

Index

- accelerator mass spectrometry (AMS), 57
 Acemoglu, Daron, 368
 Acre (Palestine), 320
 Acsádi, G., 409
 adolescent growth, 25, 326
 adolescents
 cranial porosities, 206
 dental caries, 88
 dietary quality, 31
 workload, 289–290
 African Americans
 African Burial Ground remains, 292
 Cedar Grove population, 292
 humerus circumference, 245
 linear enamel hypoplasias, 176–178
 age at death, 89, 331, 359, 386–391
 cribra orbitalia and, 222, 329
 disease progression and, 58
 estimation, 61, 97, 361–364, 423–425
 males in military service, 273, 294
 methods of determining, 57, 59–60
 oral health analyses and, 99–125
 periosteal reactions and, 141–147, 151–152
 age at death distribution, 6–7, 336
 age range, 424
 Agnew, A. M., 159
 agricultural communities. *See* farming communities
 agricultural economy, 31
 agricultural equipment and machinery, 246, 255, 293, 392
 periosteal reactions and, 160–161
 agricultural injuries, 159–161
 agricultural intensification, 6, 296
 agricultural production/
 productivity, 231–232, 318
 effect of climate, 356, 372–375
 agricultural specialization, 238, 249, 386, 388
 agricultural stress, violence and, 374
 agricultural transition, 87, 232, 384, 389
 effect on dental health, 361
 effect on periosteal reactions, 137–138, 160
 linear enamel hypoplasias and, 178–179
 Aguonu site (Lithuania), 19, 73, 257
 alcohol, 85
 Alexandria (Egypt), 318
 Alfani, G., 391
 All Saints site, Fishergate (UK), 22, 72, 259
 allergies, 176
 Altdorf cemetery site (Germany), 21, 30–31, 34, 40–41, 74, 259
 Alytus site (Lithuania), 19, 72, 259
 Amara West, 359
 Amiens Ilot des Boucheries site (France), 13, 71, 73, 259
 Ammanati, F., 391
 Amorim, A. A., 138
 Amoroso, A., 328
 Anasazi, 359
 ancient Egyptians, 56
 Andean empire (first), 359
 anemia, 59, 76, 78, 176, 198–200, 360, 385. *See also* cranial porosities, anemia and causes, 198
 childhood, 360
 cribra orbitalia and, 344
 effect of temperature on, 372
 health index scores, 79
 scoring of, 66
 Angel, J. Lawrence, 57, 344
 animal-related injuries, 159–161, 385
 antemortem injury, 76
 antibiotics, 53
 anti-Jewish pogroms, 320
 Apple Down site, Compton (UK), 16, 72, 257
 aquatic food, 35
 Arcini, C., 156
 Armelagos, G. J., 178, 232, 389
 artists, quantification of the human form, 55
 Aschheim cemetery, 389
 Assis, S., 138
 Austria, 3, 36
 auxology, 55
 Avars, 14

 Bach, A., 232, 236
 Bachlechnerplatz site, Hall in Tirol (Austria), 24, 73, 76, 258
Backbone of History: Health and Nutrition in the Western Hemisphere (Steckel and Rose, 2002), 2, 79
 Bank of Sweden Tercentenary Foundation, 430
 Barker, D. J. P., 325, 327
 Barton-on-Humber, Lincolnshire (UK), 328–329
 Basel-Barfusserkirche site (Switzerland), 17, 24, 72, 257
 Baten, J., 154, 179, 181, 232, 236, 238, 242, 318, 374, 386, 434
 battlefield burial sites, 181, 189, 233, 305, 362
 skeletal remains from, 6
 Bavaria, 29, 289
 Begijnenhof Cemetery (Netherlands), 72, 76
 Ben-David, M., 28
 Bernardinai site (Lithuania), 21, 72, 256
 Bern-Bundesgasse site (Switzerland), 24, 74, 77, 259
 Bern-Sidlerstrasse site (Switzerland), 24, 74, 77, 259

450 Index

- Bertrand, Benoit, 433
- Betsinger, Tracy, 5, 156, 428, 432–434
- bioarchaeology/bioarchaeologists, 56–57, 79, 355, 434–435
developmental origins of health and disease, 327–330
limitations, 58
oral health research, 90
- birth weight
cardiovascular disease and, 325–326
oral health and, 85
susceptibility to stress and, 327
- Black Death, 14, 317, 330, 373, 389, 394
effect on income, 390–391
- Black Death cemetery, 222
- Black Gate site, Newcastle (UK), 16, 73, 257
- Blackfriars site, Gloucestershire (UK), 20, 75–76, 258
- Blakey, M. L., 176
- Boas, Franz, 56
- Bobald-Carei site (Romania), 22, 72, 256
- body weight, 56, 78, 360
at birth, 85, 325–327
long bone robusticity and, 247–249, 414–415
- Boksto site (Lithuania), 17, 73, 258
- bone disorders and diseases, 25, 58–59
- bone fractures, 59, 141, 365, 394, 399, 416–418
ankle, 360
forearm, 303–304, 360
postmortem, 303
related to agriculture and livestock handling, 159–160
- bone marrow hypertrophy, 198
- Bowditch, Henry, 56
- Bowling Green Lane site (UK), 22, 74, 258
- Brazil, shell middens site, 138
- Breitinger, E., 232, 236
- Breslau, 54
- British Association of Biological Anthropology and Osteoarchaeology (BABA0), 429
- Broadberry, S., 249, 389
- Brooke, J. L., 359
- Brothwell, D. R., 56
- Bruniquel 24, 137
- Bryant, Jill, 428
- Buikstra, J. E., 409, 429
- Buren Oberburen (Switzerland), 16, 257
- burial dates, 425
- Butt Road site, Colchester (UK), 13, 74, 257
- Byzantium, 18
- Cacela Velha site (Portugal), 19, 74, 258
- Cahokia, 359
- Cameron, N., 326
- cancer, 326, 346, 365
- Canterbury (UK), 178
- carbohydrates, 40, 320, 388
oral health and, 86–90, 127, 361, 387, 406
- cardiovascular disease, 199, 325–326, 346, 365
childhood adversity and, 345
low birth weight and, 326
oral health and, 84–85
- Cardoso, H. F. V., 290
- Carlisle (England), 54
- Carthage (N. Africa), 318
- Cassidy, C. M., 178
- catch-up growth, 25, 345
- Cathars, 320
- cattle, 388
injuries from, 159, 385
transmission of viruses from, 158
- cattle bones, indicators of human stature, 154
- cave deposits, 356–358, 369, 374
- census, 55
- cephalic index, 56
- cereal grains
cultivation, 246–247
oral health and, 87, 90, 127, 373
prices, 358
production, 238
stature and, 372
- Cheyenne, 392, 394
- chickenpox, 59, 176
- childhood rickets, 176
- children/childhood. *See also* infants
anemia, 360
dental caries, 88
effect of industrialization on, 223–224, 290
effect of urbanization, 290
fitness for factory work, 78
growth, 25–26, 290, 326
growth disruption, 325–326, 328
growth disruption indicators, 327–331, 337–338, 340–347
malnutrition, 23, 25, 59, 366
mortality, 29
nutrition, 326, 382
pre- and postnatal stress, 325, 327
preservation of skeletal remains, 60
violence against, 306
workload, 290
- China, 127, 156
- Chinese famine (1959–1961), 177
- Christ Church Spitalfield cemetery (London), 156
- Christian minority groups, 320
- Christianity
Early Medieval period, 14
High Medieval period, 14
Late Medieval period, 14
- Cinnirella, F., 242
- circulatory disorders, 139
- Clark, John M., 56
- clavicle, 409
- Climate Change and the Course of Global History: A Rough Journey* (Brooke, 2014), 359
- climate/climate change, 2, 6, 8, 18, 184–186, 352–355, 371–375, 391–392. *See also* temperature
conflict and, 320, 373–374
contextual database, 368–369
effect on oral health, 87–88, 90, 114, 117, 128–129, 372–374
effect on stature, 372
historical study and, 358–359
measurement of, 355–358, 368–369
- clogged arteries, 84
- Cohen, H., 302

- Cohen, M. N., 138, 178, 232, 389
collagen, 23, 27–42, 303, 416
Collatina, 156
colonial expansion, 18
Common Era, 232
congenital defects, 176
Constancia site (Portugal), 22, 72, 258
Constantinople, 318
Convent Agustins site (Spain), 22, 74, 258
Convento de Sao Franc site (Portugal), 19, 72, 259
Convento do Carmo site (Portugal), 22, 74, 259
Convento dos Remedios site (Portugal), 22, 74, 76, 259
convulsions, 176
Cook, D. C., 56
Coppa, Alfredo, 5, 430
Corbett, M. E., 96
Cox, M., 153
craft/artisan workers, 12, 293, 381, 384, 425
 compared with farmers, 385
 cranial porosities, 207, 211, 226
 degenerative joint disease, 263–265, 272–273, 276, 283–284, 293–294
 evidence of violent injury, 307, 313, 315
 linear enamel hypoplasias, 190
 periosteal reactions, 141
Crane-Kramer, G. M. M., 138
cranial porosities, anemia and, 59, 198–200
 contextual variables in research, 203
 elevation and, 212–218, 224–225, 227
 inter-sex variation, 212, 221
 with economic structures, 208
 within time period, 207
intra-sex variation, 212, 218, 221
 across socioeconomic structures, 211
 by time period, 207
 research sample composition, 200–201
 sample biases, 221–222
 settlement patterns, 211–212, 223–224, 227
 sex variation, 222–223
 socioeconomic status and, 225–228
 socioeconomic structures and, 207–211
 statistical methods used in research, 201–203
 subadult variation in morbidity, 203–208
 temporal variation, 223, 227
 topography and, 218–221, 225, 227
cranial suture closure scoring, 402–403
cranial trauma, 300, 393, 395
 age variation, 314
 hat brim line and, 309–310
 homicide/regicide and, 310–311
 human capital and, 319
 indicators of violence, 302–305
 regional variations, 312–313
 research results, 305–307
 sex variation, 313
 studies of, 301–302
 urban vs. rural, 314–315
 weapon wounds, 308–310
craniology, 56
cribra orbitalia, 1, 8, 63, 325, 360, 365, 382, 386, *See also* cranial porosities, anemia and
 early life growth disruption and, 325, 331–334, 336
 elevation and, 385
 in farmers, 385
 scoring of, 65, 403–404
 trends in, 388
critical periods of development, 326
Croatia, 154, 157
Cummins, N., 311
Cutress, T. W., 176
cyanotic congenital heart disease, 199
cytokine storms, 152
cytokines, 84, 86, 152, 158
da Vinci, Leonardo, 55
dairy products, 29, 36, 39–41, 187, 388
 stature and, 154, 238–239, 386
dairying, 39, 41, 238
Danes, 329
data collection codebook, 2, 4–5, 397–398
 curation facility identification information, 399
 date and time confirmation, 398
 investigator, 399
 pre-inventory questions, 399–401
 project skeleton identification number, 399
 scoring of cranial morphology, 401–403
 scoring of cranial porosities, 403–404
 scoring of treponematosi, 404–405
 site-specific collection identification number, 399
database, 383, 428
 analysis, 448
 characteristics, 6–7
 contributors, 447–448
 data entry, 434–441
 Excel template, 430–432
 site selection, 429–430
 software and testing, 4–5, 430
Davidson, J. M., 178
De La Rua, C., 224
Decayed and Missing Index (DMI), 96–97
degenerative joint disease, 58, 76–77, 253–255, 361, 365, 371
 elevation and, 280–283, 295
 health index scores, 77, 79
 joint surface scoring procedure, 262
 limb joints scoring, 419–420
 research sample composition, 255
 scoring of, 63, 66
 settlement pattern and, 276, 292–293
 socioeconomic structure, 272–273, 293–294
 statistical methods used in research, 262
 temperature and, 375
 temporal variation, 263–265, 288–291
 temporomandibular joint, 405

452 Index

- degenerative joint disease (cont.)
topography and, 283–287, 294–295
vertebrae osteophytosis scoring, 421
workload and, 385, 392, 395
- Demerath, E. W., 326
- demographic catastrophe, 391
- demographic data, 91
- demographic growth, 18, 153
- demographic transition, 31, 88, 127, 137–138, 163, *See also*
agricultural transition;
industrialization;
urbanization
- demographic variability, 163–164, 255, 294
- demography, 6–7, 52–53, 55, 242
creation of life tables, 78
percentage of young males, 315
quantification of health, 363
- dental abscesses, 63, 86, 126, 130
age progression, 99, 103–105
analysis, 91–92
diet and, 90
frequencies, 93–96
infectious diseases and, 85
interaction with other oral conditions, 89
sample composition of data, 92–93
scoring of, 65–66
sex differences, 108–110, 128
statistical analysis, 97–98
temporal variation, 114–117, 128–129
topography and, 118–119, 122–123
- dental asymmetry, 327
- dental caries, 58, 63–64, 126, 330
analysis, 91–92
diet and, 87, 90
diet and sociocultural variation, 130
effect of urbanization, 123–125
environmental risk factors, 90
following the introduction of sugar, 88
frequencies, 93–97
industrial period, 387
infectious diseases and, 85
- interaction with other oral conditions, 89
- sample composition of data, 92–93
- sex differences, 106–110, 127–128
- socioeconomic factors and, 86
- statistical analysis, 97–98
- temporal variation, 110–113, 117, 128–130
- topography and, 118–123
- urbanization and, 88
- dental development, 59, 132, 175, 400, 414
age-at-death estimates, 362, 364, 424
assessment of, 407–408
- dental disease, 365
- dental health, 63, 65
effect of temperature on, 372–373, 375
- elevation and, 385
- health index scores, 76–77, 79
scoring of, 65–66
- depression, 326
- developmental origins of health and disease
frequency distribution results, 335–336
research methods and analysis, 331–335
statistical analysis, 337–340
study sample, 330–331
- Developmental Origins of Health and Disease Hypothesis (DOHAD), 325–327
bioarchaeological research, 327–330
- developmental plasticity, 327
- DeWitte, S. N., 140, 152, 163–164
- diabetes, 85, 176, 325–326, 365
enamel hypoplasias and, 175
- diarrhea, 176, 199, 360
- diet, 14, 23
changes in, 79
dental health and, 372–373
growth and well-being and, 23–26
nitrogen isotope analysis, 27–30
oral health and, 86–90, 130–131, 361
- stable isotope analysis, 23, 27–30
vegetarian/vegan, 25
- diffuse idiopathic skeletal hyperostosis, 331
- diphtheria, 176
- diseases, histological identification of, 57
- Djurić, M. P., 159, 293
- DNA profiling, 54, 57
- Doma Laukums site (Latvia), 21, 74, 258
- Domett, K. M., 159
- Dorset (UK), 156, 163
- Douphrate, D. I., 160
- drought, 359, 373
- drugs, 85
- Drukker, J. W., 242
- Dubingiu piliaviete site (Lithuania), 19, 73, 258
- Dye, C., 383
- Early Medieval period. *See* time period (Pre-Medieval, Early Medieval, High Medieval, Late Medieval, Early Modern, Industrial)
- Early Modern period. *See* time period (Pre-Medieval, Early Medieval, High Medieval, Late Medieval, Early Modern, Industrial)
- Early Neolithic period, change in diet, 87
- Eaton, G. F., 56
- ecological variables, 179, 337–339, 344, 383–386
- economic growth, 14, 88, 156, 300, 359
- economic markers, 23, 26
- economic organization, 2
- economic planning, 55
- economic structure, 30
- economies, 31
subsistence, 23
- economists, 52–53
- education, patterns of violence and, 319–320
- Egypt, 390
- Eisner, M., 300–301, 310, 316

- elevation, 2, 6–7, 334, 368, 381, 383, 385
- cranial porosities and, 212–218, 224–225, 227
- degenerative joint disease and, 280–283, 295–296
- oral health and, 119–123, 130
- Elias, N., 301, 316
- elliptocytosis, 199
- El-Najjar, M. Y., 177
- enamel defects, 59, 331
- enamel hypoplasia, 175, 325, 360, 386, 405–406. *See also* linear enamel hypoplasias
- enamel matrix formation, 331
- Engel, F., 391
- England, 313, 390
- Ensay Pre-Industrial site (Scotland), 290
- epigenetics, 326
- epiphyseal fusion, 424
- Etting site (Germany), 15, 31, 72, 77, 257
- Europe, concept of, 11–12, 14
- European History of Health project, 1, 23, 27–28, 325. *See also* data collection codebook; database
- aims and objectives, 2–3
- background, 1–2
- preliminary results and authorship, 8
- study sample, 5–6
- database characteristics, 6–7
- geographical and sociocultural diversity, 7–8
- Fahrenheit, Daniel, 355
- famine, 371
- cranial porosities and, 226
- linear enamel hypoplasias and, 177, 191, 226
- farming communities, 12, 381, 425
- accidental injuries, 293
- cattle-related injuries, 159–160, 385
- cranial porosities, 207, 211, 225–228, 385
- degenerative joint disease, 77, 263–265, 268–273, 276, 283–284, 290–294, 296, 385, 394
- evidence of violence, 307, 315, 385, 393
- linear enamel hypoplasias, 178–179
- periosteal reactions, 141
- variables affecting health, 384–385
- workload and physical activity, 246–247
- femoral robusticity, 244–246
- assessment of, 414–415
- effect of workload and physical activity, 246–248
- femur, coding of, 409
- femur length, 8, 62, 231, 325, 382
- assessment of, 414–415
- early life growth disruption and, 331–334
- estimated stature and, 234–239
- juvenile, 414
- periosteal reactions and, 392
- regional differences, 386
- scoring of, 64–65
- temperature and, 372
- trends in, 387–388
- urban penalty, 384
- fertility, 6, 58, 60–61, 364–366
- during the Neolithic Demographic Transition, 127
- industrialization and, 88
- urban areas, 88
- Fetal origins hypothesis, 325
- fibula, 409
- Fifth Global Climate and Health Summit, 352
- Fishergate House site, York (UK), 20, 74, 76, 258
- Flaherty, E. A., 28
- floods, 359
- Floud, R., 242
- fluorosis, 139
- focal infection theory, 84
- FORTAN computer programs, 62
- fossil fuels, 358
- France, 3, 7, 129, 313, 390
- Franciscan Friary Graveyard (Netherlands), 19, 72, 257, 321
- Frankish Empire, 318
- Fraser, D., 176
- Frisian Empire, 313, 318, 321
- Gamble, J. A., 329
- Garbary site (Poland), 17, 75, 77, 256
- Garcia, S., 156, 290
- Garrison, F. H., 56
- Gars-Thunau site (Austria), 15, 74
- genetics, 327
- Germanic migrations, 14
- Germany, 3, 31, 127, 313
- Giecz site (Poland), 16, 75–76, 159, 256
- Gilbertine Priory, Fishergate, York (UK), 294
- glabella prominence scoring, 402
- Global History of Health Project, 31, 62, 91–92, 127, 131, 179, 253, 397
- oral health approach, 89–91
- Goodman, A. H., 162, 177, 327
- Goths, 238
- Gowland, R. L., 329
- Graberfeld Stalden site (Switzerland), 13, 75, 259
- Graham, H., 289
- Great Compression, 390
- Great Depression, 53
- Great Irish Famine, 226
- Great Plague, 223, 321
- Great Schism, 14
- Greece, 3
- Greenland Norse, 359
- Griffin, R., 155, 224
- gross domestic product (GDP), 53
- Grossmehring site (Germany), 15, 31, 75–76, 258
- Groves, S. E., 289
- growth
- climate and, 372, 375
- infectious diseases and, 157–158
- nutrition and, 25, 355, 360
- study of, 56
- urban living and, 189
- growth arrest, 26, 365–366, 372
- growth disruption, 9, 59, 325–326, 344–346, 360, 372
- during transition from foraging to farming, 178
- enamel hypoplasia and, 175
- pre- and postnatal, 326
- skeletal markers, 327–334
- statistical analysis, 335, 337–343

454 Index

- growth hormone disorders, 25
 growth periods, 326
 growth stunting, 23, 25–26, 31, 329
 Gruzno site (Poland), 17, 75, 77
 Grupe, Gisela, 433
 Guiot, J., 356–357
- Hackett, C. J., 138
 Halley, Edmund, 54
 Hamann–Todd collection, 177
 Harris lines, 26, 327
 radiologic assessment, 57
 harvest failures, 191–192, 320,
 384–385
 hat brim line rule, 303–305,
 309–310
 Haudricourt site (France), 15, 74,
 257
 health index, 8, 52, 79–80, 354,
 366–367, 383
 calculation of, 61–64
 scoring pathological
 conditions, 64–67
 effect of temperatures on,
 369–371
 results, 67–78
 health indicators, 1–2, 155,
 162–163, 359–362, 382–383
 childhood, 62
 for early life growth disruption,
 328
 health measurement, 363
 health status, 71, 179, 224, 414, 423
 cattle farming and, 154
 coastal regions, 384
 effect of agricultural transition,
 87
 linear enamel hypoplasias and,
 176, 186, 190
 long bone length and, 182
 periosteal reactions and,
 139–140, 154, 162–163
 population movement and, 289
 health trends, 386–392
 heart disease. *See* cardiovascular
 disease
 height. *See* stature
 hemoglobin disorders, 200
 hemolytic anemia, 198–200
 neonatal, 176
 high blood pressure, 84
- High Medieval period. *See* time
 period (Pre-Medieval, Early
 Medieval, High Medieval,
 Late Medieval, Early
 Modern, Industrial)
- histology, 57
History of Actuarial Science, 54
*History of the Study of Human
 Growth*, A (Tanner, 1981), 55
 HIV/AIDS, 85
 Hollimon, S. E., 301
 homicide, 305, 310–311, 320–321
 civilizing process and reduction
 of, 301, 316
 inequality and, 318
 skull trauma and, 303
 Homokmegy-Szekes site (Hungary),
 16, 72, 257
 hookworm, 372
 hormones
 effect on periosteal reactions, 151
 growth, 25
 oral health and, 85–86, 127
 hospital populations, 233, 381, 416,
 425
 cranial porosities, 207, 344
 degenerative joint disease, 263,
 272, 276
 linear enamel hypoplasias, 190
 periosteal reactions, 141, 150
 hospitals, 384, 386
 Hrdlička, A., 56
 Hsiang, S. M., 374
 humerus, 400, 409, 417
 length, 231, 234–236, 249,
 415–416
 robusticity, 245, 247–249,
 415–416
 Hundred Years' War, 320
 Hungary, 3, 71
 hunter-gatherers, 57, 79, 159, 178,
 232, 384
 Hussites, 320
 hypertrophic osteoarthropathy, 139
 hypervitaminosis A, 139
 hypocalcemia, 176
 hypoplasias, 76, 78. *See also* enamel
 hypoplasia; linear enamel
 hypoplasias
 health index scores, 79
 hypothyroidism, 25
- immune system, 325–326, 328
 dental disease and, 365
 development, 327
 effect of degenerative joint
 disease, 59
 nutrition and, 177, 238
 periosteal lesions and, 139
 periosteal reactions and, 59, 365,
 382
 sex differences, 326, 330, 340,
 346
 sex hormones and, 151
 income, 384–385, 388–389
 changes in, 179
 effect of plague on, 390–391
 growth in, 231
 height and, 231–232
 national, 52–53, 55–56
 stature and, 55–56
 urban living and, 187–188,
 191–192
 violence and, 317
 income inequality, 390–391
 dental caries and, 86
 in urban populations, 188
 Index of Caries at Extraction (I-CE),
 96–97, 105, 107–108
 Industrial period. *See* time period
 (Pre-Medieval, Early
 Medieval, High Medieval,
 Late Medieval, Early
 Modern, Industrial)
- industrialization, 6, 18, 57, 137,
 255, 287, 354, 358
 effect on children, 223–224, 290
 effect on periosteal reactions,
 137–138
 life expectancy and, 88
 Industrious Revolution, 392
 inequality. *See* income inequality;
 social inequality
 infant mortality, 85, 88
 infants
 age at death estimates, 424
 feeding methods, 326
 low birth weight issues, 85,
 325–327
 periosteal new bone formation,
 153
 preservation of skeletal remains,
 60

- skeletal remains, 364, 388
subperiosteal new bone formation, 144
- infectious disease, 8, 384–385
chronic and acute, 58
enamel hypoplasia and, 406
hunter-gatherers and, 178
linear enamel hypoplasias and, 176, 184, 187
malnutrition and, 388
oral health and, 84–85, 89–90, 129
periosteal reactions and, 137–139, 141, 144, 150, 153–154, 157–162
sex differences in exposure to, 151
spread of, 354–355
urban living and, 155, 157
- Intergovernmental Panel on Climate Change (IPCC), 352
- International Society for Developmental Origins of Health and Disease, 327
- intra-sex differences
cranial porosities and anemia, 207–212, 218, 221
degenerative joint disease, 265–268, 272–273, 275, 279, 283, 286–287
- Inuit, 359
- iron, 360
- Iron Age, 153
- iron deficiency anemia, 198–199, 225, 360, 385
- iron mines, 255
- Istria site (Romania), 16, 73, 257
- Italy, 7, 156
- Japanese Islands, 138
- Jewish traders, 318
- Jomon pre-agricultural foragers, 138
- Jones, P. D., 357
- Journal of Developmental Origins of Health and Disease*, 327
- Judd, M. A., 159, 293
- Justinian, Emperor, 390
- Justinian plague, 317, 389–391, 394
- Kaldus site (Poland), 17, 73, 256
- Kaminonki Duze site (Poland), 22, 74, 258
- Kastella site (Greece), 16, 75, 257
- Katedra site (Lithuania), 21, 72, 256
- Kenya, 127
- Kernave site (Lithuania), 19, 73, 259
- Kiev-Patorzhinskogo site (Ukraine), 17, 75, 258
- Kiev-Shchekavitsa site (Ukraine), 16, 74, 259
- Kilkenny Union Workhouse, 226
- Kiskundorozsma Daruhalom site (Hungary), 16, 73, 256
- Klaipeda site (Lithuania), 21, 72, 258
- Klaus, H. D., 162
- Knick, S. G., 329
- Koepke, N., 154, 179, 181, 232, 238, 318, 386
- Koningsveld site (Netherlands), 19, 72, 77, 257
- Kriveikiskis site (Lithuania), 17, 74, 256
- Kwidzyn site (Poland), 22, 75, 257
- Kwon, D. S., 153
- La Ferrassie I, 137
- Lambert, P. M., 160
- Larsen, Clark S., 3–4, 140, 161, 245, 301, 318
- Latako site (Lithuania), 19, 72, 76–77, 256
- Late Antiquity, 244, 317
prevalence of periosteal reactions, 153–154, 157
- Late Medieval period. *See* time period (Pre-Medieval, Early Medieval, High Medieval, Late Medieval, Early Modern, Industrial)
- Late Shang dynasty, 156
- Latvia, 3
- Lauchheim cemetery (Germany), 15, 73, 236, 256
- Lebanese coast, 318
- Leipalingis site (Lithuania), 21, 73, 256
- leprosy, 2, 58, 141, 361, 398, 422–423
- Les Rues des Vignes site (France), 15, 73, 257
- Lewis, M. E., 223–224, 290
- life expectancy, 53–54, 57, 59–62, 383
cribra orbitalia and, 222
industrialization and, 88
linear enamel hypoplasias and, 176, 178
measurement of, 363–367
Model West level four, 63–64, 367
national income and, 55
urban living and, 187, 242
young males, 317
- life tables, 6, 52, 54–55, 58, 60, 63, 78, 364, 383, 397
- linear enamel hypoplasias, 1, 8, 59, 191–192, 327, 382, 388, 394
disease in later life and, 329–330
early death and, 328, 346–347
economic factors, 179
effect of income and environment, 384
effect of temperature on, 371–372
effect of transition from foraging to farming, 178–179
factors affecting frequencies, 177–179
frequency distributions, 336
growth disruption and, 176–177, 325, 328, 331–334, 340, 344–346, 365
research methodology, 180–182
socioeconomic structure and topography, 189–191
statistical analysis, 338–340
temporal and geographical trends, 182–186
urban and rural development, 186–189
- Lithuania, 3, 71
- Little Ice Age, 2, 18, 90, 184, 354, 358–359, 369, 371–372
decrease in violence during, 374
- Little Optimum period. *See* Medieval Warm period
- living conditions, 23, 388
anemia and, 198
cranial porosities and, 200, 223–224, 344
farming communities, 226, 228
growth and, 25–26, 31
industrialization and, 88

456 Index

- living conditions (cont.)
 linear enamel hypoplasias and, 177
 military, 294
 oral health and, 123
 temporal trends, 227
 urbanization and, 88, 90, 157, 227
- London, 222, 303, 384
 cemeteries, 156, 328–329
 criminal activity, 316
 industrialization of, 224
 trade, 318
- long bone length and stature, 1, 11, 25–30, 249–250
 cross-sectional differences, 239–242
 mortality and, 328
 research methodology, 232–233
 trends in, 234–239
 urban penalty, 242–244
- long bone robusticity, 244–246, 249
 effect of workload and physical activity, 246–248
- long bone scoring, 409
- Lovejoy, C. O., 64
- Lund, Sweden, 156
- lung disease, 326
- lung infections, 85
- macronutrients, 35
- Maddison, A., 179, 231–232, 249
- Magyars, 14
- malaria, 199, 225, 344
- malnutrition, 226
 childhood, 23, 25, 59, 366
 cranial porosities and, 332, 386
 enamel hypoplasia and, 386, 406
 infectious disease and, 158
 linear enamel hypoplasias and, 176–179, 184
 topographical factors, 191
 trends in, 388
- Malthusian effect, 391
- Mangalia site (Romania), 13, 73, 257
- Mangini, A., 358
- Maresh, M. M., 64
- marginal lipping. *See* osteophytes
- Marseille (France), 318
- Martin, D. L., 162, 373
- mastoid process scoring, 402
- Maya, 321, 359, 394
 long bone robusticity, 246
- Mays, S., 157, 289–290
- McGlynn, George, 433
- measles, 59, 158, 176, 355
- mechanical stress, 160–161
- medical knowledge, 386
- Medieval Warm Period, 2, 14, 90, 114, 117, 128–129, 369, 371, 373
- megaloblastic anemia, 198–199
- Meinzer, N. J., 154, 179, 186, 188, 448
- Meisel, E. M., 160
- mental eminence scoring, 402
- Messene site (Greece), 16, 75, 257
- metabolic diseases, 2
- metabolism, 25, 27–28, 162
- Mexican cultures, 321
- Mexico, 390
- migration, 6, 11, 61, 186, 366
 Early Medieval period, 14
 rural–urban, 88
 seasonal, 27
 to northern Spain, 224
- Migration Period, 186
- military communities, 12, 233, 384, 425
 cranial porosities, 207, 211, 225
 degenerative joint disease, 263–265, 272–273, 276, 283–284, 294
 long bone lengths, 239–242
 nutritional status, 189–190
 periosteal reactions, 141, 150–151
 trauma scores, 71
- Miller, W. D., 84
- Milne, Joshua, 54
- Mindaugo site (Lithuania), 21, 75, 256
- Minoritenweg site (Germany), 21, 74, 256
- Miszkievicz, U. J., 178
- Moberg, A., 357
- Mokyr, J., 246
- molar inventory, 407
- Moodie, R. L., 56
- Moore, W. J., 96
- morbidity, 54, 102
 childhood indicators of, 337
 cranial porosities, subadult variation, 203–208, 215, 224
 early childhood experiences and, 176
 early childhood health and nutrition and, 325–326, 346
 impact of infectious diseases, 398
 living standards and, 223
 low birth weight and, 85
 measures of, 52, 57–59, 61–63, 363, 365–368, 383
 pre-/postnatal stress and, 325
 urban life experience and, 155
- mortality, 7, 60, 63–64. *See also* age at death
 childhood, 29
 childhood indicators of, 337
 correlation with morbidity, 62
 early-life growth disruption, 325
 environmental stress and, 61
 health and nutrition in early childhood and, 325–326, 346
 impact of infectious diseases, 398
 infants, 85, 88
 living standards and, 223
 measurement of, 57–58, 363–365
 pre-/postnatal stress and, 325
 urban life experience and, 155
- mummies, 56
- Muslims, 18
- myocardial infarction, 84
- Nagyalak Hatarsav site (Hungary), 17, 72, 257
- naso-pharyngeal lesions, 405
- National Longitudinal Survey, 4, 430
- National Science Foundation, 3–4, 428
- Native Americans
 cranial wounds, 301–302
 decline in health and stature, 232
 femoral robusticity, 301–302
 femur length and periosteal reactions, 392
 linear enamel hypoplasias, 178–179
 pre-Columbian, 56

- Nazi policies, 56
- Neanderthals, 137, 177
- Neiderud, C.-J., 155
- Nemeskéri, J., 409
- Neolithic Demographic Transition, 127
- Neolithic populations, 127
sex differences in oral health, 89
- Neolithic Revolution, 178
- Neolithic skeletons, 429, 432
- net national product, 78
- Netherlands, 3, 71
- neuropeptides, 86
- neurotransmitters, 86
- Newman, S., 329
- Nikiforuk, G., 176
- nitrogen isotope analysis, 27–30
- nobilicide, 305, 311
- non-specific infections, 138, 157–162
- non-sperotic hemolytic anemia, 199
- North, Douglas, 368
- nuchal crest scoring, 402
- nutrients, 25, 34
deficiencies in, 355
- nutrition
anemia and, 191
childhood, 326, 382
climate and, 372
cranial porosities and, 199
Early Medieval period, 154
evidence of deficiencies, 360
femoral size and robusticity, 414
from limited cereal crops, 138
growth and, 25
high population density and, 227
immunity to diseases and, 158
life expectancy and, 61, 365
linear enamel hypoplasias and, 191
mortality rates and, 371
oral health and, 85, 88–90, 130, 365
quality of, 392–395
socioeconomic variation, 239
stature and, 154, 231–232
trends in, 387–389
urban/rural differences, 187, 384–385
- nutritional status, 239
Early Medieval period, 154, 232
height values and, 158
high population density and, 184
juvenile femur length and, 414
military contexts, 189
post-Early Medieval period, 191
urban populations, 384
- obesity, 326
- Ohio State University, 1, 3, 433
Center for Human Resource Research, 4, 430
Department of Anthropology, 434
Economics Department, 428
- oral disease, 76
- oral health, 1, 8–9, 84, 125–127, 131, 361, 382
age progression, 98–105
assessment of, 405–406
cardiovascular diseases and, 84–85
childhood stress and, 330
climate change and, 90
database information, 91
diet and, 86–90, 130
health index scores, 79
infectious diseases and, 85
interaction between oral conditions, 89
method for analysis, 95–97
minimum sample size
specification for analyses based on individuals, 93–95
pregnancy and, 85–86
sample composition, 92–93
sex differences, 88–90, 105–110, 127–128
socioeconomic status, stressors and, 86
statistical analysis, 97–98
temporal trends and variation, 114–118, 128–130
topographical differences, 118–123
trends, 387–388
urbanization and, 123–125
variables analyzed, 91–92
- Ortner, Donald J., 5, 139, 432
- os coxae morphology, 409–414
- osteoarthritis, 1–2, 8–9, 253–254, 262, 331, 346, 419–420,
See also degenerative joint disease
- osteological paradox, 388
- osteomyelitis, 141
- osteoperiostitis, 8–9, 331, 385, 392, 395, 399, 432
scoring of, 418–419
- osteophytes, 63, 253–254, 405, 419, 421
- osteophytosis, 253–254, 421,
See also degenerative joint disease
- osteoporosis, 326
periodontal disease and, 86
- Ostera del Curato, 156
- Ottoman invasion, 18
- paleodemographic parameters, 29
- paleodiet, reconstruction of, 27–30, 35
- paleodemography, 58, 60
estimation of fertility rates, 364
- paleoparasitological research, 158
- paleopathology, 56
- Paleopathology at the Origins of Agriculture* (Cohen and Armelagos, 1984), 1, 79, 137
- Pamuk, S., 390
- Panevezys site (Lithuania), 24, 73, 256
- Papathanasiou, Anastasia, 430
- parasites/parasitic infection, 153, 158, 200, 225, 331, 360, 372
arrested growth and, 372
fish-borne, 227, 344
- Paris, 384
- parish records, 54
- Parker, G., 359
- parry fractures, 303–304, 360
- pastoralism, 228
- Pasydy site (Cyprus), 21, 75, 257
- periodontal disease, 84, 330
influence on respiratory tract, 85
maternal, 85
osteoporosis and, 86
urbanization and, 88
- periodontitis, 84

458 Index

- periosteal reactions, 1, 137–140, 163–164, 327, 361, 365, 371, 382
 as indicator of non-specific infections, 157–162
 causes, 139
 contribution of economic activities, 159–160
 health index scores, 77
 health status and, 79–80
 long term trends, 153–157
 materials and methods used for analysis, 140–142
 paleoepidemiological and anatomical patterns, 142–145, 151–153
 socioeconomic variables, 147–149
 temperature and, 375
 temporal and geographical trends, 145–147
 trends, 392
 use of agricultural equipment and, 160–161
- Peter-Röcher, H., 302
 phenotype, 327
 phrenology, 56
 physical anthropology, 56
 Pien site (Poland), 22, 74, 259
 Pindborg, J. J., 176
 Pinker, S., 300–301, 316
 pinta, 404
 Pitts, M., 155, 224
 plague, 14, 222–223, 317, 321, 394,
See also Black Death;
 Justinian plague
- Plinkaigalis site (Lithuania), 13, 71, 73, 77, 257
 Plonkowo site (Poland), 19, 73, 258
 pneumonia, 176
 Poland, 3, 71
 political organization, 2
 polyarthritis nodosa, 139
 population growth, 2, 55, 58, 60–61, 137, 159, 192, 358, 391
 climate and, 88
 during the High Middle Ages, 320
 Pre-Modern, 364
Population History of England, The (Wrigley and Schofield, 1981), 55
- porotic hyperostosis, 1, 8, 52, 327, 360, 365, 382, 386, *See also*
 cranial porosities, anemia and
 early life growth disruption and, 325, 331–334, 336
 scoring of, 52
 trends in, 388
- Portugal, 3, 7, 71
 Pottenbrunn site (Austria), 15, 74, 77
 Poundbury Camp, Dorset (UK), 29, 156
 Powell, M. L., 56
 Poznań-Sródkka site (Poland), 17, 73, 159, 256
 Pranciskonu site (Lithuania), 21, 72, 76, 256
 Pranciskonu sventorius site (Lithuania), 21, 72, 256
 pre-cardiovascular diseases, 326
 pregnancy, 28, 327, 332
 oral health and, 85–86
- Pre-Medieval period. *See* time period (Pre-Medieval, Early Medieval, High Medieval, Late Medieval, Early Modern, Industrial)
- protein, dietary, 23, 187, 224, 227, 389
 access to, 178, 227–228, 239, 242–243, 375, 385
 deficiency in, 238, 320
 dental caries and, 130
 growth and, 23–26
 limited supply of, 130
 oral disease and, 90
 sources of, 31, 35–41, 191, 372, 386, 388
 stable and nitrogen isotope analysis, 27–30
- psychological stress, 54
- Quade, L. G., 301
 quality of life, 54, 61, 162, 287, 295
 changes in work patterns and, 289, 419
 decrease in, 184
 dental wear and, 89
 effect of industrialization, 223
- evidence of cranial porosities and, 200
 measurement of, 52, 78–79, 365
 rural vs. urban environments, 187
 urbanization and, 297
- Quinta do Lago site (Portugal), 16, 72, 77, 258
- radiocarbon dating, 57
 radius, 409
 Rathbun, T. A., 245
 Redfern, R. C., 155–156, 163, 224
 Regensburg site (Germany), 31
 regicide, 305, 310–311
 registration of births and deaths, 55
- religious communities, 12, 14, 18, 233, 381, 384
 cranial porosities, 207, 211, 225
 cranial trauma, 314
 degenerative joint disease, 263–265, 272–273, 276, 283, 294
 evidence of violence, 321
 linear enamel hypoplasias, 190
 long bone lengths, 239–242
 periosteal reactions, 141, 150, 157
- religious intolerance, 320–321
 religious practices, 224
 rheumatoid arthritis, 139
- Ribot, I., 328
 Richards, M. P., 29
 rickets, 2, 8, 139, 176, 199, 331, 398, 422
- Roberts, C. A., 153, 159, 293, 328, 388, 429
- Roberts, Charles, 56
 Roman Britain, 224
 Roman Empire, 18, 238, 320
 commercial centers, 318
 fall of, 14, 87, 226, 254, 287, 289, 315, 386, 388–391, 394
 incomes, 231
 inequalities and stature, 238–239, 248–249
 life expectancy, 384
 political legacies, 14
 provinces (Roman “limes”), 12

- Roman period, 89, 155, 344, 429, 432
 femur length, 238
 prevalence of periosteal reactions, 153
- Romania, 3
- Roquetes site (Spain), 20, 75, 258
- Rose, J. C., 1, 177, 232, 389
- roundworms, 158
- Rua Primeiro de Dezembro site (Portugal), 22, 73, 76, 258
- rubella, 176
- Ruffer, Sir Marc Armand, 56
- Rukliai site (Lithuania), 19, 74, 256
- rural/urban differences. *See* urban/rural differences
- Sachs, Jeffrey, 368
- Saint Laurent Blangy site (France), 13, 75
- Saint Sauver site (France), 15, 74, 256
- Salzer, M. W., 374
- sampling issues, 366
- Sandison, A. T., 56
- Santa Clara-a-Velha site (Portugal), 22, 74, 257
- Sao Joao de Almedina site (Portugal), 19, 74, 258
- São Martinho, Leiria (Portugal), 156
- Sarnat, B. G., 176
- Scandinavia, 7
- scarlet fever, 176
- Scheidel, W., 390
- Schild site, Mississippi (US), 330
- schizophrenia, 326
- Schleswig site (Germany), 17, 72, 257
- Schour, I., 176
- scientific racism, 56
- scurvy, 2, 8, 139, 199, 331, 398, 422
- Second Serfdom, 321
- sedentism, 127, 137–138, 344
- Selpils site (Latvia), 21, 73, 259
- settlement patterns, 8
 changes in, 289
 cranial porosities and, 201–202, 211–212, 223–224, 227
 degenerative joint disease and, 254, 276–277, 292–293
 periosteal reactions and, 140
 settlement size, 2, 12, 30, 255, 334, 368, 381, 383–384
 cranial porosities and, 209, 211–212, 222, 224, 226
 degenerative joint disease and, 277–278, 283–284, 292, 295–296
 femur length, 239
 infectious diseases and, 178
 oral health and, 123–125
- settlement type, 12, 31
 cranial porosities and, 211
 degenerative joint disease and, 293
- Early Medieval period, 15
- Early Modern period, 21
- femur length and, 236
- High Medieval period, 17
- Industrial period, 24
- Late Medieval period, 19
- linear enamel hypoplasias and, 183
- oral health and, 125
- Pre-Medieval period, 13
- sex determination, 423
- sex differences. *See also* intra-sex differences
 agricultural and animal-related injuries, 160
 cranial porosities and anemia, 207, 211–212, 218, 222–223
 cranial trauma, 313
 degenerative joint disease, 272
 disease and mortality, 345–347
 growth, 56
 immune response, 330, 340, 346
 immune system, 326
 linear enamel hypoplasias, 177
 oral health, 88–90, 105–110, 127–128
 periosteal reactions, 151
 quality of life, 289
- sex distribution, 6–7
- Shatzmiller, M., 390
- Shufeldt, Robert W., 56
- Siaures miestelis site (Lithuania), 21, 72, 256
- sickle cell anemia, 199–200, 334, 344
- Sigtuna site (Sweden), 17, 73, 257
- Silveirona site (Portugal), 13, 75, 258
- Sioux, 392
- skeletal dysplasia, 25
- skeletal health variables, 52, 62, 382–383
- skeletal infections, 1, 52, 59, 64,
See also periosteal reactions
 health index scores, 77
- skeletal lesions, 2, 53, 64, 162, 367, 371
 diagnosis of, 404
 indicators of morbidity, 366
 indicators of social performance, 54
- skeletal remains
 geographical distribution, 3
 in the study sample, 5–7
 measurement of community health, 57–59
 preservation of, 60
 study of, 61
 women and children, 57
- skeletal sample, 362–363
- skeleton screen and case ID, 398
- Šlaus, M., 153, 157
- Slava Rusa site (Romania), 13, 74, 257
- slave economies, 318
- slaves, 238, 248, 295
 humerus circumference, 245
 linear enamel hypoplasias, 177–178
 long bone length, 231, 249
- Slavic migrations, 14
- smallpox, 355
- Smith, B.H., 91
- social inequality, 392
 decrease in quality of life and, 184
 oral health and, 88
- Roman cities, 227, 238
- temporal variations and long bone robusticity, 248
 variations in health and, 163
 violence and crime and, 301, 318
- socioeconomic organization, 2
- socioeconomic status, 6, 8, 12, 14, 334, 337, 368, 381, 383, 425,
See also craft/artisan workers; farming communities; military communities; religious communities

460 Index

- socioeconomic status (cont.)
 Early Medieval sites, 15
 Early Modern sites, 21
 High Medieval sites, 17
 Industrial sites, 24
 Late Medieval sites, 19
 Pre-Medieval sites, 13
 socioeconomic structure, 141
 cranial porosities, 207–212
 degenerative joint disease,
 272–277, 293–294
 femur length and, 236
 linear enamel hypoplasias and,
 189–191
 socioeconomic variables. *See*
 elevation; settlement size;
 socioeconomic status;
 topography
 Sofaer Derevenski, J. R., 290
 Sourtara site (Greece), 16, 75–76,
 257
 South Shields (UK), 329
 Southeast Asia, 138
 Spain, 7, 71, 129
 Spannagel Cave (Austria), 358, 369
 Spata site (Greece), 17, 75, 77, 257
 spherocytosis, 199
 Spitalfields (London), 129, 156
 spondyloarthropathies, 139
 spondylolysis, 289–290
 St. Ame site (France), 21, 73, 257
 St. Helen-on-the-Walls, York (UK),
 156
 St. Martin in the Bullring cemetery,
 Birmingham (UK), 24, 74,
 236, 258
 St. Mary Grace's cemetery, London
 (UK), 330
 St. Peters site (Latvia), 21, 73, 258
 stable isotope analysis, 11, 14,
 18, 23–25, 27–42, 347,
 357–358
 Stajky site (Ukraine), 22, 74, 77, 259
*Standard Dictionary of the English
 Language*, A, 56
 staphylococcal/streptococcal
 infections, 382
Staphylococcus/Streptococcus
 organisms, 361
 starches, 40, 80, 130, 372–373, 375,
 387–388
 stature, 1, 23, 231–232, 360, 394,
See also long bone length
 and stature
 as indicator of children's fitness
 for factory work, 78
 diet and, 23–25, 154
 effect of temperature on, 372
 health index scores, 77, 79
 scoring of, 65
 social inequality and, 318
 temporal trends, 154
 vertebral neural canal diameters,
 329
 Steckel, Richard H., 1, 3–5, 62, 64,
 179, 232, 245, 374, 388–389,
 391, 432, 434
 Stewart, T. D., 301
 Stodder, A. L. W., 302
 Storey, R., 246
 Storto, C., 138
 stress fractures, 153, 161
 stress markers, 26, 163, 327, 329,
 403–404
 stroke, 84
 Subaciaus site (Lithuania), 21, 73,
 256
 subperiosteal hemorrhage, 139
 Suckling, G. W., 176
 sugar, 31, 80, 88, 130, 361,
 372–373, 387
 Sullivan, A., 294
 Sumbawa (Indonesia), 358
 supraorbital margin scoring, 402
 Swärdstedt, T., 176–177
 Sweden, 3, 177
 Switzerland, 3, 313
 practice of tooth extraction, 85
 syphilis, 161, 176, 404
 Szoreg-Teglagyar site (Hungary),
 13, 72, 258
 Tamboro volcano, 358
 Tanner, J. M., 55–56
 tapeworms, 158
 Tassenaar, V., 242
 Tayles, N., 159
 technology, labor-saving, 392
 teeth
 extraction of, 85
 overcrowding, 327
 study of, 56
 temperature, 6
 effect on health, 371–375
 effect on the health index,
 369–371
 measurement sources, 368–369
 Teschler-Nicola, Maria, 433
 thalassemia, 199–200, 334, 344
 Thebes site (Greece), 17, 75, 77, 257
 Thirty Years' War, 317
 Thornton, R., 301
 tibia, 409
 agricultural and animal-related
 injuries, 160
 evidence of treponematosi s, 405
 periosteal reactions, 144–145,
 147, 152–153, 156, 163
 tibial stress syndrome, 137, 139,
 153, 159, 161
 time period (Pre-Medieval, Early
 Medieval, High Medieval,
 Late Medieval, Early
 Modern, Industrial), 6, 233,
 254–255, 334, 381
 contextual data, 12–24
 cranial porosities, 203–207,
 222–223, 226–228
 cranial trauma, 302, 306–308,
 315
 database distribution, 7
 degenerative joint disease,
 263–272, 287–291, 385, 392
 distribution of skeletons, 335–336
 expected probabilities of survival,
 341
 femur length, 384
 health trends, 387–389, 394–395
 linear enamel hypoplasias, 180,
 182–186, 191, 407–408
 long bone robusticity, 247, 249,
 392
 occupational trauma, 296
 oral health, 114–118, 128–130
 periosteal reactions, 145–146,
 150, 153–155
 stature, 238–239, 243–244, 249
 trauma patterns in farming
 communities, 293
 violence, 317, 321, 385, 393
 workload, 247, 249, 297, 392
 tobacco, 85
 tooth cementum annulations, 424

- tooth eruption, 59, 87, 90, 132, 408
- tooth formation, 90, 408
- tooth loss, 84, 126, 130, 387
- age progression, 99–102, 105
 - analysis, 91–92
 - diet and, 90
 - effect of urbanization, 123–125
 - frequencies, 93–97
 - infectious diseases and, 89
 - interaction with other oral conditions, 89
 - sample composition of data, 92–93
 - sex differences, 107–110, 127–128
 - statistical analysis, 97–98
 - temporal variation, 112–115, 117, 128–129
 - topography and, 118–123
- tooth wear, 84, 126, 362
- age progression, 102–103, 105
 - analysis, 91–92
 - diet and, 87
 - frequencies, 93–95
 - interaction with other oral conditions, 89
 - sample composition of data, 92–93
 - scoring of, 407–408
 - sex differences, 110
 - statistical analysis, 97–98
- topography, 2, 6, 12, 30, 334, 337, 368, 381, 383, 385
- cranial porosities and, 218–221, 225–227
 - degenerative joint disease and, 283–287, 294–296
 - Early Medieval sites, 15
 - Early Modern sites, 21
 - effect on oral health, 118–123
 - femur length and, 236
 - High Medieval sites, 17
 - industrial sites, 24
 - Late Medieval sites, 19
 - linear enamel hypoplasias and, 183, 189–191, 384
 - Pre-Medieval sites, 13
 - violence and, 313–314
- Towton site, North Yorkshire (UK), 20, 71, 75–76, 258
- trading centers, 318–319
- transhumance, 36
- transhumance economy, 31
- trauma, 1, 8–9, 52, 62–64, 71, 76, 78, 360–361, 382, 394,
- See also* cranial trauma
 - effect of temperature on violence and, 373–374
 - indicators of violence, 302–305
 - recording of, 416–418
 - scoring of, 66
- tree rings, 356–357, 368–369, 374
- Trentholme Drive site, York (UK), 13, 72, 76, 256
- treponematosi, 2, 141, 361, 398, 404–405
- Trotter, M., 332
- tuberculosis, 2, 58, 85, 141, 330, 361, 398, 421
- Ubelaker, D. H., 409, 429
- Ukraine, 3, 71
- ulna, 409
- undernutrition, 25
- United Kingdom, 3, 71
- United Nations Environment Program, 352
- United Nations Framework Convention on Climate Change (UNFCCC), 352
- University of Michigan, 435
- Unterigling site (Germany), 15, 31, 72, 257
- urban penalty, 140, 147, 155–156, 187, 189, 242–244, 249, 384–385
- effects, 236
 - stature and, 242–244
- urban/rural differences, 186–189, 383–385
- violent trauma, 314–315
- urbanization, 159, 200, 223–224, 226, 297, 382
- child health and, 290
 - degeneration of joints and, 255, 296
 - effect on oral health, 88, 90, 123–125
 - effect on periosteal reactions, 137–138, 147–149, 155–157
 - femur length and, 239–242
 - growth in, 18
 - income and, 179, 231
 - stature and, 249
- Urbino (Italy), 156
- Valkenberg-Breda site (Netherlands), 19, 256
- Vandals, 238
- Vatteoni, Sophie, 433
- Versalius, Andreas, 55
- vertebral neural canal diameters, 327–329
- Vikings, 14, 308, 318
- Villena, Nuria, 433
- violence, 300–301, 383
- areas with reduced, 321
 - bone trauma and indicators of, 302–305
 - contributory factors, 320–321
 - decline in, 300
 - education and, 319–320
 - effect of temperature on, 373–374
 - farming communities, 385
 - forearm trauma and, 303–304
 - geographical patterns, 300
 - income and, 317
 - inequality and, 318
 - leg bone trauma, 304
 - regional differences, 386
 - rule of law and state monopoly of, 316
 - rural/urban differences, 314–315, 384
 - temporal patterns, 301
 - trading centers and patterns of, 318–319
 - trends in, 382, 392–393
 - Western Hemisphere, 394
 - young males and, 317
- vitamin B₁₂ deficiency, 365
- vitamin C deficiency, 226
- volcanic eruptions, 358
- Volders site (Austria), 15, 30–32, 36–39, 41, 75, 258
- vomiting, 176
- Wahl, J., 304–305
- Waldensians, 320
- Waldron, T., 77
- Walker, Phillip L., 3–4, 8, 159–160, 199, 227, 301, 373, 433–434

462 Index

-
- Wandignies-Hamage site (France),
15, 72, 77, 256
- Watts, M., 160
- Watts, R., 329
- weapon wounds, 59, 71, 76, 300,
302–306, 365, 393, 395
age variables, 314
hat brim line rule, 310
human capital and, 319
regional differences, 312–313
topographical variations,
313–314
urban vs. rural, 314–315
- Wells, C., 56
- Wenigumstadt site (Germany), 15,
73, 258
- Western Hemisphere/European
comparisons, 393–394
- Weston, D. A., 138–139
- Whal, J., 302
- Wharram Percy, 156, 289–290
- whipworms, 158
- White, L. T., 255
- whooping cough, 176
- Wilkinson, R. G., 301
- Williams, Kimberly, 428, 433–434
- Williams, Leslie, 428, 433–434
- Witwer-Backofen, U., 58
- Wodna site (Poland), 17, 75, 256
- Wolverhampton site (UK), 24, 73,
259
- Wood, J. W., 139, 158
- workload, 383
children and adolescents,
289–290
degenerative joint disease and,
254, 385, 394, 419
farming communities, 385
long bone robusticity and, 231,
245–249
trends in, 382, 392
- World Health Organization, 84, 352
- World Meteorological Organization,
352
- World War II, 53
- Worldwide Variation in Human
Growth* (Eveleth and Tanner,
1976, 1990), 56
- Xironomi site (Greece), 16, 75, 77,
258
- yaws, 404
- Yayoi wet rice farmers, 138
- York (UK), 329
- Zäuner, S., 302, 304–305
- Zehetmayer, M., 242
- Zhang, D. D., 359
- Zhou, L., 177
- zoonotic infections, 158
- Zwolfaxing site (Austria), 15, 74,
257