

# INDEX.

---

## A.

**AARD-VARK**, 189.  
 Absolute creation, 269.  
 Acanthometre, 201.  
 Acrodont teeth, 162.  
 Acts formerly moral, 210.  
 Acts materially moral, 210.  
 Adductor muscles, 92.  
 Agassiz, Prof., 288.  
 Aged, care of, 206.  
 Aggregational theory, 177.  
 Algon Bay, cat of, 112.  
 Allantois, 95.  
 Amazons, butterflies of, 99.  
 Amazons, cholera in the, 206.  
 American butterflies, 41.  
 American maize, 114.  
 American monkeys, 241.  
 Amiurus, 161.  
 Amphibia, 123.  
 Analogical relations, 171.  
 Ancon sheep, 114, 117, 242.  
 Andrew Murray, Mr., 96.  
 Angora cats, 190.  
 Animal's sufferings, 277.  
 Ankle bones, 172.  
 Annelids undergoing fission, 183, 226.  
 Annulosa, eye of, 90.  
 Anoplotherium, 124.  
 Anteater, 97.  
 Antechinus, 95.  
 Antenna, of orchid, 60.  
 Anthropomorphism, 274.  
 Ape's sexual characters, 61.  
 Apostles' Creed, 260.  
 Appendages of lobster, 175.  
 Appendages of Normandy pigs, 113.  
 Appendages of turkey, 114.  
 Appendix, vermiform, 96.  
 Appreciation of Mr. Darwin, 22.  
 Apteryx, 19, 83.  
 Aqueous humor, 89.  
 Aquinas, St. Thomas, 30, 260, 262.  
 Archeosaurus, 149.  
 Archeopteryx, 86.  
 Arcturus, 207.

Argyll, Duke of, 27, 293.  
 Aristotle, 306.  
 Armadillo, extinct kind, 124.  
 Arthritis, rheumatic, 197.  
 Artiodactyle foot, 124.  
 Asa Gray, Dr., 270, 272, 277.  
 Asceticism, 207.  
 Ascidians, placental structure, 93.  
 Assumptions of Mr. Darwin, 28.  
 Astronomical objections, 150.  
 Auditory organ, 86.  
 Augustine, St., 30, 251.  
 Aurelius, Marcus, 221.  
 Avian limb, 121.  
 Avicularia, 93.  
 Axolotl, 179.  
 Aye-Aye, 122.  
 Aylesbury ducks, 249.

## B.

**BACKBONE**, 149, 176.  
 Bacon, Roger, 283.  
 Baleen, 54.  
 Bamboo insect, 45.  
 Bandicoot, 80.  
 Bartlett, Mr. A. D., 140, 249.  
 Bartlett, Mr. E., 206.  
 Basil, St., 30.  
 Bastian, Dr. H. Charlton, 129, 234, 253, 263.  
 Bat, wing of, 77.  
 Bates, Mr., 41, 98, 101.  
 Bats, 123.  
 Beaks, 96.  
 Beasts, sufferings of, 260.  
 Beauty of shell-fish, 67.  
 Bee orchid, 68.  
 Bird, wings of, 77.  
 Birds compared with reptiles, 83.  
 Bird's-head processes, 90.  
 Birds of Paradise, 104.  
 Birth of individual and species, 14.  
 Bivalves, 92.  
 Black sheep, 186.  
 Black-shouldered peacock, 114.  
 Bladebone, 83.  
 Blood-vessels, 196.

Blyth, Mr., 114, 195.  
 Bones of skull, 167.  
 Bonnet, M., 232.  
 Borwick, Mr., 212.  
 "Boots" of pigeons, 193.  
 Breathing, modified power of, 113.  
 Breeding of lions, 249.  
 Brill, 49.  
 Broccoli, variety of, 114.  
 Bryozoa, 93.  
 Buchner, Dr., 290.  
 Budd, Dr. W., 193.  
 Buffon, 232.  
 Bull-dog's instinct, 276.  
 Burt, Prof. Wilder, 193, 198.  
 Butterflies, 41.  
 Butterflies, Amazonian, 99.  
 Butterflies, American, 41.  
 Butterflies of Indian region, 97.  
 Butterflies, tails of, 99.  
 Butterfly, Leaf, 43.

**C.**

CACOTUS, 163.  
 Cacus, 96.  
 Calamartes, 90.  
 Cambrian deposits, 151.  
 Cape ant-eater, 189.  
 Care of aged, 206.  
 Carinate birds, 83.  
 Carnivora, 81.  
 Carnivorous dentition, 124.  
 Carp fishes, 160.  
 Carpal bones, 120, 194.  
 Carpenter, Dr., 129.  
 Carpus, 192, 193.  
 Cases of conscience, 215.  
 Cassowary, 83.  
 Cataseta, 69.  
 Causes of spread of Darwinism, 22.  
 Cebus, 241.  
 Celebes, butterflies of, 99.  
 Centetes, 162.  
 Centipede, 79, 173.  
 Cephalopoda, 87.  
 Ceroxylus laceratus, 48.  
 Cetacea, 54, 97, 119, 122, 189.  
 Chances against few individuals, 70.  
 Characintide, 160.  
 Chelrogaleus, 172.  
 Chetahs, 230.  
 Chickens, mortality of hybrids, 133.  
 Chioglossa, 179.  
 Chiromys, 122.  
 Cholera, 206.  
 Choroid, 89.  
 Chronic rheumatism, 197.  
 Circumcision, 227.  
 Claras, 161.  
 Climate, effects of, 112.  
 Climbing plants, 123.  
 Clock-thinking illustration, 265.  
 Cobra, 62.  
 Cockle, 92.  
 Cod, 51.

Colloidal matter, 233.  
 Conceptions, symbolic, 267.  
 Connecticut footsteps, 145.  
 Connecting links, supposed, 122.  
 Conscience, cases of, 215.  
 Conscientious Papuan, 212.  
 Cope, Prof., 84, 144.  
 Coracoid, of birds and reptiles, 84.  
 Cornea, 90.  
 Cornelius à Lapide, 232.  
 Correlation, laws of, 183.  
 Corti, fibres of, 66, 296.  
 Coryanthes, 63.  
 Costa, M., 102.  
 Cranial segments, 156.  
 Creation, 261, 269.  
 Creator, 27, 268.  
 Creed, Apostles', 260.  
 Crocodile, 55.  
 Croll, Mr., 151.  
 Crustacea, 93, 174.  
 Cryptacanthus, 160.  
 Crystalline matter, 233.  
 Crystals of snow, 200.  
 Cuttle-fishes, 87, 88.  
 Cuvier, 124.  
 Cyprinoids, 160.  
 Cytheridea, 92.

**D.**

DANA, Prof., 163.  
 Darwin, Mr. Charles, 14, 22, 25, 27, 33, 35, 39, 46, 48, 55, 57, 59, 60, 63, 69, 72, 78, 102, 103, 112, 114, 121, 133, 140, 143, 152, 156, 159, 164, 165, 195, 202, 204, 211, 223, 224, 229, 232, 233, 237, 248, 250, 263, 270, 274, 275, 292, 293.  
 Datura tatula, 115.  
 Delhi, days at, 112.  
 Delpino, Signor, 227, 228, 230.  
 Democritus, 232, 293, 306.  
 Density of air for breathing, 113.  
 Dentition, carnivorous, 124.  
 Derivation, 254.  
 Derivative creation, 268, 300.  
 Design, 276.  
 Devotion, 207.  
 Dibranchiata, 88.  
 Difficulties of problem of specific origin, 13.  
 Digits, supernumerary, 137, 194.  
 Digits, turtles, 121.  
 Dimorphodon, 84.  
 Dinornis, 83.  
 Dinosauria, 85.  
 Diseased pelvis, 197.  
 Dissemination of seeds, 73.  
 Dorts, 134.  
 Dotheboys Hall, 239.  
 Dragon, the flying, 77, 172.  
 Dragon-fly, 91.  
 Droughts, 37.  
 Duck-billed platypus, 189.  
 Dugong, 54, 190.  
 Duke of Argyll, 27, 293.  
 Dyspepsia, 215.

**E.**

- EAR, 57.  
 Ear, formation of, 33.  
 Early specialization, 125.  
 Echinodermata, 56.  
 Echinodea, 56.  
 Echinops, 162.  
 Echinorhinus, 186.  
 Echinus, 55.  
 Economy, Fuegian political, 206.  
 Eczema, 197.  
 Edentata, 183.  
 Egyptian monuments, 159.  
 Elasmobranchs, 155.  
 Elbow and knee affections, 193.  
 Empedocles, 306.  
 Eocene unguolata, 125.  
 Eoia, 184.  
 Equus, 161.  
 Ericulus, 162.  
 Ethics, 202.  
 Eudes Deslongchamps, 112.  
 Euryptera, 153, 185.  
 Eutropius, 162.  
 Everett, Rev. R., 112.  
 Evolution requires geometrical increase of time, 153.  
 Eye, 89.  
 Eye, formation of, 64.  
 Eye of trilobites, 149.

**F.**

- FABRE, M., 59.  
 Feather-legged breeds, 196.  
 Feejeans, 214.  
 Fertilization of orchids, 68.  
 "Fiat justitia, ruat cælum," 209.  
 Fibres of Corti, 66, 296.  
 Final misery, 208.  
 Finger of Potta, 119.  
 Fish, flying, 77.  
 Fishes, fresh-water, 159.  
 Fishes, thoracic and jugular, 51, 155.  
 Fixity of position of limbs, 51.  
 Flat-fishes, 49, 180.  
 Flexibility of bodily organization, degrees of, 133.  
 Flexibility of mind, 254.  
 Flies, horned, 107.  
 Flight of spiders, 78.  
 Flounder, 50.  
 Flower, Prof., 178, 248, 300.  
 Fly, orchid, 68.  
 Flying-dragon, 77, 172.  
 Flying-fish, 77.  
 Fetal teeth of whales, 19.  
 Food, effects on pigs, 113.  
 Footsteps of Connecticut, 145.  
 Foraminifera, 200.  
 Formally moral acts, 210.  
 Formation of eye and ear, 64.  
 Forms, substantial, 200, 290.  
 Four-gilled Cephalopods, 89.  
 Fowls, white silk, 136.

- French theatrical audience, 213.  
 Fresh-water fishes, 159.  
 Frogs, Chilian and European, 163.  
 Fuego, Terra del, 206.

**G.**

- GALAGO, 172.  
 Galaxias, 161.  
 Galeus vulgaris, 186.  
 Galton, Mr. F., 111, 127, 244.  
 Gascoven, Mr., 196.  
 Gavials, 55.  
 Gegenbaur, Prof., 190, 193.  
 Gemmules, 223.  
 Generative system, its sensitiveness, 250.  
 Genesis of morals, 216.  
 Geographical distribution, 153.  
 Geographical distribution explained by Natural Selection, 18.  
 Geometrical increments of time, 153.  
 Geotria, 161.  
 Giraffe, neck of, 36.  
 Gizzard-like stomach, 96.  
 Glacial epoch, 164.  
 Glyptodon, 124.  
 Godron, Dr., 115.  
 Goose, its inflexibility, 133.  
 Göppert, Mr., 113.  
 Gould, Mr., 102.  
 Grasshopper, Great Shielded, 103.  
 Gray, Dr. Asa, 270, 272, 277.  
 Great Ant-eater, 116.  
 Great Salamander, 186.  
 Great Shielded Grasshopper, 103.  
 Greyhounds in Mexico, 113.  
 Greyhounds, time for evolution of, 153.  
 Guinea-fowl, 134.  
 Guinea-pig, 140.  
 Günther, Dr., 159, 160, 186.

**H.**

- HARMLESS DOGS, 188, 190.  
 Hamilton, Sir William, 267.  
 Harmony, musical, 66, 296.  
 Heart in birds and reptiles, 172.  
 Hegel, 232.  
 Heliconidae, 41.  
 Hell, 203.  
 Heptanchus, 186.  
 Herbert Spencer, Mr., 83, 40, 80, 86, 117, 180, 182, 184, 186, 199, 203, 216, 217, 219, 233, 248, 261, 262, 264, 267.  
 Hessian flies, 184.  
 Heterobranchus, 160.  
 Hewitt, Mr., 133, 195.  
 Hexanchus, 186.  
 Hipparion, 111, 148.  
 Homogeny, 172.  
 Homology, bilateral or lateral, 170, 173.  
 Homology, meaning of term, 19, 170.  
 Homology, serial, 173.  
 Homology, vertical, 179.  
 Homoplasy, 173.  
 Honey-suckers, 104.

Hood of cobra, 63.  
 Hook-billed ducks, 114.  
 Hooker, Dr., 164.  
 Horned flies, 107.  
 Horny plates, 53, 54.  
 Horny stomach, 96.  
 Human larynx, 67, 296.  
 Humphry, Prof., 177.  
 Hutton, Mr. R. Holt, 216, 21..  
 Huxley, Prof., 80, 82, 84, 85, 103, 117, 123,  
 144, 145, 151, 155, 177, 186, 187, 246, 263.  
 Hybrids, mortality of, 138.  
 Hydrocyonina, 160.  
 Hyperphysical action, 269.  
 Hyrax, 198.

## I.

ICHTHYOPSIDA, 123.  
 Ichthyosaurus, 92, 120, 146, 191.  
 Ichthyosia, 198.  
 Iguanodon, 84.  
 Illegitimate symbolic conceptions, 267.  
 Illustration by clock-thinking, 265.  
 Imaginal disks, 53, 184.  
 Implantal mammals, 81, 82.  
 Independent origins, 167.  
 Indian butterfly, 43.  
 Indian region's butterflies, 96.  
 Indians and cholera, 206.  
 Individual, meaning of word, 14.  
 Infirm, care of, 206.  
 Influence, local, 96.  
 Insect, walking-leaf, 48.  
 Insects, walking-stick and bamboo, 45.  
 Insectivora, 91.  
 Insectivorous mammals, 163.  
 Insectivorous teeth, 81.  
 Instinct of bull-dog, 276.  
 Intermediate forms, 142.  
 Intuitions, primary, 267.  
 Irregularities in blood-vessels, 196.  
 Isaria felina, 180.

## J.

JAPANNED PEACOCK, 114.  
 Jews, 227.  
 Joints of backbone, 171, 176.  
 Jugular fishes, 51, 155.  
 Julia Pastrana, 188.

## K.

KALLIMA INACHIS, 44.  
 Kallima paralekta, 44.  
 Kangaroo, 54, 80.  
 Kowalewsky, 95.  
 Knee and elbow affections, 197.  
 Kölliker, Prof., 118.

## L.

LABYRINTHICI, 160.  
 Labyrinthodon, 113, 138.

Lamarck, 15.  
 Lankester, Mr. Ray, 167, 172.  
 Larynx of kangaroo, 55.  
 Larynx of man, 67, 296.  
 Lateral homology, 178.  
 Laws of correlation, 188.  
 Leaf butterfly, 43.  
 Legitimate symbolic conceptions, 267.  
 Lens, 90.  
 Lepidosteus, 186.  
 Lepus, 197.  
 Lewes, Mr. G. H., 103, 227, 229, 232.  
 Louis, St., 221.  
 Louis XV., 220.  
 Louis XVI., 220.  
 Limb genesis, 190.  
 Limb muscles, 194.  
 Limbs, fixity of position of, 51.  
 Limbs of lobster, 175.  
 Links, supposed connecting, 123.  
 Lions, breeding, 249.  
 Lions, diseased pelvis, 196.  
 Lama, 123.  
 Local influences, 97.  
 Lobster, 174.  
 Long-tailed bird of Paradise, 165.  
 Lubbock, Sir John, 212, 219.  
 Lyell, Sir Charles, on dogs, 113, 120.

## M.

MACRACHONTIS, 124.  
 Macrachonta, 124.  
 Macropodida, 82.  
 Macroscelides, 82.  
 Madagascar, 162, 166.  
 Magnificent bird of Paradise, 106.  
 Maize, American, 114.  
 Mammals, 80.  
 Mammary gland of kangaroo, 54.  
 Mammary gland, origin of, 60.  
 Man, origin of, 277.  
 Man reveals God, 267.  
 Man, voice of, 66.  
 Manatee, 54, 190.  
 Manchamp breed of sheep, 114.  
 Manis, 189.  
 Man's larynx, 67.  
 Many simultaneous modifications, 69.  
 Marcus Aurelius, 221.  
 Martineau, Mr. James, 214, 261.  
 Mastacembelus, 159.  
 Materially moral acts, 210.  
 Matter, crystalline and colloidal, 283.  
 Meaning of word "individual," 14.  
 Meaning of word "species," 14.  
 Mechanical theory of spine, 178.  
 Mediterranean oyster, 102, 112.  
 Meehan, Mr., 102.  
 Mexico, dogs in, 113.  
 Mill, John Stuart, 28, 203, 207, 209.  
 Mincery, 20, 41.  
 Miracle, 305.  
 Molars, 124.  
 Mole, 190.  
 Mollère, 245.  
 Mombas, cats at, 112.

Monkeys, American, 241.  
 Monster proboscis, 137.  
 Moral acts, 210.  
 Mordacia, 161.  
 Murphy, Mr. J. J., 64, 66, 90, 117, 128, 129,  
 151, 200, 236, 294, 299.  
 Murray, Mr. Andrew, 96.  
*Mus delicatulus*, 96.  
 Muscles of limbs, 194.  
 Mussel, 92.  
 Myrmecophaga, 96.

## N.

NASALIS, SEMNORRHECUS, 153.  
 Nathusius, 113.  
 Natural Selection, shortly stated, 17.  
 Naudin, M. C., 115.  
 Nautilus, 89.  
 Nebular evolution, 291.  
 Neck of giraffe, 36.  
 Newman, the Rev. Dr., 271, 285, 287, 304.  
 New Zealand crustacea, 164.  
 New Zealand fishes, 161.  
 Niata, cattle, 114.  
 Nile fishes, 160.  
 Normandy pig, 113.  
 North American fish, 161.  
 Nycticebus, 193.

## O.

OBJECT of book, 17.  
 Objections from astronomy, 150.  
 Octopods, 90.  
 Offensive remarks of Prof. Vogt, 25.  
 Old, care of the, 206.  
 Old Fuegian women, 206.  
*Omygma exigua*, 129.  
*Ophiocephalus*, 160.  
 Optic lobes of pterodactyls, 84.  
 Orchids, 106.  
 Orchids, Bee, etc., 68.  
 Organ of hearing, 86.  
 Organ of sight, 89.  
 Organic polarities, 200.  
 Origin of man, 294.  
 Orioles, 104.  
 Ornithoptera, 97.  
*Ornithorhynchus*, 189.  
*Orthoceratidæ*, 154.  
*Orycteropus*, 189.  
 Ostracods, 92.  
 Ostrich, 83.  
 Otoliths, 87.  
 Outlines of butterflies' wings, 100.  
 Owen, Prof., 88, 116, 137, 233, 254, 291.  
 Oyster of Mediterranean, 102, 112.  
 Oysters, 92.

## P.

PAGEY, Mr. J., 197.  
 Palæotherium, 134.  
 Pallas, 140.  
 Paugnesia, 31, 223.

Pangolin, 190.  
 Papilio Hesperion, 99.  
 Papilio Machaon, 99.  
 Papilio Ulysses, 98.  
 Papilionidæ, 97.  
 Papuan morals, 212.  
 Parthenogenesis, 233.  
*Pastiflora gracilis*, 121.  
 Pastrana, Julia, 183.  
 Pathological polarities, 199.  
*Pavo nigrispennis*, 114.  
 Peacock, black-shouldered, 114.  
 Peacock inflexibility of, 133.  
 Pedicellariæ, 57.  
 Pelvis, diseased, 197.  
 Pendulous appendages of turkey, 114.  
 Perameles, 81.  
*Periophthalmus*, 160.  
*Perissodactyl ungulates*, 124.  
 Permian, jugular fish, 155.  
 Perodicticus, 119, 193.  
 Phalangers, 80.  
 Phasidæ, 103.  
 Phyllopods, 93.  
 Physical actions, 269.  
 "Physiological units," 152, 234.  
 Pigeons' "boots," 195.  
 Placental mammals, 81.  
 Placental reproduction, 95.  
 Plants, tendrils of, 121.  
 Plates of baleen, 38.  
 Platypus, 189.  
 Pleiades, 207.  
*Plesiosaurus*, 120, 147, 192.  
 Pleurodont dentition, 162.  
*Pleuronectidæ*, 49, 180.  
 Plotosus, 161.  
 Poisoning apparatus, 69.  
 Poisonous serpents, 62.  
 Polarities, organic, 199, 200.  
 Political economy, Fuegian, 206.  
 Polyzoa, 93, 94.  
 Pompadour, Madame de, 220.  
 Poppy, variety of, 115.  
 Porcupine, 190.  
 Porto Santo rabbit, 114, 136.  
 Potto, 119, 193.  
 Pouched beasts, 80.  
 Powell, the Rev. Baden, 276, 278, 303.  
 Premolars, 124.  
 Prepotency, 188.  
 Primary intuitions, 267.  
 Primitive man, 213.  
 Problem of origin of kinds, 13.  
 Proboscis monkey, 153.  
 Proboscis of ungulates, 137.  
 Processes, bird's-head, 93.  
 Psættus, 160.  
 Psoriasis, 197.  
 Pterodactyls, compared with birds, 83.  
 Pterodactyls, wing of, 77.  
 Puccinia, 129.  
 Purpose, 275.

## Q.

QUASI-VERTEBRAL theory of skull, 186.

**R.**

- RABBIT** of Porto Santo, 114, 136.  
 Radial ossicle, 190.  
 Rarefied air, effect on dogs, 113.  
 Rattlesnake, 61.  
 Red bird of Paradise, 106.  
 Relations, analogical, 171.  
 Relations, homological, 170.  
 Reptiles compared with birds, 83.  
 Retina, 89.  
 Retrieving, virtue a kind of, 203, 219.  
 Reversion, cases of, 137.  
 Rhea, 83.  
 Ribs of Cetacea and Sirenia, 54.  
 Ribs of flying-dragon, 77, 172.  
 Richardson's figures of pigs, 118.  
 Roger Bacon, 238.  
 Rudimentary structures, 19, 116.

**S.**

- SABRE-TOOTHED** tiger, 124.  
 St. Augustina, 30, 281, 282.  
 St. Basil, 30.  
 St. Hilaire, M., 194.  
 St. Thomas Aquinas, 30, 280, 282.  
 Salamander, great, 136.  
 Salter, Mr., 138.  
 Salvia officinalis, 229.  
 Salvia verticillata, 223.  
 Scapula of birds and reptiles, 84.  
 Schreber, 26.  
 Sclerotic, 89.  
 Scorpion, sting of, 79.  
 Seals, 96.  
 Sea-squirts, 95.  
 Seeds, dissemination of, 79.  
 Seely, Mr., on pterodactyls, 84.  
 Segmentation of skull, 157.  
 Segmentation of spine, 136.  
 Segments, similar, 174.  
 Self-existence, 263.  
 Semnopithecus, 153.  
 Sense, organ of, 64, 82, 83, 89.  
 Sensitiveness of generative system, 250.  
 Septa, 90.  
 Serpents, poisonous, 62.  
 Sexual characters of apes, 61.  
 Sexual selection, 60.  
 Sharks, 96.  
 Shell-fish, beauty of, 67.  
 Shells of oysters, 102, 112.  
 Shielded grasshopper, 102.  
 Silurian strata, 154, 156.  
 Simultaneous modifications, 69.  
 Sirenia, 54.  
 Sir John Lubbock, 212, 219.  
 Sir William Thomson, 150.  
 Sitaris, 59.  
 Six-shafted bird of Paradise, 104.  
 Skull bones, 167.  
 Skull segments, 157.  
 Sloth, windpipe of, 95.

- Smithfield, wife-selling in, 213.  
 Snow, crystals of, 209.  
 Sole, 49.  
 Solenodon, 162.  
 Species, meaning of word, 14.  
 Spelerpes, 179.  
 Spencer, see Herbert Spencer.  
 Spider orchid, 68.  
 Spiders, flight of, 73.  
 Spine of Glyptodon, 124.  
 Spine, segmentation of, 156.  
 Squalidae, 59.  
 Squilla, 174.  
 Sterility of hybrids, 139.  
 Stings, 79.  
 Straining action of baleen, 54.  
 Struthious birds, 83, 165.  
 Sturgeon, 186.  
 Suarez, 31, 281.  
 Substantial forms, 201, 290.  
 Sufferings of beasts, 277.  
 Supernatural action, 269.  
 Supernatural action not to be looked for in Nature, 23.  
 Supernumerary digits, 137, 196.  
 Syllis, 153, 226.  
 Symbolic conceptions, 267.  
 Symmetrical diseases, 197.  
 Syphilitic deposits, 197.

**T.**

- TADPOLE'S** beak, 96.  
 Tails of butterflies, 99.  
 Tapir, 137, 148.  
 Tarsal bones, 173, 212.  
 Teeth of Cetacea, 96.  
 Teeth of insectivora, 81.  
 Teeth of kangaroo and Macroscelides, 82.  
 Teeth of seals, 96.  
 Teeth of sharks, 96.  
 Teleology and evolution compatible, 291.  
 Tendrils of climbing plants, 121.  
 Tenta echinococcus, 154.  
 Teratology, 157.  
 Tetragnoptera, 160.  
 Thomson, Sir William, 150.  
 Thoracic fishes, 51.  
 Thorax of crustaceans, 93.  
 Thylacine, 80.  
 Tierra del Fuego, 206.  
 Tiger, sabre-toothed, 124.  
 Time required for evolution, 142.  
 Tope, 186.  
 Trabecule cranii, 156.  
 Transitional forms, 142.  
 Transmutationism, 257.  
 Trevelyan, Sir J. Peacock, 114.  
 Trilobites, 149, 153, 155.  
 Tunicaries, 93.  
 Turbot, 49.  
 Turkey, effects of climate on, 114.  
 Turkish dog, 57.  
 Two-gilled cephalopods, 89.  
 Type, conformity to, 257.

**U.**

UMBILICAL vesicle, 95.  
 Ungulata, 87, 123.  
 Ungulata eocene, 124.  
 Units, physiological, 182, 234.  
 Unknowable, the, 261.  
 Upper Silurian strata, 154, 156.  
 Urotrichus, 81.

**V.**

VARIABILITY, different degrees of, 183.  
 Vermiform appendix, 96.  
 Vertebrae of skull, 186.  
 Vertebral column, 176, 185.  
 Vertebrate limbs, 50, 177.  
 Vertical homology, 179.  
 Vesicle, umbilical, 95.  
 "Vestiges of Creation," 15.  
 View here advocated, 17.  
 Vitreous humor, 89.  
 Vogt, Prof., 25, 290.  
 Voice of man, 67.  
 Voltaire, 245.

**W.**

WAGNER, J. A., 26.  
 Wagner, Nicholas, 184.  
 Walking leaf, 48.  
 Walking-stick insect, 45.

Wallace, Mr. Alfred, 14, 22, 38, 41, 42, 43, 48, 67, 97, 98, 100, 103, 117, 181, 203, 212, 241, 292, 297, 302.

Weaver fishes, 51.  
 Weitbrecht, 195.  
 Whale, fetal teeth of, 19.  
 Whale, mouth of, 53.  
 Whalebone, 53.  
 Whales, 92.  
 White silk fowls, 136.  
 Wife-selling, 218.  
 Wild animals, their variability, 185.  
 Wilder, Prof. Burt, 195, 198.  
 Windpipe, 93.  
 Wings of bats, birds, and pterodactyls, 77, 144.  
 Wings of birds, origin of, 120.  
 Wings of butterflies, outline of, 100.  
 Wings of flying-dragon, 77, 172.  
 Wings of humming-bird, 171.  
 Wings of humming-bird hawk moth, 171.  
 Wings of insects, 78.  
 Wombat, 96.  
 Women, old Fuegian, 206.  
 Worms undergoing fission, 184, 226.  
 Wymatt, Dr. Jeffries, 199.

**Y.**

YORK MINSVER, a Fuegian, 211.

**Z.**

ZEBRAS, 148.  
 Zoological Gardens, Superintendent of, 140.

# WORKS OF HERBERT SPENCER,

PUBLISHED BY

D. APPLETON AND COMPANY.

## SYSTEM OF PHILOSOPHY.

### I.—FIRST PRINCIPLES.

*(New and Enlarged Edition.)*

PART I.—THE UNKNOWABLE.

PART II.—LAWS OF THE KNOWABLE.

559 pages. Price, . . . . . \$2.50

### II.—THE PRINCIPLES OF BIOLOGY.—VOL. I.

PART I.—THE DATA OF BIOLOGY.

PART II.—THE INDUCTIONS OF BIOLOGY.

PART III.—THE EVOLUTION OF LIFE.

475 pages. Price, . . . . . \$2.50

### PRINCIPLES OF BIOLOGY.—VOL. II.

PART IV.—MORPHOLOGICAL DEVELOPMENT.

PART V.—PHYSIOLOGICAL DEVELOPMENT.

PART VI.—LAWS OF MULTIPLICATION.

565 pages. Price, . . . . . \$2.50

### III.—THE PRINCIPLES OF PSYCHOLOGY.

PART I.—THE DATA OF PSYCHOLOGY. 144 pages. Price, . . . \$0.75

PART II.—THE INDUCTIONS OF PSYCHOLOGY. 146 pages. Price, . . . \$0.75

PART III.—GENERAL SYNTHESIS. 100 pages. } Price, . . . \$1.00

PART IV.—SPECIAL SYNTHESIS. 112 pages. }

## MISCELLANEOUS.

### I.—ILLUSTRATIONS OF UNIVERSAL PROGRESS.

THIRTEEN ARTICLES. 451 pages. Price, . . . . . \$2.50

### II.—ESSAYS:

#### MORAL, POLITICAL, AND ÆSTHETIC.

TEN ESSAYS. 386 pages. Price, . . . . . \$2.50

### III.—SOCIAL STATICS:

OR THE CONDITIONS ESSENTIAL TO HUMAN HAPPINESS SPECIFIED, AND THE  
FIRST OF THEM DEVELOPED.

523 pages. Price, . . . . . \$2.50

### IV.—EDUCATION:

INTELLECTUAL, MORAL, AND PHYSICAL.

283 pages. Price, . . . . . \$1.25

### V.—CLASSIFICATION OF THE SCIENCES.

50 pages. Price, . . . . . \$0.25

### VI.—SPONTANEOUS GENERATION, &c.

16 pages. Price, . . . . . \$0.25



# THE ORIGIN OF CIVILIZATION;

OR, THE

## PRIMITIVE CONDITION OF MAN.

By SIR JOHN LUBBOCK, Bart., M. P., F. R. S.

380 Pages. Illustrated.

This interesting work is the fruit of many years' research by an accomplished naturalist, and one well trained in modern scientific methods, into the mental, moral, and social condition of the lowest savage races. The want of a work of this kind had long been felt, and, as scientific methods are being more and more applied to questions of humanity, there has been increasing need of a careful and authentic work describing the conditions of those tribes of men who are lowest in the scale of development.

"This interesting work—for it is intensely so in its aim, scope, and the ability of its author—treats of what the scientists denominate *anthropology*, or the natural history of the human species; the complete science of man, body and soul, including sex, temperament, race, civilization, etc."—*Providence Press*.

"A work which is most comprehensive in its aim, and most admirable in its execution. The patience and judgment bestowed on the book are everywhere apparent; the mere list of authorities quoted giving evidence of wide and impartial reading. The work, indeed, is not only a valuable one on account of the opinions it expresses, but it is also most serviceable as a book of reference. It offers an able and exhaustive table of a vast array of facts, which no single student could well obtain for himself, and it has not been made the vehicle for any special pleading on the part of the author."—*London Athenæum*.

"The book is no cursory and superficial review; it goes to the very heart of the subject, and embodies the results of all the later investigations. It is replete with curious and quaint information presented in a compact, luminous, and entertaining form."—*Albany Evening Journal*.

"The treatment of the subject is eminently practical, dealing more with fact than theory, or perhaps it will be more just to say, dealing only with theory amply sustained by fact."—*Detroit Free Press*.

"This interesting and valuable volume illustrates, to some extent, the way in which the modern scientific spirit manages to extract a considerable treasure from the chaff and refuse neglected or thrown aside by former inquirers."—*London Saturday Review*.

D. APPLETON & CO. Publishers.

# THE PHILOSOPHY OF EVOLUTION.

By HERBERT SPENCER.

This great system of scientific thought, the most original and important mental undertaking of the age, to which Mr. Spencer has devoted his life, is now well advanced, the published volumes being: *First Principles*, *The Principles of Biology*, two volumes, and *The Principles of Psychology*, vol. I., which will be shortly printed.

This philosophical system differs from all its predecessors in being solidly based on the sciences of observation and induction; in representing the order and course of Nature; in bringing Nature and man, life, mind, and society, under one great law of action; and in developing a method of thought which may serve for practical guidance in dealing with the affairs of life. That Mr. Spencer is the man for this great work will be evident from the following statements:

"The only complete and systematic statement of the doctrine of Evolution with which I am acquainted is that contained in Mr. Herbert Spencer's 'System of Philosophy;' a work which should be carefully studied by all who desire to know whither scientific thought is tending."—T. H. HUXLEY.

"Of all our thinkers, he is the one who has formed to himself the largest new scheme of a systematic philosophy."—Prof. MASSON.

"If any individual influence is visibly encroaching on Mills in this country, it is his."—*Ibid.*

"Mr. Spencer is one of the most vigorous as well as boldest thinkers that English speculation has yet produced."—JOHN STUART MILL.

"One of the acutest metaphysicians of modern times."—*Ibid.*

"One of our deepest thinkers."—Dr. JOSEPH D. HOOKER.

It is questionable if any thinker of finer calibre has appeared in our country."—GEORGE HENRY LEWES.

"He alone, of all British thinkers, has organized a philosophy."—*Ibid.*

"He is as keen an analyst as is known in the history of philosophy; I do not except either Aristotle or Kant."—GEORGE RIPLEY.

"If we were to give our own judgment, we should say that, since Newton, there has not in England been a philosopher of more remarkable speculative and systematizing talent than (in spite of some errors and some narrowness) Mr. Herbert Spencer."—*London Saturday Review*.

"We cannot refrain from offering our tribute of respect to one who, whether for the extent of his positive knowledge, or for the profundity of his speculative insight, has already achieved a name second to none in the whole range of English philosophy, and whose works will worthily sustain the credit of English thought in the present generation."—*Westminster Review*.

## LAY SERMONS, ADDRESSES, AND REVIEWS,

By THOMAS HENRY HUXLEY.

Cloth, 12mo. 390 pages. Price, \$1.75

This is the latest and most popular of the works of this intrepid and accomplished English thinker. The American edition of the work is the latest, and contains, in addition to the English edition, Professor Huxley's recent masterly address on "Spontaneous Generation," delivered before the British Association for the Advancement of Science, of which he was president.

The following is from an able article in the *Independent*:

The "Lay Sermons, Addresses, and Reviews" is a book to be read by every one who would keep up with the advance of truth—as well by those who are hostile as those who are friendly to his conclusions. In it, scientific and philosophical topics are handled with consummate ability. It is remarkable for purity of style and power of expression. Nowhere, in any modern work, is the advancement of the pursuit of that natural knowledge, which is of vital importance to bodily and mental well-being, so ably handled.

Professor Huxley is undoubtedly the representative scientific man of the age. His reverence for the right and devotion to truth have established his leadership of modern scientific thought. He leads the beliefs and aspirations of the increasingly powerful body of the younger men of science. His ability for research is marvellous. There is possible no more equipoise of judgment than that to which he brings the phenomena of Nature. Besides, he is not a mere scientist. His is a popularized philosophy; social questions have been treated by his pen in a manner most masterly. In his popular addresses, embracing the widest range of topics, he treads on ground with which he seems thoroughly familiar.

There are those who hold the name of Professor Huxley as synonymous with irreverence and atheism. Plato's was so held, and Galileo's, and Descartes's, and Newton's, and Faraday's. There can be no greater mistake. No man has greater reverence for the Bible than Huxley. No one more acquaintance with the text of Scripture. He believes there is definite government of the universe; that pleasures and pains are distributed in accordance with law; and that the certain proportion of evil woven up in the life even of worms will help the man who thinks to bear his own share with courage.

In the estimate of Professor Huxley's future influence upon science, his youth and health form a large element. He has just passed his forty-fifth year. If God spare his life, truth can hardly fail to be the gainer from a mind that is stored with knowledge of the laws of the Creator's operations, and that has learned to love all beauty and hate all ugliness of Nature and art.

# THE ORIGIN OF SPECIES,

By CHARLES DARWIN.

A new American edition of "The Origin of Species," later than the latest English edition, has just been published, with the author's most recent corrections and additions.

In the whole history of the progress of knowledge there is no case so remarkable of a system of doctrines, at first generally condemned as false and absurd, coming into general acceptance in the scientific world in a single decade. From the following statements, the reader will infer the estimate that is now placed upon the man and his works by the highest authorities.

"Personally and practically exercised in zoology, in minute anatomy, in geology; a student of geographical distribution, not on maps and in museums only, but by long voyages and laborious collection; having largely advanced each of these branches of science, and having spent many years in gathering and sifting materials for his present work, the store of accurately-registered facts upon which the author of the 'Origin of Species' is able to draw at will is prodigious."—Prof. T. H. HUXLEY.

"Far abler men than myself may confess that they have not that untiring patience in accumulating, and that wonderful skill in using, large masses of facts of the most varied kind—that wide and accurate physiological knowledge—that acuteness in devising, that skill in carrying out experiments, and that admirable style of composition, at once clear, persuasive, and judicial, qualities which, in their harmonious combination, mark out Mr. Darwin as the man, perhaps of all men now living, best fitted for the great work he has undertaken and accomplished."—ALFRED RUSSELL WALLACE.

In Germany these views are rapidly extending. Prof. GIEKIE, a distinguished British geologist, attended the recent Congress of German Naturalists and Physicians, at Innsbruck, in which some eight hundred *savants* were present, and thus writes:

"What specially struck me was the universal sway which the writings of Darwin now exercise over the German mind. You see it on every side, in private conversation, in printed papers, in all the many sections into which such a meeting as that at Innsbruck divides. Darwin's name is often mentioned, and always with the profoundest veneration. But even where no allusion is specially made to him, nay, even more markedly, where such allusion is absent, we see how thoroughly his doctrines have permeated the scientific mind, even in those departments of knowledge which might seem at first sight to be farthest from natural history. 'You are still discussing in England,' said a German friend to me, 'whether or not the theory of Darwin can be true. We have got a long way beyond that here. His theory is now our common starting-point.' And, so far as my experience went, I found it to be so."

D. APPLETON & CO., Publishers.

A NEW SYSTEM OF PHILOSOPHY.

# FIRST PRINCIPLES.

Vol. Large 12mo. 515 Pages. Price \$2 50.

CONTENTS:

PART FIRST.—*The Unknowable.*

CHAPTER I. Religion and Science; II. Ultimate Religious ideas; III. Ultimate Scientific Ideas; IV. The Relativity of all Knowledge; V. The Reconciliation.

PART SECOND.—*Laws of the Knowable.*

I. Laws in General; II. The Law of Evolution; III. The same continued; IV. The Causes of Evolution; V. Space, Time, Matter, Motion, and Force; VI. The Indestructibility of Matter; VII. The Continuity of Motion; VIII. The Persistence of Force; IX. The Correlation and Equivalence of Forces; X. The Direction of Motion; XI. The Rhythm of Motion; XII. The Conditions Essential to Evolution; XIII. The Instability of the homogeneous; XIV. The Multiplication of Effects; XV. Differentiation and Integration; XVI. Equilibration; XVII. Summary and Conclusion.

In the first part of this work Mr. Spencer defines the province, limits, and relations of religion and science, and determines the legitimate scope of philosophy.

In part second he unfolds those fundamental principles which have been arrived at within the sphere of the knowable; which are true of all orders of phenomena, and thus constitute the foundation of all philosophy. The law of Evolution, Mr. Spencer maintains to be universal, and he has here worked it out as the basis of his system.

These First Principles are the foundation of a system of Philosophy bolder, more elaborate, and comprehensive perhaps, than any other which has been hitherto designed in England.—*British Quarterly Review.*

A work lofty in aim and remarkable in execution.—*Cornhill Magazine.*

In the works of Herbert Spencer we have the rudiments of a positive Theology, and an immense step toward the perfection of the science of Psychology.—*Christian Examiner.*

If we mistake not, in spite of the very negative character of his own results, he has foreshadowed some strong arguments for the doctrine of a positive Christian Theology.—*New Englander.*

As far as the frontiers of knowledge, where the intellect may go, there is no living man whose guidance may more safely be trusted.—*Atlantic Monthly.*

# ILLUSTRATIONS OF UNIVERSAL PROGRESS.

## A SERIES OF DISCUSSIONS.

1 Vol Large 12mo. 470 Pages. Price \$2.50.

### CONTENTS :

American Notice of Spencer's New System of Philosophy.

- I. Progress : its Law and Cause.
- II. Manners and Fashion.
- III. The Genesis of Science.
- IV. The Physiology of Laughter.
- V. The Origin and Function of Music.
- VI. The Nebular Hypothesis.
- VII. Bain on the Emotions and the Will.
- VIII. Illogical Geology.
- IX. The Development Hypothesis.
- X. The Social Organism.
- XI. Use and Beauty.
- XII. The Sources of Architectural Types.
- XIII. The Use of Anthropomorphism.

These Essays constitute a body of massive and original thought upon a large variety of important topics, and will be read with pleasure by all who appreciate a bold and powerful treatment of fundamental themes. The general thought which pervades this book is beyond doubt the most important that the human mind has yet reached.—*N. Y. Independent.*

Those who have read the work on Education, will remember the analytic tendency of the author's mind—his clear perception and admirable exposition of first principles—his wide grasp of facts—his lucid and vigorous style, and the constant and controlling bearing of the discussion on practical results. These traits characterize all Mr. Spencer's writings, and mark, in an eminent degree, the present volume.—*N. Y. Tribune.*

We regard the distinguishing feature of this work to be the peculiarly interesting character of its matter to the general reader. This is a great literary as well as philosophic triumph. In the evolution of a system of Philosophy which demands serious attention, and a keen exercise of the intellect to fathom and appreciate, he has mingled much that is really popular and entertaining.—*Rochester Democrat.*

## ESSAYS :

### *MORAL POLITICAL, AND ESTHETIC.*

In one Volume. Large 12mo.

CONTENTS :

- I. The Philosophy of Style.
- II. Over-Legislation.
- III. Morals of Trade.
- IV. Personal Beauty.
- V. Representative Government.
- VI. Prison-Ethics.
- VII. Railway Morals and Railway Policy.
- VIII. Gracefulness.
- IX. State Tamperings with Money and Banks.
- X. Reform ; the Dangers and the Safeguards.

ALSO,

## SOCIAL STATICS ;

OR,

### THE CONDITIONS ESSENTIAL TO HUMAN HAPPINESS SPECIFIED, AND THE FIRST OF THEM DEVELOPED.

In one Volume. Large 12mo.

All these works are rich in materials for forming intelligent opinions, even where we are unable to agree with those put forth by the author. Much may be learned from them in departments in which our common Educational system is very deficient. The active citizen may derive from them accurate systematized information concerning his highest duties to society, and the principles on which they are based. He may gain clearer notions of the value and bearing of evidence, and be better able to distinguish between facts and inferences. He may find common things suggestive of wiser thought—may, we will venture to say of truer emotion—than before. By giving us fuller realizations of liberty and justice his writings will tend to increase our self-reliance in the great emergency of civilization to which we have been summoned.—*Atlantic Monthly*

A NEW SYSTEM OF PHILOSOPHY.

PRINCIPLES OF BIOLOGY.

This work is now in course of publication in quarterly numbers (from 80 to 100 pages each), by subscription, at \$2 per annum. It is to form two volumes, of which the first is nearly completed, four numbers having been issued. While it comprises a statement of those general principles and laws of life to which science has attained, it is stamped with a marked originality, both in the views propounded and in the method of treating the subject. It will be a standard and invaluable work. Some idea of the discussion may be formed by glancing over a few of the first chapter headings.

PART FIRST.—DATA OF BIOLOGY.

I. Organic Matter; II. The actions of Forces on Organic Matter; III. The Reactions of Organic Matter on Forces; IV. Proximate Definition of Life; V. The Correspondence between Life and its Circumstances; VI. The Degree of Life Varies with the Degree of Correspondence; VII. Scope of Biology.

PART SECOND.—INDUCTIONS OF BIOLOGY.

I. Growth; II. Development; III. Function; IV. Waste and Repair, V. Adaptation; VI. Individuality; VII. Genesis; VIII. Heredity; IX. Variation; X. Genesis, Heredity, and Variation; XI. Classification; XII. Distribution.

Mr. Spencer is equally remarkable for his search after first principles; for his acute attempts to decompose mental phenomena into their primary elements; and for his broad generalizations of mental activity, mind in connection with instinct, and all the analogies presented by *life* in its universal aspects.—*Medico-Chirurgical Review*.



In One Volume, 8vo., Cloth.

Price \$2.50.

---

## SOCIAL STATICS;

OR,

THE CONDITIONS ESSENTIAL TO HUMAN HAPPINESS SPECIFIED, AND THE FIRST OF THEM DEVELOPED.

BY HERBERT SPENCER.

---

### OPINIONS OF THE PRESS.

Mr. Spencer, in his able and logical work on "Social Statics" . . . . *Edinburgh Review*.

It deserves very high praise for the ability, clearness, and force with which it is written, and which entitle it to the character, now so rare, of a really substantial book.—*North British Review*.

A remarkable work. . . . Mr. Spencer exhibits, and exhibits with remarkable force and clearness, many social equalizations of a just and right species which remain yet to be effected.—*British Quarterly Review*.

An inquiry conducted throughout with clearness, good temper, and strict logic. . . . We shall be mistaken if this book do not assist in organising that huge mass of thought which, for want of a more specific name, is now called Liberal Opinion.—*Athenaeum*.

It is the most eloquent, the most interesting, the most clearly-expressed and logically-reasoned work, with views the most original, that has appeared in the science of social polity.—*Literary Gazette*.

The author of the present work is no ordinary thinker, and no ordinary writer; and he gives us, in language that sparkles with beauties, and in reasoning at once novel and elaborate, precise and logical, a very comprehensive and complete exposition of the rights of men in society. . . . The book will mark an epoch in the literature of scientific morality.—*Economist*.

We remember no work on ethics since that of Spinoza to be compared with it in the simplicity of its premises, and the logical rigour with which a complete system of scientific ethics is evolved from them. . . . A work at once so scientific in spirit and method, and so popular in execution, we shall look in vain for through libraries of political philosophy.—*Leader*.

The careful reading we have given it has both afforded us intense pleasure, and rendered it a duty to express, with unusual emphasis, our opinion of its great ability and excellence.—*Nonconformist*.

---

NEW YORK: D. APPLETON AND COMPANY.