

treatise embracing the most recent investigations having as yet been published; and I must take it for granted, that before forming a definite opinion upon the comparisons instituted hereafter between the growth of animals, and the structural gradation among full-grown animals, or the order of succession of the fossils characteristic of different geological periods, the necessary information respecting these changes has been gathered by my readers, and sufficiently mastered to enable them to deal with it freely.

The embryology of Polypi has been very little studied thus far; what we know of the embryonic growth of these animals relates chiefly to the family of Actinoids.<sup>1</sup> When the young is hatched, it has the form of a little club-shaped or pear-shaped body, which soon assumes the appearance of the adult, from which it differs only by having few tentacles. The mode of ramification and the multiplication by buds have, however, been carefully and minutely studied in all the families of this class.<sup>2</sup> *Acalephs* present phenomena so peculiar, that they are discussed hereafter in a special section. Their young<sup>3</sup> are either polyplike or resemble more immediately

See upon this subject:—LEUCKART, (RUD.) Ueber den Polymorphismus der Individuen oder die Erscheinung der Arbeittheilung in der Natur, Giessen, 1851, 4to.—REICHERT, (C. B.) Die monogene Fortpflanzung, Dorpat, 1852.—HUXLEY, (TH. H.) Upon Animal Individuality, Ann. and Mag. Nat. Hist. 2d ser., 1852, vol. 9, p. 507.—FORBES, (ED.) On the supposed Analogy between the Life of an Individual and the Duration of a Species, Ann. and Mag. Nat. Hist., 2d ser., 1852, vol. 10, p. 59.—BRAUN, (AL.) Das Individuum der Pflanze, q. n.—Betrachtungen über die Erscheinung der Verjüngung in der Natur, Freiburg, 1849, 4to. fig.

<sup>1</sup> Sars, (M.) Beskrivelser og Jagttagelser over nogle mærkelige eller nye i Havet ved den Bergenske Kyst levende Dyr, etc., Bergen, 1835, 4to.—Fauna littoralis Norvegiæ, Christiania, 1846, fol. fig.—RATHKE, (H.) in Burdach's Physiologie, vol. 2d, 2d edit. p. 215.—Zur Morphologie, Reisebemerkungen aus Taurien, Riga und Leipzig, 1837, 4to., fig.—AGASSIZ, (L.) Twelve Lectures, etc., p. 40, et seq.

<sup>2</sup> See DANA's Zoophytes, and MILNE-EDWARDS et HAIME, Recherches, etc., q. n. p. 31, note 2.

<sup>3</sup> SIEBOLD, (C. TH. E. V.) Beiträge zur Naturgeschichte der wirbellosen Thiere, Dantzig, 1839,

4to. p. 29.—LOVEN, (S. L.) Beitrag zur Kenntniss der Gattungen *Campanularia* und *Syncoryne*, Wiegman. Arch., 1837, p. 249 und 321; French Ann. Sc. n. 2de sér., vol. 15, p. 157.—SARS, (M.) Beskrivelser, q. n.—Fauna littoralis, q. n.—NORDMANN, (AL. V.) Sur les changements que l'âge apporte dans la manière d'être des Campanulaires, Comptes-Rendus, 1834, p. 709.—STEENSTRUP, (J.) Ueber den Generations-Wechsel oder die Fortpflanzung und Entwicklung durch abwechselnde Generationen, Uebers. von LORENZEN, Kopenh. 1842, 8vo., fig.; Engl. by G. BUSK, (Ray Society,) London, 1845, 8vo.—VANBENEDEN, (P. J.) Mémoire sur les Campanulaires de la côte d'Ostende, etc., Mém. Ac. Brux. 1843, vol. 17, 4to. fig.—Recherches sur l'Embryogénie des Tubulaires, etc., Mém. Ac. Brux. 1844, 4to. fig.—DUJARDIN, (FEL.) Observations sur un nouveau genre de Médusaires (*Cladonema*) provenant de la métamorphose des *Syncorynes*, Ann. Sc. n. 2de sér. 1843, vol. 20, p. 370.—Mémoire sur le développement des Médusaires et des Polypes Hydraires, Ann. Sc. n. 3e sér., 1845, vol. 4, p. 257.—WILL, (J. G. FR.) Hore tergestime, Leipzig, 1844, 4to. fig.—FREY, (H.) und LEUCKART, (R.) Beiträge zur Kenntniss wirbelloser Thiere, Braunschweig, 1847, 4to. fig.—DALYELL, (SIR J. G.) Rare