

individual was developed between the penultimate and the last segment. In our own country it is one of the most remarkable sights in the group to observe the parent-stock of this form moving gracefully about with a long string of buds at its posterior extremity. Frey and Leuckart<sup>1</sup> extended the history of the subject by a careful examination of *Syllis prolifera* from the North Sea. They observed in the line between two segments a new process which forms an interpolated segment, and this, as a real bud of the anterior moiety of the animal, is developed after the manner of such structures, and by degrees is separated as a complete individual. From these observations, indeed, and his own on *Nais proboscidea*, Max Schultze concluded that the former was a clear case of fissiparous development, whereas in the latter a division takes place. Greeff<sup>2</sup> also gave an account of the usual budding in *Autolytus prolifer* from Heligoland. Frey and Leuckart did not find the generative products fully developed in their examples of the buds; but Krohn<sup>3</sup> made further observations a few years later, though he did not quite complete the history. The latter was accomplished by Alex. Agassiz,<sup>4</sup> who, in *Autolytus cornutus*, described the parent-stock, and traced from the elements of the male and female buds the growth of the young embryo into a parent-stock. A similar but not identical mode of development occurs in the British *Proceræa picta*. In *Filigrana*, a genus of the Serpulidæ, Sars,<sup>5</sup> Oscar Schmidt<sup>6</sup> and Huxley<sup>7</sup> have shown that linear buds are developed posteriorly.

So far as the foregoing observations go, the specimens exhibited only linear budding, but in 1863 Alex. Pagenstecher<sup>8</sup> described what he termed lateral budding in *Exogone gemmifera*, from the Port of Cette. This, however, as Ehlers has pointed out, is only a further development of the condition formerly shown by CErsted in his *Exogone naidina*, or as very early indicated by Martin Slabber. Nothing approaching to a lateral bud exists. As stated in 1868,<sup>9</sup> Vaillant's<sup>10</sup> supposed new instance of reproduction by budding is due to a misapprehension. The so-called buds appear to be the tentacles (furnished with pigment-spots at the tip) of a *Polycirrus* or closely allied form. With this view Ehlers<sup>11</sup> coincides.

Fissiparity similar to that in the Syllidians previously mentioned has occasionally been observed in other groups, as in the *Eulalia gracilis* of Verrill.<sup>12</sup> In this, one of the segments is larger than the rest, and develops a distinct pair of eyes. Langerhans, in one of his interesting papers on the Annelids of the Canaries,<sup>13</sup> describes an instance,

<sup>1</sup> Beiträge zur k. wirbell. Thiere, &c., 1847, p. 91.

<sup>2</sup> Archiv f. Naturgesch., 1852, p. 66.

<sup>3</sup> Fauna litt. Norvegie, p. 86.

<sup>4</sup> Neue Beiträge zur Naturgesch. d. Würmer, Jenâ, 1848, p. 33.

<sup>5</sup> Edin. New Phil. Journ., January 1855, p. 113.

<sup>6</sup> Trans. Roy. Soc. Edin., vol. xxv. p. 309.

<sup>7</sup> Ann. d. Sci. Nat. (Zool.), sér. 5, 1865, p. 243, pl. iii.

<sup>8</sup> Report of U.S. Commissioners of Fish and Fisheries, &c., 1873, p. 586.

<sup>9</sup> Nova Acta Acad. Cæs. Leop., &c., Bd. xlii., No. 3, Halle, 1881, pp. 95-105.

<sup>10</sup> Archiv f. Naturgesch., 1866, p. 352.

<sup>11</sup> Journ. Boston Soc. Nat. Hist., vol. vii. p. 392.

<sup>12</sup> Zeitschr. f. wiss. Zool., Bd. xii. p. 267, Taf. xxv., &c.

<sup>13</sup> Op. cit., ii. p. 15.