190, 196 weak vs. strong ties, 155–156</td>
<td>acquisition of similar to attaining literacy, 44–46</td>
</tr>
<tr>
<td>Research ethnographic studies, 9–10, 47 online communication of data, 144–146, 218n.8</td>
<td>Social capital, 155–156, 221n.4 and Internet technology, 156–160, 172</td>
</tr>
<tr>
<td>Resnick, P., 172</td>
<td>macrolevel, 181–185</td>
</tr>
<tr>
<td>Restrictions on Internet use, 182–183</td>
<td>mesolevel, 185–187</td>
</tr>
<tr>
<td>Rheingold, Howard, 160–162</td>
<td>microlevel, 155, 157, 160–163</td>
</tr>
<tr>
<td>Riverside, California Community Digital Initiative, 164–165 the Riverside Cybrary, 169–170</td>
<td>promoting through community technology projects, 163</td>
</tr>
<tr>
<td>theory of, 153–156</td>
<td></td>
</tr>
</tbody>
</table>
Social embeddedness of technology, 202, 203
social biases in technology, 203–205
social informatics, 205–207
Social exclusion or isolation, 29, 159–160, 221n.3
Social inclusion. See also Digital divide
as the aim of information technology access, 1, 28, 210–213
defined, 8–9
language and, 94–95
policy challenges to ensure, 4, 5, 211, 213
research agenda regarding, 213–215
Social interaction. See also Online communication; Relationships
face-to-face vs. technology mediated, 146, 148–149, 159
over Internet supplementing other forms of interaction, 160, 162, 191
virtual communities, 146, 160–162, 187
Social networks. See also Online networks
theory of, 161–162
weak-tie networks, 155, 157–158, 190, 196
Social reproduction, 123
Social resources, 47. See also Social capital
Social transformation, 8
Sociotechnical models of information technology, 206–207. See also Social embeddedness of technology;
Technological determinism;
Technological neutrality
Soft vs. hard media determinism, 204–205
Soviet Union (former), 12–13
Spain, low Internet connectivity in, 52, 53
Sri Lanka, 170
Stewart, A., 8
Stratification. See Class stratification;
Economic stratification
Subjectivity, 93
Surveillance tools, 197
Swaminathan, M. S. See M. S. Swaminathan Foundation
Symbolic analysts, 22
Technocratic paradigm of literacy, 41
Technological determinism, 202, 204, 208
Technological diffusion. See also Internet access; Personal computer
“disruptive technologies” and the innovator’s dilemma, 64–65, 74
rise of science and technology, 13–14
Technological neutrality, 202–203, 205, 208
Technology Academy, Los Angeles, 137–138
Technology access programs, 2–3, 5, 9, 53, 65–66, 75, 76, 78–79
Technology-based education. See Educational technology; Internet-based education
Technology costs. See Affordability
Technology Development Center (TDC), Egypt, 139–140
Technosocial interaction, 4, 7, 12, 183, 214–215. See also Social embeddedness of technology;
institutional embeddedness of technology, 208–209
Telecentros (telecenters), 75, 76, 77–79, 199–201
Telecom Eirann, 3
Telecommunications and Computer Networks Group (TeNet), 71–73
Telecommunications infrastructure, 69, 71–72, 74, 77
broadband access, 58, 69
DSL providers, 69–70
leapfrogging, 71–72
wireless local loop systems, 72–74
Index 259

Teledensity
diffusion of telephones, 33, 34–35, 35–37, 50–51
Internet diffusion and, 50–51, 59, 60
Telephones, diffusion of, 33, 34–35, 35–37, 50–51
Television, diffusion of, 31, 33–34, 37
TeNet, India, (TeNet), 71–73
Tocqueville, Alexis de, 186
Tool model of computing, 206–207
Touraine, Alain, 93
Training programs
computer training, 9, 125–129, 137–138, 179
teacher training, 148
vocational training, 88, 135
Transistor, 12
Transparency of government, 88, 173–177, 183–184
Turner, J., J. Grube, and J. Meyers, 189–190
Typographic era, 39–40, 204–205
Unicode, 203
United Nations Development Program, 18–19
United States
Agency of International Development, 5
emergence of the personal computer in, 203
examples of educational technology programs in, 135–138
number of web pages in, 82
online content in, 88–90
unequal Internet access within, 53–54, 56
United States government
Agency of International Development (USAID), 5
Department of Commerce, 54
National Telecommunications and Information Administration, 1
University courses online, 150–152
Usenet, 24
VCRs, diffusion of, 33–34
Venture capital, 65
Videocassette recorders
diffusion of, 33–34
Village knowledge centers project, 85–86, 91, 171
Virtual communities, 160–162, 187
vs. face-to-face interaction, 146, 159
Visual media on the Internet, 27, 115–116, 128
textual equivalence needed for blind access to, 90
Vocational training, 88, 135
Voluntary associations, 185. See also Civil society
Voronov, Anatoly, 96
Vygotsky, Lev S., 121
Wade, Robert, 20–21
 Weak-tie relationships, 155, 157–158, 190, 196
Web Accessibility Initiative, 89–90
Web-based bulletin boards. See Bulletin boards
Web pages. See also Domains on the Internet; Internet authoring software for, 98
education to design, 128
number of, 81–83
WELL (Whole Earth Lectronic Link), 161
Wireless local loop systems, 72–74
Woolcock, M., 153–154, 172
World Bank, 18
Education and Technology Team, 142
World Trade Organization (WTO)
opposition movement, 192, 193–195
World Wide Web. See Internet; Online networks
WTO. See World Trade Organization (WTO)
Zapatista rebels, Internet based campaign of, 192–193, 196
Zone of proximal development (ZPD), 121
Zook, Matthew, 82
Zuboff, Shoshana, 183–184, 214–215