

GENERAL INDEX

by MURIEL MOYLE

NOTES

- (1) Articles (such as 'the', 'al-', etc.) occurring at the beginning of an entry, and prefixes (such as 'de', 'van', etc.) are ignored in the alphabetical sequence. Saints appear among all letters of the alphabet according to their proper names. Styles such as Mr, Dr, if occurring in book titles or phrases, are ignored; if with proper names, printed following them.
- (2) The various parts of hyphenated words are treated as separate words in the alphabetical sequence. It should be remembered that, in accordance with the conventions adopted, some Chinese proper names are written as separate syllables while others are written as one word.
- (3) In the arrangement of Chinese words, Chh- and Hs- follow normal alphabetical sequence, and *ü* is treated as equivalent to *u*.
- (4) References to footnotes are not given except for certain special subjects with which the text does not deal. They are indicated by brackets containing the superscript letter of the footnote.
- (5) Explanatory words in brackets indicating fields of work are added for Chinese scientific and technological persons (and occasionally for some of other cultures), but not for political or military figures (except kings and princes).

- A-Nan Ssu Shih Ching* (Sūtra on the Four Practices spoken to Ananda), 203
- Abel metals, 226
- Abelard (+1079 to +1142), 112
- Abernethy's 'blue pills', 292
- Abipones, 80 (a)
- Ablutio*, 23
- Abortifacients, 286
- Abyssinian gold. *See* Talmi gold
- Academia Sinica, 192
- Accidents (term in scholastic philosophy), 11 (a)
- Acetaldehyde, 257
- Acetate, 253
- Acetic acid, 70, 250, 253, 262, 264, 265
- Acids, organic
 for cleaning metal surfaces, 247 (b), 250
 in 'bronzing dips', 251 ff., 257, 265
 in surface enrichment procedures, 250
- Acmonital, 239
- Acoustics, 48 (e)
- Actinolite, 286
- Adipocere, 300
- Administrative Regulations of the Six Ministries of the Tang Dynasty. *See* *Thang Liu Tien*
- Adonis, 78 (b)
- Adhvaryu clergy, 120
- Advancement of Learning* (Francis Bacon), 32
- Aeacus, 80 (c)
- Aegean Early Bronze Age, 223-4
- Aen* (*ya chhien*), 212-13
- Aeneas of Gaza (+484), 23, 26
- Aes*, 271
- Aes album*, 227
- African peoples, ideas about the after-life, 77 (c), 88 (e)
- Africanus, Sextus Julius (writer on chemical and other techniques, *d.* +232), 16 (d)
- After-life. *See* Eschatological world-views
- Agatharchides (*c.* -170), 41
- Agathocles (Bactrian ruler, *c.* -170 to -160), 372
- Agni (Vedic god), 118-19
- Agnicayana sacrifice, 119
- Agnihotra liturgy, 119
- Agricola, Georgius (+16th-century metallurgist), 32, 52-3
- Ahrimān, 80
- Ahura Mazda, 80, 121 (e)
- Aich metal, 196
- Air-tight containers, 212, 304
- Alarm devices, 147
- Albedo*, 23
- Albertus Magnus (*c.* +1200 to +1280), 31
- Alchemia* (Libavius), 227
- Alchemical apparatus, 276, 277
- Alchemical furnace, 127, 150
- 'Alchemical gold' (*yao chin*), 50, 188, 258, 259
- Alchemical operations, timing of, 147
- Alchemical Society of London, 3 (a)
- Alchemical transmutation, 11 (a), 20, 25-6, 30-1, 32, 35, 45, 46, 68 (e), 245
- Alchemists, Chinese
 metals and mineral substances available to, 189-93, 219, 223, 225, 242, 267, 273
 secretiveness of, 193, 278

INDEX

471

- Alchemy, definitions of, 10 ff., 14 (h), 15 (d), 30 (a), 44 (b)
 puzzle of the origin of aurifaction in, 44 ff.
 Alchemy, physiological. *See* *Nei tan*
 'Alchemy', 'alchumy' (brass, arsenical copper, etc.), 195 (h)
 Alcohol, 267 (g), 290
 Alexandrians. *See* Hellenistic culture
 Alkanet, 29
 Alloys, 18, 19–20, 22 (e), 24, 25, 34, 64, 188, 220, 262
 aluminium-copper, 192–3
 arsenic, 20, 191, 195, 229 (a)
 Bactrian, 237
 brassy, 274
 colour effects, 224
 copper-antimony, 267–8
 copper-gold, 70, 262
 cupro-nickel, 199, 225 ff.
 gold, 193, 195, 207, 258, 259, 260
 gold-aluminium, 268
 gold-like, 10, 68, 188, 189, 195, 223
 idea that gold and silver were themselves alloys, 45
 Japanese, 195
 nickel-containing, 206–7, 225
 paktong, 62, 225 ff.
 platinum-containing, 221
 platinum-bismuth, 268
 silver, 195, 207, 225, 278
 silver-like, 10, 188, 191, 195, 242
 silver-zinc, 223, 225
 surface-enrichment of. *See* Surface-enrichment techniques
 tungsten, 221 (e)
 uniform substrate, 189, 243, 253–4, 278, 281;
 golden, 193–223; silvery, 225–45
 violet, 267
 zinc-containing, 209
 zinc and cupro-nickel, 62, 225 ff.
 zinc-tin-lead, 199, 201 (f), 202 (b), 211, 212, 215, 216–17, 218–19
 Aloes-wood, 135, 137, 138, 141, 143, 144
 Altar-lights, 129 (b)
 Altars, 129 (b), 131, 132
 Alum, 70, 229, 245–6, 265, 266
 terminology, 246, 256
 yellow, 256
 Aluminium, 192–3, 195, 223, 225, 242, 268
 bronze, 197
 coins, 239
 Amalgamation gilding. *See* Gilding
 Amalgamation process, 23, 278, 281
 Amalgams, 242–5, 247–8, 255, 278
 dental, 243
 tin, 252
 tin and bismuth, 272
Amanita muscaria. *See* Fly-agaric
 Ambergris, 137, 142
 Ambrosia, 117 (b)
 Amenophis IV (Egyptian pharaoh, – 14th century), 39
 Amenti (ancient Egyptian region of the underworld), 79 (f)
 American nickel silver, 226
 Amerindian cultures
 cupellation, 41 (j)
 ideas about the after life, 77, 79 (c)
 platinum in, 221
 Amethyst, 286
 Amida, 123 (e)
 Ammonia, 257
 Ammonium chloride, 69, 253, 256
 Ammonium chlorostannates, 271
 Ammonium sulphide, 252–3
Amphitheatrum Sapientiae Aeternae (Khunrath), 131
 Amṛta, 117
 Amylobarbitone, 291
 An Chhi shêng (Han Taoist adept), 106
 An-Hsi. *See* Parthia
An-hsi hsiang (bdellium, later gum benzoin), 140 (g), 142
 Anaerobic conditions, and preservation of dead bodies, 299
 Anaesthesia, 151 (d)
 d'Anastasy, Jan (early 19th century), 16
 Anaxilaus of Larissa (magician-technician, fl. – 28), 16 (d)
 Ancestor-worship, 81, 112
 Ancestors, 81, 88
 Andō Kosei (I), 301; (2), 300
 Animal genera
 Cantharis, 290 (f)
 Dactylopus, 29 (c)
 Eburna, 137 (c)
 Kermes, 29 (c)
 Lasioderma, 148 (f)
 Lepisma, 148 (f)
 Moschus, 137 (a)
 Murex, 29 (d), 262
 Mylabris, 290 (f)
 Nicobium, 148 (f)
 Physeter, 142 (a)
 Scolopendra, 150 (c)
 Sitodrepa, 148 (f)
 Stegobium, 148 (f)
 Viverra, 137 (b)
 Animals
 experiments on, 295
 inhabited by the dead, 77
 metamorphoses among, 63
 tabu, 77
 Anise, 136, 137, 141
 Annam, 143
 Annual Folk Customs of the States of Ching and Chhu. *See* *Ching Chhu Sui Shih Chi*
 Anointing, of neophytes, 73
 Anthelmintic prescriptions, 66 (g)
 Anti-aphrodisiacs, 293
 Anti-coining and anti-aurifaction edict in China (– 144), 12–13, 48, 55–6, 216, 219, 259
 Antidotes, 62 (e)
 Antimonial bronze, 242

472

INDEX

- Antimony, 34, 40, 190–1, 212, 217 (b), 223, 242, 267, 284
 compounds of, 273
 ‘Antimony bath’, 252
 Antimony chloride, 252
 Antimony pentasulphide, 272–3
 Antimony sulphide, 39
 Antipyretics, 289
 Antonio of Pisa (late + 14th century), 269
Antony & Cleopatra, 86 (a)
Apastamba Sūtra, 48 (e)
 Aphrodisiac drugs. *See* Drugs
 Apocryphal Treatise on the *Record of Rites*;
 System of the Majesty of the Ladle. *See* *Li*
 (*Wei*) *Tou Wei I*
 Apparatus
 alchemical, 276, 277
 chemical, 2, 5, 17, 19, 21
Aqua ammoniac, 90
Aqua fortis, 38, 251
Aqua regia, 38, 269
 ‘Aquaster’ (Paracelsian technical term), 75
 Aquinas, Thomas (scholastic philosopher, + 1225
 to + 1274), 24
 Arabs
 alchemy, 4, 6, 7, 8, 12, 15, 30–1, 32, 238, 270,
 272, 281
 assaying techniques, 41
 incense constituents, 143
 medicine, 75, 76
 surface-enrichment of coins, 250 (e)
 transmissions to Europe, xxv, 12, 74, 123
 Archaeological excavations, 2, 49, 192, 198 (c),
 223, 236
 Argasoid, 240
 Argent (heraldic), 272
 Argent-Ruolz, 226
 Argentan. *See* German silver
 Argentification, 33, 63, 65, 190, 223, 239, 243
 loss of belief in, 281
 technical terms, 65
 Argentiferous galena. *See* Galena
 Argentiferous lead. *See* Lead
 Argentification, 281
 Argentine (alloy), 241
 Arguzoid. *See* Argasoid
Argyropoia (‘silver-making’), 17, 19
 Aristotle, 21–2, 24, 25, 30, 31, 32, 65, 93, 248
 Arnold of Villanova, 32
 Aromatics, 75, 133, 135
 used in incense, 136–46
 Arsenic, 11, 62, 191, 207, 209, 212, 252
 alloys of. *See* Alloys
 aphrodisiac properties of, 288–90, 291, 292
 in bronzes, 223–5
 in elixirs, 282–94
 plating, 241
 poisoning. *See* Poisoning
 and preservation of corpses, 299
 used for sexual disorders, 291
 ‘tonic’ effect of, 282, 291
 used in toxic smoke, 149
 vapours of, 10, 19, 72, 224, 229 (c)
 Arsenic disulphide. *See* Realgar
 Arsenic trisulphide. *See* Orpiment
 Arsenical copper, 28, 223–5, 231, 234–5, 236, 239,
 240, 242, 255–6
 Arsenical nickel, 233
 Arsenical oxide minerals, 229 (c)
 Arsenical ‘silver’, 280
 Arsenical sulphides, 62, 127, 149, 256, 285
 Arsenious trioxide (*phi* or *phi shih*), 166, 229 (c),
 286, 291
 Arsenolite, 229 (c), 285
Artā-i Virāf Nāmak, 80 (d)
Arthaśāstra, 41
 Artisans, 269, 281
 and aurification, 10, 15, 18, 19, 20, 21, 36, 44–5,
 49, 188
 Hellenistic, 38, 41, 193
 and social class, 46
 and development of spectacle-lenses, 46
 and Taoism, 9
 Arūpaloka, 103
 Aryan invasions, 115
 Asafoetida, 141
 Asahina Yasuhiko (1), 7, 161
 Ascensions, 96 (f), 98 (b), 105, 106, 107, 113,
 114 (a), 116, 129
Asem (electrum), 18, 22 (e), 45, 253
 Ashberry metal, 241–2
 Assam, 237
 Assay markings, 44
 Assaying, 19, 36, 39–41, 49, 51, 56, 67
 of coinage, 41, 45
 in Mesopotamia, 47
 Assyria, silver-refining in, 40
 Astrology, 33
 and the number of ‘souls’, 88
 Babylonian, 48
 Astronomical symbolism, 119
 Asvamedha, 120
Atalanta Fugiens (Maier), 131
 Ataraxy (calmness of mind), 83
Atharva-veda, 120
 Athenian agora, zinc found in excavations at,
 198 (c)
 Atomism and the atomists, 24, 25, 27, 30, 32, 33,
 35, 92
Augmentatio, 18 (f)
Aurichalcum (brass), 167, 198
 Aurification
 definition of, 10–11
 and social class, 46
 two traditions of metallurgy related to, 253
 in China, 2, 4, 12–14, 25, 27, 36, 46, 49, 115,
 188–9, 223, 224, 239, 251, 258, 277, 282; by
 amalgamation gilding, 255; and brass-
 making, 208–9; and immortality, 71; loss of
 belief in, 281; and mercury, 243; without
 intent to deceive, 70–1; origin of, 47, 224 (d);
 in the *Pao Phu Tzu* book, 62–71; and purple
 colour, 261–2, 263–4; technical terms, 65
 in the West, 7, 12, 15–21, 21–9, 30–6, 47, 49
 68, 71, 114, 207, 253, 256, 261, 262; and
 atomic theory, 24, 25, 30; Francis Bacon and,

INDEX

473

- Aurifaction (*cont.*)
 32–3; use of brasses in, 198; and magic, 33,
 44; Isaac Newton and, 34–6; philosophers
 and. *See* Philosophers; and self-deception,
 10, 44–5; terminology, 22–3
 Auriferous minerals, and the production of gold,
 67, 277
 Auriferous sands, extraction of gold from, 21 (a),
 255, 278
 Aurification, 224
 artisans and. *See* Artisans
 definition of, 10
 and social class, 46
 two traditions of metallurgy related to, 253
 in China, 12–14, 188–9, 219, 224, 238–9, 250,
 251, 259, 264, 277, 281; and brass-making,
 208–9, 219; conscious recognition of, 277,
 281
 in the West, 10, 15–21, 31, 32, 47, 114, 207;
 Francis Bacon and, 32–3; use of brasses in, 198
Aurum mosaicum, or musivum. *See* ‘Mosaic gold’
 Auspicious Affirmations. *See* *Chhang Yen*
 Australian aborigines, 77 (c)
 Author of Change, or of Things. *See* *Tsao hua chē*
 and *Tsao wu chē*
 Averroes (*d.* +1198), 24
Avesta, 73 (b), 77 (g), 80, 115
 Avicenna (*d.* +1037), 24, 30–1
 Aztecs, 116 (b)
 Babbitt anti-friction bearings metal, 241
 Babylonia, 193
 astrology, 48
 cupellation, 39
 geometry, 48 (e)
 ideas about the after-life, 77 (h), 79, 82
 metallurgy, 48
 transmissions to China, 48
 Babylonian Talmud, 40, 41
 Bacon, Francis (+1560 to +1626), 32–3, 84, 190
 Bacon, Roger (+1214 to +1292), 6, 12, 14–15, 31,
 74, 123
 Bactria, Chinese nickel in, 237–9
 Bantu, ideas about the after-life, 77 (c)
Baphē (*baphikē, bapsis*), 23 (b)
 Baptism, 23 (b), 73
Baptisma, 23
 Barium sulphide, 252
 Barley-sugar, 66
 Barnacles, supposed metamorphosis of, 64
 Baros camphor. *See* Camphors
 Basil, 136, 137, 148 (a)
Basileus pantokrator, 134
Basilica Chymica (Croll), 76
Basse taille technique, 270 (b)
 Basso, Sebastian (+1621), 24
 Basutos (African tribe), 79 (c)
 Bath metal, 196
 Baudoin’s metal, 240
 Baumé, A., 273
 Bauxite, 192
 Bdelium, 75, 137, 140, 142
 Bean Garden Miscellany. *See* *Shu Yuan Tsa Chi*
 Bearings bronze brass, 197
 Becher, J. J. (chemist, +1635 to +*c.* 1682), 35
 le Begue, Jean (+1431), 272
 Being and non-being, 92–3
 Belt-ornaments, 192
 Belts, of brass, 204–5, 207
 Bentley, Richard (Master of Trinity, +1703), 35
 Benzoin, 137, 142
 Bergsøe, P., 248, 250
 Beri-beri, 287
 Berkeley, George (Bishop of Cloyne, +1744),
 75 (b)
 Bernard of Cluny (+12th century), 112
 Bernareggi, E. (1), 247
 Berthelot, M., 44–5 (1), 3, 25; (10), 3
 Berthelot, M. & Ruelle, C. E., 74
 Bessemer, Henry, 201
 Bevan, E. R. (2), 27
Bhagavad-Gita, 27
 Bible, references to assaying in, 40
 Bideri metal, 206, 238, 240, 254–5
 Bidez, J. & Cumont, F., 253
 Biology, 22
 Biot, E., 161
 Birch tree, 116, 117
 Biringuccio, Vanuccio (metallurgist, +1480 to
 +1539), 32, 52–3
 Bismuth, 190–1, 242, 268
 bronze, 240
 ‘Black gold’, 194
 ‘Blackening’ (*melanōsis*), 23
 ‘Blistering beetle’, 290 (f)
 ‘Blue gold’, 194
 Blue vitriol ‘gold’, 274
 Bodhisattvas, 123 (e)
 Body-cases, jade, for effecting incorruptibility,
 303–4
 Bolsover, T. (+1743), 247
 Bolus of Mendes (Graeco-Egyptian naturalist,
 early –2nd century), 17, 25, 264
 Bone diseases, 287
 Bonus. *See* Petrus Bonus
 Book of Changes. *See* *I Ching*
Book of Comarius . . . on the Divine and Sacred Art
 of the Philosopher’s Stone, 72
Book of the Dead, 79 (f)
 Book of the Devil Valley Master. *See* *Kuei Ku Tzu*
Book of Enoch, 74, 78 (b)
Book of the Gates, 79 (f)
Book of Knowledge acquired concerning the Cultiva-
 tion of Gold (al-*Irāqī*), 32
 Book of Master Han Fei. *See* *Han Fei Tzu*
 Book of Master Lieh. *See* *Lieh Tzu*
 Book of Master Mo. *See* *Mo Tzu*
 Book of Odes. *See* *Shih Ching*
 Book of the Preservation-of-Solidarity Master.
 See *Pao Phu Tzu*
 Book of (the Prince of) Huai-Nan. *See* *Huai Nan*
 Tzu
 Book of the Spiritual and the Strange. *See* *Shen I*
 Ching

474

INDEX

- Book of the Sublime Principle which governs All Things within the World. See *Huang Chi Ching Shih Shu*
Book of What is in Tuat, 79 (f)
 Bookworms, 148
 Borax, 192, 266
 Borneo, ideas about the after-life, 77 (c)
 Bornite (peacock ore), 200 (g), 275
 Boyle, Robert (+1627 to +1691), 15, 24, 35
 Brāhmaṇas, 80, 118
 Brahmins, 117 (d), 123
 Brasavola (Italian physician, +1536), 75
 Brass, 20, 28, 189–90, 198–212
 cartridge, 196, 208
 casting, 231
 current simultaneously in Greek and Chinese culture-areas, 220
 European. See Europe
 gold-containing, 195
 resembling gold and silver, 195, 200, 239
 grinding of, 201
 high-zinc forms of, 20 (f), 206, 240, 254
 Indian. See India
 low-zinc, 209 (b), 281
 in Mexico, 221
 oldest possible references to, 224
 Persian. See Persia
 surface-films on, 252
 technical terms. See Technical terms
 two sorts of, 227, 231
 whitening of, 62, 229
 Brass-making, 212–13, 218
 and aurification and aurifaction, 208–9, 219
 government monopoly of, 201
 oldest home of, 220 (c)
 Brass powders, 195 (i), 272
 Brass ‘silver’, 280
 Brass solder, 206
 Brass vessels, 201, 212–13, 266
 Brea. See Elemi
 Brearley, H., 239 (d)
 Bretschneider, E. (2), 159
 Brhaspati, 120
 ‘Bright window dust’ (motes in a sunbeam), 57
 ‘Brightening’, 60 (a)
 Britannia metal, 240, 242
British Encyclopaedia of Medical Practice, 200–1
 Broken Hill, New South Wales, 218
 Brongniart, Alexandre, 161
 Bronze, 48 (e), 51 (f), 56, 189, 195, 199, 225, 266
 ‘adulteration’ of, 218
 antimonial, 242
 arsenic-containing, 223–5, 242
 ‘fusion-plating’ of iron with, 248
 gilding of, 232
 ‘green’, 229
 high-tin, 1, 8, 198, 219
 inscriptions. See Inscriptions
 medium-tin, 219
 natural colours of, 266
 ‘resonant’, 231
 technical terms. See Technical terms
 vessels, 81
 ‘yellow’, 229
 Bronze Age, 224
 ‘Bronze powder’, 69, 201
 ‘Bronzing’, 195, 199, 209 (a), 231, 251, 253, 255, 263, 266, 281
 ‘Bronzing dips’, 231, 265, 266
 Browne, Sir Thomas (+1605 to +1682), 212
 Brunton, Lauder, 288
 Buddhism, 25, 27, 73 (b), 76, 77 (g), 81, 103, 110 (e), 111, 114, 123 (e), 126, 129 (a), 134, 135, 150, 203
 and self-mummification, 300–1
 Buddhist monks, 145
 Buddhist statues, 202, 247
 Buddhist sūtras, 261
 Buddho-Taoist syncretists, 93, 111, 292
 Bureaucracy, celestial, 93 ff., 107, 110, 114 (a)
 Burgersdyck, Francone (*d.* +1635), 24
 Burials, 79, 81
 live, 300
 Burma, 76, 237
 ‘Burning on’ to porcelain or glass, 246–7
 ‘Burnt’ copper (*chiao thung*), 242
 Burraburiash (Babylonian king, –14th century), 39
 Bursōē (physician, *c.* +550), 123
Byakurō, 217 (b)
 Byzantine culture, 15, 74
 Byzantine Egypt, 75
 Cacti, 116
 Cadmia, 28
 Cadmium, 192, 195, 242, 243(f)
 Caffeine injections, 90
 Calamine, 189, 190, 198, 199, 200–1, 203, 204, 213, 216, 219, 223, 227
Calcination, 23
 Calcination, 19 (d)
 Calcite, 287
 Calcium, 287
 Calcium magnesium silicate. See Actinolite
 Calcium polysulphides, 252, 253, 271
 Caley, E. R. (4), 237
 Caligula (Roman emperor, *r.* +37 to +41), 255
 Cambridge Metallurgical Laboratory, 244
 Cambridge Platonists, 34
 Cammann, S. van R. (4), 237; (5), 238
 Camphors, 137
 Baros, 135, 137, 142
 chang, 136
 sēmbong, 138
 Candle-wick, 144
 Candles, 129
 graduated, 147
 ‘numinous tallow’, 244
 Candlesticks, 225, 228
 ‘Canister metal’, 212, 219
Cannabis, 150–290
 Canon of the Great Peace. See *Thai Phing Ching*
 Canon of the Virtue of the Tao. See *Tao Tê Ching*
 Cantharides, 290

INDEX

475

- Canton, 212, 301
 Carbuncles, 263, 293
 Cartridge brass, 196, 208
 Cassia, 75, 136, 137, 144
 Cassius, Andreas, the elder (*d.* +1673), 268
 Cassius, Andreas, the younger, 269
 Cast iron. *See* Iron-casting
 Catalogue of Incense. *See* *Hsiang Lu*
 Catalpa wood, 148
 Catalysis, 27 (d)
 Catechism, present-day Taoist, 302
 Catty (Han pound weight), 48 (e)
 Caustic alkali, 192
 Cedar, 145
 Celestial bureaucracy (*hsien kuan*), 93 ff., 107, 109–10, 114 (a), Pl. CDXLIII
 ‘Celestial immortals’ (*thien hsien*), 106
 Cellini, Benvenuto, 269
 Celtic legends, 77 (b), 79 (c)
 Cement, 243
 Cementation, 37, 38, 40, 41, 46, 54, 55–62, 211 (a), 250–1
 antiquity of the process, 54, 57, 251
 meanings of the term, 37 (c)
 technical terms, 39 (g)
 Cennini, Cennino (+1437), 272
 Censers, 133, 260
 Ceramic enamelling industry, 270
 Cereal foods
 abstinence from, 100 (a), 111, 151, 293, 300, 301
 associated with immortality, 131 (e)
 Ceremonies. *See* Rites
 Ceruse, 175
 Cervantite, 267 (b)
 Ceylon, ideas about the after-life, 77 (e)
 Cha (artful deception), 68
 Chalcopyrite, 170, 200 (g), 232 (a), 275
 Champion, Wm. (+1743), 214 (e)
 Champlevé, 269 (k)
 Chandra (Vedic god), 116
 Chang camphor. *See* Camphors
 Chang Chhien (traveller and explorer, *fl.* –138 to –126), 115, 236
 Chang Chün-Fang (Taoist editor, *c.* +1020), 293
 Chang Chung-Ching (Han physician), 288
 Chang Hua (writer, +232 to +300), 90
 Chang Hung-Chao (1), 5, 160, 263; (3), 203
 Chang I (commentator, +230), 218, 232, 233
 Chang Liang (Taoist statesman, *d.* –187), 297
 Chang Mu (Taoist astronomer and alchemist, +13th century), 262
 Chang Pang-Chi (writer, *c.* +1131), 135
 Chang Tu (writer, *c.* +860), 262–3
 Chang Tzu-Kao (1), 5 (f); (2), 7, 192, 234; (4), 232
 Chang Tzu-Kung, 233
 ‘Changing the fire’, 148
 Chao (Prince of Yen). *See* Yen Chao Wang
 Chao Chao-I (singer and story-teller, *c.* –24), 257
 Chao Chien-Tzu. *See* Chao Yang
 Chao Fei-Yen. *See* Chao I-Chu
Chao Fei-Yen Wai Chuan (Unofficial Biography of Chao Fei-Yen), 257
Chao Hun (The Summons of the Soul), 89
 Chao I-Chu (dancer, concubine and later empress, *c.* –24), 260, 268
 Chao Ju-Kua (+1225), 231
 Chao Kao (eunuch, –209), 104
 Chao Nai-An (alchemical writer, +808), 276, 278
 Chao Po-Hsüan (Taoist adept), 297
 Chao Tao-I (Yuan compiler), 298
 Chao Tsan (Thang fiscal official and mint-master), 231 (e)
 Chao Yang (Chao Chien-Tzu, *c.* –513), 64 (a)
 Chao Yün-Tshung, 6
 Chariots and chariot-gear, 48 (e), 232–3
 Charles, J. A., 244; (1), 224; (2), 247
 Charm to confer long life, 120
 Charts of the Positions and Attributes of the Perfected Immortals... *See* *Tung Hsüan Ling Pao Chen Ling Wei Yeh Thu*
 Chemical apparatus, 2, 5, 17, 19, 21
 Chemical change, 26, 63
 in terms of atoms, 25
 ‘Chemical Essays’ (Watson), 227
 Chemical industries and manufactures, 3 (a), 159
 Chemical papyri (+3rd century), 15–16, 18, 29, 36, 41, 44, 45, 56, 57, 62, 248, 251, 252, 266, 270
 Chemical philosophers. *See* Philosophers
 Chemical substances
 identification of, 158–61
 nomenclature, 154–87
 from Sian, 161
 from the Shōsōin at Nara, 7, 161
The Chemistry of Moses, 74
 Chemo-therapy, 14, 304
 Chen Kao (Declarations of Perfected Immortals), 110, 297
 Chêng, C. F. & Schwitter, C. M. (1), 237–8
 Chêng Hsüan (scholar and commentator, +127 to +200), 135, 233
 Chêng Lei Pên Tshao (Classified Pharmaceutical Natural History), 139, 205, 207, 225, 245, 273, 274, 276, 278, 280–1, 285
 Chêng Yin (teacher of Ko Hung), 68
 Chhan-wei literature, 207
 Chhang Chhü (geographer, +347), 232
 Chhang Yen (Auspicious Affirmations), 109
 Chhang-an, treasure-hoard of chemicals and alchemical vessels (+756) found at, 161
 Chhangsha, 217, 218, 267
 Chhao chen (‘audience with the Absolute’), 131
 Chhen Chih-Hsü (physiological alchemist), 36
 Chhen Ching (writer on incense, +12th or +13th century), 134
 Chhen Kuo-Fu, 6, 7
 Chhen Shih (scholar, *d.* +187), 107, 109
 Chhen Shih-Wên (pharmacologist, +1151), 285
 Chhen Tshang-Chhi (pharmaceutical naturalist, +725), 62, 277
 Chhen Yuan-Ching (compiler, between +1100 and +1250), 61
 Chhêng Pi (Thang alchemist), 235
 Chhêng Ta-Chhang (Sung scholar, *c.* +1175), 204–6
 Chhêng Ti (Han emperor, *c.* –10), 103

- Chhêng Wei (alchemist, *c.* +15 or *c.* –95), 13, 68 (g), 70
 Chhêngtu, West China Union University at, 6
Chhi (subtle matter, matter-energy), 25, 27, 86, 87, 88, 92, 93
 circulation of, 100 (c)
 ingestion of, 100 (b)
 male and female, 100 (e)
 Chhi (State), 56, 94, 97, 103, 115, 116, 117
Chhi Min Yao Shu (Important Arts for the People's Welfare), 66 (c)
 Chhi Po (legendary interlocutor of Huang Ti), 245
 Chhiang tribal people, 115
Chhien Chin I Fang (Supplement to the Thousand Golden Remedies), 286
 Chhien-fo-tung cave-temples. *See* Tunhuang
 Chhien Han (period). *See* Former Han
Chhien Han Shu (History of the Former Han Dynasty), 85, 96–7, 217, 236, 258
Chhien Hung Chia Kêng Chih Pao Chi Chhêng (Perfected Precious Compendium of Lead, Mercury and Gold), 276, 278
Chhih chin (copper), 51
Chhih shu (red panicked millet), 69
 Chhih Sung Tzu (Taoist immortal), 111, 126
Chhih thung (red copper), 204, 207, 229
Chhih yin (red silver), 267 (e)
 Chhin (dynasty), 54, 94, 127
 alchemy, 6, 115
 Confucianism, 111
 cupellation, 48, 49
 imperial court, 97
 incense and perfumes, 132, 137
 refining, 51
 Taoism, 106
 trade, 236
 Chhin (State), 116
 Chhin Shih Huang Ti (first emperor), 13, 50, 96, 103, 121–2, 132
 posthumous edict of, 104
 tomb of, 299 (e)
 Chhing (dynasty), 1, 208, 213, 229, 269, 290
 Chhing Hsia Tzu (chemical writer, *c.* +918), 205, 207, 213, 273
Chhing I Lu (Records of the Unworldly and the Strange), 135
Chhing shen ('lightening of the body', an initial phase on the way to material immortality), 282, 285
 Chhu (State), 54, 98, 236
 currency, 49–50, 257–8
Chhu Tzhu (Elegies of Chhu (State)), 89
 Chhü Yuan (poet, *d.* –262), 98
Chhun Chu Chi Wên (Record of Things heard at Spring Island), 231, 233, 262
 Chi-Hsia Academy, 106
Chi Hsien Chuan (Biographies of the Company of the Immortals), 302
Chi Than Lu (Records of Entertaining Conversations), 260
Chi Yün (Complete Dictionary of the Sounds of Characters), 204, 232
Chia-Yu Pên Tshao. *See* Chia-Yu Pu-Chu Shen Nung Pên Tshao
Chia-Yu Pu-Chu Shen Nung Pên Tshao (Supplementary Commentary on the *Pharmacopoeia of the Heavenly Husbandman*), 191
 Chiangsü, gold deposits, 50
Chiao Chhuang Chiu Lu (Nine Dissertations from the Desk at the Banana-Grove Window), 136
Chieh hua (attainment of immortality), 302
 Chien Wên Ti (Liang emperor, +550), 236
 Chih-Chhien (Scythian monk, *c.* +222), 203
 Chih Chin (Superintendent of Metals and Minerals), 56
 Chih-I (monk, founder of the Buddhist Thien-Thai school, *d.* +597 or +598), 301
 Chih the robber, 55
Chih tzu (*Gardenia*) seeds, 256
Chih yao yin (silver from the sulphide), 280
 Chikashige Masumi, 5, 67, 277
 'Child-and-mother silver', 278
 Children, and the elixir of immortality, 124, 126
 Chin (period), 215, 277, 289, 301
Chin (any metal, though often applied to gold), 22 (e), 51, 54, 56
Chin shê (reptile, *Coronella*), 62 (e)
Chin tan chih tao (the Way of the Golden Elixir; or, of Gold and Cinnabar), 66
Chin Tan Ta Yao Thu (Illustrations for the *Main Essentials of the Metallous Enchymona, the true Gold Elixir*), 215
 Chin Yün-Chung (+13th-century Taoist liturgist), 129 (b)
 China tea trade, 219
 'Chinese alloy', 240
 Chinese Geological Survey, 160
 'Chinese method' (for bronzing copper), 265
 'Chinese (and China) silver', 225–6
 Chinese and Japanese Universal Encyclopaedia. *See* *Wakan Sanzai Zue*
Ching (seminal essence), 87–8
 Ching (Prince of), 95
 Ching Chhai (poet, *c.* –240), 89
Ching Chhu Sui Shih Chi (Annual Folk Customs of the States of Ching and Chhu), 202
 Ching-Tshan (self-mummified Buddhist adept, *d.* 1927), 301
 Chiu-Mo-Lo-Shih. *See* Kumārajīva
Chiu Thang Shu (Old History of the Thang Dynasty), 205, 231
 Chloridising roasts, 251
 Chlorophane, 168, 270 (i)
Cho Kêng Lu (Talks while the Plough is Resting), 76, 159
 Chou (dynasty), 47, 51, 54, 151, 289
 incense, 132
 inscriptions, 94
 tombs, 49
 vessels, 233
 Chou Chhu (military commander and scholar, +297), 192
 Chou Chhü-Fei (writer on exotica, +1178), 146
 Chou Chia-Chou (writer on incense, between +1618 and +1641), 135

INDEX

477

- Chou Hou Pei Chi Fang* (Handbook of Medicines for Emergencies), 288
Chou Li (Record of the Institutions of the Chou Dynasty), 18, 54, 56, 148
 Chou Ting Wang. *See* Chu Hsiao
 Chou Tzu-Liang (Taoist adept, +515), 110 (e), 297
 Christianity, 73
 Ethiopian, 40 (i)
 ideas about the after-life, 77 (h), 78 (b), 81, 112, 123–4
 and modern science, xxv–xxvii
 Nestorian, 129
Chrōsis, chrisis, 253 (h)
 Chrysocalc, 196
Chrysocoll (chrysocolla), 194, 221 (f)
Chrysokorallos, 270 (g)
Chrysopoia. *See* Aurifaction (in the West)
 Chrysorin, 196
 Chu Chhüan (Ning Hsien Wang, Prince of the Ming, naturalist, metallurgist and alchemist), 36
 Chu Hsiao (Chou Ting Wang, Prince of the Ming, naturalist and botanist, c. +1418), 203 (d)
Chü-shêng, 131 (e)
 Chu Shih (horological writer, +563), 147
Chu tshao (vermilion herb), 69
 Chuan Hsü (god of the north), 102
 Chuang (prince of Chêng State, –721), 84
 Chuang Chou (philosopher, Chuang Tzu, –4th century), 85, 88
Chuang Tzu (The Book of Master Chuang), 6, 55, 83, 88, 96
 Chukchi tribal people, 116
 Chung Chhiu (mid-autumn festival), 129 (a)
 Chungchhang Thung (scholar, d. c. +230), 109
Chūrō (middling solder), 217 (b)
 Cibot, P. M. (Jesuit, c. +1770), 158, 266
 Cinnabar, 14, 63, 67, 70, 118 (c), 127, 130, 131, 149, 205, 206, 242, 243, 244, 265, 266, 272, 281
 association with gold or artificial gold, 255, 277–8
 elixirs, 128
 use in medicine, 286
 Cinnabar silver, 278
 Cinnamon, 75, 136, 137
 Circle, division into 365·25°, 102 (f)
 Cistus. *See* Ladanum
Citrinitas, 23
 Citronella, 136, 137
 Civet, 137
 Civil service candidates, 134
 Civil Service of the Han Dynasty and its Regulations. *See* *Han Kuan I*
 Clark's metal, 240, 242
 Clarke's alloy, 222
 Class distinctions. *See* Social class
 Classic of the Mountains and Rivers. *See* *Shan Hai Ching*
 Classical Pharmacopoeia of the Heavenly Husbandman. *See* *Shen Nung Pên Tshao Ching*
 Classified Pharmaceutical Natural History. *See* *Chêng Lei Pên Tshao*
Claudianum (alloy), 20, 22 (e), 195, 223
 Claudius (Roman emperor, r. +41 to +54), 195
 Cleaning of metal surfaces, 245 (c), 250
 Clepsydra Manual. *See* *Lou Kho Ching*
 Clocks, 146–7
 Cloisonné work, 269
 Cloves, 135, 137, 141, 143, 144
 Cobalt, 190, 225, 242
 Coin compositions, 210–11, 215, 216–17, 218, 219
 Coinage, 199, 236
 African, 239
 aluminium, 239
 American, 239
 assaying of, 41, 45
 Bactrian, 237–8, 239
 brass, 208, 213
 British, 239
 bronze, 239
 contemporary, 239
 cupro-nickel, 190, 225, 237–8, 239
 French, 239
 gold, 49–50, 239, 257–8
 Hsin, 217–18
 Italian, 239
 oldest metal, 50
 paktong, 229, 231, 239
 Persian, 225
 Philippine, 239
 Portuguese, 239
 Roman, 198
 silver, 239
 silver-clad copper, 247
 stainless steel, 239
 in Sung, 216–17
 surface-enrichment of, 250 (e), 263
 Swiss, 226
 techniques, 216, 224
 Turkish, 239
 zinc, 213
 Coiners, 12–13, 48, 216, 251
 Coining edict. *See* Edicts
Coitus thesauratus, 100 (c)
 Collas, J. P. L. (Jesuit, c. +1780), 158, 195 (i), 246
 Collected Commentaries on the Classical Pharmacopoeia. . . *See* *Pên Tshao Ching Chi Chu*
Collegium Physico-Chemicum (Kunckel), 269
 Collier, H. B., 6
 Collier, Jeremy (+17th and +18th cent. divine), 227 (d)
 Colloidal gold, 268–9, 270
 Colour changes, 23, 27
 in dyeing processes, 29
 Colour effects, 224
 Colour symbolism, 13 (d), 23 (c)
 Colouring matters, 133
 Colours
 of artificial golds, 261
 pictographs for, 157–8
 of surface films, 73–4, 251–2

- Comarius (Graeco-Egyptian proto-chemist, + 2nd century), 17, 21
 'Commanders of ghostly things' (*shih kwei wu*), 106 (g)
 Commentary on Things Old and New. See *Ku Chin Chu*
 Commentary on the *Waterways Classic*. See *Shui Ching Chu*
 Commerce. See Trade contacts
 Compendium of Non-Classical Matters. See *Wei Luêh*
 Complete Collection of the Biographies of the Immortals. See *Lieh Hsien Chhüan Chuan*
 Comprehensive Discussions in the White Tiger Hall. See *Pai Hu Thung Tê Lun*
 Comprehensive Mirror of the Embodiment of the Tao... See *Li Shih Chen Hsien Thi Tao Thung Chien*
 Confession of sins, 131
 Confidential Explanation of the Interior Manual of the Nine (Adepts). See *Shang-Chhing Chiu Chen Chung Ching Nei Chüeh*
 Confidential Instructions for the Ascent to Perfected Immortality. See *Têng Chen Yin Chüeh*
 Confucius and Confucians, 6, 9, 49, 50, 78 (b), 83, 104
 and the cult of immortality, 111, 124, 126
 temples, 134 (b)
 Congress of naturalists and ritualists (late + 1st century), 85
 Conifer resins, 75
 Consecration of a king, 119
Consilium Conjugii, 34
 Constantan, 229
 Contact plating. See Plating
 Contemplating the Immortals... See *Wang Hsien Fu*
 Continuity and unity. See Unity and continuity
Contributions towards the Materia Medica and Natural History of China (Porter Smith), 159
 Cookson (analyst), 228
 'Cooling regimen powder' (Han Shih San), 288
 Cooper's gold, Cooper's mirror metal, Cooper's pen metal, 222
 Coorgs (Dravidian tribe), 77 (e)
 Copper, 56, 60, 189, 191, 193, 207, 212, 217, 248, 274
 arsenical, 28, 223-5, 231, 234-5, 236, 239, 242, 255-6
 in bronzes, 198
 bronzing of, 266
 containing small amounts of gold, 253
 decolorisation by nickel, 206
 high nickel, 237
 and mercury, 243
 mining, 263
 'natural', 200
 salts, 70
 surface-films on, 251-2
 terms for, 51, 54
 turned into 'gold', 225, 256
 turned into 'silver', 256
 'whitening' of, 206, 252, 253, 255
 Copper acetate, 66, 252, 253, 262, 264, 265, 274
 Copper carbonate, 209 (b), 274
 Copper chloride, 252
 Copper nitrate, 252
 Copper oxide, 269
 Copper 'silver', 280
 Copper sulphate, 193, 246, 252, 253, 262, 264, 265, 266, 274
 Copper sulphate 'silver', 280
 'Coral of gold', 270
Coronella bella (reptile), 62 (e)
 'Corpse-free' immortals. See *Shih chieh*
 Corpus of Greek 'alchemical' (proto-chemical) writings (*Corp. Alchem. Gr.*), 3, 15, 16-21, 25, 26, 28, 29, 36, 44, 45, 62, 70-1, 72, 74, 270
 Corpuscularian hypothesis, 35
 Corrosion, 250 (b)
 grain-boundary, 257 (e)
 of all metals other than gold, 14
 Cosmology, 102 (f)
 Costus. See Putchuk
Countrefey, Konterfei, 195 (h)
 Cranmer-Byng, J. L., (2), 159
 Creation, theories of, 92-3, 124
 Creator of Change, or of Things. See Author of Change, or of Things
 Cremation, 115
 Crete, bronze dagger from, 247
 Croesus (Lydian king, - 6th century), 40
 Croll, Oswald (Paracelsian iatro-chemist, + 1609), 76
 Cronstedt, A. F. (Swedish chemist, + 1751), 199, 228 (a)
 Crossbow sighting devices, 106 (f)
 Crustacea, as aphrodisiacs, 289 (j)
 Cryptogams, 122, 283 (a)
 Crystallisation, 19 (d)
 nucleus of, 27 (d)
 fractional, 191
 Cudworth, Ralph (Cambridge Platonist), 34
 Cult objects of gold, 119
 Cunningham, A. (1), 237
 Cupellation, 10, 36-41, 188, 195, 250
 in China, 42, 47, 48-9, 54, 55-62, 63, 70, 207, 277, 278, 281; and Ko Hung, 65, 67
 in the West, 18, 20, 28, 29, 31, 32, 46; technical terms, 39 (g)
 Cupro-manganese, 240
 Cupro-nickel, 62, 68 (c), 190, 195, 198, 199-200, 219, 225, 228, 232-3, 236, 239, 278, 281
 in Bactria, 237-9
 coins, 231, 237-8
 making of, 234
 Cups. See Vessels
 Currency. See Coinage
 Cyclical revolutions and transformations of the Five Powers, 105
 Cyclical transformation, and metallic mercury, 128, 278
 'Cyclically-transformed elixir gold', 277
 Cypress, 145

INDEX

479

- Dagger rivet-heads, 247
 Dalmatic, of Byzantine emperor, 134
 Dalton, John, 35
 Damascus steel, 238
 Darius I (Persian king, – 521 to – 485), 41, 220 (c), 225
 Davis, Tenney, 5, 6–7
De Anima in Arte Alchemiae, 31
De Arte Illuminandi, 271
De Diversis Artibus (Theophilus Presbyter, i.e. Roger of Helmarshausen, c. +1125), 39 (a), 41 (f)
De Mineralibus et Rebus Metallicis (Albertus Magnus), 31
De Motu Corporum (Newton), 34
De Natura Metallorum (Libavius), 227
De Vita Longa (Paracelsus), 74–5
 Dead
 abodes of the, 78–85
 reviving of the, 90, 122, 123
 Death
 and hedonism, 94 (a)
 and Taoist immortality, 294–5, 297–302
 Debus, A. G. (4), 8
 Decay. *See* Putrefaction
 Declarations of Perfected Immortals. *See* *Chen Kao*
 Deficiency diseases. *See* Diseases
 Delta metal, 196
 Demiéville, P. (8), 301
 Democritus (possibly Pseudo-Democritus, *q.v.*), 16
 Democritus, 25, 35, 83
 Demons, 81
 driving away of, 149–50, 204, 205
 Denmark, bog-burials, 299 (g), 304
 Densities of metals, 33 (f), 48
 Dentistry, 243
 Descartes, René, 24
 Deserters, metallurgical. *See* Sinkiang, Han deserters in
 Dewrance's metal, 241
 Dexamphetamine, 291
Diacrisis, 24
Dialogus de Scaccario (FitzNigel), 41
 Dietary deficiencies, 287, 288, 292–3, 294
 Diffusion, of science and technology, 115, 121, 247
 'Diffusion bonding' of silver on copper, 247
 al-Dimashqī, Abū Abdallāh (c. +1300), 214 (e)
 Dinwiddie, James (+1746 to +1815), 228
 Diodorus Siculus, 41, 73
 Dioscorides (+2nd century), 16 (d), 248, 267 (g)
 Dioscorus (c. +389), 254
Diplōsis. *See* Doubling
 'Dipping', 199, 246, 255, 265
 Discourse on the Natures and Properties of Drugs. *See* *Yao Hsing Lun*
 Discourse on the Precious Treasury of the Earth. *See* *Pao Tsang Lun*
 Discourses on Salt and Iron. *See* *Yen Thieh Lun*
 Discourses Weighed in the Balance. *See* *Lun Hêng*
 Diseases
 deficiency, 287
 industrial, 284
 parasitic, 287, 294
 Distillation, 19, 46, 146, 190
 reflux, 72
 of spirits from wine, 2
 technical term, 100 (k)
 'Divine immortals' (*shen jen*), 109
 'Divine' or 'sulphureous' water, 252
Divisio, 23
 'Doers of good' (*shan jen*), 109
 Dohi Keizō (1, 1), 161
 Dolomite, 191
The Domestic Chemistry of Moses the Prophet, 74
Domus aeterna, 77
 Donne, John (c. +1619), 23 (c)
 'Don't look round!', 152 (b)
 Doolittle, J. (1), 159
 Double-hours, 147
 Doubling (*diplōsis*, the 'debasement' of precious metals), 18, 20, 45, 193, 202
 of *pai thung*, 231
 'Dragon-embryo' (elixir), 297
 Dragon's blood, 256
 Dravidian tribes, 77 (e)
 Dream Pool Essays. *See* *Mêng Chhi Pi Than*
 Droṇa (mountain), 123
 Drug-plants, 82, 95, 286
 Drugs, 3, 133
 aphrodisiac, 260, 283, 285, 288–90, 291, 292, 293–4
 containing arsenic, 282–94, 299
 containing gold, 277–8
 containing iron, 292–4
 containing mercury, 235, 282, 286, 291–2
 for recalling 'souls', 89–90
 giving understanding of the language of animals, 125
 of longevity and immortality. *See* Elixirs of longevity and immortality
 mineral and metallic, 11, 14, 100 (k), 117, 131, 236, 245, 282–3, 287, 289, 292, 293–4, 299
 psychotropic, 151
 in the Shōsōin, Nara, and at Sian, 161
 wine as, xxx
 vegetable, 13, 290, 292, 293, 294
 Drūjō-demāna ('house of lies'), 78, 80
 drum, 129
 Dry colouring, 251 (c)
 Dry parting. *See* Cementation
 Dualism, 80
 Dubs, H. H., 9, 48–9, (3), 121; (4), 50; (5), 7, 47, 50, 115; (34), 7, 47, 258
 'Dupers duped' theory, 45
 Duralumin, 241
 Dusuns (Malayan tribe), ideas about the after-life, 77 (c)
 Dutch gold, 196
 Dutch trade to Japan, 75

480

Dyeing
 of metals. *See* Tingeing
 of textiles, 16, 19, 28–9, 262 (c)
 Dyer's bugloss. *See* Alkanet
 Dyscrasite, 267 (e)
 Dyspepsia, 291
 Dysuria, 288

East Indies, 201, 227, 228
 aromatics, 141, 142, 144
 Easton's syrup, 292 (f)
 Ebionites, 73 (d)
 Echinoderms, as aphrodisiacs, 289 (j)
 Edge-runner mill, 145
 Edicts
 anti-coining (–144), 12–13, 48, 55, 56, 216, 219, 239, 259
 of Chhin Shih Huang Ti (–209), 104
 of Han Wu Ti, 258
 Edkins, J., 2, 3
 Efficacious Elixir Prescriptions... for the Enterprize of Longevity. *See* *San Phin I Shen Pao Ming Shen Tan Fang*
 Egg-white, used for the yellowing of silver, 67, 253, 255
 Eggs, destructive distillation of, 73 (j), 74, 253
 Egypt, and the Egyptians, 7, 117, 193
 aurifaction, 47–8, 263
 eye-paint, 267 (g)
 glass and enamel, 29
 gold, 37, 39, 41
 gold leaf, 247
 Hellenistic, 15, 36, 48, 252
 ideas about the after-life, 77 (d), 78 (b), 79
 idea of 'multiple souls', 88 (e)
 metallurgy, 253–4
 mummification, 75, 77 (d), 140 (d), 299
 purpling technique, 264
 textiles, 29
 Eight Immortals, 121 (e)
 Elchasites, 73 (d)
 Electrical resistances, 229
 Electro-plated 'silver'-ware, 229, 239
 Electro-plating, 246
 Electrolysis, 192
Electrum, 18, 28, 37, 45, 200 (e), 207, 261
 Elegies of Chhu (State). *See* *Chhu Tzhu*
 Elemi, 137, 138, 143, 144
 Eleusinian Mysteries, 116 (e)
 Elixir poisoning, 90, 110 (e), 263, 282–3, 292, 295, 299
 terminal stages of, 284
 tonic effects of small doses, 284–5, 288, 294
 Elixirs of longevity and immortality, 2, 4, 6, 7, 8, 11, 12, 57 (b), 66–9, 71, 82, 90, 95, 97, 110 (e), 111, 114–26, 127, 234, 282–302
 F. Bacon on, 33
 effect of half-dose, 107 (f)
 in Europe, 6, 8, 12, 14–15, 71, 74–5
 Indo-Iranian, 115
 ingestion of, 95, 103, 107, 109, 283–4
 instantaneous, 90
 origin of the concept, 115–26

INDEX

and Paracelsus, 74–5
 rites necessary in preparation of, 68–9, 131
 as 'time-controlling substances', 83
 voyages in search of, 97, 103, 122–3
 Elm-root, 145
 Elysian Fields, 80
 Embalming. *See* Mummification
 Embryology, 86
 Emetics, 267
 Emperor, as cosmic priest, 134
 En-no-Shōkaku (founder of the *shugen-dō* school, +634 to c. +700), 300
 Enamels, 29, 269–70
 Enargite, 224
 Enchymoma, 11 (e)
 The Three Enclosures, in Chinese uranography, 101 (e)
 Enfleurage, 146
 von Engeström, G. (Swedish chemist), 228
 England, 47
 zinc first smelted in, 214 (e)
 Enlargement of the *Chhieh Yün*... *See* *Kuang Yün Entstehung und Ausbreitung d. Alchemie* (von Lippmann), 4
 Epicurus, 25, 83
 Epsom salt, 191
 Ercker, Lazarus (metallurgist, +1530 to +1594), 32, 52–3, 251 (b)
 Ereshkigal (Mesopotamian goddess), 79 (a)
Erh Ya dictionary, 54, 66 (d), 151, 214, 261
Ersatz (imitation) productions, 10 (b)
 Erythrocyte count, 293
 Eschatological world-views, 75, 77–85
 See also Immortality, Material immortality
 Esmeraldas coast Indians, 248, 250 (c)
 Essentials of the Elixir Manuals for Oral Transmission... *See* *Thai-Chhing Tan Ching Yao Chüeh*
 Essentials of Historical Geography. *See* *Tu Shih Fang Yü Chi Yao*
 Essentials of the Matchless Books. *See* *Wu Shang Pi Yao*
 Ethical polarisation
 absence of, in early Chinese culture, 71, 81, 82, 114
 and immortality conceptions, 77, 78, 79 (f), 80, 81, 117 (d), 123–4
 Ethics
 Buddhist, 111, 126
 Christian, 23–4
 Confucian, 9, 111
 and search for medicines of immortality, 103, 109, 123ff.
 Taoist, 9, 110–11, 123 (e), 126
 Ethno-mycology and psycho-pharmacology, 116
 Etruscans, 221 (f)
 Eucharist, 40 (l), 73
 See also Transubstantiation
 Euripides, 77 (h)
 Europe
 alchemy, 4, 6, 7, 8, 12, 14–15, 22, 30, 131, 281
 arsenic as aphrodisiac, 288–9

INDEX

481

- Europe (*cont.*)
 aurifaction, 21, 30
 brass, 198
 colloidal gold, 268–70
 dentistry, 243
 drugs, 11, 75–6
 elixir of immortality, xxv, 6, 8, 12, 14–15, 71, 74, 123
 enamels, 270
 gold-refining, 39, 41, 58
 platinum, 221, 223
 stannic sulphide, 271–2
 trade, 50, 199, 212, 228
 ‘wet copper method’, 245
 Euthydemid house, 238, 239
 Euthydemus II (king of Bactria, *c.* –180 to –170), 237, 239
 Ewe (tribe), ideas about the after-life, 77 (c)
 Excavations. *See* Archaeological excavations
 Expeditions. *See* Voyages
 Experimentation, 34–5, 45
 animal, 295
 Expiatory procedures, 119
 Explanation of the Dragon-and-Tiger Cyclically Transformed Elixir. *See* *Lung Hu Huan Tan Chüeh*
 Explanation of Names [dictionary]. *See* *Shih Ming*
 Exploitation of the Works of Nature. *See* *Thien Kung Khai Wu*
 Exports. *See* Trade contacts
 Extension of the *String of Pearls*... *See* *Yen Fan Lu*
 Extrusion techniques, 144
 Eyebrow-paint, 267 (g)
 Ezekiel (*c.* –580), 40
 Fa-Khung (alchemist and Buddhist monk, *c.* +1095), 262
 Fahlun brilliants, 241
 ‘Famille rose’ style of porcelain, 270
 Fan Hsing-Chun (6), 289
Fan hun hsiang (the ‘calling-back-the-soul’ aromatic), 140 (c)
 Fan Yeh (historian, +398 to +445), 135
 Fang-hsiang-shih exorcist, 54
 Fang Hsüan-Ling (Thang minister), 204–5
 Fang I-Chih (scientific encyclopaedist, *d.* +1671), 199, 203, 218 (a), 259 (i)
 Fang Shao (writer, +1117), 206
Fang shih (magicians and adepts), 9, 36
Fang Yü Chi (General Geography), 263
 Feathered immortals, 64 (a), 96 (f)
Fei (sublimation and distillation), 100 (k)
 Feifel, Eugen, 6
Fêng and *shan* sacrifices, 104
 Fêng Chia-Lo, 6
 Fêng Chia-Shêng (5), 8
 Fêng Chün-Ta (Taoist adept, +1st century), 14
 Fêng Ping-Chêng. *See* de Mailla, Joseph
 Ferghana, 219–20
 Fermentation, 27 (d)
 Fermentation Technique of Moses, 74
 Fernel, Jean (physician, +1497 to +1558), 24
 Ferric oxide, 293, 294
 ‘Ferro-argentan’, 240
 Ferrosoferric hydroxide, 294
 Ferrous acetate, 294
 Ferrous sulphate, 246
 Fertility, human, 286
 Fertility and vegetation cults, 77 (b)
 Fevers, 289
 Fierz-David, H. E. (1), 5
 Figurovsky, N. A. (1), 7
 Filial piety, 112
 Fillings, for cavities in teeth, 243–4
 Filtration, 19 (d)
 Fines, 51 (f), 56
 Firdawsi (Persian writer, *c.* +1000), 123
 FitzNigel, Richard (Bishop of London and Treasurer of England, *c.* +1180), 41
 Five Elements, 25, 27, 51 (e), 85
 Five-Mineral preparations, 288
 Flamel, Nicolas (French alchemical writer, +1330 to +1418), 34
 Flamethrower, 208
 Flavourings, 133
 Flight, W., 237
 Flights. *See* Ascensions
 Floods, 204–5
 ‘Florentine bronzing’, 251 (h)
 Fluorine, 287
 Fluorspar, 286
 Fly-agaric, 116, 117, 121–2, 125
 Folk belief, 81 (g), 88 (b), 269
 Foods
 chemistry of, 10 (b)
 eaten by ‘self-mummification’ adepts, 300, 301
 Foreign names, and their implications, 60 (h)
 Forke, A., 8
 Form and matter. *See* Matter and Form
 Former Han (period), 47, 49, 54, 55, 148, 219
 Formication, 283
 Formosa (Taiwan), 138, 143, 301
 Formulae for the Reception of Salvation... *See* *Thai-Shang Tung Hsüan Ling-Pao Shou Tu I*
 Formularies of Imperial Incense Blends. *See* *Shang Hsiang Fang*
 Fortunate and unfortunate days, 131
 Fountains, 201
 de Fourcroy, A. F. (+1755 to 1809), 273
 Fowler’s solution, 289
 Fractures, treatment of, 75–6
 Fragrances. *See* Perfumes
 France, coinage, 239
 Frankincense, 137, 140, 142, 143, 144
 Frescoes
 Pompeii, 36 (b)
 Tunhuang cave-temples, 128 (c), 133
 Freya’s garth, 80 (c)
 Friend, J. Newton (2), 237
 Frigidity, sexual, 286
Fu-ling fungus, 301
 Fu Shêng (commentator, –2nd century), 51 (f)

- ‘Fucus’ (pigment), 28
 Fujiwara, Ason Nakamaro (Chief Administrator of the Japanese Court at Nara, +659), 161
 Fumigation, 148–54
 of dwellings, 148
 of libraries, 140 (a), 148
 Fungi, 116, 122
 psychotropic, 121, 154
 Furnace-master, 129
 Furnace-servers, 129
 Further Biographies of the Immortals. *See Hsü Hsien Chuan*
 Fusion, 19 (d)
 Fusion-gilding, 248, 250 (c)
 ‘Fusion-plating’, 248
 Fyfe, A. (1), 228
- Gades, islands at, 77 (h)
 Galbanum, 137, 141
 Galen, 11
 Galena, 218
 argentiferous, 213 (j), 281
 Galileo, 47, 128
Gandha (perfumes), 129 (a)
Gandoderma spp., 121
 Ganzenmüller, W., 270; (4), 8
 Gardenia, 136, 137, 256 (g)
 Garō-demāna (‘house of song’), 78, 80
 Garroo. *See Aloes*
 Gassendi, P. (French atomist, +1592 to +1655), 24
 Geber (ps. of a Latin alchemist, c. +1290), 41, 271
 Geerts, A. J. C., 3, 159–60
 Gehenna, 78 (b)
 Gehes Codex, 291
 Geitner, E. A., 229
 Gems, 159
 artificial, 10, 16, 19, 29, 270
 General Geography. *See Fang Yü Chi*
 Generative system, action of mineral substances on, 286
Genius loci, 87 (d)
Genji Monogatari (Tale of Genji), 143
 Geobotanical prospecting. *See Prospecting*
 Geochemical prospecting. *See Prospecting*
 Geoffroy, C. J. (French pharmacist, +1685 to +1752), 273
 Geographical pathology, in ancient and medieval times, 287
 Geography of the Yuan-Ho reign-period. *See Yuan-Ho Chiün Hsien Chih*
 Geological prospecting. *See Prospecting*
 Geology, 63 (e)
 Geomancy, 103 (c)
 Geometry, Babylonian, 48 (e)
 ‘German’ gold, 222–3
 German silver, 229, 230
 German vitriol, 246
 Germany, 272, 291
 von Gersdorff, J. R., 229
 Gersnein’s alloy, 243
 Ghosts and spirits, 89, 204, 205
 Gilding, 20, 28, 62, 188, 246–8, 251, 281
 amalgamation, 10, 67 (b), 232, 244, 247–8, 254, 255
- ‘Gilding metal’, 196
 Gilgamesh, 77 (h), 117 (d), 121
 Gillan, Hugh (physician, +1794), 159
 Gilt paper, Chinese, 195 (i)
 Gilyak (Siberian tribal people), 116, 122 (b)
 Gimbals, 133, 260
Gimrō, 217 (b)
 Glaister, J., 299
 Glass, 64–5, 247
 in artificial gems, 270
 coloured, 19, 29
 made with gold, 269
 gold-ruby, 268–9, 270
 Glauber, J. R. (chemist, c. +1603 to +1670), 273
 ‘The glitter is the gold’, 10, 68, 71
 Gnosticism, 12 (a), 17, 21, 25, 44, 72–3
 Gold
 and astronomical symbolism, 119
 colloidal, 268–9, 270
 colour, 10, 193
 ‘debasement’ of, 28, 193
 Egyptian. *See Egypt*
 -faking. *See Aurification*
 and Indian liturgy, 117–20
 -making. *See Aurification*
 Mesopotamian. *See Mesopotamia*
 placer, 118 (e), 250 (b)
 association with purple, 272 (b)
 specific weight of, 260
 Talmi, 195
 thought-connection with immortality, 12 (g), 13, 14, 66–7, 70–1, 117–18, 282
 Gold (in China), 48, 50–1, 55–6
 ‘artificial’ or ‘false’, 13, 188, 199–200, 221, 223–5, 251, 257, 274–6, 281; and brasses, 209; lists of. *See Lists*; prohibition of, 12–13; ‘superior to natural gold’, 68, 281; technical terms. *See Technical terms*
 coinage, 49–50, 239, 257–8
 colour, 49, 58, 70–1
 crude, toxicity of, 62
 definition of, 10, 19f.
 extraction from auriferous sands, 255, 278
 extraction from its ores, 243
 imported, 276
 industry, 49
 ingestion of, 13–14, 62, 66, 68, 69, 71, 297
 medical use of, 258
 -mercury amalgam, 244
 ‘non-oxidisable’, 223
 offerings to the emperor, 49
 purple, 260, 263
 softening of, 69
 sources of, 50
 technical terms. *See Technical terms*
 weight of, 55, 259–60
 Gold (in the West)
 from auriferous sands, 21 (a), 243
 definitions of, 28, 36
 Gold chloride, 268, 269, 290 (j)
 Gold cyanide, 246 (c)
 Gold ingots, 258–9
 Gold leaf, 58 (b), 195 (i), 247, 274

INDEX

483

- Gold paints, 62, 69, 195, 271, 272
 'Golden sulphuret of antimony', 272
 'Golding', 248
 Goldsmith artisans *vs.* alchemical philosophers, 20, 31, 36, 44 (b)
 Gonadotrophins, 292
 Gonds (Dravidian tribe), 77 (e)
 gong, 129
Gotheborg (ship), 212
 Gournia, Crete, bronze dagger from, 247
 Government monopoly, 201
 Government requisitioning, 217
 Gowland, W. (2), 37; (6), 264–5
 Gradation of Merits and Faults. *See* *Kung Kuo Ko*
 Graduated candles, 147
Grand Dictionnaire Historique (Morery), 227
 'Gravel gold', 276, 277
 'Gravel silver', 280
 Gravereau, J. B. (Jesuit lay brother and technician, +1690 to after +1757), 270
 Gravimetry, 36ff., 56–7, 65ff.
 Gravitation theory, 34
 Great Elixirs of the Adepts... *See* *Thai-Chhing Chen Jen Ta Tan*
 Great Pharmacopoeia. *See* *Pên Tshao Kang Mu*
 The Great Summons. *See* *Ta Chao*
 Greece and the Greeks, 189, 224, 228
 ideas about the after-life, 78, 80
 Greek 'alchemical' Corpus. *See* Corpus of Greek
 'alchemical' (proto-chemical) writings
 Greek atomic theories. *See* Atomism
 Greek philosophy, 7, 45
 Greek *theoria* and 'Oriental' *praxis*, 21, 26
 Gregory of Tours (*d.* +595), 269 (h)
 'Grey silver', 226
 Grid sights, 106 (f)
 Guide through the Forest of Affairs. *See* *Shih Lin Kuang Chi*
 Guide to the Creation. *See* *Tsao Hua Chih Nan*
 Guide to the Region of the Kunming Lake. *See* *Tien Hai Yü Hêng Chih*
 Gum arabic, 145
 Gum guggul. *See* Bdellium
 Gum-resins, 75, 140 (c, d), 141 (b)
 Gums, 134, 137
 Gun metal, 197
 Gunpowder, 149
 Gymnastic exercises, 98 (e), 260, 283

 Hades, 78, 85, 114
Hadid al-Simî (Chinese iron), 238
 Haematite, 51 (f), 171, 267 (e)
 Haemoglobin, 293
Hai Nei Shih Chou Chi (Record of the Ten Sea Islands), 122
Hai Yao Pên Tshao (Pharmaceutical Natural History of Overseas Drugs and Sea Products), 136
 Hainan, 138, 143
 Hair, pathological phenomena in, 289
 Hairpins made of *huang yin* (yellow silver), 206
 Haitian ideas about the after-life, 77 (c)

 du Halde, J. B., 227
 Hallucinogenic plants. *See* Plants
 Hallucinogenic smokes. *See* Smoke
 Hallucinogenic substances, 116, 121, 283 (a)
 Hamilton's metal, 196
 Han (dynasty), 50, 54, 88, 94, 127, 133, 150, 225, 251, 260, 270, 289
 alchemy, 6, 36, 115, 250, 256
 aromatics, 141
 Confucians, 111
 hill-censors, 133
 inscriptions, 124, 126
 making of cupro-nickel, 233
 metallurgy, 204, 243
 Taoists, 106, 107
 Han Chhêng Tî (Emperor Chhêng of the Former Han, *r.* –32 to –7), 257, 258, 260
 Han Chung (Taoist explorer, –3rd century), 103
 Han Fei (Legalist philosopher, *d.* –233), 55, 95
Han Fei Tzu (The Book of Master Han Fei), 55, 95
 Han Kao Tsu (Liu Pang, Emperor Kao of the Former Han, *r.* –207 to –195), 259
Han Kuan I (The Civil Service of the Han Dynasty and its Regulations), 218
Han Kung Hsiang Fang (on the Blending of Perfumes in the Palaces of the Han), 135
 Han pound weight, 48 (e)
 Han Shao (scholar, *d.* +192), 109
 Han Shih San (cooling regimen powder), 288
 Han Wu Tî (Emperor Wu of the Former Han), *r.* –141 to –87), 50, 70 (b), 96–7, 103, 104, 105, 106, 115, 121, 124, 132, 233, 236, 258, 262, 264
 Hanbury, Daniel (pharmaceutical chemist, 1860), 3; (2), 159
 Handbook of Archaeology, Art and Antiquarianism. *See* *Ko Ku Yao Lun*
 Handbook of Medicines for Emergencies. *See* *Chou Hou Pei Chi Fang*
 Hantung (modern Suihsien), 258
Haoma (plant). *See* *Soma*
 Hartshorn, spirits of, 90
 Harvard–Cornell archaeological expedition, 40
 Hashish, 150–1
 technical terminology, 151 (c)
Hayarô (quick solder), 217 (b)
 Headaches, 293
 Heavens. *See* Paradises
 Hedonism, philosophical, 94 (a)
 Heim, R. (2), 125
 Hel (Scandinavian goddess), 79 (d)
 Hellenistic culture
 alchemy, 10, 15–16, 36, 207
 brass, 189
 cupellation, 41
 diplosis, 193
 proto-chemistry, 29, 193, 195, 223, 224, 248, 252, 255, 270–1
 Hellenistic Egypt. *See* Egypt
 Hellenistic papyri. *See* Chemical papyri
 Hellenistic proto-chemistry. *See* Proto-chemistry
 Hells, 77, 80, 81 (b, d, g), 111, 114, 124

- van Helmont, J. B. (Belgian iatro-chemist, +1579 to +1644), 245
 Helps to the Understanding of the Literary Expositor. *See* *Thung Ya*
 Hemp, 131 (e), 150–1
 Henry VIII, missal of, 272
 Heraclius, 269
 Heraldry, 272
 Herb of immortality, 13, 77 (h), 82, 90, 95, 121–3
 voyages in search of, 103, 122–3
 Hermetic mysticism and philosophy, 12 (a), 17, 21, 25, 28, 35 (i), 72
 Herodotus, 152 (f)
 Hesiod (–8th-century poet), 78 (h), 198 (c)
 Hesperides, islands, 77 (h)
 Hesychasts, 123 (e)
 ‘Hidden absorbed ones’ (*yin lun*), 106 (g)
 Higgins, Bryan (chemist, +1737 to 1818), 228 (a)
 Hill-censers, 133
 Himalayas, 123
 Hinduism, 77 (g)
 Hiorns, A. H. (1), 266
 Hippocrates of Chios (geometer), 48 (e)
 Hiragana syllabary, 301
 Hirth, F. & Rockhill, W. W., 231
 Historical Classic. *See* *Shu Ching*
 Historical Records. *See* *Shih Chi*
History of Chemistry (von Meyer), 3
 History of the Former Han Dynasty. *See* *Chhien Han Shu*
 History of the Later Han Dynasty. *See* *Hou Han Shu*
 History of the Ming Dynasty. *See* *Ming Shih*
 History of the Northern Dynasties. *See* *Pei Shih*
 History of the Southern Dynasties. *See* *Nan Shih*
 History of the Sui Dynasty. *See* *Sui Shu*
 History of the Sung Dynasty. *See* *Sung Shih*
 Hjortdahl, T. (1), 3
 Ho Jung (horological writer, c. +102), 147
 Ho Ping-Yü, 8
 Ho Ping-Yü & Needham, J., 299
 Ho Wei (scholar and writer, +1095), 231, 233, 234–5, 262
 Hofer, F., 3
 Holgen, H. J., 3
 Holien Pho-Pho (king of the Ta Hsia State, d. +425), 231
 Holland, 46
 Holmyard, E. J., 7
 Holy immortals (*shen hsien*). *See* Immortals (*hsien*)
 Homeric hymns, 198 (c)
 Homeric underworld, 78 (c)
 Hommel, W., 212
 Honey, 135, 301
 preservation of bodies in, 76
 Hopkins, A. J., (1), 21, 45; (2), 7; (3), 266
 Hori Ichiro, 300, 301
 Hormones, 122 (b), 290, 291, 292
 Horn keratin, 150
 Horology. *See* Time-keeping
 Horoscopes, 112
 Horoztepe bulls, 241
 Horse-hoof ingots (*ma thi chin*), 259–60, 261, 276
 Horse-sacrifice. *See* Asvamedha
 Hou Han (period). *See* Later Han
Hou Han Shu (History of the Later Han dynasty), 107, 135
Hsi (tin), 214, 216, 217
Hsi la, 214 ff.
 Hsia kingdom, ancient, 105 (f)
 See also Ta Hsia.
Hsiang (odours of the sacrificial food), 132–3
Hsiang Chhêng (Records of Incense), 135
Hsiang Chien (Notes on Perfumes and Incense), 135
Hsiang Fang (Formulae for Incense Compositions), 135
Hsiang Kuo (The Realm of Incense and Perfumes), 135
Hsiang lu. *See* Incense-burners
Hsiang Lu (Catalogue of Incense), 134
Hsiang Phu (Treatise on Perfumes and Aromatic Substances), 134
Hsiang Yao Chhao, Figs. 1339–41
 Hsiao Kang. *See* Chien Wên Ti
Hsien (Taoist technical term), 96–7
Hsien (Immortals). *See* Immortals
 Hsien Jen Thang Kung-Fang Pei (Memorial of the Immortal, Thang Kung-Fang), 124–5
 Hsienmên Kao (*hsien* immortal), 96, 297
 Hsin (dynasty)
 coins, 217–18
 gold reserves, 50
 Hsin (Prince Huai of Chhu, r. –206 to –205), 89 (e)
Hsin Hsiu Pên Tshao (Newly Reorganised Pharmacopoeia), 60, 143, 144, 161, 206, 242, 245 (a), 276
 Hsin Kung-I (Governor of Ping-chou, c. +581 to +604), 204–5, 207
Hsin Lun (New Discussions, by Huan Than, c. +20), 111
Hsin Lun (New Discourses, by Liu Hsieh, d. +550), 55
Hsin shih (arsenious trioxide), 229 (c)
Hsin Thang Shu (New History of the Thang Dynasty), 216, 231 (e)
Hsin Yü (New Discourses), 111
Hsing Ming Kuei Chih (A Pointer to the Meaning of (Human) Nature and the Life-Span), 91, 92
 Hsinyuan Phing (geomancer, fl. –180 to –160), 103
 Hsiung Phêng-Lai (writer on incense, +1322), 135
 Hsiung Yuan-Pien (+15th-century writer), 136
 Hsü Chung-Shu (7), 115
 Hsü Fu (Taoist explorer, –3rd century), 103, 122–3
Hsü Hsien Chuan (Further Biographies of the Immortals), 298
 Hsü Hui (Taoist, fl. c. +360), 110 (e)
 Hsü Mi (leader in the Mao Shan school of Taoism, d. +373), 110 (e), 152

INDEX

485

- Hsü Shen (lexicographer, *c.* +120), 56, 157, 217
 Hsüan (prince of Chhi, *c.* –319 to –301), 97
 Hsüan-Chuang (Buddhist monk and traveller, +7th century), 201–2
 Hsüan Shih Chih (Records of Hsüan Shih), 262
 Hsüeh Tho of Lan-ling (Sung alchemist and metallurgist), 233–4, 235
 Hsün (plant), 148 (a)
 Hsün Tzu book, 94 (a)
 Hua Yang Kuo Chih (Records of the Country South of Mount Hua), 231, 232 (a)
 Huai-Nan, Prince of. *See* Liu An
 Huai Nan Tzu (The Book of (the Prince of) Huai-Nan), 5, 6, 13, 124
 Huai Nan Wan Pi Shu (Ten Thousand Infallible Arts of the Prince of Huai-Nan), 236
 Huan (duke of Chhi, –4th century), 85
 Huan Khuan (*c.* –81), 55
 Huan tanchin ('cyclically-transformed elixir gold'), 277–8
 Huan Than (sceptical natural philosopher, *c.* +20), 106, 111–12
 Huan Ti (Emperor of the Later Han, *r.* +147 to +167), 106
 Huang Chhüan. *See* Yellow Springs
 Huang Chi Ching Shih Shu (Book of the Sublime Principle which governs All Things within the World), 40 (k)
 Huang chin ('yellow gold'), 22 (e), 49, 51, 54
 Huang-Lao Chün (Taoist deity), 106
 Huang-Lao Taoism. *See* Taoism
 Huang thung ('yellow bronze', i.e. brass), 208, 231
 Huang Ti (the Yellow Emperor), 98 (d), 105, 106, 124
 Huang Ti Chiu Ting Shen Tan Ching Chüeh (Explanation of the Yellow Emperor's Canon of the Nine-Vessel Spiritual Elixir), 57, 61, 251
 Huang Ti Nei Ching (The Yellow Emperor's Manual of Corporeal (Medicine)), 245 (a)
 Huang Ti Wai Ching (The Yellow Emperor's Manual of Incorporeal (Medicine)), 245 (a)
 Huang Tzu-Chhing (1), 8, 234; (2), 8
 Huang Tzu-Chhing & Chao Yün-Tshung (1), 8
 Huang yin ('yellow silver'), 203–9
 Huangfu Hung-Tsê (horological writer, Sui or early Tang), 147
 Hui-Nêng (last Chhan Buddhist patriarch, *d.* +713), 301
 Human organism, Chinese view of, 92
 Human sacrifices, 81
 Hun 'souls', 85–93, 100, 114, 293
 Hunan, 218, 267
 Hung Chhu (writer on incense, *c.* +1115), 134
 Hung Yai (a *hsien* immortal), 297
 'Hungry ghosts'. *See* Pretas
 Hydrochloric acid, 268
 Hygiene, 148, 149
 Hypnotic techniques, 154
 Hypothesis syndiacritica, 24
 I Ching (Book of Changes), 25, 27, 54
 I Hsin Fang (Ishinhō), 286
 I-hsing (Chiangsu), excavations at, 192
 I Li (Personal Conduct Ritual), 89
 I Yen Shou Kuan (temple), 104
 Iamblichus (late +3rd-century proto-chemical philosopher), 17
 Iatro-chemical Natural History. *See* Wai Tan Pên Tshao
 Iatro-chemical operations, 6
 timing of, 147
 Ibn al-Baithar (+13th-century pharmaceutical naturalist), 75
 Ibn al-Ha'ik, Abū Muḥammad al-Hamdānī (metallurgical writer, *d.* +945), 50 (g)
 Ibn Rushd. *See* Averroes
 Ibn Sina. *See* Avicenna
 Idans (Malayan tribe) ideas about the after-life, 77 (c)
 Ignatius the Syrian, 73 (e)
 'Iliaster' (Paracelsian technical term), 74
 Illicium (insecticide), 136 (h), 145 (l), 148
 Illuminated manuscripts, 272
 Illustrated Pharmacopoeia. *See* Pên Tshao Thu Ching
 Illustrations for the Main Essentials of the Metal-lous Enchymona; the true Gold Elixir. *See* Chin Tan Ta Yao Thu
 Image of metals with feet of clay, 235
 Images, multiplication of, by means of mirrors, 90 (f)
 Images (statues). *See* Statues
 Imitations. *See* Ersatz productions
 Immanent Shaping Forces. *See* Tsao hua chê and Tsao wu chê
 Immortality, 'other-worldly' conceptions of, 21 (e), 73, 78, 80, 82, 111, 114, 123–4, 126
 See also Material immortality and longevity
 Immortality elixirs. *See* Elixirs of longevity and immortality
 Immortals (*hsien*), 11, 78, 80, 83, 85, 89, 96–113, 123–6
 categories of, 106–10, 126
 'celestialisation' of, 104–5
 corpse-free, 106, 297
 feathered and winged, 64 (a), 96 (f), 100
 Imperial Workshops (Shang Fang), 36, 48
 Important Arts for the People's Welfare. *See* Chhi Min Yao Shu
 Imports. *See* Trade contacts
 Impotence, 285, 286, 288, 291
 'In-the-earth' gold, 277
 Incendiary preparations, 149
 Incense, 132–3, 134–47
 aromatic substances used in, 136–46
 blending of, 135, 143–7
 and numinous experience, 134
 and Taoist rites, 152
 as a technique of fumigation and purification, 150
 and time-keeping, 134, 145 (h), 146–7
 Incense Blends of the Bodhisattva Nāgārjuna. *See* Lung-Shu Phu-Sa Ho Hsiang Fang

486

Incense-burners, 73 (b), 128–9, 130–3, 154
 and hallucinogenic smokes, 150
 Incense-burning, 144–5
 Incense-clocks, 146–7
 Incense-coils, 129
 Incense-guessing parties, 143–4
 Incense seals (*hsiang yin*), 147
 Incense-sticks, 129, 146–7
 Incurruptibility of corpses, as evidence of material
 immortality, 284, 294 ff., 303
 ceremonials for obtaining, 303
 India, 115, 121, 151
 alchemy, 9, 15
 aromatics, 143
 use of arsenic, 289, 291
 assaying techniques, 41
 aurifaction, 46
 brass, 202, 203 (b), 206, 254
 Buddhism, 25
 coinage, 239
 ideas about the after-life, 77 (c), 77 (f), 82
 metallurgy, 254–5
 soma sacrifices, 115, 117 (d)
 trade, 237
 wootz, 238
 Indian liturgical texts, 117–20
 Indians
 American, 250
 of the Esmeraldas coast, 248
 Mazatec, 116 (d)
 Indigo, 28, 29
 Indo-Iranian culture
 and possible transmissions to China, 115–17,
 121–2
 journeys in search of the herb of immortality,
 123
 Indonesia, aromatics, 143–4
 Indra (Vedic god), 116, 118, 119, 120
 Infantile convulsions, 267
 Industrial diseases. *See* Diseases
 Industrial technology, 188
 Information on What is Beyond the Passes. *See*
 Ling Wai Tai Ta
 Inlaying, 233, 236, 246, 264–5
 Inscriptions
 on bronze, 94, 105
 Egyptian, 118
 Han, 124–6
 Khorsabad inscriptions of Sargon II, 220 (c)
 on Lao Tzu, 106
 on mirrors, 97 (k)
 oracle-bone, 81, 94
 po shan lu, 133
 for the Temple of Confucius, 205
 Insecticides, 145 (l), 148
 Intestinal helminthic worms, 293
 Inverse segregation, 241
 Ion exchange coating, 246 (d)
 Isis. *See* ‘Purpling’ and ‘Rusting’
 Iran. *See* Persia
 al-Irāqī, Ahmad (alchemical philosopher, c.
 + 1300), 32

INDEX

Iron, 48 (e), 51 (f), 58, 67, 189, 212, 214, 223, 233,
 252, 274
 as an aphrodisiac, 293–4
 in aurifaction, 51 (f), 276, 277
 coppered by coating of malachite, 67, 255
 ‘fusion-plating’ of, with bronze, 248
 in medicines, 287, 292–4
 technical term, 51 (e)
 temperatures sufficient to melt, 193
 Iron acetate, 294
 Iron arsenite, 288
 Iron-casting, 191, 193, 219
 ‘Iron’ gold, 276, 277
 Iron oxide, 252, 254, 256, 266
 black, 286
 ‘Iron silver’, 278
 Isaiah (c. – 720), 40, 121 (a)
 Ishtar (Mesopotamian goddess), 78 (b), 79 (a)
 Isis (Egyptian goddess), 73 (c), 78 (b)
 Islamic culture-area, 49, 269
 alchemical philosophy of, 30
 ideas about the after-life in, 81 (d)
 ‘Isles of the blest’, 77 (h)
 Israel, immortality conceptions, 78 (b), 81, 121 (a)
 Italy, 46
 coinage, 239
 Iyo-shirome, 217 (b)
 Jābirian corpus, 30, 238 (e), 246 (c, d)
 Jade, 54, 56
 and preservation of corpses, 284, 302
 ‘Jade essence’ (elixir), 297
 Jalandhara (demon-king), 123
 Jan (‘tingeing’ or dyeing), 253 (h)
 Japan, 75, 228
 alloys, 194–5, 226, 264–6
 cementation and cupellation, 37, 38, 251 (c)
 gold leaf, 247
 ‘incense-guessing parties’, 143
 self-mummification, 300
 Japanese black gold, 194
 Japanese legend, 77 (f)
 Jasmines, 137, 138, 142
 Jaundice, 291
 Jen-Kuang (Buddhist monk, d. 1904), 301
 Jen pu (section on medicines of human origin).
 Chapter of *Pên Tshao Kang Mu*, q.v.
 Jeremiah, 40
 Jesuits, 35 (i), 158, 271
 ‘Jesus prayer’, 123 (e)
 Jewellery, 254, 263
 Jewish-Alexandrian proto-chemistry, 74
 Jezebel, 267 (g)
 Jih Hua Chu Chia Pên Tshao (The Sun-Rays
 Master’s Pharmaceutical Natural History . . .),
 201, 215, 278
 Jih Hua Tzu (writer on pharmacy and metallurgy,
 + 972), 205, 280, 281
 Johnson, Obed, 6
 Joss-sticks. *See* Incense-sticks
 Ju-Shun (commentator, c. + 40), 49
 Judaism. *See* Israel

INDEX

487

- Judgment of souls, 79 (f), 80, 114
 Julius Africanus (historian, proto-chemist and naturalist), 16
 Jungius, Joachim (naturalist, chemist and botanist, +1587 to +1657), 24, 33, 245, 268
 Juniper, 145
 de Jussieu, Bernard (+18th-century French botanist), 161

 Kaempfer, Engelbert (German physician in Japan, +1651 to +1716), 75 (b)
 Kala-azar, 287 (i)
 Kanchow (mod. Changyeh), 115
 Kansu, 115
 Kao-chhang. *See* Turfan
 Kao Ssu-Sun (Sung scholar, c. +1190), 205–6, 207, 278
 Kao Tsu (emperor). *See* Han Kao Tsu, Sui Kao Tsu
 Kao Tsung (emperor). *See* Thang Kao Tsung
 Kaochhiu Tzu (a *hsien* immortal), 297
 Kapuas (Malayan tribe), ideas about the after-life, 77 (c)
 Karakane, 197, 212–13
 Karlgren, B., 157–8, 232
 Karma doctrine, 123 (e)
 Katabaphē, 253 (h)
 Kekaumenos *chalkos*, 242 (c)
 Keratin, 253 (a)
 Kermān silver bronze, 226
 Kermes (red dye), 29
 Kērotakis. *See* Reflux condenser
 Khai-Pao Hsin Hsiang-Ting Pên Tshao (New and More Detailed Pharmacopoeia of the Khai-Pao reign-period), 191
 Khai-Pao Pên Tshao. *See* Khai-Pao Hsin Hsiang-Ting Pên Tshao
 the Khang-Hsi (Chhing) emperor (r. +1662 to +1723), 213
 Khang Phien (Thang writer, c. +885), 259
 Khao Kung Chi ('Artificers Record'), chapter of the *Chou Li*, q.v.
 Khārṣīnī (Chinese arrow-head metal), 238
 Khé (East African tribe), 77 (f)
 Khorsabad inscriptions, 220 (c)
 Khory, R. N. & Katrak, N. N., 289
 Khosru I, Anushirvan (Sassanid king, c. +550), 123
 Khun-Lun (Mount), 133
 Khung Jung (Han writer, d. c. +208), 261, 264
 Khung Ying-Ta (Sui and Thang scholar and commentator, c. +600), 51 (f), 233
 Khunrath, Heinrich (psychological alchemist, +1609), 131
 Kilns, potters', 128
 Kīmiya al-Ṭabīḥ, 10 (b)
 al-Kindī (naturalist and chemist, fl. c. +830), 10 (b)
 Kinship of the Three. *See* Tshan Thung Chhi
 Kiowa (Amerindian tribe), 79 (c)
 Kish (island), 231
 Kitāb al-Jauharatain al-'Atiqatain wa'l-Hajaratāin al-mā'i'atain al-safrā' wa'l-baidā' (Book of the Two Ancient Jewels and Fluid Stones, the Yellow and the White), 50 (h)
 Ko Hung (scholar and eminent Taoist alchemist, early +4th century), 14, 57, 62–71, 89–90, 106, 107, 112, 150, 235, 245, 255, 257, 271, 281, 283, 284, 286, 288
 Ko Ku Yao Lun (Handbook of Archaeology, Art and Antiquarianism), 132 (a), 200–1, 263, 266, 269
 Ko Wu Tshu Than (Simple Discourses on the Investigation of Things), 149, 199, 231
 Kōbō Daishi (Shingon patriarch, founder of the temples of Kōyasan, +774 to +835), 301
 Kōchi Hōin (mountain ascetic, 'self-mummified Buddha', d. +1363), 300
 al-kohl, 267 (g)
 Konterfei, 195
 Kopp, H., 3
 Korea and Koreans, 201, 236
 Kōrō (hard solder), 217 (b)
 Koryak tribal people, 116
 Kōyō-shō, Figs. 1339–41
 Krasī, 22
 Ku Chin Chu (Commentary on Things Old and New), 246
 Ku Thai (+16th-century writer), 259 (i), 263
 Ku Tsu-Yü (early Chhing geographer, +1667), 208
 Ku Yen-Wu (early Chhing scholar, +1662), 115
 Ku Yung (Han statesman, c. –10), 103
 Kuan Tzu book, 54, 85, 148
 Kuan-Yu (Ken-i), Figs. 1339–41, 361
 Kuang-Hsiao temple at Canton, 301
 Kuang Ya dictionary, 199, 218 (a), 232
 Kuang Yün (Enlarged Dictionary of the Sounds of Characters), 232, 233
 Kuangsi, 229, 263
 Kuangtung, 138, 191, 212, 229
 Kuei-Hsin Tsa Chih (Miscellaneous Information from Kuei-Hsin Street), 263
 Kuei Ku Tzu (Book of the Devil Valley Master), 122 (f)
 Kūkai. *See* Kōbō Daishi
 Kumārajīva (translator, c. +397), 202
 Kunckel, Johann (alchemist, chemist and glass technologist, +1630 to +1703), 269, 272
 Kung Kuo Ko (Gradation of Merits and Faults), 123 (e)
 Kung Shan mines, 218
 Kungsun Chhiao (Tzu-Chhan, statesman of Chêng, d. –521), 86
 Kungsun Chhing (Han court adept, –113), 103
 Kuo Mo-Jo, 158
 Kuo Pên-Tao, 6
 Kuo Pho (+3rd-century commentator), 54, 214–15, 261–2, 264
 Kupfernickel. *See* Nickel arsenide ore
 Kuromi alloy, 265
 Kweichow, 277
 Kyū-shibu-ichi alloy, 265

 La (zinc, or an alloy of zinc, tin and lead), 201 (f), 214, 216–17, 219

- Laboratory alchemy. *See* *Wai tan*
 Laboratory apparatus. *See* Chemical apparatus
 Ladanum, 141
 Lagercrantz, O. (1), 16
 Laka-wood, 137, 141
Lang-kan (term in mineralogy and Taoist pharmacology), 298 (e)
Lao Hsüeh An Pi Chi (Notes from the Hall of Learned Old Age), 266
 Lao Tzu, 66, 106
Lapidarium Sinicum. *See* *Shih Ya*
Lares and *penates*, 87 (d)
 The 'Last of the Magi', 36
 Later Chao (dynasty), 202
 Later Han (period), 47, 88, 106
 Latten, 200 (e)
 Laufer, B. (1), 203
 Laurion (Laurium), Mt., Attica, 41, 218
 Lavoisier, A. L. (French chemist, central figure of the 'chemical revolution', +1743 to +1794), 15, 35
 Leaching (in surface enrichment), 250
 Lead, 11, 57, 60, 63, 189, 191, 195, 212, 213–14, 218
 argentiferous, 32, 37, 42, 278
 'inferior', 212
 and mercury, 242–3, 244
 poisoning, 284
 as a salivary stimulant, 292
 technical terms. *See* Technical terms
 white, 64
 Lead acetate, 252
 'Lead line' on gums, 217 (b)
 Lead 'silver', 36, 42–3, 278, 281
 Leeches, 66 (g)
 Leeds, E. (1), 213
 Leemans, C. (1), 16
 Lefèvre, Nicolas (archiater of Charles II, +1660), 76
 Legalist School, 55
 Legge, J. (8), 232
 Leicester, H. M. (1), 7
 Leiden papyrus X, 16, 18, 20, 28–9, 74, 198
 Lemery, Nicolas (French chemist, +1645 to +1715), 273
 Lenguas (Paraguayan tribe), 77 (e)
 Lenses, 46
 Lentilius, Rosinus (+1698), 289
Letter of Ostanēs to Petasius, 73
Leucōsis. *See* 'Whitening'
 Levor's alloy, 226
Li (pattern-principle, principle of organisation), 25 (i), 27, 128
 Li (prince of Kuang-ling, c. +100), 85
 Li Chhi (commentator, c. +200), 218 (a)
 Li Chhiao-Phing, 5
Li Chi (Record of Rites), 86–7
 Li Chu-Tshang. *See* Li Tshang
 Li Hsien (scholar and perfume-merchant, +10th century), 136
 Li Hsün (scholar and perfume-merchant, +10th century), 136
 Li Lou (legendary long-sighter), 133
Li Sao (On Encountering Sorrow, ode), 98
 Li Shao-Chün (alchemist, fl. –133), 3, 4, 5, 13, 36, 49, 55, 70, 219, 224, 239, 251, 255
 Li Shen (poet, c. +830), 233
 Li Shih-Chen (pharmaceutical naturalist, +1518 to +1593), 76, 160, 203 (d), 208–9, 231, 244, 267, 273, 276, 277, 280
Li Shih Chen Hsien Thi Tao Thung Chien (Comprehensive Mirror of the Embodiment of the Tao by Adepts and Immortals throughout History), 298
 Li Shu-Hua, 262 (b)
 Li Shu-Huan (r), 302
 Li Shu-I, 113
 Li Ssu (prime minister, –208), 55
 Li Tshang, first Lord of Tai (d. –186), 304
Li (Wei) Tou Wei I (Apocryphal Treatise on the *Record of Rites*...), 205, 207
 Liang (period), 55
 Liangchow, 201
Liao (best kind of silver), 54
 Libavius, Andreas (German chemist, +1540 to +1616), 15, 35, 227
 'Liberation from the corpse' (*shih chieh*), 106–7, 284, 297–8, 302 ff.
 Libido, 292, 294
 Libraries, fumigation of, 140 (a), 148
Lieh Hsien Chhüan Chuan (Complete Collection of the Biographies of the Immortals), 99, 108, 129, 153, 249, 296
Lieh Tzu (The Book of Master Lieh), 96
Lien (zinc, or an alloy of zinc, tin and lead), 214 ff., 217–19
Lien hsi, 214 ff.
 Life-spans, 83–4
 'Lightening of the body'. *See* *Chhing shen*
 Lime, 149, 287
Ling chih, 121
 Ling Hsüan (+1st-century biographer), 260
Ling i ('numinous tallow'), 244
Ling tshao yin ('numinous-herb silver'), 280
Ling Wai Tai Ta (Information on What is Beyond the Passes), 146
 Lipowitz' fusible alloy, 241
 von Lippmann, E. O., 4, 5, 44
 Liquefaction, 52–3
 Liquidambar, 137, 138, 142, 143, 144, 280 (b)
 Lists
 of golds, 70, 232, 263, 268, 273–82
 of silvers, 278–81
 Literacy, of the Hellenistic papyri artisans, 29 (e)
 Literary Expositor. *See* *Erh Ya*
 Literary Expositor of Chemical Physics. *See* *Shih Yao Erh Ya*
 Litharge, 57, 60, 271 (a)
 Littledale, H. A. P., 221 (f)
 Liturgies
 Buddhist, 128 (a)
 Christian (St. Mark), 40 (i)
 Indian, 117–20
 Taoist, 103–4, 128–34, 150, 154
Liu (gilding), 232–3

INDEX

489

- Liu An (Prince of Huai-Nan, –2nd century), 3,
 4, 13, 50, 97, 124, 127, 236, 258, 259
 Liu Chhao (period), 147, 232, 277
 Liu Chhung (Han prince), 106
 Liu Chih-Hsün, 113
 Liu-ching (mountain), 297
 Liu Hsiang (scholar and alchemist, c. –60), 13,
 36, 48, 49, 55, 133, 235 (f)
 Liu Hsieh (literary critic, d. +550), 55
 Liu Pin (commentator, c. +1070), 259
 Liu Shêng (Prince of Chung-shan, d. –113),
 303–4
 Liu Sung (dynasty), 135
 Liu Thieh (Six Slips Encyclopaedia), 261 (h)
 Liu Tzu-Hsien (a *hsien* immortal), 297
 Liu Yü. *See* Ming Ti (Liu Sung emperor)
 Liver-flukes, 66 (g)
 Lives of the Divine Hsien. *See* *Shen Hsien Chuan*
 Livetin, 253 (a)
 Lo-fêng (mountain), 112
 Lo Hsiang-Lin (3), 301
 Lo Tsung-Chen, 192
 Locke, John, 35
Logos spermatikos, 27
 Longevity, theory of and attitudes to, in the West,
 74–5, 123–4
See also Material immortality and longevity
 Lotus of the Wonderful Law. *See* *Miao Fa Lien*
Hua Ching
 Lou Ching (adventurer, and military and civil
 official, perhaps patron of aurifictors, c.
 –210), 235, 258, 259, 262, 264
 Lou gold (*Lou chin*), 258
Lou Kho Ching (Clepsydra Manual), 147
 Lu (best kind of gold), 51, 54, 261
 Lu Chia (Confucian writer, –196), 111
 Lu Gwei-Djen, 8
 Lu Hsi-Hsing (+16th-century commentator),
 57 (b)
 Lu Hsiu-Ching (+5th-century liturgical writer),
 130 (f)
Lu Huo Pên Tshao (Spagyric Natural History),
 257
 Lu Jung (writer, +1475), 61
Lu kan shih (calamine or smithsonite, zinc car-
 bonate), 189, 199, 200, 204, 208–9, 213,
 229
 (Lu)Tsan-Ning. *See* Tsan-Ning
 Lu Yu (+12th-century writer), 122 (b), 266
 Luan Ta (magician-technician, c. –113), 96–7,
 103
 Lucas, A. (1), 75, 254
 Lucretius, 25, 83
Lun Hêng (Discourses Weighed in the Balance),
 8
 Lunar mansions, 48 (e)
Lung Hu Huan Tan Chüeh (Explanation of the
 Dragon-and-Tiger Cyclically Transformed
 Elixir), 257
Lung-Shu Phu-Sa Ho Hsiang Fang (Incense
 Blends of the Bodhisattva Nāgārjuna), 135
 Lydia, 40, 50
 Ma Ku (goddess), 152, 153
Ma pho (technical term for hemp), 151
 Macao, 160
 Macartney Embassy, 159, 212, 228
 Macht metal, 196
 Macrobiogens, 71, 114
 Macrobiotic plants, 14
 Macrobiotics, 9, 11–12, 36, 49, 71, 114
 Macrocosm-microcosm doctrine, 24 (i)
 and the number of ‘souls’, 88
 Macrocosmic models, 47
 Madder, 28, 29
 Maelstrom (*wei lü*), 101 (j), 102 (i)
 de Magalhaens, Gabriel (Jesuit, +1611 to
 +1677), 144
 Magic, 125–6
 and alchemy, 33, 44
 and science, 112
 and Taoism, 83, 244
 Magic mushrooms (Taoist religious symbol), 121
 Magnesia, 253
 Magnesite, 191, 223
 Magnesium, 191, 223, 287
 Magnesium sulphate, 191
 Magnetite, 286
 Magnalium, 241
 Magnolia metal, 241
 Mahdihassan, S., 297
 Maier, Michael (alchemical writer, +1566 to
 +1622), 34, 131
 de Mailla, Joseph (Jesuit, +1669 to +1748),
 270
 Maillechort, 230
 al-Majritī, Abu’l Qāsim Maslamah ibn Aḥmad,
 d. c. +1007 (metallurgical alchemist), 41
 Malabathron, 142 (h)
 Malachi, 40
 Malachite, 67, 70, 209 (b), 274
 Malaya, 201, 215, 217
 aromatics, 143
 ideas about the after-life, 77 (c)
 ‘Malayan Po-Ssu or Persia’, 143 (a)
 Male exhaustion, 286
 Male functions, 286
 Malic acid, 250, 265
 Malting, 66 (c)
 Mammoths, preservation of, 299 (h)
Mana, 93 (d), 100 (h)
 Mandaeans, 72 (j), 73 (b)
 Manganese, 191, 242
 Manichees (Manichaeans), 21 (c), 122 (b)
 Manilius, 23 (e)
 Mannheim gold, 196
 Manual of the Five Categories for achieving
 Material and Celestial Immortality. *See*
Thai-Shang Ling-Pao Wu Fu Ching
 Manual workers. *See* Artisans
 Mao Chin (writer on incense, +17th century), 135
 Mao Shan phai (school of Taoism), 110 (c), 152,
 235 (e)
 Mao Tsê-Tung, 113
 Mao Ying (Taoist scholar and alchemist, c. –50 to
 –30), 13, 70, 110 (c), 234–5, 296

490

INDEX

- Marcassite, 28 (c)
 Marijuana, 150
 Mariner's compass, 298 (d)
 'Mariner's dyoll', 146
 Marshall, Sir John, 237
 Martin, W. A. P., 2, 3, 298
 Mary the Jewess (proto-chemist and inventor of laboratory apparatus, +2nd century), 17, 19, 21, 253
 Maspero, Henri (13), 92; (31), 301
 'Masses for the dead' (Tibetan), 81 (b)
 Master Sun's Mathematical Manual. *See* *Sun Tzu Suan Ching*
 Master Tsochhiu's Tradition (or Enlargement) of the *Chhun Chhiu*. *See* *Tso Chuan*
 'Masters of foreknowledge' (*hsien chih*), 106 (g)
 'Masters in the Tao', 109
 Masutomi Kazunosuke (1), 7, 161
 Material immortality and longevity, 11, 12, 71, 78, 82-5, 92-3, 93-113, 114, 151, 281, 282, 298-302
 attitudes to others in the search for, 105, 123-4, 126
 conferred by eating or drinking from magical vessels, 13, 70
 elixirs. *See* Elixirs of longevity and immortality
 interest of emperor and officials in, 103-5, 114 (a)
 technical terms. *See* Technical terms
 techniques. *See* Techniques
 'verification' of, 284
 Matte (mixed sulphides of metals), 228 (a), 237
 Matter and form, 21-4, 26, 32, 71
 Matter and spirit, 86, 92-3
 Mazatec Indians, 116 (d)
 'Medicine of life', 72-3
 Medicine, 161, 190, 260, 267
 and alchemy, 7, 14-15, 95, 243
 of immortality. *See* Elixirs of immortality
 mummy substances and, 75-6
 and sterilisation, 148, 149
 Medicines. *See* Drugs
 Meditation techniques, 11, 88, 90 (j)
 Mediterranean region, 255, 262
 gums of, 141
 Mei Chhi (candidate-official, +1073), 147
 Mei Piao (alchemical lexicographer, +806), 158
 Melanesia, ideas about the after-life, 77 (h)
Melanösis. *See* 'Blackening'
 de Mély, F. (1), 3, 159
 Memoirs of Neglected Matters. *See* *Shih I Chi*
 Menander (Gnostic leader), 73 (d)
Mêng Chhi Pi Than (Dream Pool Essays), 50, 257
 Mêng Hsü (Sung alchemist), 36
 Mêng Khang (commentator, c. +240), 218 (a), 236
 Mêng Shen (Thang proto-chemical naturalist), 46 (e)
 Mercuric nitrate, 159 (c)
 Mercuric sulphide. *See* Cinnabar
 Mercury, 11, 14, 30, 31, 69, 70, 206, 207, 252, 272, 274
 amalgams, 242-4, 247-8, 253
 in argentification, 243
 in aurifaction, 243
 candle, 244
 cyclical transformation and, 127, 278
 medical use of, 286, 291-2
 and 'numinous tallow', 244
 poisoning, 284
 and preservation of corpses, 299 (e), 304
 transmission, 48 (e)
 vapours of, 10, 19, 65, 72
 Mercury 'silver', 278
 Meridians, terrestrial, 102 (f)
 Mersenne, Marin (French atomist, +1588 to +1648), 22 (f)
 Meru (Mount), 77 (g), 133
Meson, 22
 Mesopotamia
 assaying, 47
 and aurifaction, 47
 gold, 37, 40
 refining techniques, 40
 religious myths, 77 (b)
 Metal surfaces
 cleaning of, 245 (c), 250
 'dyeing' of. *See* 'Tingeing'
 Metal-workers, 117, 128, 244
 Bronze Age, 224
 Chinese, 49 ff.
 Graeco-Egyptian, 18
 Metallic elements, availability of, to the Chinese
 alchemists, 189-193
 'Metallous fluid', 90 (i)
 Metallurgical chemists and chemistry, 19, 51, 127, 188, 203
 Metallurgy, 19, 206, 220
 Babylonian, 48
 German, 229
 non-ferrous, 188
 technical terms, 51
 Metals
 available to Chinese alchemists. *See* Alchemists
 colouring of. *See* 'Tingeing'
 used in drugs. *See* Drugs
 growth of, in the earth, 83
 industry, 229
 Newton's experiments on, 34-5
 precious. *See* Precious metals
 specific gravities of, 33 (f)
 surface-films on. *See* Surface-films
 technical terms. *See* Technical terms
 toxic, 283
 trade, 237-8
 Metamorphoses
 biological, 63, 70
 chemical, 127, 208-9
 human, into immortals, 64 (a)
 Ko Hung's view of, 63-4
 metallic, 27, 28
 Petrus Bonus' view of, 64
 Metaphysics and the beginnings of aurifaction, 21

INDEX

491

- Metaxia*, 22
Meteorologica of Aristotle, 21 (d)
 Methyl-testosterone, 291
 Mexico and Mexicans, 116 (c), 221
 von Meyer, E., 3–4
Miao Fa Lien Hua Ching (Lotus of the Wonderful Law), 202
 Miao-thai-tzu, 129 (a)
 Mica, 287, 301
 Milk, 287
 Millet, red panicled, 69 (h)
 Minargent, 240, 242
 Mineral acids, 38
 Mineral dietary deficiencies, 287, 288
 Mineral prescriptions, standard formulae, 288
 Mineral substances
 used in drugs, 14, 284–94
 growth of, in the earth, 83
 methods of preparation of, 287
 some not admitted to the pharmaceutical natural histories, 190, 267
 Ming (period), 135, 190, 208, 213, 229, 242, 269, 290
 porcelain industry, 247
Ming Shih (History of the Ming Dynasty), 208
 Ming Ti (Liu Sung emperor, r. +465 to +473), 135
 Mining, 149
 Minium, 64
 Minoan bronze dagger, 247
 Minofo, 241
 Minos, 80 (c)
 Mints and minting, 50 (h), 216, 219, 239
 Mirages, 115
 ‘Mirror iron’ (cast iron with 20% Mn), 191
 Mirror of the Alchemical Elaboratory. See *Tan Fang Ching Yuan*
 Mirror of Alchemical Processes and Reagents. See *Tan Fang Chien Yuan*
 Mirrors, 198, 238
 burning-, 63
 inscriptions on, 97 (k)
 moon-, 63
 multiple, 90 (f)
 sea-horse and grape-vine, 121 (c)
 silvering of, 243, 248
 Miscellaneous Information from Kuei-Hsin Street. See *Kuei-Hsin Tsa Chih*
 Miscibility gap (Zn and Pb), 211 (a)
 Missal-table (*ching cho*), 129 (b)
Mistum, 23–4, 25
Mixis, 22
Mixtio, 23–4
Mo Chuang Man Lu (Recollections from the Estate of Literary Learning), 135
 Mo Ti (philosopher, c. –479 to –381), 297
Mo Tzu (The Book of Master Mo), 149
Mokume work, 265
 Molecules, 35
 Molluscs, as aphrodisiac, 289 (j)
 Molucca, aromatics, 143
Molybdochalcum, 223, 253
 Monel metal, 229, 232 (a)
 Money. See Coinage
 Morality. See Ethics
 More, Henry (Cambridge Platonist), 34
 Morery, L. (+1688), 227
 Moret, A. (3), 117–18
 Morris, Ivan I. (1), 143
Mortificatio, 23
 Mortuary jars, 133
 ‘Mosaic gold’, 62, 69, 271–2
 ‘Mosaic silver’, 272
 Moschus the Phoenician, 35
 Mosquito incense, 145 (l)
 Mossynoeci (tribe), 220 (c)
 Most Ancient Canon of the Element Earth and the Kua Tui. See *Thai-Ku Thu Tui Ching*
 Motion of bodies, 34
 ‘Mountain asceticism’ cult. See *Shugen-dō*
 Mousset’s metal, 226
 Moxibustion, 145 (a)
Mu ching plant, 69
Mu-nai-i (mummy), 76
Mu sha yin, 281
 Muir, Pattison, 4
 Mulberry groves (*Sang thien*), doctrine of the, 152 (e)
Mumia, 74ff.
 Mummification, 75–6, 299–300
 self-, 284, 300–2, 304
 Mummy substances, used in medicine, 75–6
 Mumps, 291
 Muntz metal, 196
 Murasaki Shikibu, 143
Murex (mollusc yielding famous purple dye), 29, 262
 Muscular atrophy, 289
 Mushrooms, 110 (e), 116, 121–3, 125, 130, 261 (i), 297
 Musk, 135, 137, 144
 Muslim scientists. See Islamic sciences
 Mustard, 149, 150
 Mycenae, 40
 Myrrh, 75, 137, 140
 Myrtle, 145
 Mystery religions, 72
 Nabonidus (–6th-century Mesopotamian king), 40
 Nabuchodonasar II (Mesopotamian king, –605 to –562), 48 (e)
 Nadkarni, A. D., 289
 Nails, finger-, pathological phenomena in, 289
 Nails (*ting*), of artificial gold, 67–8, 69
 Nakaseko Rokuro, 5, 6
 Nan Hai (South-east Asia), trade, 138, 141
Nan Shih (History of the Southern Dynasties), 147
 Nanking, 263
 Nara
 cast images at, 265
 Tōdaiji temple at, 161
 Nationalisation of salt and iron, 55

492

Natron, 75
Natural History (Pliny), 255
 Natural sciences, and Taoism, 9, 83
 Naturalists, School of. *See* School of Naturalists
 Nature
 Ko Hung's view of, 63–4
 Taoist view of, 9, 83–4
 Navigation, 141
 Nebuchadnezzar's dream, 235 (i)
 Needles, 202
Nei tan (physiological alchemy), 4, 7, 33, 75, 83–4,
 90 (i), 92, 95, 100–1, 154, 244–5, 260, 282–
 302
 Neo-Confucianism, 27
 Neptunian processes, 63 (e)
 Neri, Antonio (priest and glass technologist,
 d. +1614), 269
 New and More Detailed Pharmacopoeia of the
 Khai-Pao reign-period. *See* *Khai Pao Hsin*
 Hsiang-Ting Pên Tshao
 New Discourses (by Liu Hsieh). *See* *Hsin Lun*
 New Discourses (by Lu Chia). *See* *Hsin Yü*
 New Discussion of Six Things. *See* *Rokubutsu*
 Shinshi
 New Discussions (by Huan Than). *See* *Hsin Lun*
 'New fire' ceremonies, 148
 New History of the Thang Dynasty. *See* *Hsin*
 Thang Shu
 Newly Reorganised Pharmacopoeia. *See* *Hsin*
 Hsiu Pên Tshao
 Newton, Humphrey, 34
 Newton, Isaac, 32, 34–6, 45
 Newton's fusible metal (or alloy), 34 (f), 241
 Niccolite. *See* Nickel arsenide ore
 Nichiren (Buddhist abbot, +1222 to +1282),
 265
 Nickel, 190, 195, 199, 209, 212, 225, 228, 236–7,
 242
 arsenical, 233
 arsenide ore, 190, 209, 228 (a), 229 (c), 232 (a)
 deposits, 237
 glance, 232 (a)
 -silver, 230
Niello, 38, 255
 'Night-shining jewel', 270 (i)
 Night-watches, unequal, 147
Nigredo, 23
 Nine Dissertations from the Desk at the Banana-
 Grove Window. *See* *Chiao Chhuang Chiu*
 Lu
 Nine-sphere theory of the heavens, 101 (f)
 Nine-times Perfected Jade Drops Elixir, 297
 Ning Chung-Chün (possibly identical with semi-
 legendary Ning Fêng Tzu), 298
 Ning Hsien Wang. *See* Chu Chhüan
 Nirvana, 81 (e), 103, 107
Nisus formativus, 100 (h)
 Nitre, 229
 Nitric acid, 38, 250
 Nomadic peoples of the North and West, 50
 Nomenclature. *See* Technical terms
 Non-being. *See* Being and non-being
 Northern Wei (period), 289
 Notes from the Hall of Learned Old Age. *See*
 Lao Hsiéh An Pi Chi

INDEX

Notes on the Investigation of Things. *See* *Po Wu*
 Chih
 Notes on Perfumes and Incense. *See* *Hsiang Chien*
 'Nothingness' (*wu*), 93
 Novels, 2, 260 (e)
Novum Organum (Francis Bacon), 84
Nukhbat al-Dahr (Cosmography), 214 (e)
 Nuremberg gold, 194
 Nutmeg, 145
 Nux vomica, 290
Oboro-shirogane. *See* *Shibu-ichi*
Obryza, obrussa, 39 (g)
 'Observations on the State of Medicine, Surgery
 and Chemistry in China' (Gillan), 159
 Occam's Razor, 49 (d)
 Ocean, Eastern (Pacific), 122
 'Oecumenical philosophers', 17
 Oedema, 289
 Oils, as urethral irritants, 290
 Ointments, 286
 Old History of the Thang Dynasty. *See* *Chiu*
 Thang Shu
 Old Silk Road, 50, 238
 Oleander, 289
 Oleoresin, 138
 'Olive gold', 263
 Ololiuqui (hallucinogenic plant), 116 (b)
 Olympiodorus (proto-chemical commentator,
 +6th century), 17, 73 (g), 224 (e)
 Omissions from Previous Pharmaceutical Natural
 Histories. *See* *Pên Tshao Shih I*
 On the Blending of Perfumes in the Palaces of the
 Han. *See* *Han Kung Hsiang Fang*
 On Encountering Sorrow. *See* *Li Sao*
 the One, absorption into, 103
 Ono Ranzan, 160
 Onycha, 137, 139, 144
 Opium alkaloids, 290
 Optical illusions, 47
Opticks (Newton), 35
 Or (heraldic), 272
 Oracle-bone inscriptions, 81, 94
 Oraons (tribe in India), 77 (f)
 Oratories, 131–2
 Orchal, 200 (e)
 Order of Nature, 83
Oreichalcos (brass, possibly sometimes bronze or
 arsenical copper), 167, 198 (c), 224
 Oreide, 196
 Organicism, 22, 92
 Organisation, principle of. *See* *Li*
Oreicalcum (brass), 167, 200 (e), 227, 228
 See also Auricalcum, Oreichalcos
 Ormolu, 196
 Ornamental objects, 199, 231, 232–3
 Orphic mystery-religion, 21, 25
 Orpiment, 62, 191, 205, 206, 224, 256
 aphrodisiac properties of, 285
 Orpiment 'gold', 255, 277
 Orschall, J. C. (+1684), 268
Oṣadhi herbs, 123
 Osiris, 78 (b), 79 (f)

INDEX

493

- Ostanes the Mede, or Persian (putative teacher of the first of the Greek proto-chemical writers, Pseudo-Democritus), 17, 26 (d), 72–3, 253–4
 Osteomalacia, 287
 ‘Other-worldly’ conceptions. *See* Immortality
 Ōtsuki Gentaku (physician, +1757 to 1827), 75
 Ovomucoid, 253 (a)
 Oxalic acid, 250, 265
- Pabapnidos (semi-legendary brass-founder), 220 (c)
 Pacific Ocean, 122
 ‘Packynn’, 214 (d)
Padma Pūraṇa, 123
Pai chin (white metal, i.e. silver), 51, 54
Pai hsi (white tin, i.e. zinc), 214, 215
Pai la, 214–15, 217 (b)
 See also Shirome
 Pai Shih hsien-sêng (Mr White-Stone), 107, 108
Pai Hu Thung Tê Lun (Comprehensive Discussions in the White Tiger Hall), 87
Pai thung (white copper or bronze). *See* Pakotong
 Pak Kyebŏng, 6
 ‘Pakfong’. *See* Pakotong
 Pakotong, 62, 190, 199, 219, 225–37, 238, 242
 analysis of, 228
 coinage, 229, 231
 earliest European reference to, 227
 technical term, 232–3
 Paléologue, Maurice, 265
 Palladium, 192, 195
 Palmyra tomb-finds, 28
 Pammenes (or Phimenas, Alexandrian proto-chemist), 20, 21
Panacea antimonialis, 273
Panaeolus spp., 121 (b)
 Pantaleon (Bactrian ruler, c. –170 to –160), 237
 Pantheism, 21
 Pantheo, G. A., 32
 Pantheon, Taoist, 110, Fig. 1309
 Pantheus. *see* Pantheo
Pao Phu Tzu (Book of the Preservation-of-Solidarity Master), 3, 5, 6, 8, 62–71, 89, 106, 112, 123 (e), 127, 235, 255, 283–4
Pao Tsang Lun (Discourse on the Precious Treasury of the Earth), 209, 213, 215, 225, 256, 259, 273–4, 276, 277, 278, 280, 281
 Papuans, ideas about the after-life, 77 (e), 79 (c)
 Papyri. *See* Chemical papyri
 Paracelsus (Theophrastus von Hohenheim, +1493 to +1541), 15, 74–5, 267 (g)
 Paradises, 77–80, 111, 114, 124
Paragranum, 15 (d)
 Paradox of ataraxy and prolongevity, 83
 Paraguayan Indians, ideas about the after-life, 77 (e)
 Parasitic diseases. *See* Diseases
 Paris metal, 240
 Parmenides, 92–3
 Parrish's food, 292 (f)
 Parthia, 219–20
 Parthian aromatic, 142
 ‘Parting’, 37, 250
 dry. *See* Cementation
 wet, 38
- Partington, J. R., 5, 21, 272
 Patagonians, 80 (a)
 Patchouli, 137, 138, 142, 143, 144
 Pattern-welding, in steel sabres, 264 (a)
 Pauline epistles, 72
 Peacock ore. *See* Bornite
 Pearls, 54
 Peat (analyst), 228
Pei Shih (History of the Northern Dynasties), 205
Pên Ching. *See* *Shen Nung Pên Tshao Ching*
Pên Tshao works, 1, 158, 191, 276
 mineral substances omitted from, 190, 267
Pên Tshao Chin Shih Lun (Pharmaceutical Natural History; a Discourse on Metals and Minerals), 276
Pên Tshao Ching Chi Chu (Collected Commentaries on the Classical Pharmacopoeia (of the Heavenly Husbandman)), 225, 245
Pên Tshao Kang Mu (The Great Pharmacopoeia), 6, 76, 160, 190, 200, 208, 244, 273, 274, 276, 280
Pên Tshao Shih I (Omissions from Previous Pharmaceutical Natural Histories), 62, 277
Pên Tshao Thu Ching (Illustrated Pharmacopoeia), 60
 Pentlandite, 232 (a)
 Pepper, 140 (b)
 ‘Perfected Men’, ‘Perfected Immortals’, 11 (c), 109
 Perfected Precious Compendium of Lead, Mercury and Gold. *See* *Chhien Hung Chia Kêng Chih Pao Chi Chhêng*
 Perfection, concept of, 24 (i)
 Perfume-making, 146
 Perfumes, 135, 136, 289
 animal, 137
 used on the body, 133–4
 in drugs, 286
 of the gnosis, 73
 and numinous experience, 134
 of wood, 129
 Peripatetic philosophers, 17, 21, 25, 26, 71
 Persia, 82, 115, 121, 224
 alchemy, 15
 brass from, 201–2, 203, 220, 238
 coins, 225
 gold-refining, 41
 ‘holy immortals’ of, 121 (e)
 ideas about the after-life, 77 (g), 79 (f), 80
 influence on Israel, 78 (b)
 lead from, 213–14
 metallurgy, 253–4
 ‘purple sheen gold’ from, 261
 soma sacrifices in, 115, 117 (d)
 trade, 60, 190, 203
 ‘Persian brass’, 202
 ‘Persian silver ore’, 267
 ‘Persimmon gold’, 257
 Personal Conduct Ritual. *See* *I Li*
 Peru, Indians of, 250 (c)
 Petrus Bonus of Ferrara (alchemist, fl. c. +1330 to +1340), 64
 Pewter, 217 (b), 241–2
Peyotl (cactus), 116 (c)

494

Pfister, R. (1), 28–9
 Pfizmaier, A. (95), 159
 Pharaonic royalty, 118
 Pharmaceutical Natural History of Overseas
 Drugs and Marine Products. *See Hai Yao*
Pên Tshao
 Pharmaceutical natural histories. *See Pên Tshao*
 works
 Pharmaceutical naturalists, 62
Pharmacopoeia Spagyrica (Glauber), 273
Pharmakon tēs athanasias, 12, 72ff.
 Phei, Master (physiological alchemist), 297 (h)
Phêng bird, 83, 113
Phêng-Lai (islands), 77 (h), 97, 115, 133
Phêng Tsu (the Chinese Methuselah), 107
Phi shuang (arsenious oxide, arsenic trioxide,
 and by extension other arsenic-containing
 ores and chemicals), 166, 229
 Philippines, coinage, 239
 Philosophers, and aurifaction, 10, 15, 18–20, 21–
 36, 44, 46, 47–8, 62, 193, 262
 Philosophers' stone, 13, 14, 28, 31, 68 (g), 124
 and gold-ruby glass, 270
Philosophi per ignem, 128
 Philosophus Anonymus (proto-chemical commen-
 tator, +7th century), 17
 Philosophus Christianus (proto-chemical com-
 mentator, late +6th century), 17
 Phimenas. *See* Pammenes
Pho (astronomical technical term), 86 (e)
Pho 'souls', 85–93, 101, 114, 286, 293
 Phoenicians, and cupellation, 40
Pholiota, spp., 121 (b)
 Phosphor-bronze, 197
 Phosphorus, 288
 Photius (+9th-century Byzantine scholar), 17
 Phototherapeutic practices, 100 (b)
 Phrygian mysteries, 73 (a)
Phu Chi Fang (Practical Prescriptions for Every-
 man), 203 (d)
 Phu-tho Island, 301
 Physicians, 287
 Physics, 25–6
Physika kai Mystika (Pseudo-Democritus), 16
 Physiological alchemy. *See Nei Tan*
 Pickling, 264, 266
 'Pie in the sky', 79 (f)
 Pien Shao (Han scholar interested in religious
 Taoism), 106
 Pinchbeck, 196, 207
 Pindar (Greek poet, fl. –477), 77 (h)
 Pine resins, 143 (a), 144, 145, 301
 Ping-chou. *See* Thaiyuan
 Pink gold (ancient Egyptian), 254
 Pisa, 128
 Place-names, 263
 Placer gold, 118 (e), 250 (b)
 Plant genera
Acacia, 138 (b), 145 (k)
Aconitum, 150
Aloe, 138 (b)
Altingia, 142 (e)
Amanita, 116, 117, 121–2, 125

INDEX

Anchusa, 29 (b)
Andropogon, 136 (e)
Angelica, 140 (a)
Aplotaxis, 140 (h)
Aquilaria, 141 (g), 146 (c)
Arbutus, 29
Artemisia, 145 (l)
Asclepias, 289
Astragalus, 141 (d)
Atractylis, 150 (a)
Aucklandia, 140 (h)
Balanophora, 290 (c)
Balsamodendron, 140 (d, g), 143 (a)
Betula, 116
Blumea, 142 (g), 143 (a)
Boswellia, 140 (c), 143 (a)
Brasenia, 255 (a)
Calotropis, 289
Canarium, 138
Cannabis, 150 ff.
Carthamus, 29
Caryophyllus, 141 (i)
Castanea, 300
Catalpa, 148
Cedrela, 145 (g)
Cinnamomum, 113 (c), 136 (b, c), 143 (a)
Cistus, 141 (c)
Citrus, 146 (b)
Commiphora, 143 (a)
Crocus, 144 (a)
Croton, 150 (b)
Cryptomeria, 145 (d)
Cupressus, 145 (d)
Cymbopogon, 136 (e)
Cynomorium, 290 (c)
Daemonorops, 256 (f)
Dalbergia, 141 (f, h)
Diospyros, 257 (d)
Dryobalanops, 142 (f), 143 (a)
Emblica, 256 (h)
Eugenia, 141 (i)
Euonymus, 150 (b)
Fagopyrum, 300 (d)
Ferula, 141 (b)
Fortunea, 148 (f)
Ganoderma, 121
Gardenia, 136 (j), 137, 256 (g)
Gelsemium, 150 (a)
Glycyrrhiza, 280 (b)
Hierochloe, 140 (a)
Hortensia, 297 (i)
Hosta, 150 (a)
Humulus, 151 (c)
Illicium, 136 (h), 145 (l), 148, 150 (b)
Inula, 140 (h)
Ipomoea, 116 (b)
Jasminum, 138 (a)
Juniperus, 145 (e)
Laurus, 136 (b)
Limnanthemum, 66 (d)
Liquidambar, 142 (e), 280 (b)
Lophanthus, 142 (h)

INDEX

495

Plant genera (*cont.*)

- Lophophora*, 116 (c)
- Mentha*, 290 (g)
- Myrica*, 145 (f)
- Myristica*, 145 (i)
- Nardostachys*, 136 (f)
- Nerium*, 289
- Nicotiana*, 145 (l)
- Ocimum*, 136 (d), 148 (a)
- Oxalis*, 250 (d)
- Panaeolus*, 121 (b)
- Panax*, 290 (g)
- Panicum*, 69 (h)
- Pausinystalia*, 290 (i)
- Perilla*, 145
- Pholiota*, 121 (b)
- Phyllanthus*, 256 (h)
- Physalis*, 250 (f)
- Pimpinella*, 136 (h)
- Pinellia*, 150 (a)
- Pinus*, 143 (a), 145 (j)
- Pistacia*, 136 (i)
- Platycarya*, 148 (f)
- Pogostemon*, 142 (h)
- Populus*, 113 (a), 180
- Prunus*, 150 (b), 165, 178
- Psilocybe*, 116 (d)
- Pterocarpus*, 141 (f)
- Pyrethrum*, 145 (l), 148
- Pyrus*, 250 (f)
- Rhamnus*, 29
- Rhus*, 150 (a)
- Rivea*, 116 (b)
- Rubia*, 28 (h)
- Russula*, 121 (b)
- Ruta*, 148 (f)
- Rytidphloea*, 29 (a)
- Salix*, 113 (a)
- Santalum*, 141 (f)
- Saussurea*, 140 (h)
- Solanum*, 150 (b)
- Strychnos*, 290 (h)
- Styrax*, 140 (f), 142 (c), 143 (a)
- Taxus*, 300 (e)
- Toona*, 145 (g)
- Torreya*, 300
- Tripterygium*, 145 (l)
- Turnera*, 290 (g)
- Ulmus*, 145 (c)
- Veratrum*, 150 (a)
- Vitex*, 69 (g)
- Zizania*, 122 (d)
- Zizyphus*, 284 (g)

Plant materials

- and alchemical preparations, 256
- in aphrodisiacs, 292
- in recipes for cleaning metal surfaces, 250

Plants

- hallucinogenic, 110 (e), 116, 121–3, 125, 150–1, 154, 297
- of immortality. *See* Herb of immortality
- metamorphoses among, 63

- water-, 66
- Plating, 62, 241, 245, 281
 - arsenical, 241
 - contact, 246
 - by diffusion bonding, 247
 - fusion-, 248
- Platinor, 222
- Platinum, 192, 221, 223, 268
- Plato, 21
- Plautus, 198 (c)
- Pliny (+ 77), 221 (f), 248, 255, 277
- ‘Plum bath’, 265
- Plum vinegar, 264, 265
- Plutonic processes, 63 (e)
- Pneuma*, 27
- Pneumatic concept, 48 (e)
- Po Chai Pien* (Papers from the Anchored Dwelling), 206
- Po-Ssu people, 143 (a)
- Po-Ssu pine resin, 143 (a)
- Po Wu Chih* (Notes on the Investigation of Things), 90
- Po Wu Yao Lan* (Principal Points about Objects of Art and Nature), 259 (i)
- Pointer to the Meaning of (Human) Nature and the Life-Span. *See* *Hsing Ming Kuei Chih*
- Poisoning, 298
 - arsenical, 62, 224, 282–4, 288–9, 291, 294, 299
 - and elixirs of longevity and immortality. *See* Elixir poisoning
 - by gold, 62, 276
 - by lead, 284
 - by mercury and cinnabar, 243, 284, 294
 - metallic, 283–5, 293
- Polo, Marco, 220 (b)
- Polynesians, ideas about the after-life, 79 (c)
- Polyneuritis, 289
- Polysulphide solutions, yellowing effect of, 67 (e)
- Pomet, P. (pharmacist, + 1694), 75
- Pompeii, fresco at, 36 (b)
- de Poncins, Gontran (1), 144
- Porcelain, 190, 246–7, 270
- Portugal, coinage, 239
- Postlethwayt, M. (1), 212
- Potable Gold, 14, 68, 69, 70, 90 (i), 107, 271
- Potassium, 252
- Potassium alum, 70
- Potassium ferricyanide, 252
- Potassium flames, 262
- Potassium nitrate. *See* Saltpetre
- Poulo Condor (island), 160
- Powder metallurgy, 223 (a)
- Poyang Lake, gold deposits, 50
- Practical Prescriptions for Everyman. *See* *Phu Chi Fang*
- Prajāpati the creator, 119
- Precious Instructions concerning the Message of the Three Perfected Immortals. *See* *San Chen Chih Yao Yü Chüeh*
- Precious metals, 16, 159
 - amalgams of, 243
 - ‘debasement’ of, 18, 215

- Precipitation of copper from vitriol solutions in the presence of iron, 24, 35 (a), 67 (d), 209 (b), 245, 255
 Precipitation of gold from solutions of its salts, 246
 Preservation of corpses, 284, 298–9, 300 ff.
Pretas ('hungry ghosts'), 78, 80–1
Pretiosa Margarita Novella (Petrus Bonus, c. +1330), 64
 Priestley, Joseph (English chemist, +1733 to 1804), 15
 Primary vitalities, 100
 'Prime matter', 22–3, 27, 45, 71
 Prince's metal, 196
 Princes and emperors, interest in alchemy of, 13, 95, 97, 103, 105, 121–2, 124
 Principal Points about Objects of Art and Nature. See *Po Wu Yao Lan*
Principia (Newton), 34
 Printing type metal, 211 (a), 241
Prisca sapientia, or *theologia*, 35–6
Proberbüchlein, 39 (d), 41 (i)
 'Projection', process of, 13, 68 (g), 70, 209, 223, 225, 243, 256, 274
 Prolongevity, 11 (b)
 Propeller bush alloy, 241
 Prospecting
 geobotanical, 261 (i)
 geochemical, 67 (c)
 geological, 67 (c)
 Proto-chemistry, 10, 46
 Chinese, 12, 103, 117, 124, 188–9, 224
 Hellenistic, 7, 12, 15–16, 19, 21–9, 71, 73, 114, 117, 193, 224, 242 (c), 248, 251, 252–3, 271, 272
 Jewish–Alexandrian, 74
 Proto-science, 94–5, 97
 and liturgy, 121
 Proustite, 179, 267 (e), 281
 Psellus, Michael (historian, proto-chemical writer and poet, perhaps the first collector of the Greek proto-chemical Corpus, +1018 to c. +1078), 17
Pseudargyros ('false silver', possibly zinc), 198 (c)
 Pseudo-Aristotle (+2nd century), 198, 220 (c)
 Pseudo-Cleopatra (proto-chemist, +2nd century), 17, 19
 Pseudo-Democritus (first of the Greek proto-chemical writers, probably +1st century), 17, 19, 20, 21, 25, 26, 29, 74, 248, 251, 253, 254, 264
 Pseudo-speiss, 217 (b), 240
 Psilocybine (fungus hallucinogen), 116 (d)
 Psycho-physiology, 112
 Psychotropic substances, 116, 121, 150ff.
 Ptolemy (Hellenistic astronomer, c. +150), 112
 Punishment. See Retribution
 'Pure Chamber' (Taoist oratory), 152
 Purple colour, 261–4
 'Purple of Cassius', 268, 271
 'Purple sheen gold', 70, 257–64, 267–8, 271
 'Purpling' (*iōsis*), 23, 38 (a), 253, 262, 264, 270 (g)
 Putchuk, 135, 136, 137, 140, 142
Putrefactio, 23
 Putrefaction, and the *hsien*, 298–9
 preservation from, 284, 298–9
 Pyrargyrite (ruby silver ore), 179, 267 (e)
 Pyrethrum, 145 (l), 148
 Pyrite, 20, 28
 Pyrolusite, 191
 Pythagoras, and the Pythagoreans, 35, 92
 theorem, 48 (e)
 'Quartation'. See 'Parting', wet
 Quartz, 270, 286
 Quintus Sertorius (Roman general, –132 to –72), 77 (h)
 Rameses XI (Pharaoh of the XXth Dynasty, –1200 to –1090), 254
Rasaratnākara, 41
Rasāratnasamuccaya Tantra, 289
Rasārṇava Tantra, 289
 Ray, P. C., 4
 al-Rāzi, Ibn Zakarīyā (+865 to c. +920), 75, 238 (e)
 Read, Bernard, 5
 Read, B. & Pak Kyebyōng, 6, 160
 Realgar, 62, 70, 191, 205, 206, 224, 225, 256
 aphrodisiac properties of, 285
 cups made of, 285 (a)
 'Realised Men', 11 (c)
 Realm of Incense and Perfumes. See *Hsiang Kuo*
 Recollections from the Estate of Literary Learning. See *Mo Chuang Man Lu*
 Record of the Assemblies of the Perfected Immortals... See *Yuan Shih Shang Chen Chung Hsien Chi*
 Record of the Institutions of the Chou Dynasty. See *Chou Li*
 Record of (a Pilgrimage to) the Western Countries in the time of the Thang. See *Ta Thang Hsi Yü Chi*
 Record of Rites. See *Li Chi*
 Record of the Ten Sea Islands. See *Hai Nei Shih Chou Chi*
 Record of 'Things heard at Spring Island. See *Chhun Chu Chi Wên*
 Records of the Barbarian Islands. See *Tao I Chih Lüeh*
 Records of the Country South of Mount Hua. See *Hua Yang Kuo Chih*
 Records of Entertaining Conversations. See *Chi Than Lu*
 Records of Hsüan Shih. See *Hsüan Shih Chih*
 Records of Incense. See *Hsiang Chhêng*
 Records in the Rock Chamber. See *Thai-Chhing Shih Pi Chi*
 Records of the Unworldly and the Strange. See *Chhing I Lu*
 'Red copper'. See *Chhih thung*
 'Red silver', 267 (e), 278
 The refiner's fire, 20–1, 29, 37
 Refining technique, 40, 51, 56
 Reflux condenser (*kērotakis*), 19, 72, 252

INDEX

497

- Refrigeration, and the preservation of dead bodies, 299 (h)
 ‘Regulus of Venus’, 267
 Reincarnation, 80, 81
 ‘Re-moulded perdurables’ (*chu ning*), 106 (g)
 Rémusat, J. P. A. (1827), 159
 Reorganised Pharmacopoeia. See *Chêng Lei Pên Tshao*
 Repoussé work, 269 (k)
 Reptiles, associated with gold deposits, 62
 Requisitioning, 217
 Resignation to death, Taoist, and immortality techniques, 83
 Respiratory exercises, 100 (a), 260, 283
 Resurrection, 78 (b)
 Retribution
 in the after-life, 80, 81 (g)
 Taoist conception of, 123 (e)
 Rey, Abel, 6
 Rhadamanthus, 80 (c)
 Rhubarb, 145
 Rice congee, 135
 von Richthofen, F., 4
 Rickets, 287
 Ripley, George (friar, canon and alchemical writer, +1415 to +1490), 34
 Rites, 132
 alchemical, 68–9, 131
 for keeping *hun* and *pho* ‘souls’ together in an incorrupt body, 303
 for summoning back departed spirits, 89
 Taoist, 128–31, 152
 Ritual dances, 131
 Ritual ecstasies, 116
 Roaming the Universe. See *Yuan Yu*
 Robber Chih, 55
 Roberts-Austen, W. C. (2), 264
 Rock crystal, 64
 Roger of Helmarshausen. See Theophilus Presbyter
Rokubutsu Shinshi (New Discussion of Six Things), 75
 Roman religion, 77 (d)
 Roman Republic, 247
 Roman Syria, 19
 Romans, 189, 223
 brass among the, 198
 Ronchi, V., 46–7
 Roret manuals, 44
 Rose malloes, 142 (e)
 Rosewood, 141 (f)
 Rosthorn terrestrial globe, 269 (m)
 Rotary milling, 220
 (Royal) Society of Arts, 229
Rubedo, 23
 Rue, 137
 Rupture, 75
 ‘Rusting’ (*iōsis*), 38 (a)
Rusula rubra, 121 (b)
Rutbat al-Ḥakīm (The Sage’s Step), 41 (e)
 Sacraments, 73
 Sacrifices
 Agnicayana, 119
 Agnihotra, 119
 to ancestors, 112
 Asvamedha (horse-sacrifice), 120
 of cattle, 120
 for the dead, 85 (g)
 fêng and *shan*, 104
 human, 81
 to Lao Tzu, 106
 liturgical, 103–4, 130
 to Shang Ti, 56
 soma, 117 (d), 118–19
 Vedic, 115, 123
Saddharmapuṇḍarika Sūtra, 202
 Saffron, 144
 Sage, B. M. (1), 213
 The Sage’s Step. See *Rutbat al-Ḥakīm*
 Sages (Taoist), 109
 Sal ammoniac, 265–6, 272
 Saliva, swallowing of, 100 (a), 100 (l), 292
 Salivary stimuli, 292
 Saltpetre, 145, 257, 264, 265
 Saṃhitās, 80
San Chen Chih Yao Yü Chüeh (Precious Instructions concerning the Message of the Three Perfected Immortals), 110
 San Chhing (the Three Pure Ones, the Taoist Trinity), 129
 San Kuo (Three Kingdoms, period), 235
 San Mao Chün (the three Lords Mao), 234–5
San Phin I Shen Pao Ming Shen Tan Fang (Efficacious Elixir Preparations of Three Grades Inducing the Appropriate Mentality for the Enterprise of Longevity), 293, 294
San Tshai Thu Hui (Universal Encyclopaedia), 3, 159, 212
 Sand-glass, 146
 ‘Sand’ gold, 276, 277
 Sandal-wood, 137, 141, 144
Sang thien. See Mulberry groves
 Saponification, and the preservation of dead bodies, 300
 Sapping (tunnelling) techniques, 149
 Sardis, gold-refinery at, 40
 Sarton, George, 6
Satapatha-brāhmaṇa, 118
 Sawtre (English alchemical writer), 34
 Scaliger, Julius Caesar (humanist, +1484 to +1558), 221
 Scandinavian culture, ideas about the after-life, 77 (d), 79 (d), 80 (c)
 Scarlatina, 291
 Schafer, E. H. (13), 133
 Scheffer, Theophilus (Swedish chemist, +1710 to +1759), 223
 Schipper, K. (3), 128 (b)
 Scholastic philosophers, 23
 School of Naturalists, 86, 97, 127, 151
 Dr Schubarth, 229
La Science Orientale avant les Grecs (Rey), 6
 Scientific revolution, in Europe only, 154
 Scythians, 152 (f)
 Sea-battles, 149
 Sea Dayaks, ideas about the after-life, 77 (c)

498

Seals
 made of 'yellow silver' (*huang yin*), 205, 207
 of gold, 236
 'Secondary sages' (Taoist), 109
 'Seeds' of perfection, 27
Segreti per Colori (anon.), 269
 Selenite, 270
 Selenium, 284
 'Self-mummified Buddhas', 300
 Self-mummification. *See* Mummification
 Sēmborg camphor. *See* Camphors
 Semen, 287, 292
 of the fire-god Agni, 118
 of wild horses, 290 (c)
 Seminal essence, 27
 Seminal exhaustion, 286
 Sendivogius, Michael (Polish alchemical writer,
 +1566 to +1646), 34
 Sennert, Daniel (German physician and iatro-
 chemist, +1572 to +1637), 24
 Sense-organs, 88–9
Separatio, 23
 Seri (Amerindian tribe), 79 (c)
 Seric iron, 238
 Sex hormones, 122 (b), 290, 291, 292
 Sex reversals, 63 (d)
 Sexual debility, 285, 286, 287, 288, 291
 Sexual disorders, 290
 Sexual potency, 282–3, 286–7, 292, 294
 Sexual techniques of macrobiotics, 57 (b), 260, 262
Shahnamah, 123
Shakudō, 194, 264–5
 Shamans, 9, 96 (f), 116, 150
Shan Hai Ching (Classic of the Mountains and
 Rivers), 51 (f), 214
 Shan Tao-Khai (Taoist, *d.* +359), 301
 Shang (period), 47, 81–2, 94
 royal burials, 81
 tombs, 49
 vessels, 233
 Shangchēng Kung (Taoist adept, *c.* +180), 107
Shang-Ch'ing Chiu Chen Chung Ching Nei Ch'ueh
 (Confidential Explanation of the Interior
 Manual of the Nine (Adepts)), 131, 132
Shang-Ch'ing Ling-Pao Ta Fa (+13th-century
 Taoist liturgical manual), 129 (b)
 Shang Fang. *See* Imperial Workshops
Shang Hsiang Fang (Formularies of Imperial
 Incense Blends), 135
Shang Shu Ch'eng I (The Correct Interpretation of
 the *Shang Shu* chapters of the *Historical*
 Classic), 51 (f)
 Shansi, 263
 Shao Ong (Early Han alchemist and thauma-
 turgist), 103
 Sheffield plate, 247
Shen (mind, mental essence), 87–8
 Shen Fēn (Taoist writer, *c.* +923), 298
Shen Hsien Chuan (Lives of the Divine Hsien),
 107, 295
Shen I Ching (Book of the Spiritual and the
 Strange), 235, 236

INDEX

Shen Kua (+11th-century astronomer, engineer
 and high official), 50, 257–9
 Shen Li (writer on incense, +1074), 134, 147
Shen Nung Pên Tshao Ching (Classical Pharma-
 copoeia of the Heavenly Husbandman), 62,
 150, 152, 193, 209 (b), 243, 245
 Shen Shih-Ying (*r.*), 192
 She'ol, 78, 79 (b), 85, 114
Shibu-ichi, 226, 264–5
 Shih-chai Shan (hill), excavations at, 236
Shih Chi (Historical Records), 1, 5, 96–7, 217
Shih chieh ('corpse-free', epithet of the immortals),
 106, 107, 284, 297, 298, 302–4
Shih Ching (Book of Odes), 54, 96, 132, 148, 232,
 233
 Shih Hu (Later Chao emperor, *r.* +334 to
 +349), 202
Shih I Chi (Memoirs of Neglected Matters), 202
Shih Lin Kuang Chi (Guide through the Forest of
 Affairs), 59, 61
Shih Ming (Explanation of Names, dictionary),
 96, 233
Shih Ya (Lapidarium Sinicum; or, the Literary
 Expositor of the Lithic World), 5, 160
Shih Yao Erh Ya (The Literary Expositor of
 Chemical Physic), 158
 Shingon (Chen Yen) school of Japanese Buddhism,
 300
Shirome (*pai la*)
 antimony (*Iyo-shirome*), 217 (b)
 lead-tin alloys (pewter, solder), 217 (b)
 liquation *shirome* (a pseudo-speiss, of copper,
 lead, arsenic and antimony), 217 (b), 240
 Shōbō (Japanese monk, +832 to +909), 301
 Shomu (Japanese emperor, *r.* +742 to +748),
 161
Short History of Chemistry (Partington), 5
 Shōsōin Treasury, Nara, 161
Shu Ching (Historical Classic), 54, 86 (e)
Shu chung (refined brass), 208
Shu Yuan Tsa Chi (Bean Garden Miscellany), 61
Shugen-dō (mountain asceticism) cult, 300
Shui Ching Chu (Commentary on the *Waterways*
 Classic), 50, 261
 Shui-khou Shan mine, 218
 Shulgi (king of Ur), 48 (e)
 Shunyü I (eminent Han physician, –216 to
 –147), 14, 288
Shuo Wên (*Chieh Tzu*) (Analytical Dictionary of
 Characters), 51, 56, 204, 232
 Siberia, 50
 Sideraphite, 240, 242
Sidhe, 79 (c)
 Sight defects. *See* Vision, defects of
 Sighting devices, 106 (f)
 Silchester, Roman silver refinery at, 36 (b)
 Silver
 alloys. *See* Alloys
 artificial, 10, 31, 188, 200, 201, 209, 219, 224,
 225, 229, 278, 280–1
 'debasement' of, 223, 225
 'dragon-head', 60

INDEX

499

- Silver (*cont.*)
 extraction from its ores, 243
 kinds of, 205
 lists of. *See* Lists
 making of. *See* Argentification
 –mercury amalgam, 244
 refining, 18, 39 (g), 52, 58, 60, 62, 212
 separation from gold, 37–9
 technical terms. *See* Technical terms
 thought to be an alloy, 45
 turned into ‘gold’, 256
 ‘yellowing’ of, 62, 67, 252, 255
- Silver foil, 247
- Silver metal powder, 242
- Silver mines, 280
- Silver paint, 272
- Silver sulphide, 280
- Silver surfaces, made to look like gold, 255
- Silver-zinc, 226
- Silvering, 201, 206, 232, 233, 244, 246–8, 251, 281
 of mirrors, 243
- Similar, 196
- Simple Discourses on the Investigation of Things.
See *Ko Wu Tshu Than*
- Singer, Dorothea, 24 (i)
- Sinkiang, 237, 238
 Han deserters in, 199, 219
- Siris*, or *Enquiries concerning . . . Tar-Water*
 (Berkeley), 75 (b)
- Sivin, Nathan, 8, 83
- Size, extremes of, 35
- Skelton, John (+ 16th-century Scots poet), 272
- Skin, pathological phenomena in, 289
- Sky, as the abode of the dead and the immortals,
 78, 79, 96 (f), 114
- Slaves, 109
- Slavonic legends, 77 (c)
- Small Encyclopaedia of the Principles of Things.
See *Wu Li Hsiao Shih*
- Smalt, 228 (a)
- Smelling-salts, 90, 156 (a)
- Smelting processes, 58, 118 (c), 191
- Smith-Berthier alloy, 226
- Smith, Cyril Stanley, 25, 64
- Smith, Porter, 159
- Smithsonite, 189, 199
- Smoke-bombs, 149
- Smoke-screens, 149
- ‘Smoke seal clock’, 147
- Smokes
 demonifuge, 149–50
 hallucinogenic, 150, 152 (f), 154
 making of, 128, 148–9
 toxic, 149
- ‘Smoking out’ and ‘Smoking in’, 150 (f)
- Snakes, 62
- Sobriquets, 262
- Social class, of aurifactors and aurifictors, 46–7,
 48
- Sodium carbonate, 181, 266
- Sodium chloride, 181, 264
- Sodium sulphide, 253
- Sodium thiosulphate, 252
- Sokushin-jōbutsu* saints (‘becoming a Buddha in
 one’s own body’), 300
- Sol sine Veste* (Orschall), 268
- Solder, 217 (b), 240
- Sollmann, T., 288
- Solutio*, 23
- Solution, 19 (d)
- Soma* (plant), 115–17, 121
 ritual buying of, 119
 terms used for, 123
- Soma* sacrifice, and gold, 118–19
- ‘Sophistication’, 46 (b)
- Sorel’s alloy, 196
- ‘Souls’, 298
 dissipated in the *chhi* of the heavens and the
 earth, 88, 92, 114
 plurality of, 82, 85–93, 114
 recalling of, 89–90
 relation to the body, 85, 92
- Southern Sung (period), 134, 289
- Southern Thang (dynasty), 216
- Soya-bean confections, 10 (b)
- Spagyric Natural History. *See* *Lu Huo Pên Tshao*
- Spain, Rio Tinto mining region in, 40
- ‘Spanish fly’, 290 (f)
- Spanish miners, 221
- Specific weight of gold, 260
- Spectacle-lenses, 46
- Speculum Alkimie Minus* (Roger Bacon?), 14
- Speculum Majus* (Vincent of Beauvais), 31
- Speculum metal (high-tin bronze), 197, 198, 219,
 238 (f), 240
- Speiss (mixed arsenides of metals), 217 (b),
 240
- Spelter (crude zinc), 212, 231
- Spenta amersha*, 121 (e)
- Spermatozoa, 292
- Spermatorrhoea, 287
- Sphericity of the earth, 102 (f)
- Sphygmology, 260
- Spices, 133
 trade in, 140 (b)
- Spiegeleisen*, 191 (g)
- Spikenard, 136, 137
- Spinal stimulants, 290
- Spirit and matter. *See* Matter and spirit
- Spirit-journeys. *See* Ascensions
- Spirits of hartshorn, 90 (b)
- Splanchnic hyperaemia, 291
- Spooner, Roy, 6
- Ssu* (temple), 134
- Ssu Shen Tan* (elixir of the four magical in-
 gredients), 285
- Ssuma Chhien* (Early Han Historiographer-
 Royal, *fl.* – 100), 104–5, 218, 219
- Ssuma Chi-Chu* (Han diviner, *d. c.* – 170), 298
- Ssuma Hsiang-Ju* (Han poet and road-builder,
 – 2nd century), 104–5, 133
- Stained-glass windows, 269
- Stainless steel, 239
- Stalactite (calcite), 286

500

Standard Formularies of the (Government) Great Peace People's Welfare Pharmacies. See *Thai-Ping Hui Min Ho Chi Chü Fang*
 Stanley, R. C., 232 (a)
 Stannic oxide, 268
 Stannic sulphide, 62, 69, 71, 195 (i), 271–2, 277
 Stannous chloride, 268
 Stars, as the abode of the dead and of the immortals, 80, 94
 Statues
 Buddhist and Taoist, 202, 247
 at Nara, 265
 of self-mummified adepts, 300
 made of Tanyang copper, 235
 Staunton, Sir G. L. (British diplomat, +18th century), 212
 Steaming clothes in epidemics for medical sterilisation, 149
 'Steaming the *chü-shêng*', 131 (e)
 Steel, 238
 gilding of, 247
 stainless. See Stainless steel
 Stele inscription, 205
 Stephanite, 267 (e)
 Stephanus of Alexandria (proto-chemical writer and commentator, early +7th century), 17
 Sterilisation, bacteriological, 149
 Sterro metal, 196
 Stibnite, 190, 223, 267, 273
 used in separating gold from silver, 39, 40
 Stillman, J. M., 4
 Stimulus diffusion, and the 'drug of deathlessness', 115, 121
 Stockholm papyrus, 16, 28–9
 Stoic philosophy, 25, 26–7
 Stones, inhabited by the dead, 77
 Storax, 140, 142
 Strabo (geographer, –63 to +19), 198 (c)
 Strangury, 288
 Strickmann, M., 121
 Stromeyer, Friedrich (German chemist, +1776 to 1835), 242
 Strychnine, 290, 291
Study of Chinese Alchemy (O. Johnson), 6
 Styria (Austria), peasants of, 291 (d)
 Su Ching (high official and pharmaceutical naturalist, fl. +659), 60, 206, 207, 276
Su ho hsiang (solid storax, later liquidambar), 142
 Su Kung. See Su Ching
 Su Nü (the Immaculate Girl), 131
 Su Sung (astronomer and high official, +1020 to +1101), 60
 Su Yuan-Ming (alchemist, +3rd and +4th centuries), 273
 Śubhakarasiṃha (Indian Tantrist, d. +735), 301
 Sublimation, 19 (d), 100 (k)
 Substance, concept of, 22
 Substantial forms. See Matter and form
 Sudbury (Canada), sulphide deposits at, 232 (a)
 Sugar and sweetening agents, 66 (c)
 Sugawara no Michizane (Japanese minister, +845 to +903), 143 (d)

INDEX

Sui (period), 204, 216, 231
 Sui (royal physician, –2nd century), 288
 Sui Kao Tsu (emperor Wên Ti, Yang Chien, r. +581 to +604), 204
Sui Shu (History of the Sui Dynasty), 202, 216
 Suicide, of Taoists desiring promotion among the immortals, 110 (e)
 Suidas (late +10th-century Byzantine scholar and lexicographer), 17
 Sulphates, 58, 69
 Sulphide films on metal surfaces, 73–4, 229
 Sulphide ore (mixture of zinc blende and galena), 218
 Sulphide *xanthosis*, 255
 Sulphides
 yellowing effect of, 67 (e), 255
 'tingeing' of metals by, 252
 Sulpho-lipins, 253 (a)
 Sulphur, 28, 30, 31, 71, 127, 149, 150, 207, 252, 253, 255, 264, 267, 272, 284
 use in medicine, 286
 vapours of, 10, 19, 72
 'Sulphureous' water, 252
 Sulphuric acid, 250
 Sulphurisation parting process, 38–9, 280–1
 Sulphydryl groups, 253 (a)
 Sumatra, 142
 Sumeria, 117 (d)
 herb of immortality in, 117 (d), 121
 refining methods, 40
 religious myths, 78 (b)
Summa Perfectionis (Geber), 41
 Summons of the Soul. See *Chao Hun*
 Sun Chü (Taoist mirror polisher), 249
 The Sun-Rays Master's Pharmaceutical Natural History, collected from Many Authorities. See *Jih Hua Chu Chia Pên Tshao*
 Sun Ssu-Mo (alchemist, physician and writer, +581 to c. +672), 8, 14, 149–50, 202, 231, 265, 277, 286, 287, 288, 298–9, 301
Sun Tzu Suan Ching (Master Sun's Mathematical Manual), 48
 Sung (period), 57, 199, 207, 257, 292
 coinage techniques, 216–17
 incense-clocks, 146–7
 Sung Ching (Astronomer-Royal, fl. c. +570), 147
Sung Shih (History of the Sung Dynasty), 201, 208, 215, 216
 Sung Ying-Hsing (encyclopaedist of technology, +1637), 208, 213, 231
 Supplement to the Thousand Golden Remedies. See *Chhien Chün I Fang*
 Supplementary Commentary on the *Pharmacopoeia of the Heavenly Husbandman*. See *Chia-Yu Pu-Chu Shen Nung Pên Tshao*
 Surface-enrichment techniques, 28, 38, 245–51
 Surface-films on metals, 10, 19, 66, 68, 73, 188–9, 195, 206–7, 224, 229, 245, 251–7, 258, 266, 278, 281
 in Egypt, 254
 in Japan, 264
 during cupellation, 57 (d), 60 (b), 213 (k)

INDEX

501

- Surface layers and finishes, 231, 245, 250–1, 253, 256, 265, 278
 technical term, 257
 Sūrya (Vedic sun-god), 119
Suśruta Samhita, 289
 Sūtra on the Four Practices spoken to Ananda.
 See *A-Nan Ssu Shih Ching*
 Sweden, 190, 212
 Sweet basil. *See* Basil
 Sword-guards, 265
Sylva Sylvarum, or Natural History in Ten Centuries (F. Bacon), 33
 Symbolic correlations, 51 (e)
 Sympathy and antipathy, laws of, 27
 Syncellus, George (late +8th-century Byzantine scholar), 17
Syncretism, 24
 Synesius (late +4th-century proto-chemical writer), 17, 26, 254
Synthesis, 22
 Syria
 textiles, 29
 Roman. *See* Roman Syria
 Syringes, 201
 Szechuan, 206, 236, 277
 cloth and bamboos from, 237
Ta Chao (The Great Summons), 89
 Ta Hsia (Hunnish) Kingdom (+5th century), 231
Ta Thang Hsi Yü Chi (Record of (a Pilgrimage to) the Western Countries in the time of the Thang), 202
 Ta-Yuan. *See* Ferghana
 Tableware, 225, 239
 Tai, the Lady of (*d.* between –190 and –140), 304
 Takeuchi Yoshio (*T.*), 115
 Tale of Genji. *See* *Genji Monogatari*
 Talismans, 131
 Talks while the Plough is Resting. *See* *Cho Kêng Lu*
 Talmi gold, 194–5
 Tamba no Yasuyori (physician and medical writer, +982), 286
 Tammuz, 78 (b)
Tāmra (copper, brass), 203
Tan Ching Yao Chüeh. *See* *Thai-Chhing Tan Ching Yao Chüeh*
Tan Fang Chien Yuan (Mirror of Alchemical Processes and Reagents), 214, 278
Tan Fang Ching Yuan (Mirror of the Alchemical Laboratory), 243
 Tan-Mei-Liu (kingdom in Malaya), 201, 215, 217
 Tanjore Pills, 289
 Tanning, preservation of corpses by, 304
 Tantrism, 292, 301
 Tanyang (city), 234–5
 ‘Tanyang copper’, 235–6
 ‘Tanyang method’, 233–5
 ‘Tanyang silver’, 278
 the Tao, 126
 Confucian conception of, 111
 mystical union with, 102
 Taoist conception of, 83, 98, 100
Tao Chih, 55
Tao I Chih Lüeh (Records of the Barbarian Islands), 215
Tao Tê Ching (Canon of the Virtue of the Tao), 106
Tao Tsang (Taoist Patrology), 1, 4, 5, 6, 7, 122, 276
 Taoism and Taoists
 and alchemy, 9–11, 15, 36, 68, 70–1, 90, 117
 150, 218, 219, 258, 260, 281, 291–2
 conception of creation, 93
 earthly paradises, 78 (a)
 ethics, 9, 123 (e)
 Huang-Lao, 105–6, 110
 liturgies. *See* Liturgies
 and ‘magic mushrooms’, 121–2
 and magical operations, 83
 and manual work, 9
 and material immortality. *See* Material immortality
 pantheon, 110, Fig. 1309
 and natural sciences, 9, 83
 ‘psychedelic’ experiences in, 152, 154
 and purple colour, 262–3
 quasi-orgiastic rites in, 150 (e)
 religious and philosophical compared, 83
 and self-mummification, 301
 terminology and nomenclature, 11, 83, 106, 109, 219
 therapeutic methods, 112
 Taoist Patrology. *See* *Tao Tsang*
 Taoist statues, 247
 Taoist techniques. *See* Techniques
 Tar-water, 75 (b)
 Tarn, W. W. (1), 237
 Tarnishing, 229
 Tartaric acid, 252
 Taveau, M., 243
 Taylor, Sherwood, 7
 Tea trade, 212
 Technical terms
 alchemy, 7, 8, 9–11, 219
 alum, 246
 argentifaction, 65
 arsenical oxide minerals, 229 (c)
 astronomy, 86 (e)
 aurifaction, 65
 brass, 199–209, 219, 231
 bronzes, 199, 229, 231
 chemical substances, 154–87
 chemistry, 214 (f)
 chrysopoia, 22–3
 copper, 51, 54
 cupellation and cementation, 39 (g)
 geology, 63 (e)
 gilding, 232–3
 gold, 51, 54, 56, 62, 65, 261, 263, 273–8; artificial, 48, 70, 215
 hashish, 151 (c)
 hemp, 151
 lead, 51 (e), 212, 214, 215
 longevity, 11, 12, 74–5, 94
 material immortality, 11, 12, 94, 95–6, 298

502

Technical terms (*cont.*)
 metals, 51, 54, 56, 202
 mineralogy, 297 (e)
 minerals and ores, 190–1
 paktong, 232–3
 plating, 245
 silver, 51, 54, 65, 215, 278–81
 sublimation and distillation, 100 (k)
 surface-layer tints, 257
 Taoist, 83, 219
 tin, 214–15, 216
 zinc, 199, 212–19
 Technicians. *See* Artisans
 Techniques, 260, 283
 for attaining material immortality, 11, 83, 92,
 95, 97, 101, 103, 114, 124
 hypnotic and trance, 154
 Tel Gezer, ancient brass found in excavations at,
 198 (c)
 Telescope, 46–7, 198
 Temperatures available to the Chinese alchemists,
 193
 Temples
 Buddhist, 134
 Confucian, 134 (b)
 Kuang-Hsiao at Canton, 301
 Nan-Hua at Tshao-chhi, 301
 Taoist, 106, 129, 134
 Tōdaiji at Nara, 161
 and the veneration of immortals, 104
 of Yudono-san, 300
 Ten-day week, 100 (j), 101 (h)
 Ten Thousand Infallible Arts of the Prince of
 Huai-Nan. *See* *Huai Nan Wan Pi Shu*
Têng Chen Yin Chüeh (Confidential Instructions
 for the Ascent to Perfected Immortality), 110,
 131 (a)
Têng Hsi-Hsien (Taoist sexologist, + 16th
 century), 262
 Terashima Ryōan (encyclopaedist, + 1712), 3,
 159
 Terebinth, 136, 142
 Terrestrial immortals (*ti hsien*), 106–7
 Teste, A., 288
 Tetsuryū-kai Shōnin ('self-mummified Buddha',
d. 1868 or 1881), 300
 Tewa (Amerindian tribe), 79 (c)
 Tewosret (Egyptian Queen of the XIXth Dynasty,
 – 1350 to – 1200), 254
 Textiles
 mordanting and dyeing of, 16, 19, 28
 of Syria and Egypt, 29
Thai-Chhing Chen Jen Ta Tan (The Great
 Elixirs of the Adepts. . .), alternative title of
Thai-Chhing Tan Ching Yao Chüeh, q.v.
Thai-Chhing Shih Pi Chü (Records in the Rock
 Chamber), 283, 294
Thai-Chhing Tan Ching Yao Chüeh (Essentials of
 the Elixir Manuals for Oral Transmission. . .),
 8, 149, 202, 231, 265, 299
 Thai-I (the Great Unity), 131
Thai-Ku Thu Tui Ching (Most Ancient Canon of
 the Element Earth and the *Kua Tui*), 256

INDEX

Thai Phing Ching (Canon of the Great Peace), 103,
 109, 126
Thai-Phing Hui Min Ho Chi Chü Fang (Standard
 Formularies of the (Government) Great
 Peace People's Welfare Pharmacies), 285, 286
Thai-Phing Yü Lan (Thai-Phing reign-period
 Imperial Encyclopaedia), 135, 159
 Thai Shan (mountain), 152
Thai-Shang Kan Ying Phien (Tractate of Actions
 and Retributions), 123 (e)
Thai-Shang Ling-Pao Wu Fu Ching (Manual of
 the Five Categories of Formulae (for achiev-
 ing Material and Celestial Immortality)), 106
Thai-Shang Tung Hsüan Ling-Pao Shou Tu I
 (Formulae for the Reception of Salvation. . .),
 130 (f)
Thai Su Chuan (Story of the Primal Innocence;
 i.e. that state of physical perfection of the
 new-born child, the recovery and permanent
 retention of which was the basic aim of
 Taoist physiological alchemy; cf. Vol. 5,
 pt. 5). Probably a shortened or garbled title,
 but perhaps identifiable with the *Thai-Shang*
Lao Chün Thai Su Ching (TT/1405), an
 early work on the archaei of the body and its
 organs, 107
 Taipei, 301
 Taiwan. *See* Formosa
 Taiyuan, 204
 Than Tshui (+ 18th-century writer), 208
 Thang (period), 57, 60, 144, 205, 212, 216, 231,
 233, 243, 277, 281
 aromatics, 133, 138, 141
 medicine, 286
 poetry, 147
 Thang (technical term for gold), 51, 54, 261
 Thang Kao Tsung (emperor, Li Chih, *r.* + 649 to
 + 683), 205
 Thang Kung-Fang (minor official, + 7), 125–6
 Thang-lang Shan (Praying-Mantis Mountain),
 232
Thang Liu Tien (Administrative Regulations of
 the Six Ministries of the Thang Dynasty),
 201, 232, 273–4, 277
Thang Pên Tshao. *See* *Hsin Hsü Pên Tshao*
 Thang Shen-Wei (+ 11th-century pharmaceutical
 naturalist), 205, 273, 276
 Thang Thai Tsung (emperor, *r.* + 627 to + 649),
 204–5, 207
 Thang Tsung-Jen (+ 14th-century goldsmith and
 jeweller), 263
Thang Yün (Thang Dictionary of the Sounds of
 Characters), 204
 Thao Hung-Ching (Taoist physician, alchemist
 and pharmaceutical naturalist, + 5th cen-
 tury), 14, 62, 110, 209 (b), 225, 243, 245, 296
 Thao Ku (scholar and writer, *c.* + 950), 135
 Thao Tsung-I (scholar and writer, + 1366), 76
 Themistius of Byzantium (+ 4th century), 19
 Thêng-yüeh, 219
 Theophilus Presbyter (monk and craftsman,
c. + 1125), 39 (a), 41, 52–3, 255 (b), 269

INDEX

503

- Theophrastus of Eresus (*d.* – 287), 198, 248
 Theopompos of Chios (*c.* – 330), 198 (c)
 Theory and practice, 21 (f), 26
Thieh yin tan (a preparation of iron), 293
Thien Hsiang Chuan (Story of the Incense in the Heavens), 135
Thien hsien (empyrean or celestial immortals), 106 ff.
Thien Kung Khai Wu (The Exploitation of the Works of Nature), 42, 52, 60, 208, 213, 229
 Thien-Thai school of Buddhism, 301
 ‘This-worldly’ conceptions, 77, 78 (b), 81, 82, 93, 98 (c), 105 (d), 114, 124
 See also Material immortality
 Tho Hsiao (hedonist philosopher, late – 4th century), 94 (a)
 Thomason, E., 228
 Thorpe, Edward, 4
Thou-shih (brass), 200–3, 204–5, 208
 Thu Hsiu Chen Chün (the Earth’s Mansions Immortal (ps.)), Wu Tai or Sung naturalist, metallurgist and alchemist), 208
 Thu Lung (writer on incense, *d.* + 1577), 135
 Thuggism, 76 (c)
 Thundergod vine (insecticide), 145 (l)
Thung (bronze), 22 (e) and *passim*
Thung Ya (Helps to the Understanding of the Literary Expositor), 218 (a)
 Thuribles, 128
 Ti barbarians, 115
Ti hsien (terrestrial immortals), 106 ff.
 Tien (State), 236
Tien Hai Yü Hêng Chih (A Guide to the Region of the Kunming Lake), 208
 Tiers-argent, 226
 ‘Time-controlling substances’, xxxii
 Time-keeping and incense, 134, 145 (h), 146–7
 Tin, 56, 69, 71, 189, 190, 195, 223–4, 272
 in brasses, 195
 in bronzes, 198, 229
 in coinage, 215
 and mercury, 243
 scarcity of, 224
 and stannic sulphide, 271
 technical terms. *See* Technical terms
 Tin amalgam, 252, 253
 Tin ‘silver’, 278
Ting (nails), 67–8
 Master Ting of Chhi (‘Taoist, *fl.* – 110), 104
 Ting Chao (official and mint-master of the Southern Thang dynasty, + 937 to + 958), 216
Ting Hsü-Hsien (1), 5 (f)
Ting Huan (Han mechanician, *fl.* + 180), 133, 260
Ting Wei (scholar and writer, *d.* + 1034), 135
 ‘Tingeing’, 19, 30, 67 (b), 68, 70, 245, 252, 253, 254, 257, 262, 266, 281
 and intent to deceive, 29
 Tinning, 233, 248
 ‘Tintinaso’, 227
 Tir na nÓg (the Land of Youth), 77 (h), 79 (c)
 Ti-y (Egyptian Queen of the XVIIIth Dynasty, *c.* – 1380), 254
 Tōdaiji temple, Nara, 161
 Todas (Indian tribe), ideas about the after-life, 77 (c)
 Tomb-furniture, 81
 Tombac, 196, 272
 Tombs
 of Chhin Shih Huang Ti, 299 (e)
 of Chou Chhu (+ 297), 192
 as the habitation of the dead, 77, 78
 objects from, 2, 28, 49
 and Taoist immortality, 297
 Tien kingdom, 233 (c)
 Tongking. *See* Tungching
 ‘Tonic’ effect
 of arsenic, 282, 291
 of iron, 292–4
 of mercury, 291–2
 Tonkin. *See* Tungching
 ‘Tooth-and-egg metal’, 225
 Tooth-fillings, 243
 Torres Islanders, 79 (c)
 Tou Wan (Princess of Chung-shan, *d. c.* – 113), 303–4
 Toucas’ metal, 240, 242
 Touchstone, 18, 38, 48, 250, 263
 Tournay’s metal, 196
 Tourun-Leonard metal, 240
 Trabuk metal, 241
 Trace elements, 287
 Trachoma, 267
 Tractate of Actions and Retributions. *See* *Thai-Shang Kan Ying Phien*
 Trade contacts, 50, 236–7, 270
 Bactria, 237–8
 East Indies, 201
 Europe, 199, 212, 225, 227, 228
 Kish (island), 231
 Middle East and the Mediterranean, 140–1
 Persia, 201–2, 203, 220, 261
 South-east Asia, 138
 Trade routes, 237–8
 Tragacanth, 141
Traicté de la Chymie (Lefèvre), 76
 Trance techniques, 154
 Trance flights. *See* Ascensions
 Transformations. *See* Metamorphoses
 Transmigration of souls, 80 (c)
 Transmissions, 247, 264, 272
 of Arabic chemical knowledge to Europe, 12, 74, 123
 of Babylonian ideas to China, 48
 of the Chinese alchemical traditions westwards, 1, 4, 5, 6, 7, 15, 49
 of Indo-Iranian ideas to China, 115–17, 121–2
 from the Islamic culture-area to China, 269
 from West to East, 271
 Transmutation. *See* Alchemical transmutation
 Transubstantiation, 11 (a), 68 (e)
 Travel, of metals in trade in ancient and medieval times, 238
 Treatise on Perfumes and Aromatic Substances. *See* *Hsiang Phu*

504

Trees
 inhabited by the dead, 77
 of deathlessness, 117
 of the sun and the moon, 100 (j)
 'Trial of the Pyx', 47
 Tribal peoples
 Abipones, 80 (a)
 Amerindians, 41, 77, 79, 221, 250
 Australian, 77 (c)
 Aztecs, 116 (b)
 Bantu, 77 (c)
 Basutos, 79 (c)
 Borneo, 77 (c)
 Chhian, 115
 Chukchi, 116
 Coorgs, 77 (e)
 Dravidian, 77 (e)
 Dusuns, 77 (c)
 Esmeraldas, 248, 250 (c)
 Ewe, 77 (c)
 Gilyak, 116, 122 (b)
 Gonds, 77 (e)
 Haitians, 77 (c)
 Idaans, 77 (c)
 Kapuas, 77 (c)
 Khé, 77 (f)
 Kiowa, 79 (c)
 Koryak, 116
 Lenguas, 77 (e)
 Mazatec, 116 (d)
 Melanesians, 77 (h)
 Mossynoeci, 220 (c)
 Oraons, 77 (f)
 Papuan, 77 (e), 79 (c)
 Paraguayan Indians, 77 (e)
 Patagonians, 80 (a)
 Peruvian Indians, 250 (c)
 Polynesians, 79 (c)
 Scythians, 152 (f)
 Sea Dayaks, 77 (c)
 Seri, 79 (c)
 Tewa, 79 (c)
 T'i barbarians, 115
 Toda, 77 (c)
 Torres Islanders, 79 (c)
 Veddas, 77 (e)
 Yüeh-Chih, 115
 Zapotecs, 116 (b, d)
 Zulus, 79 (c)
 Tribute, 201, 217, 238
 Trinity, Taoist. *See* San Chhing
 Tripartite division (body, soul and spirit), 72 (l)
 Tripling ('debasement' of precious metals), 18
 'Tropical tulip' (perhaps saffron), 144
 Troy II, 40
 Tsan-Ning (monk and scientific writer, c. +980),
 149, 199, 201
 Tsang Yen-Fu (*hsien* immortal), 297
Tsao hua ché (the Author of Change, or the
 Immanent Shaping Forces), 93, 208–9
Tsao Hua Chih Nan (Guide to the Creation, i.e.
 Nature), 208–9

INDEX

Tsao wu ché (the Author of Things, or the
 Immanent Shaping Forces), 93
 Tséng Chao-Lun, 5
 Tséng Tshao (+ 12th-century Taoist writer), 302
 Tshai Ching (statesman and reformer, + 1046 to
 + 1126), 215
 Tshai Ching (*hsien* immortal), 153
Tshan Thung Chhi (The Kinship of the Three), 57
 Tshao Chao (antiquary and writer, + 1387), 200,
 263
 Tshao-chhi in Kuangtung, Nan-Hua temple at,
 301
 Tshao Thien-Chhin, 8
 Tshao Yuan-Yü, 5
 Tshê-Hang (self-mummified Buddhist adept,
 d. 1954), 301
 Tshui Chia-Yen (Taoist physician, fl. + 1170 to
 + 1190), 262
 Tshui Fang (iatro-chemist and naturalist, fl. c.
 + 1045), 201, 257
 Tshui Pao (antiquary and naturalist, c. + 300),
 246
Tso Chuan (Master Tsochhiu's Tradition (or
 Enlargement) of the *Chhun Chhiu*), 86, 132
 Tsou Yen (natural philosopher, – 350 to – 270),
 12, 13, 49, 55, 97, 105, 219, 223, 239, 248
 Tsu-chou (island), 122–3
 Tsuda Sôkichi (2), 115
 Tsung Lin (writer on folk customs, fl. c. + 550),
 202
Tu (gilding or silvering), 232, 246
 Tu Ju-Hui (Thang minister), 204–5
Tu Shih Fang Yü Chi Yao (Essentials of Historical
 Geography), 208
Tuat, 79 (f)
 Tuku Thao (alchemical writer, c. + 950), 214, 278
Tung Hsüan Ling-Pao Chen Ling Wei Yeh Thu
 (Charts of the Positions and Attributes of the
 Perfected Immortals...), 110
 Tungching (Tonkin, Tongking), 143, 212
 Tungfang Shuo (Han mystagogue and royal
 adviser), 122
 Tungsten, 190–1, 221 (e), 242
 Tunhuang
 cave-temples (Chhien-fo-tung, Mo-kao-khu),
 frescoes of, 128 (c), 133
 city-temple, models in, 81 (g)
 Turfan (Kao-chhang), 201
 Turkey, coinage, 239
 'Turning matter into spirit by making it thin',
 86 (h)
 Tutania, 240, 242
 Tutankhamun (XVIIIth-Dynasty Pharaoh, r. c.
 – 1350), 254
 Tutenag, 212, 225, 227, 228
 European, 228
 Tutin, Wm., 240
Tütiya (calamine), 203, 212
 Tutty, 203, 212 (f)
 Type metal. *See* Printing type metal
 Tyrian (molluscan) purple, 29
 Tzu-Chhan. *See* Kungsun Chhiao

INDEX

505

- Tzu Chhiung Chen-Jen (The Purple-Jasper Adept). *See* Chang Mu
 Tzu Chin Kuang Yao Ta Hsien (Great Immortal of the Purple Gold Splendour). *See* Têng Hsi-Hsien
 Tzu-chin Shan (Purple Sheen Gold Mountain), 263
Tzu fên ('purple powder'), 175, 271 (a)
 Tzu Hsü Chen-Jen (Adept of the Purple Emptiness). *See* Tshui Chia-Yen
Tzu-jan thung, 200 (g)
 Tzu Shih Han Shih San (purple mineral cold powder), 288
- Ulcers, 293
 de Ulloa, Antonio (Spanish mathematician, +1735), 221
 Unani-Ayurvedic medicine, 75 (b)
 Underworld, 78
 Chinese, 81, 84–5, 114
 Egyptian, 79 (f)
 Homeric Greek, 78 (c)
 Indo-Iranian, 80
 visits to, 80 (d), 81 (g)
 'Unicorn-foot Pegasus-hoof' gold pieces, 257–9, 261, Pl. CDL
 Unification of the Chinese empire, 97
 Unity and continuity, conception of, 93
 Universal Encyclopaedia. *See* *San Tshai Thu Hui*
 Unofficial Biography of Chao Fei-Yen. *See* *Chao Fei-Yen Wai Chuan*
 Upaniṣads, 80
 Ur III texts, 39
 Uranographic enclosures, 101 (e)
 Urethral irritants, 290
 Urethritis, 288
 Urine
 of brewers, 257
 drinking of, 16, 117 (d), 122 (b)
 purple-gold, 263
 Ushabti figures, 81
 Uttarakuru (Hindu earthly paradise), 77 (g)
- Valentine, Basil, ps. (c. +1600), 272
 Valentinite, 267 (b)
 Valhalla, 80 (c)
 Vampire legends, 303
 Vandermonde, Jacques François (French physician, fl. +1720), 160–1
 Vapours
 arsenical, 224, 229 (c)
 coloured, 57 (d)
 of mercury, 10, 19, 65, 72
 Varnishing, 253
 Varuṇa, 120
 Vast Mountain Stoves (*po shan hsiang lu*), 133
 Vedas, 80, 115, 116
 Veddas (Ceylonese tribe), 77 (e)
 Vedic sacrifices, 115, 123
 Vegetable acids, used in metallurgical 'leaching' processes, 250
 Venantius Fortunatus, 130 (f)
- Verdigris, 66, 265, 266
 Verein zur Beförderung des Gewerbe-fleisses, 229
 Vermilion, 272
 Vermilion herb, 69
 Vesical tenesmus, 288
 Vessels
 of artificial gold, for conferring immortality, 13, 70
 for the blending of incense, 135 (e)
 of brass, 201, 212–13, 266
 gilding of, 247
 of *huang yin*, 206
 of realgar, 285 (a)
 for temples and ancestral altars, 266
 of tinned bronze, 233
 Vigani, Giovanni Francesco (Italian chemist, metallurgist and pharmacist, c. +1650 to +1713; first Professor of Chemistry at Cambridge from +1703), 35
 Viking age, 79 (d), 80 (c)
 Villanovan corpus, 32
 Vincent of Beauvais (encyclopaedist, c. +1255), 31
 Vinegar. *See* Plum vinegar
 Vishnu, 123
 Vision, defects of, 203 (d)
 Visvarūpa, 118
 Vitamins, 284 (g), 287, 292
 Vitriols, 246, 274, 286
 Vitruvius (engineer and builder, c. –27), 248
Voarchadumia, 32
 Volatility of metals and oxides, 207
 Voyages in search of the immortals and their drugs, 97, 103, 122–3
- Wai tan* (practical laboratory alchemy), 4, 6–7, 154, 244, 292
Wai Tan Pên Tshao (Iatrochemical Natural History), 201, 209
Wakan Sanzai Zue (Chinese and Japanese Universal Encyclopaedia), 3, 159, 212
 Waley, Arthur, 6, 232; (14), 47; (24), 47
 Walnut-gum, 137
 Wang, C. H., 6
 Wang Chhi (encyclopaedist, +1609), 159, 212
 Wang Chhung (sceptical philosopher, +82), 85
 Wang Chi-Liang & Chi Jen-Jung (r), 5
 Wang Chia (scholar and writer, c. +370), 202
 Wang Chieh (Sung aurifactor), 51 (f), 235, 277
 Wang Chin, 5, 7
 Wang Fou (+4th-century writer on marvels), 236
 Wang Hsi-Chhêng (*hsien* immortal), 297
 Wang Hsi-Chih (famous calligrapher, +321 to +379), 205, 207
Wang Hsien Fu (Contemplating the Immortals...), 111
 Wang Hsing (+1st-century alchemist), 14
 Wang Jung (civil and military official, fl. c. +490), 208
 Wang Mang (Hsin emperor, r. +9 to +23), 50, 217–18
 Wang Pao (Confucian writer, c. –60), 111
 Wang Ta-Yuan (author and traveller, +1350), 215

506

Wang Yang (Han alchemist), 235
 Wangtzu Chhiao (crown prince of Chin State, c. –550, later considered a *hsien* immortal), 98 (e), 99, 101 (b), 111, 126, 297
 Ware, J. R. (5), 8
 Warfare, 149
 Warne's metal, 241
 Warring States (period), 13, 14, 88, 94, 127, 133, 151, 193
 alchemy in, 115
 cupellation, 49
 gilding and silvering, 246, 248
 Wasson, R. G., 116; (2), 121; (3), 123
 Water-mallow, 235
 Water-mill, 220
 Water-plants, 66
 Watson, Richard (chemist, and Bishop of Llandaff, +1786), 214 (e), 227–8
 Wave-theory, 27
 Wei (prince of Chhi, c. –358 to –320), 97
 Wei Hua-Tshun (Taoist matriarch, fl. +350 to +380), 152, 286 (g)
 Wei Lü (maelstrom, cosmic cloaca), 101 (j), 102 (i)
 Wei Luêh (Compendium of Non-Classical Matters), 205, 278
 Wei Mou (Prince Mou of Wei, –4th-century hedonist philosopher), 94 (a)
 Wei Po-Yang (eminent alchemist and writer, fl. +140), 3, 27, 57, 70, 295, 296
 Wei Ssu-Hsüan (Thang metallurgist), 263
 'Weighing of souls', 79 (f)
 Weights and measures, 48 (e)
 Wên I-To (3), 115
 Wertheimer, E., 288
 Western misconceptions about China, 3–4, 6
 'Wet colouring', 251 (c)
 'Wet copper method', 24, 35 (a), 67 (d), 209 (b), 245, 255
 'Wet parting'. See 'Parting'
 Wheel, 48 (e)
 Whetstone, 51 (f)
 Whichcote, Benjamin (Cambridge Platonist), 34
 White alloy, 240
 'White coins', 216 (f), 231 (f)
 'White copper', 190, 225, 227, 228, 229
 European, 228
 White lead. See Lead
 'White silver' (*pai yin*), 278
 White-Stone, Mr. See Pai Shih hsien-sêng
 'White-Water Adepts', 218
 'Whitening' (*leucōsis*), 23, 27, 62, 252–3, 255, 270 (g)
 Wieger, L., 5, 6
 Wine
 used to soften 'refined gold', 69
 used to stimulate sexual activity, 289
 Wine-making, 66 (c)
 Wire-drawing, 144 (e)
 Wo *chhien* (zinc), 213–14, 215, 229, 231
 Wo-Hsiang (abbot and alchemist, c. +1095), 262
 Wolframite, 191

INDEX

Wollaston, W. H. (1804), 223 (a)
 Women
 and the elixir of immortality, 124, 126
 in traditional Chinese society, 282
 Wood, Charles (+1741), 223
 Wood, R. W. (1), 254
 Wootz steel, 238, 294
 Woulfe, Peter (English chemist, c. +1727 to 1805), 272
 Wounds, treatment of, 76
 Wu (nothingness). See 'Nothingness'
 Wu (paktong?), 232–3, 237 (g)
 Wu (shamans). See Shamans
 Wu Chêng-Chung (horological artisan, c. +1073), 147
 Wu Ching Tsung Yao (Military Encyclopaedia), 149, 208
 Wu Li Hsiao Shih (Small Encyclopaedia of the Principles of Things), 199, 200, 208, 213, 259 (i)
 Wu Lu-Chhiang, 6
 Wu Shang Pi Yao (Essentials of the Matchless Books), 150
 Wu Tai (Five Kingdoms period), 257, 278, 286
 Wu wei ('no action contrary to nature'), 83, 96, 100 (g)
 Xanthōsis. See 'Yellowing'
 Yabuuchi Kiyoshi (4), 147
 Yakushi-sho, 361
 Yama (Hindu king of hell), 77 (g)
 Yang Chu (hedonist philosopher, late –4th century), 94 (a)
 Yang Kên (1), 192
 Yang Khai-Hui, 113
 Yao Chung Chhao, 361
 Yao Hsing Lun (Discourse on the Natures and Properties of Drugs), 243
 Yao-Niao (legendary horse), 259
 Yeh Thing-Kuei (writer on incense, +1151), 134
 'Yellow and white metal', 219–20
 Yellow colour, and the symbolic correlations system, 13 (d), 85
 Yellow Emperor's Manual of Corporeal Medicine. See *Huang Ti Nei Ching*
 'Yellow silver'. See *Huang yin*
 Yellow Springs (*huang chhüan*), 13 (d), 78, 81, 82, 84–5, 88, 94
 'Yellowing' (*xanthōsis*), 23, 27, 62, 67 (e), 252–3, 255, 270 (g)
 Yen (State), 94, 97, 103, 115, 116, 117
 Yen (Prince of), 95
 Yen Chao Wang (Prince Chao of Yen, r. –311 to –278), 97, 298
 Yen Ching-Chien (Thang courtier), 206
 Yen Fan Lu (Extension of the *String of Pearls* (*on the Spring and Autumn Annals*)), 204–5
 Yen Kho-Chün (Chhing editor of fragments), 124
 Yen Shih-Ku (scholar and commentator, c. +620), 218 (a), 259
 Yen Thieh Lun (Discourses on Salt and Iron), 14, 55

INDEX 507

- Yin* (alloy of uncertain composition), 214 ff.
Yin (silver), 54, 236
Yin and Yang, 25, 27, 82, 86, 87, 244, 286
Yin and Yang ‘souls’, 92, 114
Ying city (of Chhu State), 50
Ying Shao (ethnographer and descriptive political economist, fl. +170 to +200), 218, 258
Yohimbine, 290, 291
Yoshida Mitsukuni, 7
Yü hua (attainment of immortality), 302
Yü kan tzu fruits, 256
Yü Kung, chapter of the *Shu Chung*, q.v.
Yü Phien (Jade Page Dictionary), 200, 204, 215, 216
Yü Shih-Nan (scholar, +558 to +638), 205
Yü Ying-Shih (2), 98
Yuan (dynasty), 134, 269, 290
Yuan chin (gold coinage), 49–50
Yuan Han-Chhing (1), 7, 234
Yuan-Ho Chün Hsien Chih (Geography of the Yuan-Ho reign-period), 204
Yuan-Shih Shang Chen Chung Hsien Chi (Record of the Assemblies of the Perfected Immortals; a Yuan-Shih Scripture), 152
Yuan Yu (Roaming the Universe), 98–102, 104, 105
Yudono-san, temples at, 300
Yüeh, 236
Yüeh-Chhi (‘self-mummified Buddha’, d. 1965), 301 (g)
Yüeh-Chih tribal people, 115
Yün (‘halo’), 257
Yunnan, 208, 218, 227, 231, 232, 281
 occupation of, 233, 236
Zapotec Indians, 116 (b, d)
Zinc, 62, 189, 190, 195, 198, 199, 209, 218, 231, 242
 coins, 213
 distillation, 213, 216
 export of, from China, 214 (e)
 isolation of, 211 (a), 219
 alloyed with lead and tin, 211 (a), 218–19
 and mercury, 243
 production at Bristol, 214
 sheet metal, 198 (c), 218 (a)
 smelting, 214 (e), 254 (f)
 technical terms. *See* Technical terms
Zinc carbonate, 189
Zinc chloride, 252
Zingār ‘gold’, 274
Zoroaster (c. –620 to –550), 117 (d)
Zosimus of Panopolis (proto-chemical philosopher, +3rd century), 17, 28, 220 (c), 242 (c), 264
Zulus, 79 (c)