

INDEX

f = figure. n = note.

Adaptability, importance of, 6 Adaptation, 86; to special modes of life, 77-79, 131; not universal in living things, 57; may be too perfect, 77, 79 Aggregate differentiation, 64, 116 Albatross and wren, 86 Algae, mode of feeding, 122 American water-weed introduced into England, 71 Amoeba, pseudopods of, 1; reproduction in, 17 Amphibia, regeneration, 46 Animals, food-relation with plants, 125, 130 Ants, 24, 36, 50 n, 65, 141, 142, **158** Aphis, asexual reproduction in summer, 67 Armadillo, produces quadruplets, 68, 70 Bacteria, duration of life, 25; lack of sexual process, 71; foodrelations, 128; lack of formed

nucleus, 59 Bee, and hive, 9; communities of

bees as single individuals, 36, 65, 142

Begonia, regeneration in, 19 Benjamin Franklin's kite, 66 Bergson, definition of individuality, 1, 9; and continuance, 20n; indetermination and 20n; brain-machinery, 6 Blastodinium, 110 Blastomere, definition, 69; regeneration of, 149 Bones, brittleness when old, 18 Bougainvillea (Hydroid colony), 37 f; 158 Brain, 63, 140; and choice, 6; and individuality, 29, 65, 83, 141; modifies method of individuation, 65, 140 Budding, in animals, 38, 79, 80, 118 Bud-sports, 81 Butterfly, metamorphosis in, 75;

and flowers, 127 Catenata, 107-114

Caterpillar, metamorphosis, 77; "skin and squash," 78 Caulerpa, a single enlarged cell, 89 ells, 65, 68, 150; units of structure in higher animals, Cells,



INDEX

163

36; form the whole bodies of protozoa, 38; origin of, decreed by nature of protoplasm, 56, 65; influence of, upon history of life, 65; size of, 86, 89; reproduction of, 41 f, 42, 44; modifications of, 137; and individuality, 65; independence of, in some animals, 97; of Sponges, 90-97; of Volvox, 104; of Catenata, 107 Chess, 14n Chick, before hatching, 77 Choano-flagellates, 95 Chromatin, 59 Chromosomes at sexual fusion, 80 Church architecture, 61 Ciliata, sexual process in, 67, 71 Clathrina, 90, 158 Clavellina, regeneration of half the body, 46, 146 Closed Systems, 9 Coenocyte, definition, 89 n Colonies, 139; how formed, 38; individuality of, 99; of Volvocidae, 102; of Hydroids, 36–40, 67, 75, 76; of Siphonophora, 37, 119, 141, 158; of corals, 36; of Termites, 12; of ants, 24, 36, 65, 141, 142; of bees, 26, 141; o 9, 36, 65; of man, 65, 112, 143 Communities, 24, 36, 65 Comparative anatomy, unconscious, 35 Complexity, importance of, 5 Conjugation, definition, 67 Consciousness, and indetermina-tion, 6; and continuance, 26; and personality, 30, 84; states of, 13; beginnings of, 29 Continuance, of individuals, 15,

24, 25, 33; only partial, 20; increase in, 25 Corporate personalities, 143 Crystals, difference from individuals, 21, 51, 52 Cytoplasm, 59, 147 Darwin, 1, 6, 133 Death, includes two separate processes, 16; and growth, 18 Dermal cells, 91–97 De Vries, and mutations, 80 Dicey, on personality, 143 Distomum, 22 f, 23 Division, reproduction by, in animals, 41 f, 42 Division of labour, 107, 116, 123; in man, 112 Dogiel, 107 Double monsters, 68 Echinoderms, 79 Egg, 43, 67-70, 149; a cell, 43 Elephant, 86 Elodea, lack of sexual process in England, 71 Embryo, of man, 34; more than one formed from a single ovum, 67 - 70England, 54 Enriques, and sexual process in protozoa, 71 Environment, adaptation 77-79, 127 Etymology, and individuality, 82, Eustachian tube, 154 Evolution, its meaning, altered point of view due to,

Fertilization, 45, 71; of ovum



164 ANIMAL INDIVIDUALITY

supposed to mark beginning of a new individual, 67, 72 Field-mouse and elephant, 86 Fission, in animals, 41 f, 42, 71; in protozoa, 67, 71 Flagellum, part of a cell, 90, 102 Flowers, and insects, 127 Fluke of liver-rot, 23 Franklin, B., experiment with kite, 66 Frog and tadpole, individuality in, 72, 75-78 Fungi, mode of feeding in, 122 Gamete, definition, 45 Germ-cells, of Sponges, 92; of Volvox, 105 Gonium, 102, 153, 157 Growth, difficulties involved in, Grub, metamorphosis of, 72 Gymnodinium, 109, 113 Hand, relation with rest of body, 9, 10, 15; grasping function of, Haplozoon, 107-114, 138, 150, 157 Helen Keller, 131 Heterogeneity, of individuals, 10, 14, 28 History, all-important in Biology, 32, 48; as a clue to individuality, 48 antly, 40 Hooker, Sir J., 141 Huxley, J. S., 94 Huxley, Prof. T. H., view of in-dividuality, 72, 75, 76 Hydra, 39f, 40, 67, 118, 157, 158 Hydractinia, 118, 120 Hydroid polyps, 36-40, 47, 67, 75, 118

Independence of the individual, 3 et seqq., 28, 130, 135; perfection of, 8, 28; progress of, 87; of cells, 97 Individual, 125, 152, 154; certain organisms naturally regarded as individuals, 3; unconscious use of word by average man, 3, 35; etymology, 3, 82, 83; general definition of, 28; definitions by other william, 83; heterogeneous, 10, 11; independent, 3; unified, 9, 11; continuing, 15, 16, 20, 24, 127; actual, 157; historical, 120, 157; degraded to an organ, 120; man the most perfect, 70; physical continuity of one individual with its offspring, 46; the perfect, 7, 21 Individuality, 62, 98, 125, 135, 142; general definition, 28; tendencies and progress of, 28, 116; etymology of, 3, 82, 83; various definitions of, 31, 67, 83, 85; its attributes, 3, 9, 10, 15, 28; compound, 98, 99; of a species, 23-25, 82; spatial, 25; simultaneous, 25; temporary, 127; historical, 120, 157; according to Bergson, 1; and man, 31-35, 48, 70, 143; and personality, 30, 34; in colonies, 36-40; and regeneration, 46-47; and brain, 6, 29, 65, 83, 140; and sex, 67, 71, 72; and metamorphosis, 72-80; and reproduction, 17, 18; and matter, 18, 29, 30, 146; and hetero-geneity, 57, 99, 101 Internal differentiation, 60, 136, 140



INDEX

165

Jelly-fish, reproductive in func-tion in Hydroids, 118, 119; lack of complexity, 6; artificial production of twins and quadruplets in, 69 Jerboa, thigh-muscles, 87

Kangaroo, size of, 87 Keeble, 126
Keller, Helen, 131
Kite, used to bring lightning to earth, 66 Kubla, 153 Kupffer's vesicle, 150

Le Dantec, definition of individual, 83 Lichens, compound species, 122, 136, 158 Limbo, 34 Liriope, a jelly-fish, 69 Liver Fluke, 22f, 23, 82

Maitland, 143 Malaria, 5 Maiaria, 5
Man, 148, 153, 157, 158; great
independence of, 6; and individuality, 31-35, 70; the
tool-maker, 13; communities
of, 65, 112, 143
Materialism, errors of, 85
Medusae, 118, 119
"Merrimae" and "Monitor," first armoured ships, 115 Metamorphosis, 20n, 72-80; reason of, 77-80 Metazoa, and protozoa, 43, 44; compound individuals, 36, 44 Metschnikoff, and death, 20 n, and disharmony, 152 Microscope, 5 Milton, and life before birth, 34

Minoan dancers at bull-fights, 19 Monsters, double, 68 Mutations, and individuality, 80

Nectarine, produced as bud-sport from peach, 82 Nelson, 115 Nemertine worms, metamorphosis in, 72–75, 79 Nero, 56 Nerve-cell, 137 Nervous system, 63; supposed basis of individuality, 83 Newt, regeneration of lost organs by, 46; artificial production of twins in, 69, 70 Nietzsche, 1, 9 Nucleus, 57n, 59, 89n, 147; in sexual process, 71, 80

Organs, and individuals, 120 Ovum, 43, 157; erroneously supposed to contain the potentiality of only one individual, 67; division of, into independent parts, 67, 139

Paramaecium, reproduction in, 17

environment

Parasites, special of, 113, 127, 134 Particular, in philosophical sense, Peaches, and bud-sports, 82 Peridineae, 109 Personality, definition, 30; and matter, 30; and individuality, 34, 84; corporate, 143 Phagocytes, 78 Pilidium, strange metamorphosis of, 72-75, 79 Planaria, 144

Polyzoa, 119 n, 158



166

Cambridge University Press 978-1-107-60607-4 - The Individual in the Animal Kingdom Julian S. Huxley Index More information

ANIMAL INDIVIDUALITY

Pores, of Sponges, 91, 97 Potentiality, 8 Printing press, 16 Printing, and increase of indivi-duality, 26 Pronuba, 128, 135, 142, 158 Protoplasm, its properties in relation to individuality, 8, 17, 49, 56; its advancing flow, 28 Protozoa, reproduction in, 17, 18, 19; free-living cells, 38, 157; and metazoa, 44, 67, 120, 150; views as to individuality of, 67; sexual reproduction in, 67, 71; size of, 88; relative lack of independence, 5 Psychical research, 30 Quadruplets, always given birth to by one species of Armadillo, 68, 70 Raindrops, influence of electricity Regeneration, 10 n, 11, 19, 21, 46-47, 147; an original attri-bute of life, 46; in Vertebrates, 46; in Protozoa, 10n, 47; in Flatworms, 47,144; in Sponges, 94 - 97Regulation, 11 Reorganization eorganization as opposed to true regeneration, 95, 145, 149 Reproduction, in Protozoa, 17, 41 f, 42; of molecules, 51; and individuality, 18, 19, 40, 42; by budding, 38, 40; by fission (division), 41-43; asexual, 38-43, 81; sexual, 43-45; not involved in metamorphosis, 77;

by cuttings and slips, 80

Rhynchops, 133

Rome, 154 Rook, 133 Roux, extension of idea of natural selection, 6; idea of growth, 17 Salamander, replacement of lost organs, 46 Scurf, 137 Sea-urchins, artificial production of twins, quaduplets &c., 69, 70; metamorphosis, 79 n; will die if cut in half, 83 nSelf-consciousness, implies extensive individuality, 30 Sense-organs, and individuality, 64, 140Sexual fusion, 43, 45, 67, 70–72, 80, 81; in Bacteria, 71; in Protozoa, 67; in Metazoa, 80 Sexual reproduction, 43; not essential, 45, 70 Sheep, and Liver Fluke, 23 Siphoneae, single cells, 89 Siphonophora, 119-122, 141, 158 Size, 64; advantages of, 5, 7, 86; disadvantages of, 17 Skeleton, 17 Skimmer, 133 Sleeping sickness, 127 Snails, and Liver Fluke, 23, 24 Societies, of man, 65, 143, 158 Solar System, difference from an individual, 9, 21 Sparrow, 133 Species, 27 Species-individuality, 23-25, 82 Speech, increases individuality, 26, 29 Spermatozoa, 18nSpicules, of Sponges, 92, 96 Sponges, 90, 141, 148, 151, 158 Sports, in plants, 80



INDEX

167

Stentor, regeneration in, 10 n, 47, 147, 149 Stomach, in young nemertines, 74, 75 Stylonychia, reproduction in, 41f, 42 Suez Canal, 5 Suicide, 137 Surface-tension, 59; effects of, 53, 86; alteration of, by living matter, 55, 86 Surface-volume ratio, 50, 55, 88 Swallow, 133 Sycon, 94 n, 147 Symbiosis, definition, 122; examples of, 122, 124 Syncytia, 137 Tadpole, change into frog, 72, 75-Tapeworm, 127 Teeth, in old age, 18 Teleology, errors of, 85 Teleost fish, 150 Termites, 12 Tools, part of man's individuality, 14, 29; inorganic organs, 13 Trees, in old age, 18; duration of life, 26 Trypanosomes, 127

Twins (identical), 68, 70; normal production of, 68, 70; artificial production of, 69, 70

Volvocidae, evolution of, 102–107, 111 Volvox, 95, 104, 110, 114, 138, 150, 151, 157

Walt Whitman, 114
Warfare, evolution of, 115
Water, its "metamorphosis," 76
Weismann, on sex, 45
Wheeler, 142
"White ants," 5
Whitman, 149
Woodruff, and lack of sexual process in Ciliates, 71
Wordsworth, 141
Worms, Nemertine, 72–75, 79
Wren, size of, 86

Yolk-sac of unhatched chick, 77 Yucca-plant, dependence on an insect, 128, 135, 142, 158

Zarathustra, his independence of accidents, 1, 3, 8 Zoothamnium, 100 Zygote, definition, 45; fertilized ovum, 67