

Index

A

- Abrashkin, Raymond and Williams, Jay,
45, 49, 63
*Danny Dunn and the Anti-gravity
Paint*, 43, 45
Danny Dunn and the Voice from Space,
7, 111
*Danny Dunn and the Weather
Machine*, 7
Danny Dunn, Invisible Boy, 44, 184
Danny Dunn, Time Traveler, 119
- Adams, Douglas, 102, 229
Life, the Universe and Everything,
182, 278
The Hitchhiker's Guide to the Galaxy,
67, 102
- Adlard, Mark
Interface, 6
Multiface, 6
Volteface, 6
- aircraft, 232, 233
Air Wonder Stories (magazine), 232, 233
- Alcubierre, Miguel, 57, 58
- Aldiss, Brian, 312
- Aldrin, Buzz, 81
- Alien* (film), 107
- aliens 95–115, 317
- Allen, Irwin, 115
- Allen, Woody, 266, 267
- Amazing* (magazine), 46, 232, 237, 250
- Analog* (magazine), 9
- Anderson, Gerry and Sylvia, 116
‘Supermarionation’ technique, 115
Captain Scarlet and the Mysterons,
97, 266
Stingray, 115
Thunderbirds, 116
UFO, 115
- Anderson, Poul
Tau Zero, 68, 129
The Avatar, 141
The Boat of a Million Years, 322
Time Patrol series, 143
World Without Stars, 269
- Anthony, Piers
Mute, 181
- antigravity, 38, 43–63, 231, 317
- antimatter, 52
- Apollo program, 2, 7, 54, 69, 70,
290, 326

- Ariane 5 rocket, 78
 Aristotle, 95
 Arkin, Ronald, 222
 Armstrong, Neil, 69, 74, 81, 234
 artificial intelligence, 160, 213–215, 223–225, 307
 Asimov, Isaac , 2–4, 8–10, 15, 39, 40, 46, 48, 59, 68, 112–114, 116, 125, 126, 143, 146, 152, 155, 161, 162, 164, 173, 204, 205, 209–223, 225, 226, 229, 236, 237, 250, 255, 261, 271, 272, 278, 288, 299, 300, 312, 313, 314, 317, 320, 327. *See also* robots
 and laws of robotics, 2, 59
 Memorial Debate 2016, 164
 “Breeds There a Man?”, 155
 “Lenny”, 299
 “Liar!”, 299
 “Nightfall”, 101, 113, 116, 117
 “Runaround”, 2, 210, 211
 “Segregationist”, 271
 “The Bicentennial Man”, 272
 “The Dead Past”, 127
 “The Endochronic Properties of Resublimated Thiotimoline”, 121
 “The Immortal Bard”, 126
 “The Last Question”, 113, 214, 278
 “The Martian Way”, 73, 113
Asimov’s New Guide to Science, 312
Asimov’s Science Fiction (magazine), 9, 71, 322, 326
A Whiff of Death, 300
Before the Golden Age, 175
Foundation Trilogy, 46, 68, 112, 113, 299
Gold, 320
Isaac Asimov’s Moons, 326
Lucky Starr novels, 74
Robot Dreams, 320
Robot Visions, 320
The Caves of Steel, 229
The End of Eternity, 125, 126, 143, 173
The Gods Themselves, 113, 162, 173
 asteroids, 74, 77
Astounding (magazine), 45, 69, 105, 113, 154, 250, 267, 273
 astrobiology, 114
 attenuation coefficient, 190–192
 automobiles, 232–238, 250–255
- B**
 Babbage, Charles, 206, 207
 Babson, Roger, 49
Back to the Future (film), 2, 3, 10, 89, 230
 Bacon, Roger, 207
 Ballard, JG
Crash, 238
 Bates, Harry
 “Farewell to the Master”, 212
 Baxter, Stephen
The Time Ships, 321
 Beagle 2 (spacecraft), 75
 Bear, Greg
I, 325
Eon, 236
 Bedford, James Hiram, 288
 Benford, Greg, 299
 “Doing Lennon”, 275
Timescape, 301
 Bennett, Charles, 256
 Bernal, JD, 68, 91
 Berners-Lee, Tim, 159, 215
 Bester, Alfred
Tiger! Tiger!, 239
 bicycle, 242, 243
 Binder, Eando
 “I, Robot”, 209
 Biosphere-2, 82
 bioterror, 309–311, 82
 Birdseye, Clarence, 49

- Blackett, PMS, 63
 black hole, 57, 142, 303
Blade Runner (film), 89, 159, 238
 Blish, James, 43, 46, 48, 270, 273
 coined term ‘pantropy’, 89
 “Beep”, 136
 “Bridge”, 45
 “Solar Plexus”, 73
 Cities in Flight, 45
 The Seedling Stars, 89, 270
 They Shall Have Stars, 269, 294
 Bohm, David, 172
 Bohr, Niels, 169, 170, 172
 Boltzmann, Ludwig, 130, 131
 Bond, Alan, 84, 92
 Bondi, Hermann, 49, 50, 55, 64
 Bonnor, William, 142
 Borges, Jorges Luis
 “The Immortal”, 278
 Bostrom, Nick, 164, 308
 Bova, Ben
 Moonwar, 326, 327
 Bradbury, Ray, 40, 72, 125, 126
 “A Sound of Thunder”, 125, 147, 321
 “The Pedestrian”, 237
 The Martian Chronicles, 72, 73
 brain in a jar, 158, 166, 174
 Brassard, Gilles, 256
 brazen heads, 207
 Brin, David, 299
 Broderick, Damien
 The Judas Mandala, 159
 Brown, Joshua, 252, 254
 Brunel, Isambard Kingdom, 230, 231
 Brunner, John
 “You’ll Take the High Road”, 241
 The Infinitive of Go, 241
 Web of Everywhere, 241
 Budrys, Algis
 “For Love”, 184
 Burnell, Jocelyn Bell, 96
 Burroughs, Edgar Rice, 59
 Barsoom series, 72
 Bussard ramjet, 68
- C**
 Caecus, Appius Claudius, 245
 Caidin, Martin
 Cyborg, 271
 Calment, Jeanne, 267, 268
 caloric restriction, 285–286
 camouflage, 183–184, 189
 Campbell, John W Jr, 100, 101,
 154, 239
 as editor of *Astounding*, 113, 267
 relationship with Asimov, 113
 role in inspiring Asimov’s laws of
 robotics, 210
 “Who Goes There?”, 105
 Čapek, Karel
 R.U.R., 207
Captain Scarlet and the Mysterons (TV),
 97, 116, 266
Captain Zeppos (TV), 255
 Card, Orson Scott
 “Ender’s Game”, 158, 159
 Casimir effect, 60, 61
 Casimir, Hendrik, 61
 cavorite, 46
 Ceres, 76, 77
 Cernan, Gene, 2, 74
 Chiang, Ted
 “Story of Your Life”, 320
 “The Merchant and the Alchemist’s
 Gate”, 321
 Clarke, Arthur C, 2, 3, 9, 40, 73, 75, 85,
 91, 112, 157, 232, 299
 “Against the Fall of Night”, 157
 “A Meeting With Medusa”, 73
 “Earthlight”, 2
 A Fall of Moondust, 69, 232
 Earthlight, 40
 Glide Path, 233
 Rendezvous With Rama, 68, 101, 102
 The City and the Stars, 157, 276, 292
 The Fountains of Paradise, 92
 Clarkson, Jeremy, 255
 Clement, Hal
 Mission of Gravity, 101

climate change, 305, 320
 cloaking technology, 195–200
 closed timelike curves, 139–146
 comet Churyumov-Gerasimenko, 39, 77
 conservation laws, 55
Contact (film), 299
 Cook, Captain James, 8
 Copernicus, Nicolaus, 93
 corpsicles, 274–275, 294
 cosmic rays, 63
 Cotard’s delusion, 163
 Crepeau, Claude, 256
 Crichton, Michael, 313
 Jurassic Park, 325
 Crick, Francis, 319
 cryonics, 267, 275, 287–289, 294
 Cummings, Ray
 “Brigands of the Moon”, 188
 Curiosity rover, 76, 83
 cyberpunk, 159
 cyborgs, 270–272

D

Dail, Charles Curtis
 Willmoth the Wanderer, 47
 Daleks, 96, 98, 271
 Danny Dunn, 111
 dark energy, 61–63, 189
 dark matter, 189
 Davis, Don, 78
 Dawn (spacecraft), 77
Dead of Night (film), 50, 64
Death Race 2000 (film), 238
 deaths in space program, 80
 de Camp, L Sprague
 “The Wheels of If”, 161
 Lest Darkness Fall, 161, 173
 Delany, Samuel R
 “Aye, and Gomorrah...”, 89
 del Rey, Lester
 “Helen O’Loy”, 209
 Deutsch, Armin J
 “A Subway Named Mobius”, 235, 260
 Deutsch, David, 145
 Devol, George, 217
 Dickens, Charles, 120
 Dick, Philip K, 155, 159, 163, 317
 award, 159
 relationship with Heinlein, 155
 view of robot technology, 212
 work as inspiration for films, 325
 “Adjustment Team”, 325
 “Impostor”, 212
 “Second Variety”, 212
 “The Electric Ant”, 156
 “The Trouble with Bubbles”, 155–156
 A Maze of Death, 156
 Do Androids Dream of Electric Sheep?, 159, 212
 Eye in the Sky, 156
 The Golden Man, 155
 The Man in the High Castle, 156
 The Three Stigmata of Palmer Eldritch, 156
 Time Out of Joint, 156, 325
 Ubik, 156
 Valis, 156
 Dickson, Gordon
 “No More Barriers”, 239
 “The Monkey Wrench”, 214
Dimension X (radio show), 40
 double-slit experiment, 168
 Drake, Frank, 111
 Drexler, Eric, 306, 307
 Driscoll, Bridget, 252
 driverless cars, 222, 253–254
 drone technology, 44, 63, 184, 222, 255
Dr Who (TV), 97, 98, 119, 265, 271, 301
 Dyson, Freeman, 104
 Dyson sphere, 110

E

- Egan, Greg
Permutation City, 326
- Einstein, Albert, 49–52, 54, 57–60, 62, 120, 131, 134, 135, 137, 142, 167, 171, 172, 257, 279, 298
- Einstein-Rosen bridge, 58
- elixir of life, 265
- Ellison, Harlan
 “I Have No Mouth, And I Must Scream”, 215
 “Soldier from Tomorrow”, 147
 “The City on the Edge of Forever”, 119
- Ellison, Ralph, 189
Invisible Man, 181
- Embleton, Ron, 266
- Emerson, Ralph Waldo, 101, 116
- Enceladus, 114
- Engelberger, Joseph, 39, 217, 226
- ENIAC, 213
- entanglement, 256–258
- epistemic state, 170–173
- E.T.: The Extra-Terrestrial* (film), 105
- ethical adapter, 222
- Ettinger, Robert, 287
- European Space Agency, 39
- Everett, Hugh, III, 172
- Ex Machina* (film), 320
- expansion of the universe, 62
- extraterrestrials. *See* aliens

F

- Farmer, Philip José
A Private Cosmos, 242
The Fabulous Riverboat, 277
To Your Scattered Bodies Go, 277
- Feinberg, Gerald, 136
- Fermi, Enrico, 109, 110
- Fermi paradox, 109–112
- Ferrell, Richard, 49
- Finney, Jack

- The Body Snatchers*, 105
- Fisk, Nicholas
Trillions, 8
- Forbidden Planet* (film), 102, 186, 203, 204, 211, 302, 311
- Fort, Charles
Lo!, 239
- Forward, Robert L., 50, 57, 64, 299
Dragon's Egg, 64
- Foss, Chris, 8
- Foster, Jodie, 59
- Frankenstein*, 297, 298, 301, 311, 312
- Frankenstein* (film)
- Franklin, Benjamin, 206, 279
- free radical, 284–285
- ftl signals, 258
- FTL signals, 133, 138
- Fuqua, Robert. *See* Tillotson, Joseph W

G

- Gagarin, Yuri, 44, 234
- Galaxy* (magazine), 136
- Galileo, 53, 95
- Galileo (spacecraft), 75
- Galouye, Daniel
 “The Last Leap”, 239
- Garrett, Randall
Too Many Magicians, 182
- Gauss, Carl, 96
- general theory of relativity, 137–145
- generation ship, 68, 91
- genetic engineering, 266, 272–274
- George, Russ, 305
- geostationary orbit, 77
- Gernsback, Hugo, 46, 106, 232, 234, 236
 concept of a subterranean gravity train, 236
Ralph 124C 41+, 234, 235
- Gibson, William, 159, 245
 description of mimetic polycarbon suit, 183

- Gibson (*cont.*)
Neuromancer, 159, 183, 277, 325
- Giger, HR, 107
- Gingrich, Newt, 46
- Gladstone, William, 6
- Glashow, Sheldon, 136
- Goddard, Robert, 72, 91, 104
- Gödel, Kurt, 142
- Gold, Tom, 50, 64
- golem, 207
- Gotthard Base Tunnel, 246
- gravitational constant, 51, 53
- gravitational waves, 57, 64
- Gravity Research Foundation, 50
- Great Eastern* (ship), 230
- Greg, Percy, 48
Across the Zodiac, 48
- grey goo problem, 306, 307
- Grimwood, Ken
Replay, 322
- Gross, David, 64
- Gunn, James
The Immortals, 268
The Listeners, 300, 301
- H**
- Haldeman, Joe
 combat experience, 107
 praise by Heinlein, 107
The Forever War, 107
- Hamilton, Edmond
 “The Earth-Owners”, 154
- Hamilton, Peter F
Pandora’s Star, 324
- Hammond, Richard, 255
- Harry Potter, 44
- Hawking, Stephen, 108, 113, 116, 143, 144, 297
 chronology protection
 conjecture, 143
- Hayworth, Rita, 136
- Heinlein, Robert A, 4, 9, 40, 67-70, 78, 91, 107, 112, 119, 124, 128, 146, 154, 155, 231, 243, 267, 268, 273, 277-281
 degree in engineering, 299
 relationship with PK Dick, 155
 use of A Macdonald as pen name, 124
 “-All You Zombies-”, 124, 124, 148
 “-And He Built a Crooked House-”, 175
 “By His Bootstraps”, 124146
 “Common Sense”, 91
 “Life-line”, 128
 “Requiem”, 69
 “The Man Who Sold the Moon”, 69
 “The Roads Must Roll”, 229
 “The Unpleasant Profession of Jonathan Hoag”, 154, 175
 “They”, 154, 175
 “Universe”, 68, 91
Beyond This Horizon, 273
Methuselah’s Children, 267, 277, 280
Orphans of the Sky, 91
Rocket Ship Galileo, 69
Starship Troopers, 107
Stranger in a Strange Land, 231, 243
The Door Into Summer, 146
The Puppet Masters, 107
The Unpleasant Profession of Jonathan Hoag, 175
Time Enough for Love, 277
Tunnel in the Sky, 242
- Heisenberg, Werner, 169
- Herbert, Frank
Dune, 269
The White Plague, 310
- Hewish, Anthony, 96
- Hillary, Edmund, 77
- Hitler, Adolf, 160
- Hjortsberg, William
Falling Angel, 152, 175
- Hoyle, Fred, 49, 64, 299

A for Andromeda, 50
October the First is Too Late, 162
The Black Cloud, 50
 Huang, Qin Shi, 265
 Hugo award, 104, 107, 116, 159, 232,
 234, 276, 294, 326
 Hulk, 8
 Huskisson, William, 252
 Huxley, Aldous, 40, 157
 Brave New World, 6, 40, 157
 Huxley, TH, 104
 Hyperloop, 247, 248

I

ice-nine, 306
 Iijima, Sumio, 86
 immortality, 38, 265, 317
 inertron, 46, 188, 231
 International Space Station, 77, 78, 79,
 82, 90, 129
Invaders from Mars (film), 155
Invasion of the Body Snatchers (film), 105,
 155, 174
 invisibility, 38, 179–200, 317
 invisible gorilla, 182, 200
 Ishii, Shirō, 310, 311

J

jetpacks, 229–230, 242–244, 255
 Johnson, Samuel, 162
 Jones, Neil R
 “The Jameson Satellite”, 287
 Jozsa, Richard, 256
 Juno (spacecraft), 75
 Jupiter, 73

K

Kelleam, Joseph
 “Rust”, 209
 Keller, David H

 “The Living Machine”, 237
 “The Revolt of the Pedestrians”, 237
 Kerr, Roy, 142
 Kipling, Rudyard
 “As Easy As A.B.C.”, 232
 “With the Night Mail”, 232
 Kirk, James T (Star Trek), 7
 Kornbluth, Cyril, 123
 “The Little Black Bag”, 122
 The Space Merchants (with Pohl,
 Fred), 73
 Krugman, Paul, 46
 Kubrick, Stanley, 59, 215
 Kurzweil, Ray, 291
 Kuttner, Henry, 123
 partnership with Catherine
 Moore, 123
 Fury, 268

L

Lanczos, Cornelius, 140, 141
 Landis, Geoffrey, 299
 landspeeder, 237
 Langelaan, George
 “The Fly”, 241
 Lang, Fritz
 Metropolis (film), 298
 Large Hadron Collider (LHC), 303–304
 Larson, Rich
 “Bidding War”, 324
 Last Thursdayism, 163
 Lazarus Long, 268, 277
 Lederman, Leon, 39
 Leiber, Fritz, 153
 “Catch that Zeppelin!”, 233
 “You’re All Alone”, 153, 154
 The Big Time, 161
 The Sinful Ones (aka *You’re All
 Alone*), 153
 Leinster, Murray
 “Sidewise in Time”, 160, 173
 L’Engle, Madeleine

- L'Engle (*cont.*)
A Wrinkle in Time, 119
- Leonard, Ulf, 193
- life expectancy in UK, 278
- light cone, 133, 140, 141
- LIGO, 64
- Locus award, 107
- London, Jack
 "The Shadow and the Flash", 188
- Long, Duncan
Anti-grav Unlimited, 322
- Longyear, Barry B
 "Enemy Mine", 107, 116
- Lorenz, Edward, 147
- Louden, Jane
The Mummy!, 234
- Lowell, Percival, 72, 104
- Lunar Reconnaissance Orbiter
 (spacecraft), 74
- Lupoff, Richard A
 "12:01 P.M.", 147
- Luttinger, Joaquin, 49–50, 55
- M**
- mad scientists, 39, 297–314, 317
- maglev, 239
- Manning, Laurence (with Pratt, Fletcher)
 "The City of the Living Dead", 157
- Mariner 10 (spacecraft), 75
- Mars, 48, 68, 71, 72, 75, 92, 93, 96, 115
 difficulty of crewed mission to, 76–84
 Mars One, 84
 Mars Reconnaissance Rover, 75
- Martin Aircraft, 244, 260
- Martin, George RR, 9
 description of chameleon cloth, 189
 "A Song for Lya", 68, 103, 268
 "Sandkings", 104
A Song of Ice and Fire, 103
Dying of the Light, 183
Fevre Dream, 232
- mass, 53, 54
- mass transit systems, 245–250
- May, James, 255
- McCaffrey, Anne
 "The Ship Who Sang", 271
Crystal Singer, 269
Dragonflight, 239
The Ship Who Sang, 90
- McDonald, Ian
Luna: New Moon, 326
- Mengele, Josef, 310, 311
- Mercury, 1, 73, 75
- MESSENGER (spacecraft), 75
- metamaterials, 192–200
- Methuselah, 267
- Metrodorus of Chios, 109
- Metropolis* (film), 298
- Michelangelo, 279
- Middlesbrough, 5–9, 40, 97
- Miéville, China
The City and the City, 323
- Miller, Walter M Jr
A Canticle for Leibowitz, 266
- Milne, Robert Duncan
 "Professor Vehr's Electrical
 Experiment", 240
- Milton, John, 311
- mind uploading, 267, 276–278,
 289–291
- Minkowski diagram, 132
- Minkowski, Hermann, 131
- Minsky, Marvin, 2, 39, 104, 211
- Mitchell, Edward Page
 "The Crystal Man", 186
- mobility-on-demand network, 245
- Moon, 7, 46, 68, 69, 71, 74
- Moore, Catherine, 123, 271
 partnership with Henry Kuttner, 123
 "No Woman Born", 271, 272, 287
- Moore, Gordon, 290, 291
- Moore's law, 290, 291, 308
- Morgan, Richard
Altered Carbon, 323
- Morris, Michael, 59, 60

- Musk, Elon, 46, 85, 308
 Hyperloop, 247
 inspired by *Foundation* Trilogy, 46
 PayPal, 46, 247
 SpaceX, 46, 247
 Tesla Motors, 247
- N**
- Nabokov, Vladimir
Pale Fire, 152, 175
- Nahin, Paul J, 126, 144
 “Newton’s Gift”, 126
- nanotechnology, 306, 307
- Napoleon, 160, 206
- Nebula award, 104, 107, 116, 147, 159,
 271, 320, 321, 324
- negative mass, 51, 54–56, 142
- Neptune, 73, 75
- New Horizons (spacecraft), 75
- Newton, Isaac, 51–55, 57, 58, 60, 126,
 130, 131, 135, 144
 laws of motion, 52
 theory of gravity, 50, 51
- Nielsen, Leslie, 203
- Nimoy, Leonard, 100
- Niven, Larry, 103
 “All the Myriad Ways”, 161
 “Becalmed in Hell”, 271
 “Flash Crowd”, 241
 “Known Space” universe, 68,
 103, 269
 “Rotating Cylinders and the
 Possibility of Global Causality
 Violation”, 141
 “The Coldest Place”, 73
 “The Defenceless Dead”, 275
 “Wait It Out”, 275
A Gift from Earth, 182
A World Out of Time, 236
Ringworld, 103, 241
- North, Claire
The First 15 Lives of Harry August, 321
- Norton, Andre, 8
- Nourse, Alan E
 “Brightside Crossing”, 73
Star Surgeon, 8
- Novikov, Igor, 143
- Nowlan, Philip Francis
 “Armageddon 2419 A.D.”, 46, 188
- O**
- Obert, Hermann J, 91
- O’Brien, Fitz James
 “What Was It? A Mystery”, 185
- Olson, Donald, 312
- Omni* (magazine), 104, 126
- O’Neill, Gerard K, 77
- ontic state, 170–173
- Opportunity Rover, 75
- Orbital Carbon Observatory
 2 (spacecraft), 79
- P**
- Padgett, Lewis
 pseudonym of Kuttner and
 Moore, 123
 “Camouflage”, 271
 “Mimsy Were the Borogoves”, 123
- Pal, George, 119
- pantropy, 270
- parallel universes, 160
- Paul, Frank R, 47, 106, 233
- Pearce, Philippa
Tom’s Midnight Garden, 119
- Pendry, John, 193
- Peres, Asher, 256
- Perlmutter, Saul, 65
- personal rapid transit, 248
- Philae (spacecraft), 39
- Philip K. Dick award, 159
- Phillips, Peter
 “Lost Memory”, 212
- Pioneer 11 (spacecraft), 75

- Pioneer Venus Orbiter (spacecraft), 75
 Piper, H Beam
 “He Walked Around the Horses”, 161
 Paratime series, 161, 173
 Planck, Max, 167
 Plato, 95, 163, 179
 Allegory of the Cave, 151, 173, 174
 ring of Gyges, 180
 Pluto, 73, 75, 76
 Podolski, Boris, 171
 Pohl, Fred, 274, 287
 “Immortality Through Freezing”, 294
 “Outnumbering the Dead”, 322
 “Shaffery Among the Immortals”, 267
 Heechee Rendezvous, 277
 Man Plus, 270, 271
 The Age of the Pussyfoot, 274, 294
 The Space Merchants (with Kornbluth, Cyril), 73
 Polchinski, Joe, 144
 Pulitzer, H David, 64
 Pournelle, Jerry, 67
 Pratt, Fletcher (with Manning, Laurence)
 “The City of the Living Dead”, 157
Principia, 144
 Priest, Christopher
 The Glamour, 324
 The Inverted World, 235
 Principle of Equivalence, 54, 55
 Project Daedalus, 92
 prosthetics, 286–287
 psi power, 181, 182, 239, 240
 p-zombies, 174–175
- Q**
 quantum entanglement, 171
 quantum immortality, 293
 quantum mechanics
 ‘many worlds’ interpretation, 172, 173, 292
 quantum theory, 167–174
Quatermass (TV), 301
- R**
 railways, 5, 233–234, 242, 245–250, 259
 Randall, Lisa, 164
 reality (nature of), 39, 151–174, 317
 refractive index, 190–193
 Relativistic Heavy Ion Collider (RHIC), 303, 304
 Reynolds, Alastair
 Blue Remembered Earth, 327
 Ride, Sally, 43, 45
 Riess, Adam, 65
 Robby the Robot, 203–206, 211
 Robinson, Kim Stanley, 9
 “Green Mars”, 326
 2312, 324
 Aurora, 327
 Blue Mars, 326
 Green Mars, 326
 Red Mars, 326
 The Gold Coast, 324
 The Martians, 326
 robotics (laws of). *See* Asimov, Isaac
 robots, 39, 89, 203–226, 317
 ASIMO, 219–221
 BigDog, 220–221
 Boston Dynamics, 220
 Cheetah, 220
 industrial robot, 216–221
 iRobot®, 215
 Robby the Robot 203–206, 211
 The Robot Gargantua, 216, 226
 Three Laws of Robotics, 2, 211, 215, 216, 222, 223
 Unimate, 217
 rolling roads, 230, 242
 Romero, George
 Night of the Living Dead (film), 174
 Roosevelt, Franklin D, 49
 Rosen, Nathan, 58, 171
 Rosetta (spacecraft), 39
 Rossy, Yves (‘Jetman’), 243, 260
 Rusch, Kristine Kathryn

- “Inhuman Garbage”, 326
 Russell, Bertrand, 163
 Russell, Eric Frank, 154
 “Sinister Barrier”, 154
- S**
- SABRE engine, 85
 Sagan, Carl, 59, 60, 64
 friend of Asimov, 59
 inspired by Edgar Rice Burroughs, 72
 Contact, 64, 299
 Saint, HF
 Memoirs of an Invisible Man, 323
 Saturn, 44, 47, 73, 75
 Schachner, Nat
 “Ancestral Voices”, 146
 Schiaparelli, Giovanni, 71
 Schmidt, Brian, 65
 Schmitz, James H
 The Lion Game, 239, 242
 Schrödinger, Erwin, 168–172, 292
 Schrödinger’s cat, 170, 173, 292
 Schuster, Arthur, 63
Science Wonder Stories (magazine), 233
 Scott, David, 54–56
 Scott, Ridley, 40
 Alien (film), 107
 Blade Runner (film), 1, 6, 7, 89,
 159, 238
 The Martian (film), 326
 Scott, Robert Falcon, 216
 second law of thermodynamics, 279,
 280, 283, 285
 Selfridge, Thomas, 252
 SETI, 111, 112, 115, 116
 Shakespeare, William, 279
 Shaw, Bob
 “Aspect”, 242
 “Light of Other Days”, 127
 Other Days, Other Eyes, 127
 Sheckley, Robert
 “The Cruel Equations”, 211
 Sheffield, Charles, 299
 Shelley, Mary, 312, 313
 Frankenstein, 297
 Shelley, Percy Bysshe, 312
 Sherred, Tom
 “E for Effort”, 127, 147
 Shrunk, Robert, 161
 Shurig, David, 193
 Sikorsky, Igor, 49
 Silverberg, Robert, 241
 “To See the Invisible Man”, 182
 To Live Again, 276
 Simak, Clifford D, 287
 “Desertion”, 270
 City, 73
 The Goblin Reservation, 241
 Way Station, 242
 *Why Call Them Back From
 Heaven?*, 275
 Simmons, Dan
 Hyperion, 322
 simulated reality, 157–160, 164
 Singularity, 224, 289–292
 Skylon, 85, 86, 88
 skyTran, 249–250
 Slipher, Earl, 72
 Smith, David, 193
 Smith, EE ‘Doc’
 The Skylark of Space, 47, 231
 Smith, George O
 “Special Delivery”, 241
 Souvestre, Emile
 The World as it Will Be, 234
 Soyuz 1 (spacecraft), 80
 Soyuz 11 (spacecraft), 80
 space elevator, 85, 86, 88, 92
 Space Shuttle Challenger, 80
 Space Shuttle Columbia, 80
 space travel, 39, 67–92, 317
 SpaceX, 46, 85, 91
 special theory of relativity, 132–139
 Spielberg, Stephen
 E.T.: The Extraterrestrial, 105

- Spinrad, Norman
Bug Jack Barron, 275
- Spock, 96, 99, 100, 302
- Standard Model, 167
- Stanojevic, Zoran, 220
- Stapledon, Olaf
Last and First Men, 73
- Starley, John Kemp, 243
- Star Trek*, 8, 57, 99, 119, 214, 240, 255, 256, 259, 285, 301
- Star Trek: The Next Generation*, 294
- Star Wars* (film), 237
- steady-state cosmology, 50
- stealth technology, 184
- Steele, Allen
Coyote, 327
 “The Emperor of Mars”, 326
- Stephenson, George, 233, 252
- Stephenson, Neal
Snow Crash, 326
- Stevenson, Robert Louis
Strange Case of Dr Jekyll and Mr Hyde, 297
- Stockton and Darlington Railway, 5, 234
- straddling bus, 246, 248
- strangelet, 303, 304
- Stross, Charles
Accelerando, 326
- Sturgeon, Theodore
 “Killdozer!”, 237
More Than Human, 239
- Superman, 8
- Swift, Jonathan
Gulliver’s Travels, 278
- T**
- Tachi, Susumu, 190
- tachyons, 136, 139
- Taylor, Griffith P, 216
- teleportation, 238–242, 255–259
- telomeres, 282–283
- Tennyson, Alfred, 265
- Tenzing Norgay, 77
- terraforming, 270
- The Invaders* (TV), 98–99
- The Machine* (film), 320
- Them!* (film), 302
- The Thing* (film), 105
- The Turk (automaton), 205, 206, 207, 213
- This Island Earth* (film), 302
- Thinness, Roy, 98, 99
- Thorne, Kip, 58, 59, 60, 64, 142–143
- Three Laws of Robotics. *See* Asimov, Isaac; robots
- Thrun, Sebastian, 250
- Tillotson, Joseph W, 208
- time dilation, 68, 69, 129
- time travel, 39, 40, 119–147, 317
- Tipler, Frank, 140, 142
- Titan, 73, 75, 114
- Tithonus, 265
- Tolkien, JRR, 180
- Tolman, Richard Chace, 137
- Top Gear* (TV), 255, 260
- transparency, 185–189, 193
- transportation methods, 38, 229–260, 317
- transporter. *See* teleportation
- Trevithick, Richard, 233
- Tsiolkovsky, Konstantin, 68, 86, 91
- Tubular Rail, 246, 248, 261
- Twain, Mark
A Connecticut Yankee in King Arthur’s Court, 120
- 2001: A Space Odyssey* (film), 215
- 2001 Mars Odyssey, 75
- U**
- Unknown* (magazine), 154
- Uranus, 73, 75
- V**
- Vance, Jack
 “Rumfuddle”, 241

To Live Forever, 273
 Van Gogh, Vincent, 267
 van Stockum, Willem Jacob, 140–142
 Varley, John, 9, 70, 70, 274
 “Air Raid”, 233
 “Bagatelle”, 70
 “In the Bowl”, 73
 Millennium, 233
 Steel Beach, 326
 The Ophiuchi Hotline, 236, 274
 Venera program, 75
 Venter, Craig, 89
 Venus, 48, 73, 75, 77, 111, 268
 Verne, Jules, 4, 9, 231, 234
 Around the World in 80 Days, 231
 Five Weeks in a Balloon, 231
 Journey to the Centre of the Earth, 231
 Robur the Conqueror, 232
 Twenty Thousand Leagues Under the Sea, 231
 Vesta, 77
 Vincent, Harl
 “Rex”, 208
 Vinge, Vernor
 The Witing, 240
 virtual reality. *See* simulated reality
 Vishpala, 286
 von Kempelen, Wolfgang, 205, 206, 213
 Vonnegut, Kurt
 Cat’s Cradle, 306
 Voyager (spacecraft), 75, 78

W

Wagner, Richard, 180
 Wagner, Walter, 304
WALL-E (film), 320
 Walters, Hugh
 Blast Off at Woomera, 8
 First Contact?, 73
 Mission to Mercury, 73
 Passage to Pluto, 73
 The Domes of Pico, 8

Watson, James, 319
 Watts, Peter
 Blindsight, 321, 324
 wavefunction, 168–172, 257
 Weinbaum, Stanley G
 “Pygmalion’s Spectacles”, 157
 Weinberg, Steven, 136
 Wells, HG, 9, 46–48, 50, 56, 63, 71, 96,
 105, 120, 186–192
 influence on scientists, 104
 opinion of C. Fort, 154
 taught by Huxley, 100
 view on bicycles, 243
 “The Chronic Argonauts”, 120
 The First Men in the Moon, 46
 The Invisible Man, 192, 199, 200, 298
 The Island of Doctor Moreau, 297, 301
 The Shape of Things to Come, 232
 The Time Machine, 120, 143, 144
 The War in the Air, 232
 The War of the Worlds, 105
 War of the Worlds, 71
 When the Sleeper Wakes, 232
 Whale, James
 Frankenstein (film), 311
 Wheeler, John Archibald, 58
 White, James
 “Sector General”, 103
 Wilczek, Frank, 64
 Williamson, Jack
 “With Folded Hands. . .”, 211
 Williams, Robert Moore
 “Robots Return”, 209
 Williams, Walter John
 Knight Moves, 240
 Willis, Connie
 All Clear, 321
 Blackout, 321
 To Say Nothing of the Dog, 321
 Wilmore, Barry, 39
 Wilson, F Paul
 Healer, 269
 Wolfe, Gene

Wolfe (*cont.*)

The Book of the New Sun, 184

Wonder Stories (magazine), 232

Wootters, William, 256

wormhole, 58, 59, 142

Wright brothers (Orville and Wilbur),
232

X

X-Minus One (radio show), 40

Z

Zelazny, Roger

Lord of Light, 276

This Immortal, 294

Zemeckis, Robert

Back to the Future (film trilogy), 3

Contact (film), 95