

WILLIAM  
TO  
WILLIAM  
WILLIAM



**Library  
of the  
University of Toronto**



Digitized by the Internet Archive  
in 2018 with funding from  
University of Toronto

COMPANION TO "GLAUCUS."

PRINTED BY R. CLAY, LONDON.

COMPANION

TO

MR. KINGSLEY'S "GLAUCUS,"

CONTAINING

COLOURED ILLUSTRATIONS

OF THE OBJECTS MENTIONED IN THE WORK,

ACCOMPANIED BY DESCRIPTIONS.

BY

G. B. SOWERBY, F.L.S.

Cambridge :

MACMILLAN AND CO.

AND 23, HENRIETTA STREET, COVENT GARDEN, LONDON.

1858.





ILLUSTRATED COMPANION.

BY G. B. SOWERBY, F.L.S.



## ILLUSTRATED APPENDIX.

---

THE twelve small plates which accompany the following descriptive notes, have been suggested by the fact that "Glaucus, or the Wonders of the Shore," is read by numbers of those who are not much acquainted with the objects of which the writer speaks. Pleased with passages dwelling upon the wonderful things to be found among rocks and weeds on the coast, such readers will be glad to have a few of these things placed before them in a manner enabling them to form some definite notion of what they are reading about, and what they are to look for, when wandering on the shore. The Rev. C. Kingsley has himself supplied original drawings from life of the head of the

great India-rubber worm (*Nemertes*) in the act of swallowing prey, and of the curious *Synapta digitata* (mentioned in "Glaucus," p. 74, as *Chirodota*), which is supplied not only with fingers but also with rudimentary thumbs. That gentleman has kindly added some notes on this interesting creature in describing the figures of Plate IV. With these exceptions the artist must be responsible, not only for the plates, but for the explanations which accompany them; and he wishes to express his thanks to Dr. Kingsley, of Bridgewater House, for his courtesy in permitting him the use of several microscopic preparations for Plates I. and IV. Mr. Lloyd, of Portland Road, who still flourishes as an active distributor of marine riches, has also, with his usual kindness, given opportunities to the artist of figuring and watching the habits of many of the most curious animals contained in the following Plates.

## PLATE I.

ZOOPHYTA. POLYZOA. (*Glaucus*, p. 31.)

THE forms of animal life which are now united in an independent class, under the name *Polyzoa*, so nearly resemble the Hydroid Zoophytes in general form and appearance that, as the author of "Glaucus" remarks (p. 31), a casual observer may suppose them to be nearly identical. In all but the more recent works, they are treated as distinct indeed, but still included under the general term "ZOOPHYTES." The animals of both groups are minute, polypiform creatures, mostly living in transparent cells, springing from the sides of a stem which unites a number of individuals in one common life, and grows in a shrub-like form upon any submarine body, such as a shell, a rock, a weed, or even another polypidom to which it is parasitically attached. Each polype, in both classes, protrudes from and retreats within its cell by an

independent action, and when protruded puts forth a circle of tentacles whose motion round the mouth is the means of securing nourishment. There are, however, peculiarities in the structure of the Polyzoa which seem to remove them from Zoophytology to a place in the system of nature more nearly connected with Molluscan types. Some of them come so near to the compound ascidians that they have been termed, as an order, "*Zoophyta ascidioida*."

The simplest form of polype is that of a fleshy bag open at one end, surmounted by a circle of contractile threads or fingers called tentacles. The plate shows, on a very minute scale, at fig. 1, 3, and 7, several of these little polypiform bodies protruding from their cells. But the Hydra or Fresh-water Polype has no cell, and is quite unconnected with any root thread, or with other individuals of the same species. It is perfectly free, and so simple in its structure that when the sac which forms its body is turned inside out it will continue to perform the functions

of life as before. The greater part, however, of these Hydraform Polypes, although equally simple as individuals, are connected in a compound life by means of their variously formed *polypidom*, as the branched system of cells is termed. The Hydroid Zoophytes are represented in our plate by the following examples.

SERTULARIA ROSEA. *Pl. I. fig. 7. (Glaucus, p. 31.)*

A species which has the cells in pairs on opposite sides of the central tube, with the openings turned outwards. In the more enlarged figure is seen a septum across the inner part of each cell which forms the base upon which the polype rests. Fig. 7 *b*, indicates the natural size of the piece of branch represented; but it must be remembered that this is only a small portion of the bushy shrub.

CAMPANULARIA SYRINGA. *Pl. I. fig. 9.*

This Zoophyte twines itself parasitically upon a species of Sertularia. The cells in this species are

thrown out at irregular intervals upon flexible stems which are wrinkled in rings. They consist of lengthened, cylindrical, transparent vases.

CAMPANULARIA VOLUBILIS. *Pl. I. fig. 10.*

A still more beautiful species, with lengthened foot-stalks ringed at each end. The polype is remarkable for the protrusion and contractile power of its lips. It has about twenty knobbed tentacula.

POLYZOA.

Among POLYZOA the animal's body is coated with a membranous covering, like that of the Tunicated Mollusca, but which is a continuation of the edge of the cell, which doubles back upon the body in such a manner that when the animal protrudes from its cell it pushes out the flexible membrane just as one would turn inside out the finger of a glove. This oneness of cell and polype is a distinctive character of the group. Another is the higher organization of the internal parts. The mouth, surrounded by tentacles, leads by gullet



and gizzard through a channel into a digesting stomach, from which the rejectable matter passes upwards through an intestinal canal till it is discharged near the mouth. The tentacles also differ much from those of true Polypes. Instead of being fleshy and contractile they are rather stiff, resembling spun glass, set on the sides with vibrating cilia, which by their motion up one side and down the other of each tentacle produce a current which impels their living food into the mouth. When these tentacles are withdrawn they are gathered up in a bundle like the stays of an umbrella. Our Plate I. contains the following examples of Polyzoa.

VALKERIA CUSCUTA. *Pl. I. fig. 4.*

I had an opportunity of watching a group of this beautiful species in one of Mr. Lloyd's vases. Fig. 4 *a* is the natural size of the central group of cells, in a specimen coiled round a thread-like weed. Underneath this, is the same portion

enlarged. When magnified to this apparent size, the cells could be seen in different states, some closed, and others with their bodies protruded. When magnified to 4 *d*, we could pleasantly watch the gradual eversion of the membrane, then the points of the tentacles slowly appearing, and then, when fully protruded, suddenly expanding into a bell-shaped circle. This was their usual appearance, but sometimes they could be noticed bending inwards, as in fig. 4 *c*, as if to imprison some living atom of importance. Fig. *b* represents two tentacles, showing the direction in which the cilia vibrate.

CRISIA DENTICULATA. *Pl. I. fig. 5.*

(*Glaucus*, p. 31.)

I have only drawn the cells from a prepared specimen. The polypes are like those described above.

ANGUINARIA SPATULATA. *Pl. I. fig. 3.*

So called from the resemblance of the cells on their ringed neck to the head and neck of a snake.

GEMELLARIA LORICATA. *Pl. I. fig. 6.**(Glaucus, p. 31.)*

Here the cells are placed in pairs, back to back. 6 *a* is a very small portion on the natural scale.

CELLULARIA CILIATA. *Pl. I. fig. 8.**(Glaucus, p. 31.)*

The cells are alternate on the stem, and are curiously armed with long whip-like cilia or spines. On the back of some of the cells is a very strange appendage, the use of which is not with certainty ascertained. It is a minute body, slightly resembling a vulture's head, with a moveable lower beak. The whole head keeps up a nodding motion, and the moveable beak occasionally opens widely and then suddenly snaps to with a jerk. It has been seen to hold an animalcule between its jaws till the latter has died, but it has no power to communicate the prey to the polype in its cell or to swallow and digest it on its own account. It is certainly not an independent parasite, as has been supposed, and yet its purpose in the animal

economy is a mystery. Mr. Gosse conjectures that its use may be, by holding animalcules till they die and decay, to attract by their putrescence crowds of other animalcules, which may thus be drawn within the influence of the polype's ciliated tentacles. Fig. 8 *b*, shows the form of one of these "bird's heads," and fig. 8 *c*, its position on the cell.

FLUSTRA LINEATA. *Pl. I. fig. 1. (Glaucus, p. 100.)*

In Flustræ the cells are placed side by side on an expanded membrane. Fig. 1 represents the general appearance of a species which at least resembles *F. lineata* as figured in Johnston's work. It is spread upon a *Fucus*. Fig. *a* is an enlarged view of the cells.

FLUSTRA FOLIACEA. *Pl. I. fig. 2.*  
(*Glaucus, p. 100.*)

We figure a frond or two of the common species, which has cells on both sides. It is rarely that the polypes can be seen in a state of expansion.

## PLATE II.

ECHINODERMATA. CIRRIPIEDIA. MOLLUSCA.

SIPHUNCULUS BERNHARDUS. *Forbes. Pl. II. fig. 1.*

I COULD not resist the temptation of figuring Mr. Lloyd's interesting specimen when the opportunity occurred, although the animal is not mentioned in Mr. Kingsley's text. The animal is common at Torquay. This specimen is living within the shell of a *Turritella*, just as a hermit crab lives in a whelk or periwinkle shell. But as the shell's aperture is too large for the body of the *Siphunculus*, it has formed a wall of sand and minute pebbles cemented together, leaving only a small hole through which it pushes out its proboscis, as represented, in search of food. This proboscis is very flexible, and is armed at the extremity with a circle of fingers round the mouth; and when any food is taken, the mouth, fingers and all, turn

inwards, and may be seen passing back through the tube till the whole proboscis disappears by inversion. Animals of this group form a passage from the *radiate* to the *annulose* forms, or, to speak more familiarly, from sea-cucumbers to sea-worms.

BALANUS PORCATUS. *Pl. II. fig. 1.*

On the dead *Turritella* are some living "acorn shells." These little "cirrhipods," or barnacles, are provided with the same apparatus for seizing prey as the *Pyrgoma* spoken of at p. 81 of "Glaucus." And beautiful it is to watch the symmetrical manner in which they throw out their ciliated arms and draw them back, enclosing their captured prey within a network of slender meshes.

SAXICAVA RUGOSA. *Pl. II. fig. 2. (Glaucus, p. 99.)*

It is by no means certain in what manner this bivalve mollusc eats or burrows his way into the stone in which you find him. The hole fits him so exactly, that he cannot turn round in it.

In the case of the Pholas, some naturalists suppose the burrowing to be effected by a rotatory rasping, by means of hard points or spines on the shell; but *Saxicava* must find some other means, either by rubbing with his tongue-shaped foot, or by secreted acids, or some unknown process. Certainly his shell, fig. 2 *a*, except in a very young state, shows no signs of a rasping apparatus. The two orifices at the double end of the proboscis are one for entrance of food-bearing currents, the other for the exit of rejectamenta.

CARDIUM TUBERCULATUM. *Pl. II. fig. 3.*

(*Glaucus*, pp. 54 to 61.)

This species, which should be named *C. rusticum*, once so common at the locality described, is now, I am informed, comparatively rare, so that I have been obliged to copy the foot from a wax model. On the left of the shell will be seen protruding two ciliated tubes, whose function is the same as that of the proboscis of *Saxicava*.

## PLATE III.

## TURBELLARIA. ANNELIDA.

NEMERTES BORLASII. (*Glaucus*, p. 97.)

I WAS enabled to represent the body of this worm from a living specimen in the collection of Mr. Lloyd, although, as it was impossible to see the whole animal at once, I have shown the manner of its coiling and lying about partly from Mr. Kingsley's recollection. One peculiarity observed by that gentleman and myself was the habit of straightening out parts of its body in passing from one object to another. Fig. *b*, *c*, are from Mr. Kingsley's drawings, giving an enlarged view of the head; *b*, at rest; and *c*, in the act of swallowing prey.

TEREBELLA CONCHILEGA. *Pl.* III. *fig.* *d*, *e*.

Having to put some worm into the mouth of *Nemertes*, I used what may be regarded as the



end of a *Terebella*, although by no means characteristic, as a sort of excuse for introducing the beautiful tube of sand and bits of shell and stone which the worm builds up for a habitation. At his head are bunches of long threads which have an adhesive power; these he puts forth, and, by their means, collects his materials, drawing each thread over the edge of the already formed portion, and thus adding a bit to the wall. At the end of a tube at any given stage there are generally seen a number of smaller sand-tubes; these have probably been formed when the threads which they enveloped have been at rest, before the particles were scraped off.

## PLATE IV.

## ECHINODERMATA.

SYNAPTA DIGITATA. (*Chirodota. Glaucus, v. 74.*)

*Montagu's Chirodota* of "Forbes's British Starfishes" (*C. digitata, Mont.*), was found by Mr. Kingsley washed ashore in a cave near Goodrington, Torquay, in large numbers after a succession of south-eastern gales. It had not been, I believe, seen in England since Colonel Montagu found it near the same place, and hasn't been found since. A notice of it from Mr. Kingsley's specimens, may be found in Mr. Gosse's *Aquarium*, p. 243.

The animals were from three to six inches long, of a bright fawn brown, darker on one side than on the other, as if one side had been more exposed to light. Of their habits nothing is known, but they seem to lie embedded in soft sand, or mud, and possibly to be enclosed in a mucous case like that of *Edwardsia*, a cognate genus. But the

animal is especially remarkable for the ring of hands, each furnished with a thumb on the back, which surround its mouth; which are represented in the plate, fig. *a*, *c*, *d*, both of the natural size and magnified from Mr. Kingsley's original drawings. It is not known whether they take their prey by mechanical prehension, by ciliary action, or some method allied to that of the tentacula of *Sagartia* and *Bunodes*; but the live animal continually curves them down to its mouth, generally in alternate pairs.

The animals broke up into pieces by constriction, as represented in the plate, fig. *b*, after a few hours' exposure to light. White filaments, seemingly similar to those of *Sagartia*, were abundantly discharged from the points of division, as in the plate.

The skin abounds in anchor-shaped spiculae (*e* and *f*), nearly similar to those of the obscure *Synapta Baltica* (or *vittata*), which may be seen in some collections of microscopic objects; and also in flat cribriform plates (*g*), furnished with a curious

cross-bar at one end. These are analogous to the cribriform plates in the skin of *Cucumaria*; and are, it would seem, the lowest types of that dermal skeleton of the true Radiata, which reaches its highest development in the Echinidæ and in the fossil Crinoidia of the old worlds.—C. K.

## PLATE V.

### CORALS AND SEA ANEMONES.

CARYOPHYLLÆA SMITHII. *Pl. V. fig. 2. Pl. VI.  
fig. 3. (Glaucus, pp. 32, 80, 82.)*

THE connexion between Brainstones, Mushroom Corals, and other Madreporæ abounding on Polynesian reefs, and the "Sea Anemones," which have lately become so familiar to us all, can be seen by comparing our comparatively insignificant *C. Smithii* with our commonest species of *Actinia* and *Sagartia*.

The former is a beautiful object when the fleshy part and tentacles are wholly or partially expanded. Like Actinia, it has a membranous covering, a simple sac-like stomach, a central mouth, a disk surrounded by contractile and adhesive tentacles. Unlike Actinia, it is fixed to submarine bodies, to which it is glued in very early life and cannot change its place. Unlike Actinia, its body is supported by a stony skeleton of calcareous plates arranged edgewise so as to radiate from the centre. But as we find some Molluscs furnished with a shell, and others even of the same character and habits without one, so we find that in spite of this seemingly important difference, the animals are very similar in their nature. Since the introduction of glass tanks we have opportunities of seeing anemones crawling up the sides, so as to exhibit their entire basal disk, and then we may observe lightly coloured lines of a less transparent substance than the interstices, radiating from the margin to the centre, some short, others reaching the entire distance, and arranged in exactly the same manner

as the plates of Caryophyllæa. These are doubtless flexible walls of compartments dividing the fleshy parts of the softer animals, and corresponding with the septa of the coral. Fig. 2 *b* represents a section of the latter, to be compared with the basal disk of Sagartia.

SAGARTIA ANGUICOMA. *Pl. V. fig. 3, a, b.*

(*Glaucus*, p. 54, "Pinky Pears," and 61.)

This genus has been separated from Actinia on account of its habit of throwing out threads when irritated. Although my specimens often assumed the form represented fig. 3, *a*, Mr. Lloyd informs me that it must have arisen from unhealthiness of condition, its usual habit being to contract into a more flattened form. When fully expanded, its transparent and lengthened tentacles present a beautiful appearance. Fig. 3, *b*, showing a basal disk, is given for the purpose already described.

BALANOPHYLLEA REGIA. *Pl. V. fig. 1.**(Glaucus, p. 84.)*

Another species of British madrepore, found by Mr. Gosse at Ilfracombe, and by Mr. Kingsley at Lundy Island. It is smaller than *C. Smithii*, of a very bright colour, and always covers the upper part of its bony skeleton, in which the plates are differently arranged from those of the smaller species. Fig. 1, *a*, shows the tentacles expanded in an unusual degree; 1, *b*, animal contracted: 1, *c*, the coral.

## PLATE VI.

## CORALS AND SEA ANEMONES.

ACTINIA MESEMBRYANTHEMUM.—*Pl. VI. fig. 1, a.**(Glaucus, pp. 146-7.)*

THIS common species is more frequently met with than many others, because it prefers shallow water, and often lives high up among rocks which

are only covered by the sea at very high tide; so that the creature can, if it will, spend but a short portion of its time immersed. When uncovered by the tide it gathers up its leathery tunic and presents the appearance of fig. 1, *a*. When under water it may often be seen expanding its flower-like disk and moving its feelers in search of food. These feelers have a certain power of adhesion, and any not too vigorous animals which they touch are easily drawn towards the centre and swallowed. Around the margin of the tunic are seen peeping out between the tentacles certain bright blue globules looking very like eyes, but whose purpose is not exactly ascertained. Fig. 1 represents the disk only partially expanded.

BUNODES CRASSICORNIS. *Pl. VI. fig. 2.*

(*Glaucus*, pp. 145-6-7.)

This genus of Actinioid zoophytes is distinguished from *Actinia* proper by the tubercles or warts which stud the outer covering of the animal



In *B. gemmacea* these warts are arranged symmetrically, so as to give a peculiarly jewelled appearance to the body. Being of a large size, the tentacles of *B. crassicornis* exhibit in great perfection the adhesive powers produced by the netting threads which proceed from them.

CARYOPHYLLEA SMITHII. *Pl. VI. fig. 3.*

This figure is to show a whiter variety, with the flesh and tentacles fully expanded. I have never been able to see a specimen with the flesh protruded to the extent which is sometimes represented.

PLATE VII.

ECHINODERMATA. MOLLUSCA.

ECHINUS MILIARIS. (*Glaucus*, p. 88.)

I HAD a good opportunity of observing and representing this curious radiate animal in Mr. Lloyd's collection. Several living specimens exhibited their habits in a small jar, with pebbles at the bottom,

and in company with a living specimen of *Modiola barbata* (the bearded Mussel). They moved about with some activity, sometimes crawling up the sides of the jar, sometimes creeping over the comparatively inert mussel, and generally carrying up pebbles with which they partly shaded their bodies. At other times they would make a nest among the pebbles and cover themselves over with the larger ones, as represented at *c*. As a specimen crawled up the glass it became easy to see (fig. *b*) the expanded disks of numerous flower-like suckers, which at the end of retractile stalks (fig. *e*) are pushed out from holes through the shell in avenues or walks, called *ambulacra*. These are the locomotive organs of the animal; by them it walks along; and by their means holds on the pebbles as seen in the plate, or the sea-weeds, as mentioned in *Glaucus*, p. 88. In fig. *b* the mouth is seen in the centre, with a circle of five teeth meeting. These teeth alternately part and meet in the reception of food; they are set in a pyramidal series of plates (fig. *d*), of which they form the apex, and which

constitutes a very efficient internal grinding mill for the food. The whole body or shell of the "sea egg," or "sea urchin," is beset with spines which move on a ball-and-socket joint (fig. *f, g*). On the bit of shell (fig. *h*) is seen some of the balls denuded of their spines, and at the left, a part of one of the ambulacra with holes for the insertion of suckers. The shell is composed of a vast number of closely fitted plates, which increase by proportionate and simultaneous additions to the edge of each, so as gradually to expand the entire bulk. There only remains to be noticed the *Pedicellariæ* (fig. *i*), which are very minute bodies placed on moveable and flexible footstalks, between the spines of our Echinus. They appear to be in constant motion, turning about on all sides, and snapping open and shut the three plates or valves which terminate the head. Their function is not known, nor their connexion with the rest of the animal understood, yet it is now generally agreed that they are not, as at first supposed, parasitic creatures with a separate life.

MODIOLA BARBATA. *Pl.* VII.

The usual habit of this Mussel would be to bury himself more deeply in cracks of rocks, only showing the edge of his shells and the fringes of his mantle; but in the jar his position was generally as shown. Mussels attach themselves to submarine objects by a bunch of horny threads termed a *Byssus*.

## PLATE VIII.

## MOLLUSCA.

LITTORINA LITTOREA. *Pl.* VIII. *fig.* 1.

THIS well-known little Mollusk is very useful in tanks on account of his phytophagous habits. He clears away much of the accumulated vegetable matter from the sides of an aquarium. It is interesting to see a specimen with his disk towards you (as *fig.* 1, *a*). Just above the disk you see

the head, in front of which two lips part; something seems to roll between them, and then they close. This is again and again repeated, the animal slowly crawling along all the time, and you observe the part over which his mouth has moved cleared of the confervoid growth. On killing a periwinkle and carefully opening its head you find a spoon-shaped tongue (fig. 1, *d*), back from which proceeds a long filament, which is coiled spirally. When the tongue is magnified, it is found to be studded with oblique rows of hooked teeth, forming the rasp which we have seen rolling round and scraping the green from the glass. The coiled filament is also rasped, and forms a powerful digestive apparatus. Fig. 1, *c*, shows a horny operculum, which shuts the aperture of the shell when its animal is within.

PATELLA VULGATA. *Pl. VIII. fig. 3, a, b, c.*

Merely showing the palate, with its curiously arranged teeth.

NASSA RETICULATA. *Pl. VIII. fig. 2, a, b, c, d, e, f.*

(*Glaucus*, p. 100.)

A very active Mollusc, given here chiefly on account of the opportunity afforded by the birth of young fry in Mr. Lloyd's tanks. The *Nassa* feeds on small animalcules, for which, in aquaria, it may be seen routing among the sand and stones, sometimes burying itself among them so as only to show its caudal tube moving along between them. A pair of *Nassæ* in Mr. Lloyd's collection, deposited, on the 5th of April, about fifty capsules or bags of eggs upon the stems of weeds (fig. 2, *b*); each capsule contained about a hundred eggs. The capsules opened on the 16th of May, permitting the escape of rotiferous fry (fig. 2, *c, d, e*), not in the slightest degree resembling the parent, but presenting minute nautilus-shaped transparent shells. These shells rather hang on than cover the bodies, which have a pair of lobes, around which vibrate minute cilia in such a manner as

to give them an appearance of rotatory motion. Under a lens they may be seen moving about very actively in various positions, but always with the look of being moved by rapidly turning wheels. We should have been glad to witness the next step towards assuming their ultimate form, but were disappointed, as the embryos died. Fig. 2, *f*, is the tongue of a *Nassa*, from a photograph by Dr. Kingsley.

## PLATE IX.

ECHINODERMATA. ANNELIDA.

CUCUMARIA HYNDMANNI. Pl. IX.

*(Glaucus, p. 79.)*

I HAVE figured in another work this species of sea-cucumber under the title of *Pentacta Pentactes*, by which name it is called by some aquarians. Mr. Kingsley, however, maintains that it is the true *Hyndmanni*, and I have a strong suspicion

that the two supposed species may be identical. The retractile suckers, arranged in five double rows along the animal's body, by means of which it creeps along, are analogous to the suckers of *Echinus* shown at Plate VII. The creature is very active, coiling itself prettily among weeds and stones in an aquarium, and freely putting out its beautiful coronet of branched tentacles. These surround the mouth, bending and waving towards it.

SABELLA. Pl. IX.

The beautiful expanded fan protruded from the tube is composed of plume-like stems, with a double row of hairs. These compose the breathing apparatus of the animal. The tube is not a shell, like that of *Serpulæ*, but is formed of a mucous substance of a greenish chocolate colour. After figuring the specimen at Mr. Lloyd's, I saw the magnificent group of *Sabella voluticornis* in the Zoological Gardens aquarium. In most of these the fans were rolled round in one or two coils.



Among them were some less coiled, white specimens, resembling the one I have figured : but as the fans of my specimen were only slightly spiral, I do not dare to identify it as *S. voluticornis*.

CORALLINA OFFICINALIS. *Pl. IX.*

(*Glaucus*, p. 137.)

Behind the Sabella is the little stony plant, or pink coralline, mentioned at page 137 as formerly believed to be a coral, but now proved to be of a vegetable nature.

PLATE X.

ANNELIDA. MOLLUSCA.

SERPULA CONTORTUPLICATA. *Pl. X. fig. 1.*

(*Glaucus*, p. 121.)

SERPULÆ are always among the most beautiful objects in an aquarium ; their twisted tubes are picturesquely knotted and coiled about shells, stones, and any other submarine bodies. They

are of a shelly texture, and, like shells of Mollusca, grow by the addition of successive layers of matter on their inner edges, forming lines on the outside, called "lines of growth." When full-grown, the aperture is expanded slightly, and, in some instances, several of these expansions occur at intervals in the upper part of the tube, seeming to tell of successive intended endings of the structure. The inhabitant of this tube is an annulose worm without a distinct head, whose body is furnished along the sides with pairs of papillæ, in which are set bundles of bristles of very elaborate structure, by means of which it slowly pushes out its fan. It has another apparatus, well described by Mr. Gosse, for suddenly withdrawing when alarmed. The fan-like expansions are gills, and are beautifully feathered; when undisturbed these are nearly always exhibited, but it is astonishing how slight an alarm causes an instantaneous retreat. From this extreme sensitiveness to the mere flitting of a shadow, it is difficult to avoid the belief of *Serpulæ* being

furnished with organs of vision; none, however, have as yet been discovered. The funnel-shaped object protruding from between the fans is used as a stopper. When the fans are suddenly contracted and withdrawn into the tube, this stopper is drawn in last, and shuts the animal comfortably within its quarters. Sometimes the stopper is thrown away and a new one grows up in its place; at other times the whole worm, fans and all, jerks itself out of the tube; but then it is—to die.

HINNITES PUSIO. *Pl. X. fig. 1. (Glaucus, p. 101.)*

The ground on which *Serpula* is figured is a small corner of a block of scoria in the possession of Mr. Cuming, which, having been long submerged, is covered with these pretty bivalve shells, with several species of *Serpula*, numerous acorn Barnacles, *Terebratulæ*, &c., forming a splendid group of eight or ten inches diameter. The *Hinnites* are first cousins to the *Scallops* or *Pectens*, spoken of in the text (p. 121); but

instead of being active, as scallops generally are, become, when very young, fixed to submarine substances, and live a sedentary life ever afterwards, conforming in their subsequent growth to the inequalities of their site.

DORIS REPANDA. Pl. X. (*Glaucus*, pp. 92, 93.)

At the left corner, under the block with *Serpulæ*, is a white slug belonging to the order of *Nudibranchs*, or Naked-gilled Mollusca. The species is chosen for no other reason but for its suitable size in my limited plate. The white, tuberculated mantle covers nearly the entire animal, whose creeping disk or foot is seen protruding at the end. The mantle has three perforations; two in front for the pair of tentacles, and one at the back for a circular bunch of feather-like gills. The embryos of *Nudibranchs* differ only specifically from those of *Nassa* and other Mollusca.

EOLIS PELLUCIDA. *Pl. X. fig. 2.**(Glaucus, pp. 92, 93.)*

In this genus of Naked-gilled Mollusca, the gills are arranged along the back in the form of bunches of club-shaped papillæ. Each papilla is beautifully coloured by a central streak of pink, tipped with blue.

FISSURELLA GRÆCA. *Pl. X. fig. 5.**(Glaucus, p. 91.)*

As the "Key-hole Limpet," when compared with true *Limpets*, presents an example of very dissimilar animals provided with similar shells, there are also instances in which very similar Mollusca have very different shells, or are without them, while others are possessed of them. Thus, one common garden-slug has, under its mantle, on the *fore part* of its body a rudimentary shell, with very little form; another has none at all; and another, not so common, but still found in some gardens (the *Testacella*), has an

ear-shaped, obliquely conical shell at the *hinder part* of its foot. A garden-snail, indeed, is but a slug provided with a large spiral shell, within which it can retreat.

PHOLAS PARVA. *Pl. X. fig. 4. (Glaucus, p. 77.)*

This species receives its name from its comparatively small size. The specimen is drawn from a block of Red Sandstone in the possession of H. Cuming, Esq., which is perforated by specimens not only of this, but of the following species. The tubes, like those of other bivalve mollusca, are for entrance and exit of fluids bearing nourishment to the animal. Their orifices are guarded from any too coarse substances by a network of cilia, which are better seen in the larger species, *P. Dactylus*. The smaller disk appearing in the centre of the hiatus between the shelly valves low down is the foot, passing through the mantle. This would enable the animal to obtain a purchase on the side of its stony cell, so as to move as far

as its very limited dimensions allow; and the hole being circular, it might even turn round. But in the next species the hole is so closely fitted to the shell that not even that little privilege would be permitted. Naturalists have not yet arrived at any satisfactory conclusion as to the manner in which these boring molluscs find their way into the stones which they inhabit.

PHOLADIDEA PAPYRACEA. *Pl. X. fig. 3.*

This *Pholas* differs from the preceding and others of its family in several particulars: first, the tubes terminate in a fringed disk; secondly, there is a curious cup-shaped process at the end of the valves; and thirdly, the valves, when adult, have no hiatus in front, but are enclosed by a slender continuation of the shell, the valves meeting in the middle.

## PLATE XI.

## PISCES. CRUSTACEA.

SYNGNATHUS LUMBRICIFORMIS. *Pl.* XI. *fig.* 1.*(Glaucus, p. 120.)*

A SPECIMEN of this pretty little Pipe-fish being in Mr. Lloyd's collection, I am glad to present a figure of him from the life, although, as Mr. Gosse observes, it is not very easy to get a fair view of him in the tank. All his beauties cannot be seen at one time. Now, you may catch a glimpse of his prettily marbled cheek ; then, while parts of his body are enveloped in a mist of uniform dulness, others may be seen exhibiting beautiful series of black and white specks symmetrically arranged. The dorsal fin is generally laid down so close on the back as to be hardly perceptible, but at other times it appears expanded, gracefully waving to assist a vertical motion. The fish is very fond of twining about among sea-weeds, frequently laying hold of the



upper stems with his *prehensile* tail while his body waves to and fro in free undulations. Altogether it is a very different creature from what might be expected from seeing the dead-stick-like dried specimens of *Pipe-fish* in museums.

PAGURUS BERNHARDUS. *Pl. XI. fig. 2.*

(*Glaucus*, p. 141.)

Our little friend the *Soldier Crab*, or *Hermit*, as he is variously styled, is now content with the empty shell of a periwinkle. By-and-bye, when grown larger, he will require more ample accommodation, and will then drag his heavy house about with him, in search of some small whelk-shell wherein to hide his unprotected tail. But he will be very careful to ascertain, before quitting his present shell, by feeling within the cavity of the new one, whether it is quite suitable and quite at his service. The partially developed condition of the hinder parts of a Hermit crab, their unprotected state, and the consequent necessity for an

artificial covering, are circumstances so abnormal as to have the appearance of accident. Yet they seem so constant in the various species of *Paguridæ* that they cannot be placed in that category; but must be reckoned among the mysteries of nature.

## PLATE XII.

### ACTINIOIDIA. ECHINODERMATA.

PEACHIA HASTATA. *Pl. XII. fig. 1.*

(*Chrysanthella, Glaucus, pp. 64-74.*)

MR. GOSSE has described this from specimens sent to him by Mr. Kingsley. It is interesting chiefly as presenting characters which go to fill up a space in the system between sea-anemones on one hand, and sea-cucumbers on the other. Instead of having a walking disk like the former, it has a free termination like the latter, which has an opening. It is also described by Mr. Kingsley, who watched its habits, as "more rapid and springy" in its movements than any others of its

class. Like *Synapta* it has a tendency to transverse constriction. Its habit is to remain buried upright in sand, with its mouth and circle of tentacles just above the surface. These it retracts on the least alarm, and buries its whole body to the depth of nine inches. The colouring matter of the body appears to reside in a thin epidermis, which sometimes bursts and tears, showing a pellucid substance beneath. A small figure to the left of our Plate represents a curious clump of papillæ which projects from one side of the orifice.

URASTER RUBENS. *Pl. XII. fig. 2.*

(*Glaucus*, p. 54.)

The common Star-fish, or Cross-fish, is here represented clinging to a piece of rock by means of its numerous suckers which are arranged in double rows along a canal on the under side of each arm or finger. These are shown in the up-turned corner of the nearest finger. They correspond with the walking suckers already noticed in *Echinus* and *Cucumaria*.



## EXPLANATION OF THE PLATES IN BRIEF.

### PLATE I. (*Glaucus*, p. 31.)

- Fig.* 1. FLUSTRA LINEATA. *a*, enlarged, with polypes protruding.
2. FLUSTRA FOLIACEA.
3. ANGUINARIA SPATHULATA.
4. VALKERIA CUSCUTA, enlarged; *a*, nat. size; *b*, two tentacles; *c*, tentacles bent inwards; *d*, enlarged, showing the gradual eversion of the animal.
5. CRISIA DENTICULATA, enlarged; *a*, nat. size.
6. GEMELLARIA LORICATA, enlarged; *a*, nat. size.
7. SERTULARIA ROSEA, enlarged; *b*, nat. size.
8. CELLULARIA CILIATA, enlarged; *a*, nat. size; *b*, one of the "bird's heads;" *c*, cell and bird's head, much enlarged.
9. CAMPANULARIA SYRINGA, enlarged; *a*, nat. size.
10. CAMPANULARIA VOLUBILIS, enlarged.

### PLATE II.

- Fig.* 1. SIPHUNCULUS BERNHARDUS in shell of Turritella, with living Balani.
2. SAXICAVA RUGOSA in the stone; *a*, shell of the same. (*Glaucus*, p. 99.)
3. CARDIUM TUBERCULATUM, or RUSTICUM. (*Glaucus*, pp. 54, 61.)

## PLATE III.

- Fig. a.* NEMERTES BORLASHI; *b*, head enlarged; *c*, head expanded in the act of swallowing. (*Glaucus*, p. 97.)  
*d.* TERESELLA CONCHILEGA; *e*, sandy tube of the same.

## PLATE IV.

- Fig. a.* SYNAPTA DIGITATA; *b*, the same separating, and throwing out capsuliferous threads; *c*, *d*, fingered tentacles, enlarged; *e*, spiculæ of *S. digitata*, magnified; *f*, spiculæ of "*Chirodota vittata*" (*Synapta Baltica*?); *g*, perforated plate of the latter species. (*Glaucus*, p. 74.)

## PLATE V.

- Fig. 1.* BALANOPHYLLEA REGIA; *a*, with the tentacles expanded; *b*, animal contracted; *c*, coral. (*Glaucus*, p. 84.)  
 2. CARYOPHYLLEA SMITHII; *a*, animal partly expanded; *b*, section of the bony plates. (*Glaucus*, pp. 32, 80, 82.)  
 3. SAGARTIA ANGUICOMA; *a*, closed; *b*, basal disk showing radiating septa. (*Glaucus*, pp. 54, 61.)

## PLATE VI.

- Fig. 1.* ACTINIA MESEMBRYANTHEMUM partially expanded:  
 1, *a*, closed.  
 2. BUNODES CRASSICORNIS. (*Glaucus*, pp. 155—7.)  
 3. CARYOPHYLLEA SMITHII.

## PLATE VII.

*Fig. a.* ECHINUS MILIARIS creeping over *Modiola barbata* ;  
*b*, creeping up the glass ; *c*, hiding under stones ;  
*d*, teeth and digesting mill ; *e*, suckers, enlarged ;  
*f*, a spine, enlarged ; *g*, its socket ; *h*, portion of  
the shell, denuded ; *i*, *Pedicellaria*. (*Glaucus*, p. 88.)

## PLATE VIII.

- Fig. 1.* LITTORINA LITTOREA ; *a*, *b*, animal and shell ;  
*c*, operculum ; *d*, pallet ; *e*, part of the same,  
magnified.
2. NASSA RETICULATA ; *a*, animal and shell ; *b*, egg  
capsules ; *c*, *d*, fry, magnified ; *e*, shell of fry ;  
*f*, pallet, magnified. (*Glaucus*, p. 100.)
3. PALATE of PATELLA VULGARIS : *a*, nat. size ; *b*, *c*,  
enlarged.

## PLATE IX.

- Fig. 1.* CUCUMARIA HYNDMANNI. (*Glaucus*, p. 79.)
2. SABELLA ?

## PLATE X.

- Fig. 1.* SERPULA CONTORTUPLICATA. (*Glaucus*, p. 121.)  
HINNITES PUSIO, on the same block. (*Glaucus*, p. 100.)  
DORIS REPANDA, on the left, in the lower corner.  
(*Glaucus*, pp. 92, 93.)
2. EOLIS PELLUCIDA. (*Glaucus*, pp. 92, 93.)
3. PHOLADIDÆA PAPYRACEA.
4. PHOLAS PARVA. (*Glaucus*, p. 77.)
5. FISSURELLA GRÆCA. (*Glaucus*, p. 91.)

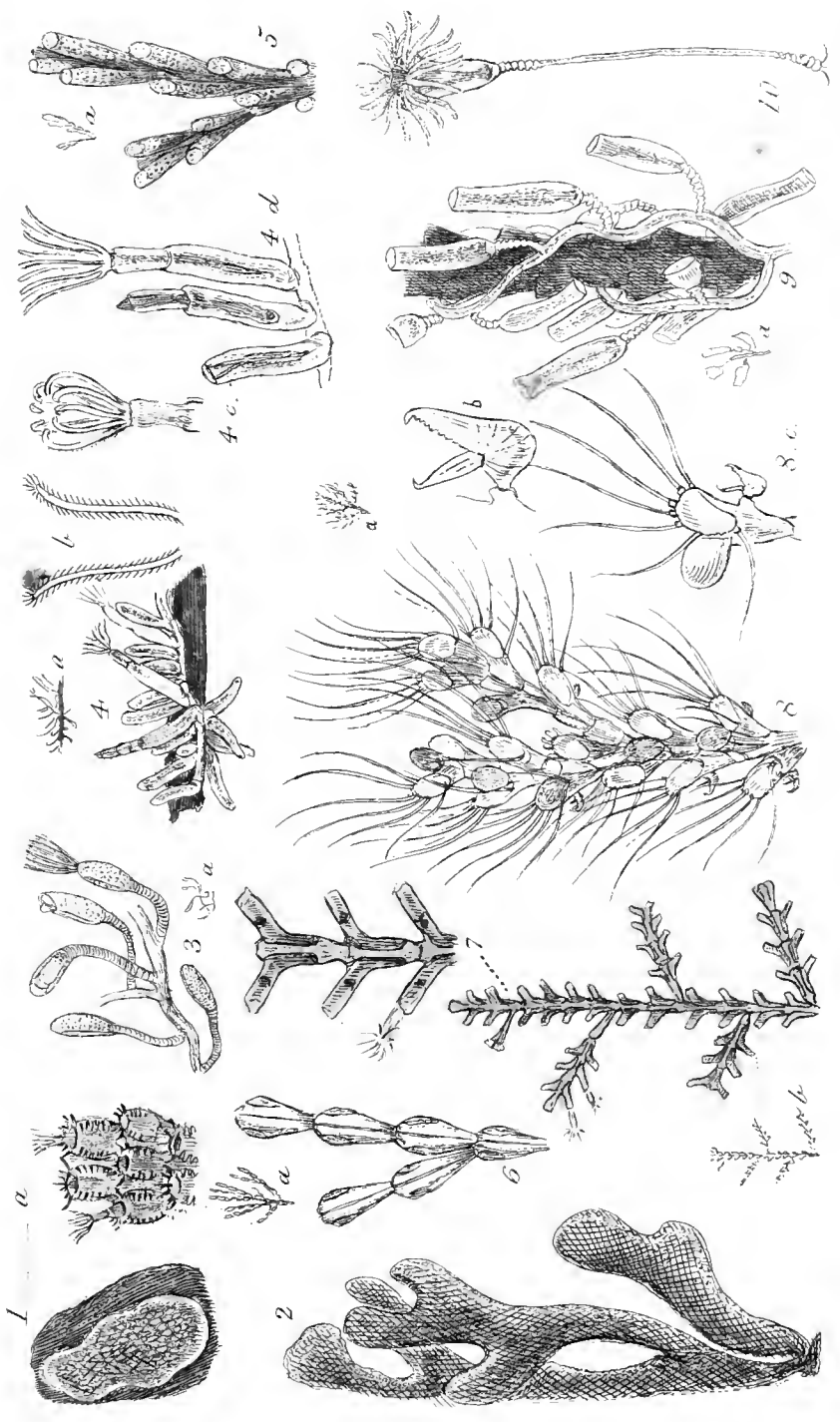
## PLATE XI.

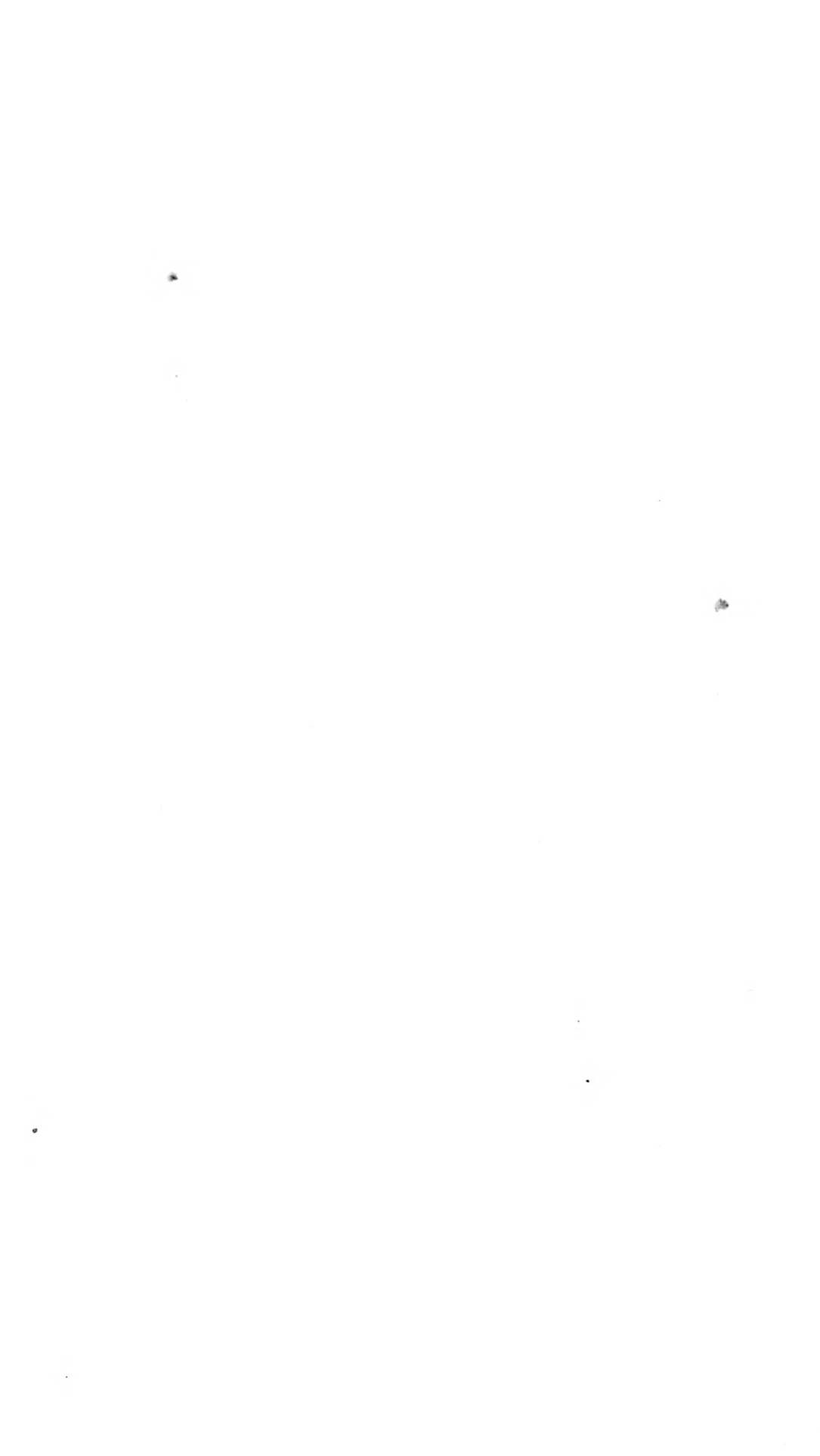
- Fig.* 1. SYNGNATHUS LUMBRICIFORMIS. (*Glaucus*, p. 120.)  
2. PAGURUS BERNHARDI in a Periwinkle shell.  
(*Glaucus*, p. 141.)

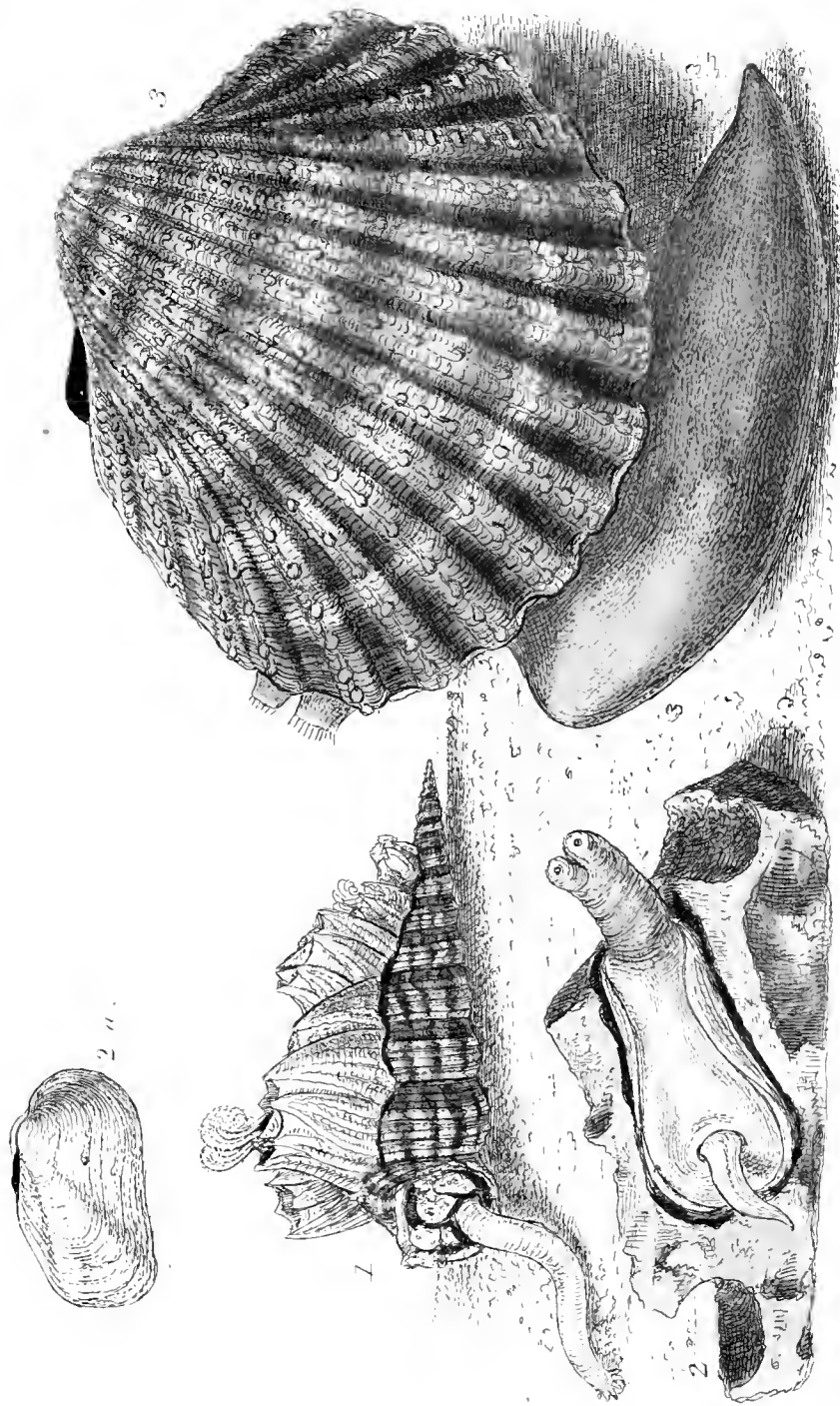
## PLATE XII.

- Fig.* 1. PEACHIA HASTATA. (*Glaucus*, pp. 64, 74.)  
2. URASTER RUBENS. (*Glaucus*, p. 54.)



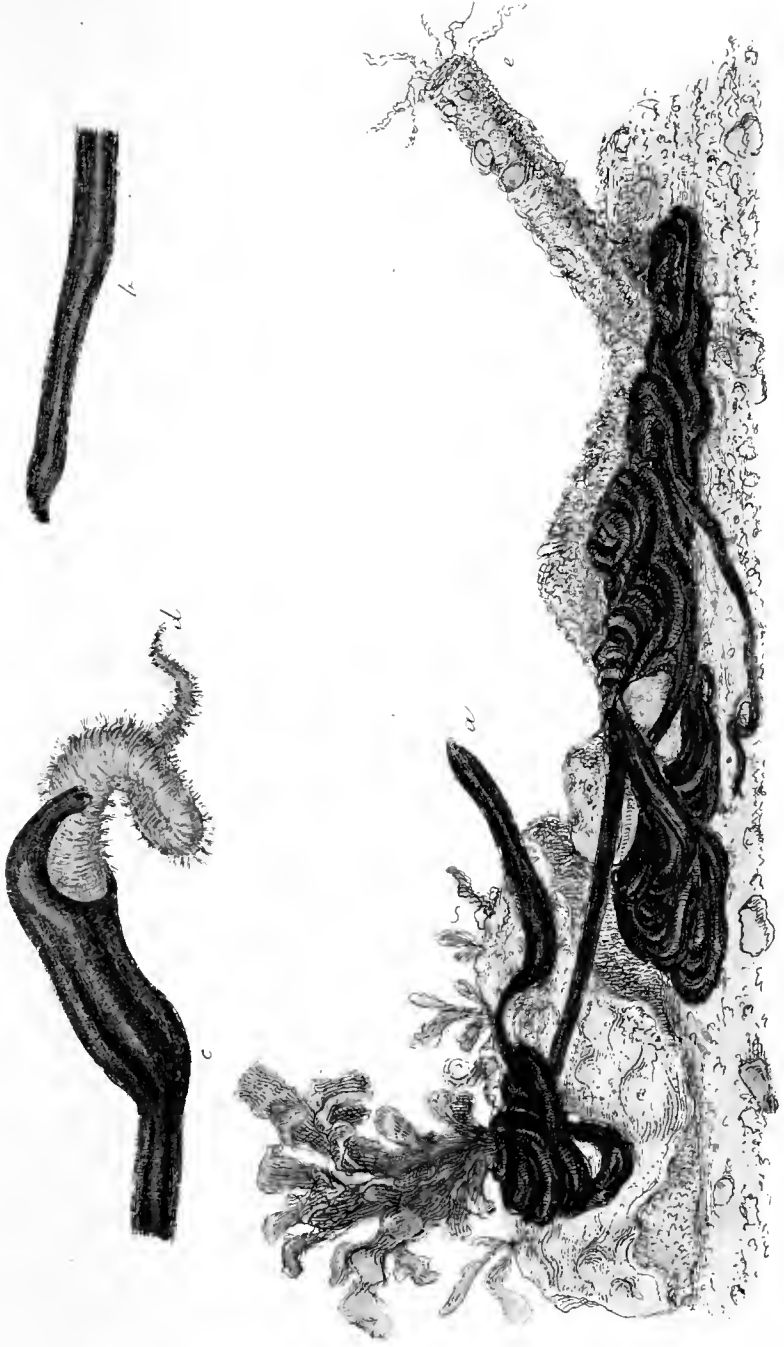






SAXICAVA CARDIUM.



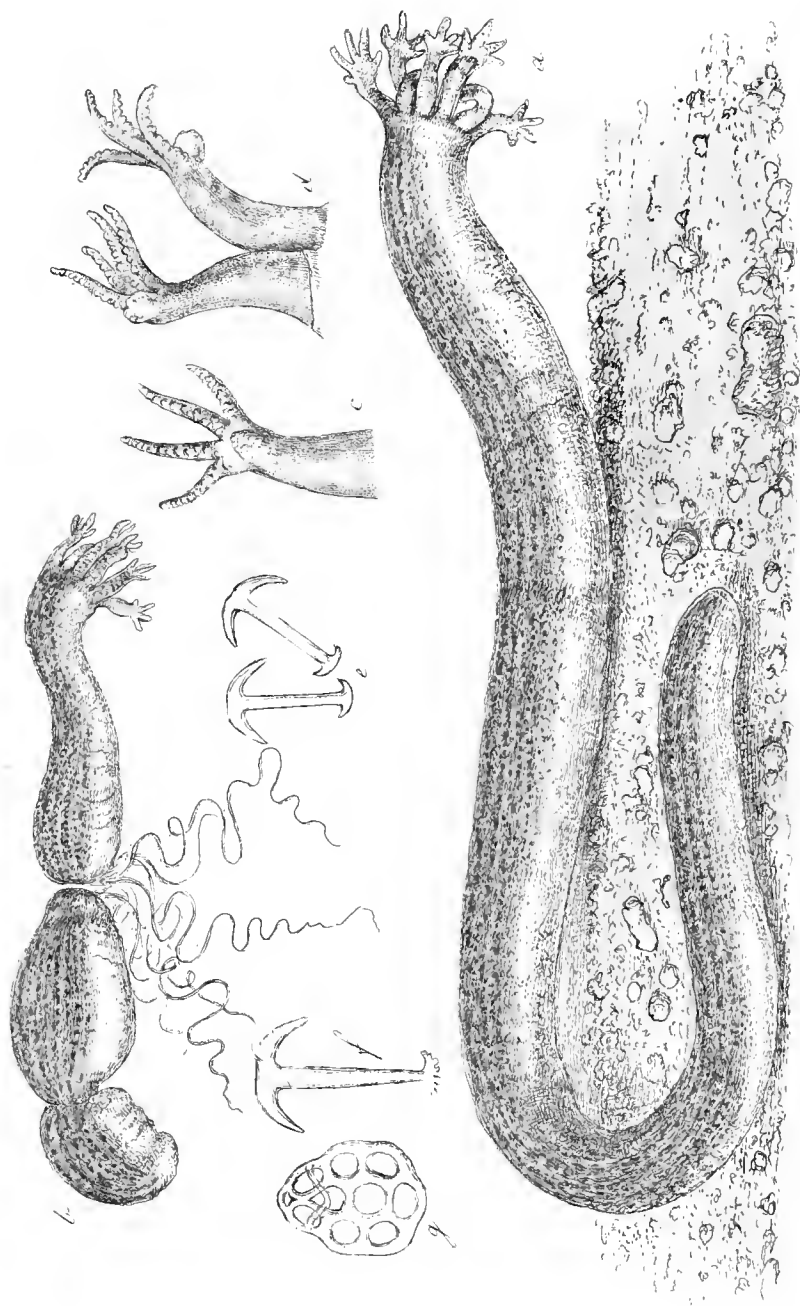


K. & S. B. S. del.

G. H. Seeley sc.

NEMERTES BORLASII.





C. H. del.

et B. Sowerby sc.

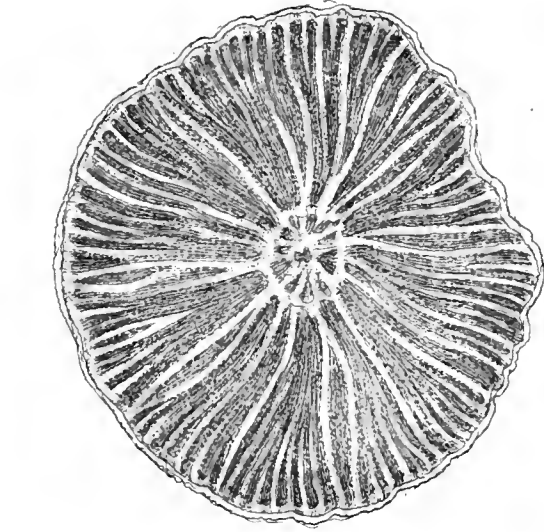
SYNAPTA DIGITATA.



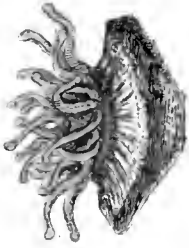




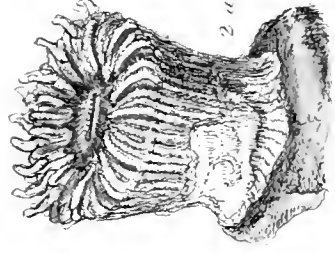
2 b.



3 b.



1 a.



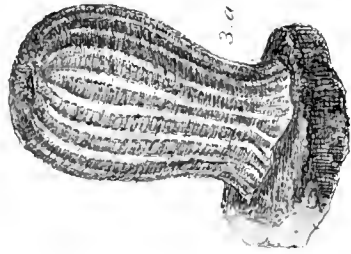
2 a.



1 b.



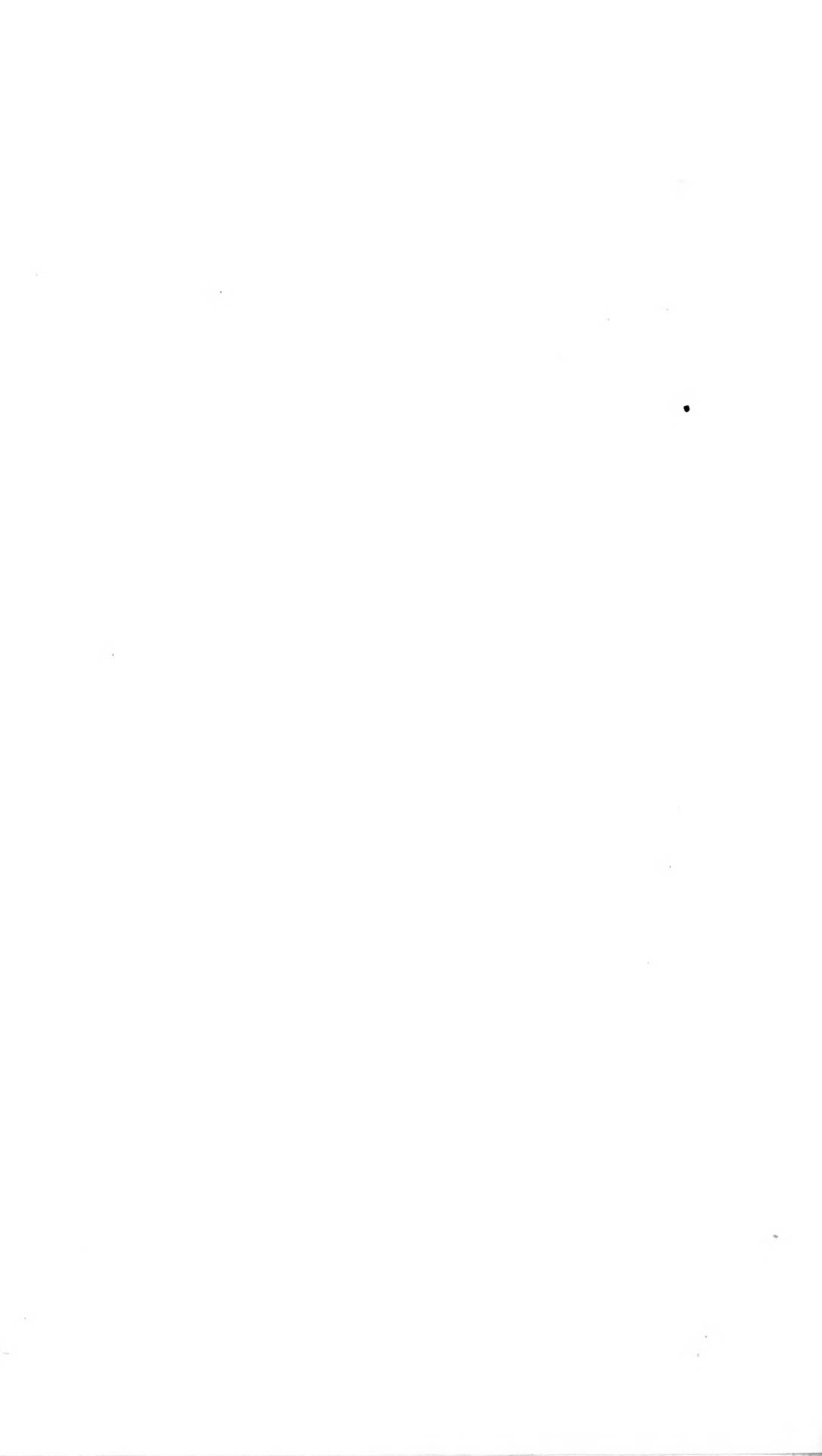
1 c.

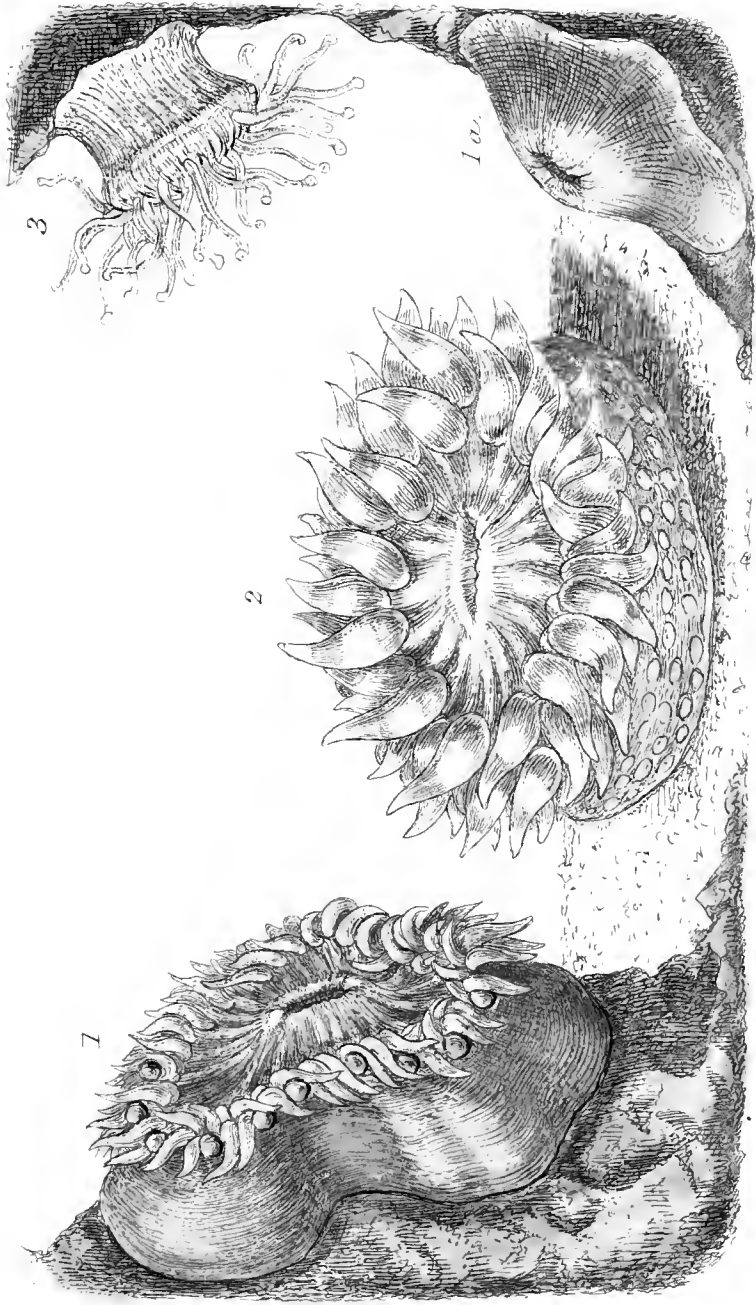


3 a.

CARYOPHYLLEA. BALANOPHYLLEA, & SAGARTIA.

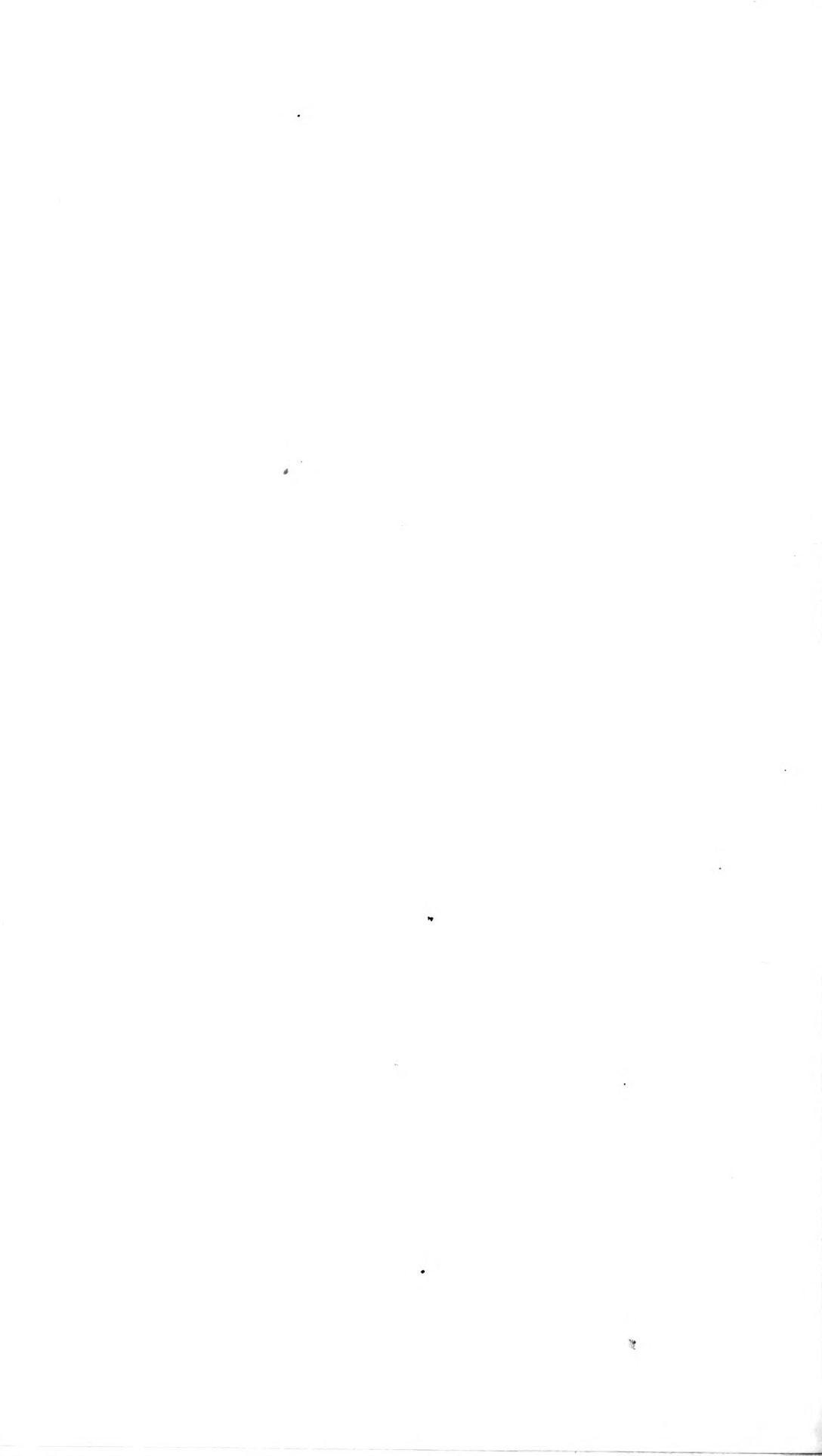
G. B. Sowerby





ACTINIA, BUNODES, CARYOPHYLLA.

G.B. Sowerby.





G.B. Sowerby

ECHINUS MILIARIS.





1. a.



1. d.

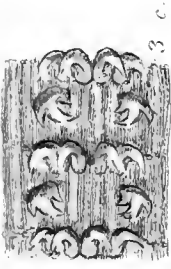


1. c.



3. a.

3. b.



3. c.



1. e.



2. f.



2. c.



2. d.



2. b.



2. e.



1. b.



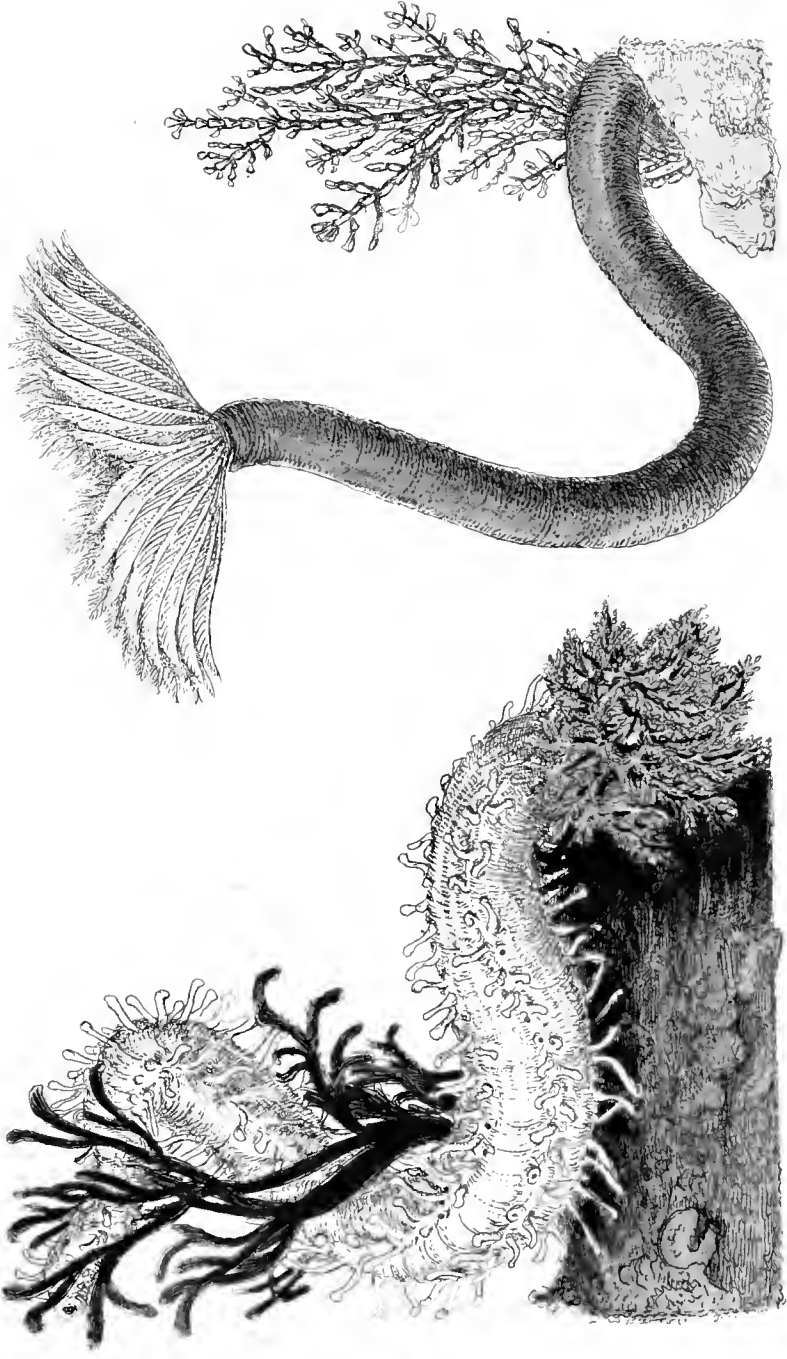
2. a.

LITTORINA AND NASSA.

G. B. Sowerby.



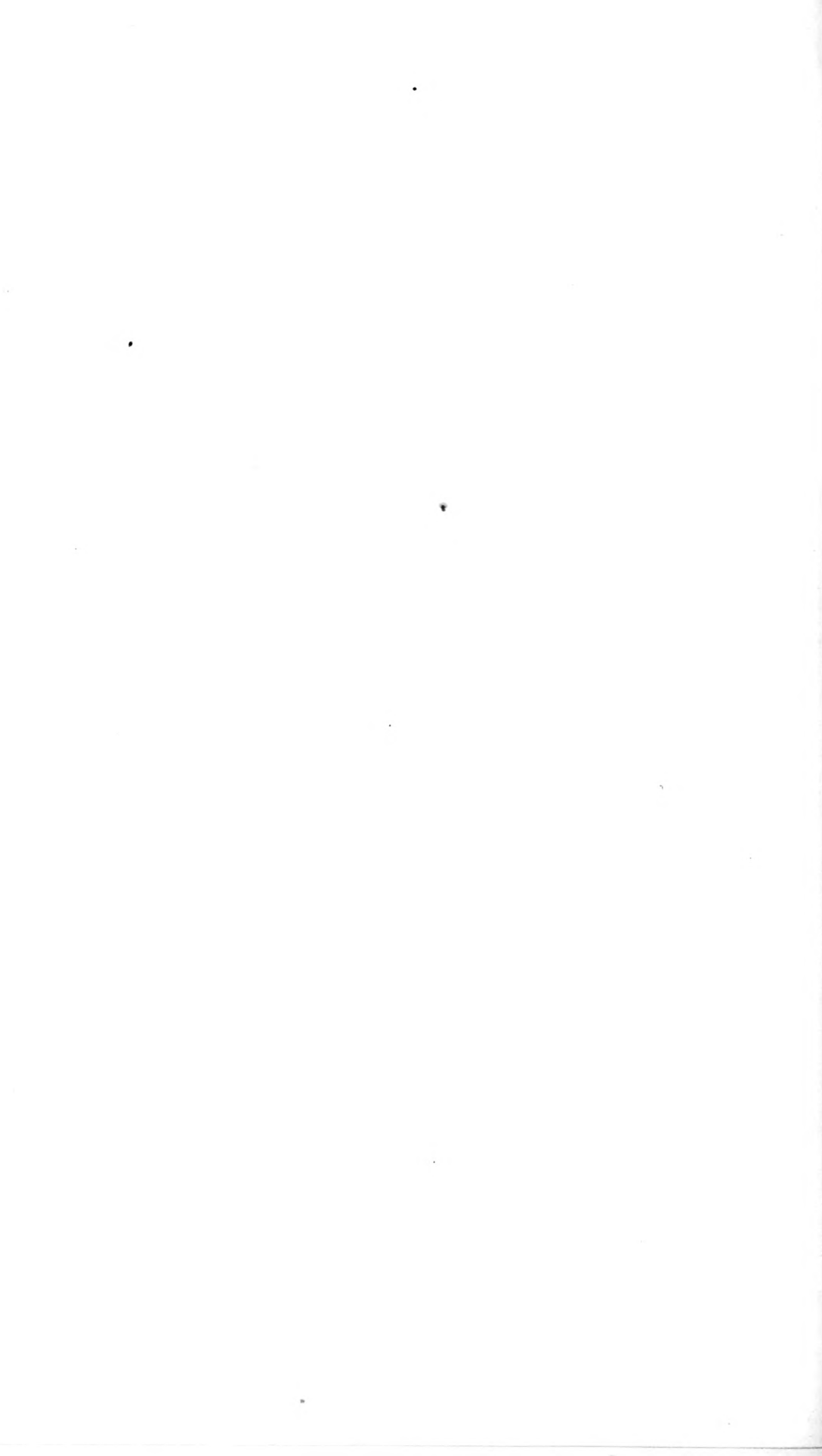


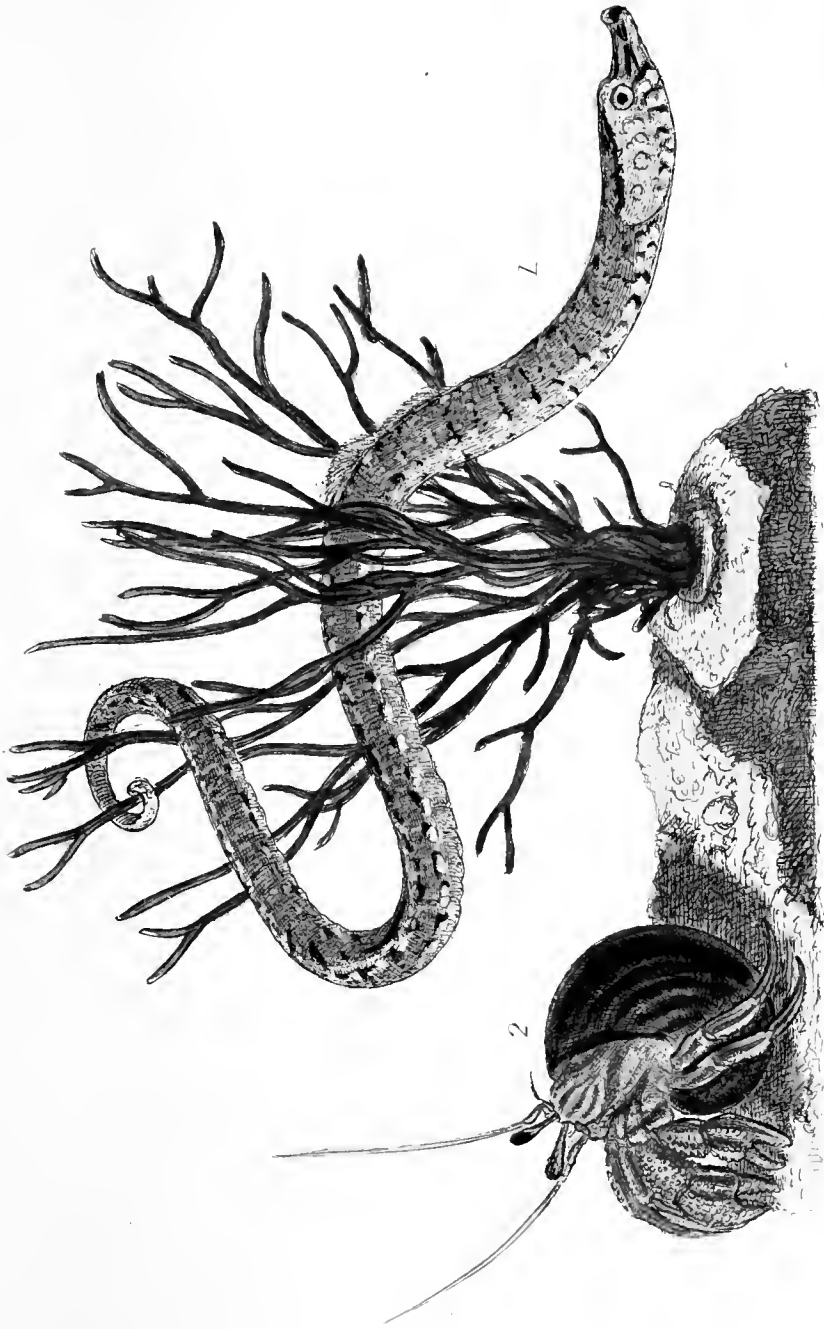


CUCTARIA HYNDMANTI. SABELLA.









Ed. Dougl. 1827

1. SYNGNATHUS. 2. PAGRIS.





G. E. Sowerby

PEACHIA. FRASER.





## SELECT LIST OF

## New Works and New Editions,

PUBLISHED BY

MACMILLAN AND CO.

## ANNOUNCEMENTS.

## NEW LIFE OF MILTON.

The Life of John Milton, narrated in connexion with the Political, Ecclesiastical, and Literary History of his Time. By DAVID MASSON, M.A., Professor of English Literature in University College, London. 8vo. With Portraits.

VOL. I. Comprehending the Period from 1608 to 1639.

[*Shortly.*]

## AUTHOR'S NOTE.

“It is intended that the title of this Work should indicate its character. Such an alternative title as ‘The Life and Times of Milton’ might suggest more familiarly, perhaps, the precedents which the Author has had in view. While his first object has been to narrate the Life of Milton fully, deliberately, and minutely, with as much of additional fact and illustration as might be supposed to result, even at this distance of time, from new research and from a further examination of the old materials, he has not deemed it

## MASSON'S LIFE OF MILTON—continued.

unfit, in the instance of such a Life, to allow the forms of Biography to overflow, to some extent, into those of History. In other words, it is intended to exhibit Milton's Life in its connexions with all the more notable phenomena of the period of British history in which it was cast—its state-politics, its ecclesiastical variations, its literature and speculative thought. Commencing in 1608, the Life of Milton proceeds through the last sixteen years of the reign of James I., includes the whole of the reign of Charles I. and the subsequent years of the Commonwealth and the Protectorate, and then, passing the Restoration, extends itself to 1674, or through fourteen years of the new state of things under Charles II. No portion of our national history has received more abundant or more admirable elucidation than these sixty-six years; but, perhaps, in traversing it again in that mood and with that special bent of inquiry which may be natural where the Biography of Milton is the primary interest, some facts may be seen in a new light, and, at all events, certain orders of facts lying by the sides of the main track may come into notice. As the great poet of the age, Milton may, obviously enough, be taken as the representative of its literary efforts and capabilities; and the general history of its literature may, therefore, in a certain manner, be narrated in connexion with his life. But even in the political and ecclesiastical departments Milton was not one standing aloof. He was not the man of action of the party with which he was associated, and the actual and achieved deeds of that party, whether in war or in council, are not the property of his life; but he was, as nearly as any private man in his time, the thinker and idealist of the party—now the expositor and champion of their views, now their instructor and in advance of them,—and hence, without encroaching too much on known and common ground, there are incidents and tendencies of the great Puritan Revolution which illustrate his Life especially, and seek illustration from it.

“As if to oblige Biography, in this instance, to pass into History, Milton's Life divides itself, with almost mechanical exactness, into three periods, corresponding with those of the contemporary social movement,—the first extending from 1608 to 1640, which was the period of his education and of his minor poems; the second, extending from 1640 to 1660, or from the beginning of the Civil Wars to the Restoration, and forming the middle period of his polemical activity as a prose-writer; and the third extending from 1660 to 1674, which was the period of his later muse and of the publication of ‘Paradise Lost.’ It is proposed to devote a volume to each of these periods; and the present volume embraces the first of them.

ANNOUNCEMENTS—*continued.*

NEW WORK BY THE AUTHOR OF "TOM BROWN'S  
SCHOOL DAYS."

The Scouring of the White Horse; or, 'The Long  
Vacation Holiday of a London Clerk. Illustrated by RICHARD  
DOYLE. [Shortly.

BY GEORGE BRIMLEY, M.A.,

*Late Librarian of Trinity College, Cambridge.*

Essays. Edited by W. G. CLARK, M.A., Fellow  
and Tutor of Trinity College, and Public Orator in the University  
of Cambridge. Crown 8vo. With a Portrait. [In the Press.

BY G. M. HUMPHRY, M.B. Cantab. F.R.C.S.,

*Surgeon to Addenbrooke's Hospital, Lecturer on Anatomy and Surgery in the Medical  
School, Cambridge.*

A Treatise on the Human Skeleton, including the  
Joints. With Illustrations. Medium 8vo. [In the Press.

BY GEORGE BIDDELL AIRY, M.A.,

ASTRONOMER ROYAL,

*Formerly Plumian Professor of Astronomy and Experimental Philosophy in the University  
of Cambridge.*

Mathematical Tracts on the Lunar and Planetary  
Theories, the Figure of the Earth, Precession and Nutation, the  
Calculus of Variations and the Undulatory Theory of Optics.  
8vo. Fourth Edition, revised and improved. [In the Press.

*ANNOUNCEMENTS—continued.*

**BY FREEMAN OLIVER HAYNES, ESQ.**

*Barrister at Law.*

Equity Sketches: Being Lectures delivered in the Hall of the Incorporated Law Society of the United Kingdom, in 1857--8. Crown 8vo. [*In the Press.*]

**BY A. J. W. MORRISON, B.A.,**

*Of Trinity College; Incumbent of Broad Town, Wilts.*

The Church and the Polity of the Church. A Manual of Church Government. Crown 8vo. [*Preparing.*]

**BY B. F. WESTCOTT, M.A.,**

*Late Fellow of Trinity College, Assistant Master in Harrow School.*

Introduction to the Study of the Gospels. Crown 8vo. [*In the Press.*]

The New Testament in the Original Greek. The Text Revised. By B. F. WESTCOTT, M.A., and FENTON HORT, M.A., Vicar of St. Ippolyts, Herts, late Fellow of Trinity College. [*Preparing.*]

**BY J. G. HOWES, M.A.,**

*Fellow of St. Peter's College.*

History of the Christian Church during the First Six Centuries. Crown 8vo. [*In the Press.*]

**BY GEORGE BOOLE, LL.D.,**

*Professor of Mathematics in Queen's College, Cork.*

The Philosophy of Logic. 8vo. [*Preparing.*]

NOW READY.

## ENGLISH SCHOOL LIFE.

The Fifth Edition of

Tom Brown's School-Days. By AN OLD BOY.

Crown 8vo. cloth, 10s. 6d.

## COMMEMORATIVE POEMS.

The Anniversaries. Poems in Commemoration of Great Men and Great Events. By THOMAS H. GILL. Fcap. 8vo. cloth, 5s.

*"There is fire as well as music in Mr. Gill's soul, and the mere list of the 'Anniversaries' that he cherishes, shows at once the height, the depth, and breadth of his moral sympathies."*—WESLEYAN TIMES.

## A STORY FOR GIRLS.

Ruth and Her Friends. With a Frontispiece. Fcap. 8vo. cloth, 5s.

*"Not we, but God is educating us."*—KINGSLEY'S "TWO YEARS AGO."

*"It is a book which girls will read with avidity, and can hardly fail to profit by."*—LITERARY CHURCHMAN.

*"Seldom, if ever, have more intellectual power and healthful sentiment gone to the production of a story for girls; and we wish all the girls in the land had the opportunity of reading it."*—NONCONFORMIST.

## NEW RELIGIOUS BIOGRAPHY.

The Second Edition of

Memoir of the Rev. George Wagner, M.A., late Incumbent of St. Stephen's Church, Brighton. By JOHN NASSAU SIMPKINSON, M.A., Rector of Brington, Northamptonshire. Crown 8vo. cloth, 9s.

*"The book should afflict or affront no one, whatever be the variety of opinions as to faith and discipline—while it must encourage every single-hearted person having high convictions to work them out, without reference to reward, or hope of favour, or fear of misconstruction."*—ATHENÆUM.

BY ALEXANDER SMITH,

AUTHOR OF A "LIFE DRAMA, AND OTHER POEMS."

City Poems.

Fcap. 8vo. cloth, 5s.

*"He has attained at times to a quiet continuity of thought, and sustained strength of coherent utterance . . . he gives us many passages that sound the deeps of feeling, and leave us satisfied with their sweetness."*—NORTH BRITISH REVIEW.

## THE INDIAN QUESTION.

## BRITISH INDIA,

ITS RACES, AND ITS HISTORY,

CONSIDERED WITH REFERENCE TO THE MUTINIES OF 1857.

*A SERIES OF LECTURES,*

BY JOHN MALCOLM LUDLOW,

BARRISTER-AT-LAW.

Two Vols. fcap. 8vo. cloth, 9s.

## OPINIONS.

## EXAMINER.

“For soundness of principle and accuracy of information, the best historical Indian manual existing, one that ought to be in the hands of every man who writes, speaks, or votes on the Indian question.”

## HOMEWARD MAIL.

“A work of sterling value, a most excellent resumé of Indian history.”

## OBSERVER.

“At once valuable as a hand-book of Indian history and as a running comment on passing events . . . . careful, impartial, and well written.”

## INDIAN NEWS.

“No publication has yet appeared which is more calculated to effect the desirable object of removing those false impressions and erroneous views in regard to Indian Affairs which are unhappily almost universal among us.”

## GLOBE.

“A lively commentary on the history and races of India . . . . no one can fail to recognise the author's ability . . . . He writes with a high purpose and towards a noble aim.”

## BELL'S WEEKLY MESSENGER.

“Two of the most valuable volumes relative to India which have yet been issued.”

## NONCONFORMIST.

“It shows, throughout, ample information, a thorough mastery of his materials, a conscientious spirit, and a high Christian purpose . . . . the best popular account of the races of India we have ever seen.”

## NEWS OF THE WORLD.

“The most readable account that we have seen of these great historical transactions.”

BY GEORGE WILSON, M.D., F.R.S.E.

REGIUS PROFESSOR OF TECHNOLOGY IN THE UNIVERSITY OF EDINBURGH;  
AND DIRECTOR OF THE INDUSTRIAL MUSEUM OF SCOTLAND.

The Sixth Thousand of

THE

# FIVE GATEWAYS OF KNOWLEDGE,

A POPULAR WORK ON THE FIVE SENSES.

In fcap. 8vo. cloth, with gilt leaves, 2s. 6d.;

PEOPLE'S EDITION, in ornamental stiff covers, One Shilling.

"This famous town of Mansoul had Five Gates. . . . The names of the Gates were these: Ear Gate, Eye Gate, Mouth Gate, Nose Gate, and Feel Gate."—*Bunyan's Holy War*.

## OPINIONS.

### SPECTATOR.

"At once attractive and useful. . . . The manner is vivacious and clear; the matter is closely packed, but without confusion."

### JOHN BULL.

"Charms and enlivens the attention whilst the heart and understanding are improved. . . . It is an invaluable little book."

### NONCONFORMIST.

"This is a beautifully written and altogether delightful little book on the five senses."

### CRITIC.

"As a means to teach the great truth that we are 'fearfully and wonderfully made,' this essay will be of great value."

### EXAMINER.

"An extremely pleasant little book. . . . entertaining and instructive; and may be welcomed in many a home."

### LEADER.

"Dr. Wilson unites poetic with scientific faculty, and this union gives a charm to all he writes. In the little volume before us he has described the five senses in language so popular that a child may comprehend the meaning, so suggestive that philosophers will read it with pleasure."

### LITERARY SPECTATOR.

"Besides the merit of being deeply interesting, it can also lay claim to the higher functions of a useful instructor; and in its twofold capacity it has our unqualified approval."

### SCOTTISH PRESS.

"Every page presents us with something worthy of being thought about; every one is bright with the full clear light of the writer's mind, and with his genial humour."

## THE WORKS OF

WILLIAM ARCHER BUTLER, M.A.

*Late Professor of Moral Philosophy in the University of Dublin.*

FIVE VOLUMES 8vo. UNIFORMLY PRINTED AND BOUND.

*"A man of glowing genius and diversified accomplishments, whose remains fill these five brilliant volumes."—EDINBURGH REVIEW.*

## SOLD SEPARATELY AS FOLLOWS.

1. Sermons, Doctrinal and Practical. FIRST SERIES.  
 Edited by the Very Rev. T. WOODWARD, M.A. Dean of Down,  
 with a Memoir and Portrait. Fourth Edition. 8vo. cloth, 12s.  
*"Present a richer combination of the qualities for Sermons of the first class than any we have met with in any living writer."—BRITISH QUARTERLY.*
2. Sermons, Doctrinal and Practical. SECOND SERIES.  
 Edited from the Author's MSS., by J. A. JEREMIE, D.D., Regius  
 Professor of Divinity in the University of Cambridge. Second  
 Edition. 8vo. cloth, 10s. 6d.  
*"They are marked by the same originality and vigour of expression, the same richness of imagery and illustration, the same large views and catholic spirit, and the same depth and fervour of devotional feeling, which so remarkably distinguished the preceding Series and which rendered it a most valuable accession to our theological literature."—FROM DR. JEREMIE'S PREFACE.*
3. Letters on Romanism. A Reply to DR. NEWMAN'S Essay  
 on Development. Edited by the Very Rev. T. WOODWARD, M.A.  
 Dean of Down. 8vo. cloth, 10s. 6d.  
*"Deserve to be considered the most remarkable proofs of the Author's indomitable energy and power of concentration."—EDINBURGH REVIEW.*
4. Lectures on the History of Ancient Philosophy.  
 Edited from the Author's MSS., with Notes, by WILLIAM  
 HEPWORTH THOMPSON, M.A., Regius Professor of Greek in the  
 University of Cambridge. 2 vols. 8vo., £1 5s.  
*"Of the dialectic and physics of Plato they are the only exposition at once full, accurate, and popular, with which I am acquainted: being far more accurate than the French, and incomparably more popular than the German treatises on these departments of the Platonic philosophy."—FROM PROF. THOMPSON'S PREFACE.*



## LECTURES TO LADIES ON PRACTICAL SUBJECTS.

Third Edition, revised.

Crown 8vo. cloth, 7s. 6d.

By Reverends F. D. MAURICE, CHARLES KINGSLEY, J. LL. DAVIES, ARCHDEACON ALLEN, DEAN TRENCH, PROFESSOR BREWER, DR. GEORGE JOHNSON, DR. SIEVEKING, DR. CHAMBERS, F. J. STEPHEN, Esq., and TOM TAYLOR, Esq.

CONTENTS:—Plan of Female Colleges—The College and the Hospital—The Country Parish—Over Work and Anxiety—Dispensaries—District Visiting—Influence of Occupation on Health—Law as it affects the Poor—Everyday Work of Ladies—Teaching by Words—Sanitary Law—Workhouse Visiting.

*“These men, themselves an honour to their times, do honour to woman by giving her the benefit of the best thoughts of manly minds.”*—EDINBURGH REVIEW.

BY THE RIGHT REV. JOHN WILLIAM COLENSO, D.D.,

*Lord Bishop of Natal, formerly Fellow of St. John's College, Cambridge.*

1. **The Colony of Natal.** A Journal of Ten Weeks' Tour of Visitation among the Colonists and Zulu Kaffirs of Natal. With four Lithographs and a Map. Fcap. 8vo. cloth, 5s.

*“A most interesting and charmingly written little book.”*—EXAMINER.

*“The Church has good reason to be grateful for the publication.”*

COLONIAL CHURCH CHRONICLE.

2. **Village Sermons.** Second Edition. Fcap. 8vo. cloth, 2s. 6d.

3. **Companion to the Holy Communion.** The Service, with Select Readings from the Writings of Mr. MAURICE. Fine Edition, rubricated and bound in morocco antique, gilt edges, 6s.; or in cloth, red edges, 2s. 6d.; common paper, limp cloth, 1s.

BY CHARLES ANTHONY SWAINSON, M.A.,

*Principal of the Theological College, and Prebendary of Chichester.*

**The Creeds of The Church.** In their Relations to the Word of God and to the Conscience of the Christian. Being the Hulsean Lectures for 1857. 8vo. cloth, 9s.

BY JULIUS CHARLES HARE, M.A.,

*Sometime Archdeacon of Lewes, Rector of Herstmonceux, Chaplain in Ordinary to the Queen, and formerly Fellow and Tutor of Trinity College, Cambridge.*

*NINE VOLS. 8vo. UNIFORMLY PRINTED AND BOUND.*

1. Charges to the Clergy of the Archdeaconry of Lewes. Delivered at the Ordinary Visitations during the years 1840 to 1854, with Notes on the Principal Events affecting the Church during that period. And an Introduction, explanatory of his position in the Church, with reference to the Parties which divide it. 3 vols. 8vo. cloth, £1 11s. 6d.
2. Miscellaneous Pamphlets on some of the Leading Questions agitated in the Church during the years 1845 to 1851. 8vo. cloth, 12s.
3. Vindication of Luther against his recent English Assailants. Second Edition. 8vo. cloth, 7s.
4. The Mission of the Comforter. With Notes. Second Edition. 8vo. cloth, 12s.
5. The Victory of Faith. Second Edition. 8vo. cloth, 5s.
6. Parish Sermons. Second Series. 8vo. cloth, 12s.
7. Sermons preacht on Particular Occasions. 8vo. 12s.

*The two following books are included among the collected Charges, but are published separately for the sake of purchasers of the rest.*

8. Charges to the Clergy of the Archdeaconry of Lewes. Delivered in the years 1843, 1845, 1846. Never before published. With an Introduction, explanatory of his position in the Church, with reference to the Parties that divide it. 8vo. cloth, 6s. 6d.
9. The Contest with Rome. A Charge, delivered in 1851. With Notes, especially in answer to DR. NEWMAN on the Position of Catholics in England. Second Edition. 8vo. cloth, 10s. 6d.

BY JOHN McLEOD CAMPBELL,

*Formerly Minister of Row.*

The Nature of the Atonement, and its Relation to  
Remission of Sins and Eternal Life. Svo. cloth, 10s. 6d.

“*This is a remarkable book, as indicating the mode in which a devout and intellectual mind has found its way, almost unassisted, out of the extreme Lutheran and Calvinistic views of the Atonement into a healthier atmosphere of doctrine. . . . We cannot assent to all the positions laid down by this writer, but he is entitled to be spoken respectfully of, both because of his evident earnestness and reality, and the tender mode in which he deals with the opinions of others from whom he feels compelled to differ.*”—LITERARY CHURCHMAN.

“*Deserves wide celebrity.*”—CHRISTIAN TIMES.

BY G. E. LYNCH COTTON, M.A.,

*Master of Marlborough College, Examining Chaplain to the Lord Bishop of London,  
formerly Fellow of Trinity College, Cambridge.*

Sermons: Chiefly connected with Public Events in 1854.

Fcap. 8vo. cloth, 3s.

“*A volume of which we can speak with high admiration.*”

CHRISTIAN REMEMBRANCER.

BY JOHN HAMILTON, Esq. (of St. Ernan's,) M.A.

*St. John's College, Cambridge.*

On Truth and Error: Thoughts, in Prose and Verse,  
on the Principles of Truth, and the Causes and Effects of Error.  
Crown 8vo. bound in cloth, with red leaves, 10s. 6d.

“*A very genuine, thoughtful, and interesting book, the work of a man of honest mind and pure heart; one who has felt the pressure of religious difficulties, who has thought for himself on the matters of which he doubted, and who has patiently and piously worked his way to conclusions which he now reverently but fearlessly utters to the world.*”—NONCONFORMIST.

BY ISAAC TAYLOR, ESQ.,

*Author of “The Natural History of Enthusiasm.”*

The Restoration of Belief.

Crown 8vo. cloth, 8s. 6d.

“*A volume which contains logical sagacity, and philosophic comprehension, as well as the magnanimity and courage of faith, in richer profusion than any other work bearing on religious matters that has been addressed to this generation. ‘The Restoration of Belief’ may, in many respects, take a place among the books of the nineteenth century, corresponding to that justly conceded by us to the ‘Analogy’ of Butler in the literature of the last age, or to the ‘Thoughts of Pascal in that of the age preceding.*”—NORTH BRITISH REVIEW.

“*A book which I would recommend to every student.*”—REV. PREBENDARY SWAINSON, Principal of Chichester Theological College.

BY CHARLES KINGSLEY, F.S.A.

*Rector of Eversley, and Canon of Middleham.*

1. *Two Years Ago.* Second Edition.  
3 vols. crown 8vo. cloth, £1 11s. 6d.  
“*Much the best book Mr. Kingsley has written.*”—SATURDAY REVIEW.
2. *The Heroes: Greek Fairy Tales for my Children.*  
With Eight Illustrations drawn on wood by the Author. Beautifully printed on tinted paper and elegantly bound in cloth, with gilt leaves, 7s. 6d.  
“*The fascination of a fairy tale is given to each legend.*”—EXAMINER.  
“*Rarely have those heroes of Greek tradition been celebrated in a bolder or more stirring strain.*”—SATURDAY REVIEW.
3. “*Westward Ho!*” or the Voyages and Adventures of Sir Amyas Leigh, Knight, of Borrough, in the County of Devon, in the reign of Her most Glorious Majesty Queen Elizabeth. Third Edition. Crown 8vo. cloth, 7s. 6d.  
“*MR. KINGSLEY has selected a good subject, and has written a good novel to excellent purpose.*”—THE TIMES.  
“*Noble and well-timed.*”—SPECTATOR.
4. *Glaucus; or, the Wonders of the Shore.* A Companion for the Sea-side. Third Edition. Fcap. 8vo. beautifully bound in cloth, with gilt leaves, 3s. 6d.  
“*Its pages sparkle with life, they open up a thousand sources of unanticipated pleasure, and combine amusement with instruction in a very happy and unwonted degree.*”—ECLECTIC REVIEW.
5. *Phaethon; or, Loose Thoughts for Loose Thinkers.* Second Edition. Crown 8vo. boards, 2s.  
“*Its suggestions may meet half way many a latent doubt, and, like a light breeze, lift from the soul clouds that are gathering heavily, and threatening to settle down in wintry gloom on the summer of many a fair and promising young life.*”—SPECTATOR.
6. *Alexandria and Her Schools.* Being Four Lectures delivered at the Philosophical Institution, Edinburgh. With a Preface. Crown 8vo. cloth, 5s.  
“*A series of brilliant biographical and literary sketches, interspersed with comments of the closest modern, or rather universal application.*”—SPECTATOR.

**BY THE RIGHT REV. GEORGE AUGUSTUS SELWYN, D.D.,**

*Lord Bishop of New Zealand, formerly Fellow of St. John's College, Cambridge.*

**The Work of Christ in the World.** Sermons Preached before the University of Cambridge. Third Edition. Published for the benefit of the New Zealand Church Fund.

Crown 8vo. 2s.

**BY CHARLES HARDWICK, M.A.**

*Christian Advocate in the University of Cambridge.*

**Christ and other Masters: A Historical Inquiry into some of the chief Parallelisms and Contrasts between Christianity and the Religious Systems of the Ancient World; with special reference to prevailing Difficulties and Objections. Part I. Introduction. Part II. Religions of India.**

**Part III. Religions of China, America, and Oceanica.**

In 8vo. cloth, 7s. 6d. each.

**BY CHARLES MANSFIELD, M.A.**

**1. Letters from Paraguay, Brazil, and the Plate.**

By the late CHARLES MANSFIELD, M.A., Clare College, Cambridge.

With a life by CHARLES KINGSLEY, Rector of Eversley. Post 8vo.

With a Map, and a Portrait, and numerous Woodcuts. 12s. 6d.

“*An interesting and instructive volume.*”—MORNING POST.

“*A delightfully written book.*”—BRITISH QUARTERLY.

**BY THE RIGHT REV. MATTHEW HALE, D.D.**

*Lord Bishop of Perth.*

**The Transportation Question; or, Why Western Australia should be made a Reformatory Colony instead of a Penal Settlement.**

Crown 8vo. sewed, 2s. 6d.

BY D. J. VAUGHAN, M.A.

*Fellow of Trinity College, Cambridge, and Incumbent of St. Mark's, Whitechapel, London.*

Sermons Preached in St. John's Church, Leicester,  
during the Years 1855 and 1856. Crown 8vo. cloth, 5s. 6d.

BY THOMAS RAWSON BIRKS, M.A.,

RECTOR OF KELSHALL, EXAMINING CHAPLAIN TO THE LORD BISHOP OF CARLISLE.

*Author of "The Life of the Rev. E. Bickersteth."*

The Difficulties of Belief, in connexion with the  
Creation and the Fall. Crown 8vo. cloth, 4s. 6d.

*"Without binding ourselves to the immediate acceptance of this interesting volume, we may yet express our hearty approbation of its tone."*

CHRISTIAN REMEMBRANCER.

*"A profound and masterly essay."*—ECLECTIC.

*"His arguments are original, and carefully and logically elaborated. We may add that they are distinguished by a marked sobriety and reverence for the Word of God."*—RECORD.

*"Of sterling value."*—LONDON QUARTERLY.

BY THE HON. HENRY E. J. HOWARD, D.D.,

*Dean of Lichfield.*

The Pentateuch, or the Five Books of Moses.  
Translated into English from the Version of the LXX. With  
Notes on its Omissions and Insertions, and also on the Passages  
in which it differs from the Authorised Version.

3 vols. crown 8vo. cloth. Sold separately, as follows:—

Genesis. 1 vol. 8s. 6d. Exodus and Leviticus. 1 vol. 10s. 6d.

Numbers and Deuteronomy. 1 vol. 10s. 6d.

*"The Work deserves high commendation; it is an excellent introduction to the comparative study of God's Word, in these three languages with which an ordinary English student is mainly, if not entirely concerned."*—GUARDIAN.

BY J. T. ABDY, LL.D.

*Regius Professor of Civil Law in the University of Cambridge.*

A Historical Sketch of Civil Procedure among the  
Romans. Crown 8vo. cloth, 4s. 6d.

BY DAVID MASSON, M.A.,

*Professor of English Literature in University College, London.*

## Essays, Biographical and Critical: chiefly on English Poets. 8vo. cloth, 12s. 6d.

## OPINIONS.

"Mr. Masson has succeeded in producing a series of criticisms in relation to creative literature, which are satisfactory as well as subtle,—which are not only ingenious, but which possess the rarer recommendation of being usually just . . . But we pass over these Essays to that which is in the main a new, and, according to our judgment, an excellent biographical sketch of Chatterton. . . This 'Story of the Year 1770,' as Mr. Masson entitles it, stands for nearly 200 pages in his volume, and contains, by preference, the fruits of his judgment and research in an elaborated and discursive memoir. . . Its merit consists in the illustration afforded by Mr. Masson's inquiries into contemporary circumstances, and the clear traces thus obtained of Chatterton's London life and experience. . . . Mr. Masson unravels this mystery very completely."—TIMES.

"No one who reads a single page of Mr. Masson will be likely to content himself with that alone. He will see at a glance that he has come across a man endowed with a real love of poetry; a clear, fresh, happy insight into the poet's heart; and a great knowledge of the historical connexion of its more marked epochs in England. He has distinct and pleasant thoughts to utter; he is not above doing his very best to utter them well; there is nothing stowenly or clumsy or untidy in their expression; they leap along in a bright stream, bubbling, sparkling, and transparent."—THE GUARDIAN.

"Worthy of being ranked among the very foremost of their class. . . The longest and finest composition of the work—a gem in literary biography—is its 'Chatterton, a Story of the Year 1770.' . . . This singularly interesting and powerful biography fills up this sad outline as it never was filled up before."

EDINBURGH WITNESS (edited by Hugh Miller).

"His life of Chatterton is a complete, symmetrical and marvellous work of art . . . a classical biography."—THE GLASGOW COMMONWEALTH.

"Will secure both attention and respect."—EXAMINER.

"Very admirable criticisms, which show not only a thorough acquaintance with the works he criticises, but a deep sense of poetic beauty."—DAILY NEWS.

"We know not where to find a larger amount of discriminating, far-seeing, and genial criticism within the same compass."—BRITISH QUARTERLY REVIEW.

"Here is a biography (the essay on Chatterton) told without exaggeration, without unwarranted use of hypothetical incidents, yet surpassing the most highly-wrought fiction in its power over our emotions."

THE WESTMINSTER REVIEW.

"Not only a series of biographical studies, but in some sort a philosophical history of English poetry from Shakspeare to Alexander Smith."—THE LEADER.

"Distinguished by a remarkable power of analysis, a clear statement of the actual facts on which speculation is based, and an appropriate beauty of language. These Essays should be popular with serious men."—THE ATHENÆUM.

*THE WORKS OF***FREDERICK DENISON MAURICE, M.A.,***Chaplain of Lincoln's Inn.*

## Expository Works on the Holy Scripture:—

1. The Patriarchs and Lawgivers of the Old Testament. Second Edition. Crown 8vo. cloth, 6s.

This Volume contains Discourses on The Pentateuch, Joshua, Judges, and the beginning of the First Book of Samuel.

2. The Prophets and Kings of the Old Testament. Second Edition. Crown 8vo. cloth, 10s. 6d.

This Volume contains Discourses on Samuel I. and II., Kings I. and II. Amos, Joel, Hosea, Isaiah, Micah, Nahum, Habbakuk, Jeremiah, and Ezekiel.

3. The Unity of the New Testament. 8vo. cloth, 14s.

This Volume contains Discourses on the Gospels of St. Matthew, St. Mark, and St. Luke; the Acts of the Apostles; the Epistles of St. James, St. Jude, St. Peter, and St. Paul.

4. The Gospel of St. John. A Series of Discourses. Second Edition, Crown 8vo. cloth, 10s. 6d.

5. The Epistles of St. John. A Series of Lectures on Christian Ethics. Crown 8vo. cloth, 7s. 6d.

## Expository Works on the Prayer-Book:—

1. The Ordinary Services. A Series of Sermons. Second Edition. Fcap. 8vo. cloth, 5s. 6d.

2. The Church a Family. Twelve Sermons on the Occasional Services. Fcap. 8vo. cloth, 4s. 6d.

The Doctrine of Sacrifice deduced from the Scriptures. Crown 8vo. cloth, 7s. 6d.

Learning and Working. The Religion of Rome, and its Influence on Modern Civilization.

In 1 vol. Crown 8vo. cloth, 5s.



## MR. MAURICE'S WORKS—continued.

- Ecclesiastical History. 8vo. cloth, 10s. 6*d.*
- Theological Essays. SECOND EDITION. Crown 8vo. 10s. 6*d.*
- Christmas Day, and other Sermons. 8vo. cloth, 10s. 6*d.*
- The Religions of the World in their Relations to Christianity. Third Edition. Fcp. 8vo. cloth, 5*s.*
- CONTENTS: Mahometanism—Hindooism—Buddhism—The Old Persian Faith—The Egyptian—The Greek—The Roman—The Gothic—The Relation between Christianity and Hindooism, &c.
- The Lord's Prayer. Third Edition. Fcp. 8vo. cloth, 2*s.* 6*d.*
- The Sabbath, and other Sermons. Fcp. 8vo. cloth, 2*s.* 6*d.*
- Law on the Fable of the Bees. Fcp. 8vo. cloth, 4*s.* 6*d.*

- The Worship of the Church. A Witness for the Redemption of the World.
- The Word "Eternal" and the Punishment of the Wicked. Third Edition. 1*s.*
- Eternal Life and Eternal Death. 1*s.* 6*d.*
- The Name Protestant, and the English Bishopric at Jerusalem. Second Edition. 3*s.*
- Right and Wrong Methods of Supporting Protestantism. 1*s.*
- The Duty of a Protestant in the Oxford Election. 1847. 1*s.*
- The Case of Queen's College, London. 1*s.* 6*d.*
- Death and Life. In Memoriam C.B.M. 1*s.*
- Administrative Reform. 3*d.*

# MANUALS FOR THEOLOGICAL STUDENTS,

*Uniformly Printed and Bound,*

NOW IN COURSE OF PUBLICATION.

It is now about five years since the Prospectus of this Series was first issued. Four volumes have now been published, and several others are in an advanced state. The reception which the volumes already published have met with, has fully justified the anticipation with which the Publishers commenced the Series, and warrants them in the belief, that their aim of supplying books “concise, comprehensive, and accurate,” “convenient for the professional Student and interesting to the general reader,” has been not unsuccessfully fulfilled.

The following paragraphs appeared in the original Prospectus, and may be here conveniently reproduced:—

“The Authors being Clergymen of the English Church, and the Series being designed primarily for the use of Candidates for office in her Ministry, the books will seek to be in accordance with her spirit and principles; and as the spirit and principles of the English Church teach charity and truth, so in treating of the opinions and principles of other communions, every effort will be made to avoid acrimony or misrepresentation.

“It will be the aim of the writers throughout the Series to avoid all dogmatic expression of doubtful or individual opinions.”

THE FOLLOWING FOUR VOLUMES ARE NOW READY:—

## THEOLOGICAL MANUALS—continued.

1. A General View of the History of the Canon of the New Testament during the FIRST FOUR CENTURIES. By BROOKE FOSS WESTCOTT, M.A., Assistant Master of Harrow School, formerly Fellow of Trinity College, Cambridge.

Crown 8vo. cloth, 12s. 6d.

## OPINIONS OF THE PRESS.

“A work which forms one of the invaluable series of *Theological Manuals* now in course of publication at Cambridge.”

BRITISH AND FOREIGN EVANGELICAL REVIEW.

“The Author is one of those who are teaching us that it is possible to rifle the storehouses of German theology, without bearing away the taint of their atmosphere: and to recognise the value of their accumulated treasures, and even track the vagaries of their theoretic ingenuity, without abandoning in the pursuit the clear sight and sound feeling of English common sense . . . . It is by far the best and most complete book of the kind; and we should be glad to see it well placed on the lists of our examining chaplains.”—GUARDIAN.

“Learned, dispassionate, discriminating, worthy of his subject and the present state of Christian Literature in relation to it.”—BRITISH QUARTERLY.

“To the student in Theology it will prove an admirable Text-Book: and to all others who have any curiosity on the subject it will be satisfactory as one of the most useful and instructive pieces of history which the records of the Church supply.”—LONDON QUARTERLY.

“The Author carries into the execution of his design a careful and painstaking scholarship . . . . Considered as a list of Testimonials in favour of the canonical writings, our Author’s work deserves the praise of great diligence and manifest conscientiousness.”—NATIONAL REVIEW.

“If the rest of the series of manuals, of which the present volume forms a part, are as ably executed, the Christian public will be greatly indebted to the projectors of the plan.”—LITERARY CHURCHMAN.

“There is nothing, so far as we know, resembling it in the English tongue . . . . We have here presented to us a striking and luminous view of a very broad and comprehensive subject, marked throughout by rich and copious erudition. A volume which we consider a most valuable addition to the literature of Revelation. Scripture Expositors, of whatever name, will acknowledge that they have been laid under deep obligation by the work of MR. WESTCOTT.”

BRITISH BANNER.

“The conception of the work, and the discrimination and learning with which it is executed, adapt it most thoroughly to the present state and forms of controversy on the subject to which it relates.”—NONCONFORMIST.

## THEOLOGICAL MANUALS—continued.

2. A History of the Christian Church from the Seventh Century to the Reformation. By CHARLES HARDWICK, M.A., Fellow of St. Catharine's College, Divinity Lecturer of King's College, and Christian Advocate in the University of Cambridge, Author of "A History of the XXXIX Articles." *With Four Maps constructed for this Work by A. Keith Johnston.*

Crown 8vo. cloth, 10s. 6d.

## OPINIONS OF THE PRESS.

- "It is full in references and authority, systematic and formal in division, with enough of life in the style to counteract the dryness inseparable from its brevity, and exhibiting the results rather than the principles of investigation. MR. HARDWICK is to be congratulated on the successful achievement of a difficult task."—CHRISTIAN REMEMBRANCER.
- "He has bestowed patient and extensive reading on the collection of his materials; he has selected them with judgment; and he presents them in an equable and compact style."—SPECTATOR.
- "This book is one of a promised series of 'THEOLOGICAL MANUALS.' In one respect, it may be taken as a sign of the times. It is a small unpretending volume in appearance, but it is based on learning enough to have sufficed, half a century since, for the ground of two or three quartos, or at least for several portly octavos. For its purpose it is admirable, giving you a careful and intelligent summary of events, and at the same time indicating the best sources of information for the further guidance of the student. Among the authorities thus referred to, we find the most modern as well as the most ancient, the continental as well as the English."—BRITISH QUARTERLY.
- "It is distinguished by the same diligent research and conscientious acknowledgment of authorities which procured for MR. HARDWICK'S 'History of the Articles of Religion' such a favourable reception."—NOTES AND QUERIES.
- "To a good method and good materials MR. HARDWICK adds that great virtue, a perfectly transparent style. We did not expect to find great literary qualities in such a manual, but we have found them; we should be satisfied in this respect with conciseness and intelligibility; but while this book has both, it is also elegant, highly finished, and highly interesting."—NONCONFORMIST.
- "As a manual for the student of Ecclesiastical History in the Middle Ages, we know no English work which can be compared to MR. HARDWICK'S book. It has two great merits, that it constantly refers the reader to the authorities, both original and critical, on which its statements are founded; and that it preserves a just proportion in dealing with various subjects."—GUARDIAN.

## THEOLOGICAL MANUALS—continued.

## 3. A History of the Christian Church during the Reformation. By CHARLES HARDWICK, M.A.

Crown 8vo. cloth, 10s. 6d.

## OPINIONS OF THE PRESS.

“The whole volume displays a profusion of learning, great accuracy and honesty in collecting and collating authorities, a clear as well as a concise narrative of events; and it always refers to the authorities on which the history is grounded.”

CHRISTIAN REMEMBRANCER.

“Exhibits a deep comprehension and a firm grasp of his theme, with the ease and mastery in treatment which such qualities generattly impart.....The utility of Mr. HARDWICK’S work consists in bringing the greater and minor histories connected with the Reformation into a single volume of compact shape, as well as presenting their broad features to the student. The merit of the history consists in the penetration with which the opinions of the age, the traits of its remarkable men, and the intellectual character of the history, are perceived, and the force with which they are presented.”—SPECTATOR.

“A more satisfactory manual than England has hitherto produced.....He has laboured tearnedty and diligentty, at first hand, among the sources and authorities for the ecclesiastical history of the period of which he writes; and has produced a work really original, as far as such a work can be; independent in its judgments; written with taste and feeling; and offering, in its large body of notes, aids and guidance to the fullest investigation the subject can possibly receive.”—NONCONFORMIST.

“His readers will find him a lively, a luminous, and interesting companion, as well as a generally trustworthy guide.”—BRITISH BANNER.

“He enters fairly into the questions of which he speaks, and does not attempt to evade their difficulty by vague statements . . . We cordially recommend this work to those who desire an orderly and lucid summary of the leading events of the Reformation . . . We may also observe, that Mr. Hardwick has availed himself of the latest German authorities.”

LITERARY CHURCHMAN.

“The style is lucid and the plan comprehensive. The facts are well arranged, and their relations ably brought out . . . Will be esteemed by most students as judicious, helpful, and suggestive.”—EVANGELICAL REVIEW.

“He writes from genuine and independent sources. Though his work is short, it partakes in no respect of the character of a compilation.”—THE PRESS.

“It is impossible to speak too highly of the extensive and careful research the book everywhere manifests.”—BAPTIST MAGAZINE.

## THEOLOGICAL MANUALS—continued.

4. A History of the Book of Common Prayer, together with a Rationale of the several Offices. By the Rev. FRANCIS PROCTER, M.A., Vicar of Witton, Norfolk, formerly Fellow of St. Catharine's College, Cambridge. Third Edition, revised and enlarged. Crown 8vo. cloth, 10s. 6d.

“MR. PROCTER'S ‘History of the Book of Common Prayer’ is by far the best commentary extant . . . . Not only do the present illustrations embrace the whole range of original sources indicated by MR. PALMER, but MR. PROCTER compares the present Book of Common Prayer with the Scotch and American forms; and he frequently sets out in full the Sarum Offices. As a manual of extensive information, historical and ritual, imbued with sound Church principles, we are entirely satisfied with MR. PROCTER'S important volume.”

CHRISTIAN REMEMBRANCER.

“It is a résumé of all that has been done in the way of investigation in reference to the Prayer-Book.”—ATHENÆUM.

“We can have little doubt that MR. PROCTER'S History of our Liturgy will soon supersede the well-known work of WHEATLY, and become a much-used handbook beyond the circuits of the University for the more immediate use of which it has been produced.”—NOTES AND QUERIES.

“Although very decidedly anti-Roman in its tone, we gladly accept it as a substitute for the dull and dreary dogmatism of WHEATLY. It presents, in a popular and agreeable narrative, the history of those variations to which so much attention has been directed during the late eventful controversies; and while it contains a very careful, learned and scholarlike exposition of these changes, it also furnishes a most valuable commentary on the successive texts of the formularies themselves, as they are exhibited either in the original editions, or in the useful manuals of BULLEY and KEELING.”—DUBLIN REVIEW (Roman Catholic).

“We can speak with just praise of this compendious but comprehensive volume. It appears to be compiled with great care and judgment, and has profited largely by the accumulated materials collected by the learning and research of the last fifty years. It is a manual of great value to the student of Ecclesiastical History and of almost equal interest to every admirer of the Liturgy and Services of the English Church.”—LONDON QUARTERLY REVIEW.

“It is indeed a complete and fairly-written history of the Liturgy; and from the dispassionate way in which disputed points are touched on, will prove to many troubled consciences what ought to be known to them, viz.:—that they may, without fear of compromising the principles of evangelical truth, give their assent and consent to the contents of the Book of Common Prayer. MR. PROCTER has done a great service to the Church by this admirable digest.”

CHURCH OF ENGLAND QUARTERLY.

OTHERS ARE IN PROGRESS, AND WILL BE ANNOUNCED IN DUE TIME.

**CLASS BOOKS FOR COLLEGES AND SCHOOLS.**

- MR. AIRY'S (Astronomer Royal) MATHEMATICAL TRACTS.  
Fourth Edition. [*In the Press.*]
- PROFESSOR BOOLE ON DIFFERENTIAL EQUATIONS. [*Preparing.*]
- MR. COOPER'S GEOMETRICAL CONIC SECTIONS. [*In the Press.*]
- MR. DREW'S GEOMETRICAL CONIC SECTIONS. 4s. 6d.
- MR. GODFRAY'S TREATISE ON THE LUNAR THEORY. 5s. 6d.
- MR. GRANT'S PLANE ASTRONOMY. 6s.
- MR. HEMMING'S DIFFERENTIAL AND INTEGRAL CALCULUS.  
Second Edition. 9s.
- MR. MORGAN'S MATHEMATICAL PROBLEMS AND ANSWERS.  
[*In the Press.*]
- MR. PARKINSON'S ELEMENTARY MECHANICS. 9s. 6d.
- MR. PARKINSON'S ELEMENTARY TREATISE ON OPTICS. [*Preparing.*]
- MR. PHEAR'S ELEMENTARY HYDROSTATICS. 5s. 6d.
- MR. PUCKLE'S (Head Master of Windermere College) ELEMENTARY  
CONIC SECTIONS. Second Edition. 7s. 6d.
- MR. BARNARD SMITH'S ARITHMETIC AND ALGEBRA.  
Fifth Edition. 10s. 6d.
- MR. BARNARD SMITH'S ARITHMETIC FOR SCHOOLS.  
New Edition. 4s. 6d.
- MR. BARNARD SMITH'S KEY TO THE ABOVE. 8s. 6d.
- MR. BARNARD SMITH'S MECHANICS AND HYDROSTATICS.  
[*Preparing.*]
- MR. SNOWBALL'S PLANE AND SPHERICAL TRIGONOMETRY.  
Ninth Edition. 7s. 6d.
- MR. SNOWBALL'S INTRODUCTION TO PLANE TRIGONOMETRY.  
Second Edition. 5s.
- MR. SNOWBALL'S CAMBRIDGE COURSE OF MECHANICS AND HYDRO-  
STATICS. Fourth Edition. 5s.
- PROF. TAIT'S AND MR. STEELE'S TREATISE ON DYNAMICS. 10s. 6d.
- MR. TODHUNTER'S TREATISE ON DIFFERENTIAL AND ELEMENTS  
OF INTEGRAL CALCULUS. Second Edition. 10s. 6d.
- MR. TODHUNTER'S TREATISE ON INTEGRAL CALCULUS AND ITS  
APPLICATIONS. 10s. 6d.
- MR. TODHUNTER'S ANALYTICAL STATICS. 10s. 6d.
- MR. TODHUNTER'S CONIC SECTIONS. 10s. 6d.
- MR. TODHUNTER'S TREATISE ON ALGEBRA. [*In the Press.*]

*CLASS BOOKS—continued.*

- MR. TODHUNTER'S ALGEBRA FOR BEGINNERS. [Preparing.]
- PROF. WILSON'S TREATISE ON DYNAMICS. 9s. 6d.
- CAMBRIDGE SENATE-HOUSE PROBLEMS, 1848 TO 1851. With Solutions by Messrs. FERRERS and JACKSON. 15s. 6d.
- CAMBRIDGE SENATE-HOUSE RIDERS, 1848 TO 1851. With Solutions by Mr. JAMESON. 7s. 6d.
- CAMBRIDGE SENATE-HOUSE PROBLEMS AND RIDERS, 1854. With Solutions by Messrs. WALTON & MACKENZIE. 10s. 6d.
- CAMBRIDGE SENATE-HOUSE PROBLEMS, AND RIDERS, 1857. With Solutions by Messrs. CAMPION and WALTON. 8s. 6d.

- 
- MR. DRAKE'S EUMENIDES OF ÆSCHYLUS. With English Notes. 7s. 6d.
- MR. DRAKE'S DEMOSTHENES DE CORONA. With English Notes. 5s.
- MR. FROST'S THUCYDIDES, BOOK VI. With English Notes. 7s. 6d.
- DR. HUMPHREYS' EXERCITATIONES IAMBICÆ; OR, EXERCISES IN GREEK IAMBIC VERSE. With Rules. Second Edition. 5s. 6d.
- MR. MAYOR'S JUVENAL FOR SCHOOLS. With English Notes. 10s. 6d.
- MR. MERIVALE'S SALLUST FOR SCHOOLS. With English Notes. 5s.
- MR. THRING'S CONSTRUING BOOK. 2s. 6d.
- MR. WRIGHT'S (Head Master of Sutton Coldfield School) HELLENICA; A FIRST GREEK CONSTRUING BOOK. Second Edition. With English Notes and Vocabulary. 3s. 6d.
- MR. WRIGHT'S HELP TO LATIN GRAMMAR. 4s. 6d.
- MR. WRIGHT'S SEVEN KINGS OF ROME; A FIRST LATIN CONSTRUING BOOK. *Second Edition.* With English Notes. 3s.
- MR. WRIGHT'S VOCABULARY AND EXERCISES FOR THE ABOVE. 2s. 6d.

- 
- MR. THRING'S (Head Master of Uppingham School) ELEMENTS OF GRAMMAR. New Edition. 2s.
- MR. THRING'S CHILD'S GRAMMAR. New Edition. 1s.
- MR. PARMINTER'S MATERIALS FOR ENGLISH GRAMMAR. 3s. 6d.
- MR. RAMSAY'S MANUAL ON THE CHURCH CATECHISM. 3s. 6d.
- MR. SWAINSON'S HANDBOOK TO BUTLER'S ANALOGY. 2s.
- MR. CROSSE'S ANALYSIS OF PALEY'S EVIDENCES. 3s. 6d.
- MR. SIMPSON'S EPITOME OF CHURCH HISTORY. New Edition. 5s.
- DR. WILSON'S FIVE GATEWAYS OF KNOWLEDGE. Cloth, 2s. 6d.; paper, 1s.







