AN ATLAS
OF THE
FOSSIL CONCHOLOGY
OF
GREAT BRITAIN AND IRELAND

WITH DESCRIPTIONS OF ALL THE SPECIES

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PUBLISHERS' PREFACE.

CAPTAIN THOMAS BROWN'S "Illustrations of the Fossil Conchology of Great Britain and Ireland" being now extremely rare, and to be obtained only with difficulty and at high prices, the publishers have decided to re-issue the Illustrations from the original steel plates in their possession. Each figure is accompanied by descriptive letterpress, which, for convenience of reference, is placed directly opposite the plate which it describes. The Illustrations have been very carefully reproduced by Mr. PRESTON, and it is hoped that they will be found to be in no way inferior to those of the original work. The Engravings were made by artists of established reputation from the drawings of Captain Brown, and amount to 114 plates, or about 3,500 figures.

PLATE I.

1. **Baculites Faujasii.** (*Fauja's Baculite.*) Smooth, both edges equally rounded, and sides slightly compressed.

2. **Hamites Tenuis.** (*Slender Hamite.*) Straight, compressed; annulations obtuse, wavy, oblique, somewhat irregular; sometimes obsolete on back margin, sometimes reach only half way.

3. **H. Lyelli.** (*Lyell's Hamite.*) Compressed; gently curved; with remote, slightly developed spiral ribs.

4. **H. Incurvatus.** (*Incurved Hamite.*) Slightly bent, tapering, a little compressed; with firm, regular annulations, strongly elevated.

5. **H. Attenuatus.** (*Attenuated Hamite.*) Cylindrically compressed, larger limb abruptly attenuated under the curve; numerous obtuse annulations, becoming obsolete towards the back.

6. **B. Obliquatus.** (*Oblique Baculite.*) Very obliquely undulated and annular surface; annulations deepest at margins or where siphuncle is situated.

7. Rare variety of 6. Aperture placed obliquely; each side, with large oval, reflected lobe.

8. **H. Costatus.** (*Ribbed Hamite.*) Slightly compressed, with remote, strong, oblique, undulous annulations, descending to internal side; most developed towards outer side.

9. **H. Grandis.** (*Great Hamite.*) Surface, with numerous shallow, oblique undulations in front; each side, with a few short, oblique ribs, largest at extremities; between each rib six produced, rounded sulci, reaching line, under which siphuncle is situated; posterior surface smooth; margins of septa, with six, very acute, numerous sinuses, arranged into six very unequal lobes; section, sub-rotund.

10. **H. Annulatus.** (*Ringed Hamite.*) Slightly compressed, incurved, with regular, equidistant, distinct annulations; rather less raised on inner side.

11. **H. Rectus.** (*Straight Hamite.*) Straight, numerous annulations, oblique, descending to the right, only slightly developed; aperture roundish oval.

12. **H. Inflexus.** (*Inflected Hamite.*) Hooked, with strong, remote, nearly equidistant, wavy annulations, interrupted by a sub-carina on internal side; between these two short, pointed ribs, extending over about half the surface on external side.

13. **H. Gigas.** (*Giant Hamite.*) Abruptly curved, with large, transverse, nodulous, oblique ribs, six tubercles generally on each, laterally expanded; on both sides three obtuse spines, united to form each rib; ribs almost obsolete in front; larger spines placed near the front; section hexagonal, protruding in front; sides and back concave. Size from aperture to extreme edge of curve, $6\frac{1}{2}$ in.; maximum thickness, $2\frac{1}{2}$ in.

14. **H. Maximus.** (*Great Hamite.*) Slightly compressed, with oblique annulations, nearly obsolete at back; larger end semi-ovate, smaller end nearly round.

PLATE II.

1. **Hamites Ellipticus.** (*Oval Hamite.*) Compressed, with evenly undulating ribs, each with two small tubercles on outer margin; curvature elliptical.

2. **H. Bucklandi.** (*Buckland's Hamite.*) Compressed, horn-shaped, much and gradually incurvated; annulations, somewhat remote, slightly developed, oblique, nearly obsolete on inner margin.

2 (a). Transverse section, showing lobes and saddles and siphuncle.

3. **H. Tuberculatus.** (*Tuberculated Hamite.*) Compressed; gradually eurved, unequal undulations, every third one larger than the others, with two obtuse tubercles on both sides, lateral ones somewhat obscure; between each tuberculated ring usually two smaller ones.

4. **H. Adpressus.** (*Adpressed Hamite.*) Flattened in front, without annulations, lesser limb acute and pressed close to larger one; surface smooth, with equidistant circles over whole shell, apparently septa.

5. **H. Nodosus.** (*Knotty Hamite.*) Nearly round, externally pearly; with regular, annular undulations; two rows of obtuse tubercles in front, each tubercle seated upon two of the rings, each pair of annulations with a simple one between them; aperture somewhat ovate.

6. **H. Armatus.** (*Armed Hamite.*) Depressed, with nearly regular, continuous, transverse, simple ridges, and a row of flattened tubercles next to interior margin, and another close to dorsal limb, connected by broad, high ridges; on each side a series of these armed with long spines; limb of other side with simple tubercles; ridges very indistinct on dorsal region. Greatest diameter, $1\frac{1}{8}$ in.

7. **H. Rotundus.** (*Round Hamite.*) Shell round, slightly and gradually curved; with regular, somewhat obtuse, numerous annulations; aperture round.

8. **H. Turgidus.** (*Turgid Hamite.*) Compressed with abrupt, irregularly turgid front, with two rows of small tubercles on each side on every alternate annulation; regular annulations, obsolete on back, sometimes only one row of tubercles.

9. **H. Multicostatus.** (*Many-ribbed Hamite.*) Sub-cylindrical; with numerous oblique, narrow ribs; no appearance of tubercles. Diameter nearly $1\frac{1}{8}$ in.

10. **H. Plicatilis.** (*Folded Hamite.*) Compressed, with numerous continuous, annular, undivided ridges; each side with two rows of depressed, equal tubercles, extending over those of the annular ridges; two ridges between each tubercle; curvature gradual.

11. **H. Undulatus.** (*Waved Hamite.*) Depressed; irregular transverse annulations with two rows of large, flattened tubercles; curvature abrupt.

12. **H. Spiniger.** (*Spined Hamite.*) Compressed; numerous curved, slightly transverse, irregularly formed ridges; with two rows of sharp tubercles on each side, placed near dorsal limb; aperture oval; curvature gradual. Maximum diameter, $\frac{5}{8}$ in.

13. **H. Alternatus.** (*Alternating Hamite.*) Sub-cylindrical; with distinct, oblique, annular ribs, obsolete in internal margin; with two rows of largish, marginal tubercles, placed on each alternate rib; curvature gradual.

PLATE III.

1. **Hamites Gibbosus.** (*Bulging Hamite.*) Gibbose; with prominent, oblique annulations; descending from outer surface and spreading out into flattened, continuous plate behind; back much depressed; front rounded. Shortest diagonal from back to front.

2. **H. Intermedius.** (*Intermediate Hamite.*) Compressed; with continuous, oblique, protruding annulations, somewhat flattened, thickest on outer surface, and descending from internal side.

3. **H. Spinulosus.** (*Prickly Hamite.*) Compressed, with gradual curvature; with equally prominent, regular undulations, nearly obsolete on narrow back; each alternate one with two sharp spines on each side near front; aperture elliptical.

7. **H. Compressus.** (*Compressed Hamite.*) Compressed; with oblique, sharp, regular, slightly undulating annulations, thickest and most prominent behind; thicker end oval. Breadth two-thirds its length.

4, 9. **Turrilites Undulata.** (*Waved Turrilite.*) Whorls reversed; with numerous, prominent, equidistant, undulating, oblique, longitudinal ribs. Often 3 in. in diameter.

5. **T. Tuberculata.** (*Tuberculated Turrilite.*) Whorls reversed; centre of whorls with single row of fifteen or sixteen large tubercles; those on body elongated, forming irregular, tubercular costæ, with three bands of small ones at base; whorls much inflated and deeply divided by undulating suture; siphuncle immediately between larger tubercles and upper edge of whorls; base of aperture contracted. A specimen estimated to have measured upwards of two feet.

6. **T. Obliqua.** (*Oblique Turrilite.*) Whorls dextral; deeply divided; upper portions narrow and abruptly widening towards base; base of each, with oblique, elliptical tubercles, giving whorls angular appearance, suture well marked.

8. **T. Bergeri.** (*Berger's Turrilite.*) Whorls of spire turreted, deeply divided, flattened above; with longitudinal, oblong, ovate, continuous rows of tubercles having a somewhat eaten appearance; upper whorls with three, next with five series; siphuncle apparent near upper or dorsal margins of two whorls; sinuous edges of transverse plates visible in central whorl; entire surface of a transverse plate laid open on smaller end of third whorl, showing lobes and saddles to be analogous to same parts in Ammonites.

10. **T. Costata.** (*Ribbed Turrilite.*) Whorls reversed; upper half of whorls with about twenty smooth, rounded, prominent, equidistant, subulate ribs, reaching to centre of whorls, with zone of prominent, slightly elliptical tubercles beneath; in many instances tubercles and ribs pass into each other. Length from 3 to 6 in.

PLATE III.*

1, 2, 3. **Lituities Giganteus.** (*Gigantic Lituities.*) About three rather compressed whorls; surface, with numerous, transverse, arcuated ribs, obsolete over margin; aperture somewhat quadrangular, with rounded corners; siphuncle nearly central. Diameter of last whorl $4\frac{1}{2}$ in., length of aperture $1\frac{3}{4}$ in. Fig. 2 represents a section; and Fig. 3, a portion of back.

4, 5. **Clymenia Linearis.** (*Lined Clymenia.*) Inner whorls discoidal, convolute; back with smooth, narrow, central keel; section of whorl elliptical, oblong, impressed by inner whorl; siphuncle small; surface, with gently bent, transverse striae; septa obsolete.

6. **Actinoceras Simmsii.** (*Simm's Actinoceras.*) Shell large, conical; upper chamber very deep; siphuncle large, continuous, contracted at attachments; septa composed of several laminae and rather thick. Length about 2 ft.

7, 8, 9. **Cyrtoceras Nautiloideum.** (*Nautilus-shaped Cyrtoceras.*) Involute, tapering; section nearly circular; septa slightly oblique; siphuncle near back, almost half way from centre towards convex line of shell. Fig. 8, chamber of *C. marginale* seen on face; fig. 9, ditto on edge.

10. **Gomphoceras Pyriforme.** (*Pear-shaped Gomphoceras.*) Ovate, pear-shaped, with chambered portion elongated; septa numerous, even; siphuncle largish, half way between centre and margin, and inflated between septa; aperture narrow; surfaces smooth. Length of inflated portion 4 in., diameter of ditto $2\frac{1}{2}$ in.

11. **Phragmoceras Ventricosum.** (*Bellied Phragmoceras.*) Compressed, slightly arcuated, somewhat hooked near apex; aperture nearly closed in middle; beak produced; surface, with many ridges, crossing edges of numerous septa.

12, 13. **Crioceras Bowerbankii.** (*Bowerbank's Crioceras.*) Four whorls, slightly flattened on sides and nearly close; inner ones, with numerous, radiating sulci, which, disappearing upon outer whorl, are succeeded by eight or ten thick, arcuated ribs, extending across whorl; aperture thinly edged and transversely oblong. Diameter $7\frac{1}{2}$ in., breadth of aperture $2\frac{1}{2}$ in.

PLATE IV.

1. *Turrilites Undulata*. (*Waved Turrilite*.) Vide Plate III. 4, 9.

2. *Ammonites Stellaris*. (*Star Ammonite*.) Involute, with four somewhat depressed whorls; obtusely carinated, on each side of which is a rounded furrow, inner whorls about two-thirds visible, with sides flattened, producing pentagonal or stellated appearance; with numerous straight, moderately raised ribs; whole surface, with obscure, decussating striæ; sinuous margin of each septum crossed by two costæ; septa situated at each fourth rib; siphuncle placed in keel; aperture quadrangular. Maximum diameter, $4\frac{1}{2}$ in.

3. *A. Lewesiensis*. (*Lewes Ammonite*.) Depressed; three or four wide, flattened whorls, almost entirely concealed, with four or five obscure, radiating ridges; septa sinuous, very numerous; surface, usually with thin, foliaceous impressions; external whorl equal to four-sevenths of diameter of shell; umbilicus minute; carene very narrow, rounded; aperture sagittate. Maximum diameter about 14 in.; width of outer whorl, 9 in.; maximum thickness, 5 in.; at external edge, $1\frac{1}{2}$ in.

4, 9, *A. Mantelli*. (*Mantell's Ammonite*.) Discoidal, depressed, sub-umbilicate; whorls three or four, sub-rotund, about two-thirds concealed; margin trigonal; with numerous, transverse, tuberculate ribs, alternately reaching entirely round whorls; from two to eight rows of tubercles; ambit flattish, with two rows of marginal tubercles; external edges of septa with five principal folds; aperture nearly hexagonal, outside embracing adjoining whorl; septa numerous, very foliaceous.

Figs. 4, 9, one of three varieties; viz. *A. Mantelli Costata*.

5. Base of *Turrilites tuberculata*; vide Plate III. 5.

6, 6. *A. Striatus*. (*Striated Ammonite*.) Discoidal; very gibbose; inner whorls entirely concealed; outer surface obscurely undulated transversely, with numerous, fine, concentric striæ; aperture semicircular, with nearly parallel margins; septa zigzag, rather remote, with four angular folds; siphuncle placed at external margin of septum; shell very thin. Dorsal lobe bifid; dorsal sinus and first lateral lobe acute; second lateral lobe obtusely rounded; marginal sinus angular; siphuncle not continuous.

7, 7. *A. Sphaericus*. (*Spherical Ammonite*.) Orbicular; diameter and thickness nearly equal; inner volutions entirely concealed; outer surface, with very fine, spiral striæ; septa, with four broad, angular folds; lateral lobe less acute than in preceding species.

This grows to double the size of *A. Striatus*.

8. *A. Obtusus*. (*Obtuse Ammonite*.) Vide also Plate VI. 4. Discoidal; with obtusely rounded and elevated keel; slight sulcus on each side; six volutions, inner ones wholly exposed, with large curved, remote, slightly elevated, strong ribs; aperture oblong, longer than wide, about equal to one-third of diameter. Largest diameter, $5\frac{1}{2}$ in.

9. Vide Fig. 4.

10. *A. Minutus*. (*Minute Ammonite*.) Orbicular, with small umbilicus; thickness and diameter nearly equal; inner volutions concealed, with numerous, concentric, wide striæ, about 24 in number; aperture semilunar. Diameter, $\frac{1}{4}$ in.

PLATE V.

1. **Ammonites Lamberti.** (*Lambert's Ammonite.*) Discoidal, depressed, numerous radiated; alternately long and short, rarely furcated; aperture lanceolate; diameter about four times its thickness. Greatest diameter, $2\frac{1}{2}$ in.

2. **A. Costatus.** (*Ribbed Ammonite.*) With four depressed volutions; margin three-sided, broad, flattened; volutions about two-thirds concealed, with strong, radiating ribs; sides somewhat flattened; aperture six-sided; ambit trigonal.

3. **A. Acutus.** (*Acute Ammonite.*) Somewhat depressed, with three or four volutions, inner one half exposed; surface, with slightly bent ribs; slightly carinated, with margin crenulated, flattish; aperture somewhat cordiform and two-fifths diameter of shell. Diameter, $1\frac{3}{8}$ in.; thickness, $\frac{3}{8}$ in.

4. **A. Omphaloides.** (*Umbilicated Ammonite.*) Gibbous, inner volutions half concealed, outer ones increasing rapidly; with produced, waved ribs; back broad, rounded; aperture transversely oblong, occupying more than half diameter of shell.

5. **A. Quadratus.** (*Square-mouthed Ammonite.*) Somewhat depressed; with four or five volutions, inner ones half concealed; surface, with produced, undulating, nearly uniformly thick, furcated ribs; aperture somewhat quadrangular, extending to about a third of diameter of shell. Diameter, $1\frac{5}{8}$ in.; thickness, $\frac{1}{2}$ in.

6. **A. Giganteus.** (*Gigantic Ammonite.*) Depressed, with usually six volutions; surface with numerous, sometimes furcated, well-rounded ribs; inner volutions exposed; aperture obovate; septa numerous; thickness equal to one-fourth of diameter. This species is the largest of the genus. Size from 4 ft. downwards.

7. **A. Ellipticus.** (*Oval Ammonite.*) Depressed, with sharp keel; inner volutions two-thirds exposed; ribs few, distant, broad, flat, agreeing in number with septa, and slightly curved; aperture oblongly elliptical.

8. **A. Cornuoides.** (*Little-horn Ammonite.*) Involute, depressed; with broad, flattened keel; whole surface, with rather prominent, distinct ribs; inner volutions considerably exposed; aperture sub-cordate. Diameter, $1\frac{1}{4}$ in.; thickness, $\frac{3}{8}$ in.

9. **A. Triplicatus.** (*Three-pleated Ammonite.*) Discoidal, with six exposed volutions, two external ones, separated by a depression or flattened, spiral groove; whole external surface, with strong, equidistant, regular ribs; aperture sub-cordate. Diameter, 8 in.; thickness, 2 in.

10. **A. Biplex.** (*Two-pleated Ammonite.*) Discoidal, with six exposed volutions, separated by depression or flattened groove; with large, equidistant, regular, elevated ribs; dorsal margin rounded; aperture oblong, sub-cordate. Diameter, 8 in.; thickness, 2 in.

PLATE VI.

1. **Ammonites Brongniarti.** (*Brongniarte's Ammonite.*) Gibbous; thickness about two-thirds diameter; minute umbilicus; inner volutions concealed; whole surface with close, undulating, regular, rather depressed, furcated radii; aperture placed transversely, with a thick, inflected lip.

2. **A. Calloviensi.** (*Kelloway's Ammonite.*) Involute, sub-umbilicate, with five volutions, three-fourths concealed; ambit depressed; with very many small, bent, radiating ribs, arranged in sets; aperture deltoidal, with truncated angles; siphuncle placed near upper edge. Greatest diameter, 3 in.

3. **A. Gervillii.** (*De Gerville's Ammonite.*) Gibbous, largely umbilicate, exposing ribbed margins of volutions; thickness rather more than half diameter; with sharp, numerous, close, regular, bent, furcated ribs; inner volutions slightly exposed; aperture transversely oblong, excavated; lip sharp on edge, arched.

4. *Vide* Plate IV. 8.

5. **A. Nutfieldensis.** (*Nutfield Ammonite.*) Involute, with four or five volutions, much concealed; crossed by numerous, strong, prominent ribs, with intermediate shorter ones; septa rather numerous; aperture sub-cordiform; two-fifths of diameter in length, nearly same in width. Diameter, 3 in. to 1 ft.

6. **A. Triplicatus.** (*Three-pleated Ammonite.*) Involute, with four volutions, inner ones exposed; surface, with doubly curved, long and short ribs; septa distant; aperture obovate, about half diameter in length and one-third in width.

7. **A. Excavatus.** (*Hollow Ammonite.*) Involute, lenticular, sub-umbilicate; with sharp, crenulated carina; volutions about six, wholly exposed in young state; entire shell with obscure, curved ribs; aperture sagittate; about half diameter of shell. Greatest diameter, 4 in.

8. **A. Jugosus.** (*Ridged Ammonite.*) Involute, with small, distinct carina; four volutions half-concealed; with large, obtuse, straight ribs, very regular; septa not numerous; margins of same plaited; aperture ovate, narrower behind, about two-fifths diameter of shell and width one-fifth; shell delicate, very thin.

9. **A. Communis.** (*Common Ammonite.*) Involute, with six or eight rounded, wholly exposed volutions; crossed by numerous, strong, prominent, straight ribs, furcated towards dorsal margin, and sometimes re-united on ambit and again divided on opposite side of shell; aperture three-fourths of a circle and about one-fifth diameter of shell; septum round.

10. **A. Angulatus.** (*Angulated Ammonite.*) Involute, with seven or eight rounded, wholly exposed volutions, angular along their inner sides, and divided by a narrow, concave, flattened space, whence numerous, prominent ribs; aperture somewhat longer than wide, width being equal to about one-fifth diameter of shell; sinuated margins of septa rather close.

PLATE VII.

1, 2. **Ammonites Bucklandi.** (*Buckland's Ammonite.*) Depressed, with five volutions, inner ones entirely exposed, with large, obtuse ribs, disappearing round back; back with obtusely rounded earina, on each side of which is a sulcus. Diameter, from 1 ft. to 21 in.

3, 5, 8. **A. Varians.** (*Variable Ammonite.*) Discoidal, compressed, rather thick, sub-umbilicate, carinated; with three or four half-inserted volutions; with transverse, bifurcated, undulated ribs; with six to eight rows of rather obtuse tubercles; earina acute, entire; aperture sagittate; siphuncle considered external. Umbilicus shallow, and sides shallow, bordered by a row of small tubercles, whence ribs emanate and, proceeding obliquely across one-fourth of volutions, rise in form of tubercles, and then diverge into two branches, all terminating in a tubercle on exterior margin; keel smooth, prominent, acute; each margin with series of opposite tubercles. Diameter, from 1 in. to 6 in.

Var. 1, *Sub-plana.* 8. Volutions depressed, radii linear, inner row of tubercles obscure. External margin crenated, keel but slightly elevated, aperture sagittate.

Var. 2, *Intermedia.* Volution rather depressed; ribs broad, well-defined; tubercles small, distinctly marked; external margin tuberculated; keel prominent; aperture sagittate.

Var. 3, *Tuberculata.* Volutions sub-rotund; ribs short, thick, nodulous; tubercles elongated, very prominent; carina acute; aperture somewhat rounded.

4. **A. Duncani.** (*Duncan's Ammonite.*) Compressed, inner volutions exposed about one-third, with a few tubercles upon their sides; whole shell, with many undulating, narrow, oblique ribs, many irregularly furcated, somewhat obscure on middle of sides, and terminated on outer extremities by elongated tubercles on terminal half of exterior volution, but button-shaped on other half; also a row of tubercles on sides of latter half, towards centre of volution; ambit depressed, bounded by two rows of fibuliform tubercles, being a continuation of ribs; aperture ovato-sagittate, and equal to about half greatest diameter of shell; sinuated edges of septa sharp, distinctly marked.

6. **A. Conybeari.** (*Conybear's Ammonite.*) Compressed, with large, greatly produced, entire keel, on each side of which is a concave groove; volutions eight or nine, crossed by numerous, obtuse ribs, being most prominent in centre of volutions, and much depressed at the inner sides; inner sides of volutions somewhat flattened and slightly angular; aperture oblong-ovate. Size, from 2 in. to 18 in.

7. **A. Planicostatus.** (*Flat-ribbed Ammonite.*) Compressed, with six or eight exposed volutions, crossed by many obtuse, nearly straight ribs, widening as they approach the back and depressed near ambit, inclining towards aperture; aperture circular, slightly indented by volutions.

9. **A. Auritus.** (*Eared Ammonite.*) Compressed, with four or five exposed volutions, last one large, occupying about half diameter of shell; surface with depressed, slightly developed, distant, radiating ribs, every alternate one with a large, obtuse tubercle; exterior margin deeply grooved, with large obtuse, alternating, compressed tubercles, projecting in form of ears; aperture oblong-ovate, slightly sagittate.

10. **A. Splendens.** (*Splendid Ammonite.*) Involute, compressed, with three or four volutions, inner ones deeply inserted, outer ones rapidly increasing; sides flattened, with transverse ribs; a row of distant elongated tubercles towards inner margin, from each of which two or three ribs emanate, curving from inner to outer margin, where they terminate in angular eminences, forming crenulated margins on sides of earina; dissepiments sinuated, and very foliaceous siphunculus situate near inner margin; aperture oblong, almost equal in length to half diameter of shell, and deeply indented by inner volutions. Diameter, $\frac{1}{2}$ in. to 2 in.

11. **A. Binus.** (*Coupled Ammonite.*) Involute, depressed; volutions four; inner ones about two-thirds exposed; ribs radiating in pairs, emanating from round tubercles, situate near inner margin of each volution; turgid, and then bent up towards front, becoming obsolete; keel small, entire; aperture oblong, rectangular, one-third diameter of shell, and a little more than one-sixth wide, with rather rounded angles.

PLATE VIII.

1. **Ammonites Lautus.** (*Laurel Ammonite.*) Discoidal, involute, compressed, with three or four two-thirds inserted volutions; back narrow, deeply channelled sides, with many strongly arenated, slender ribs, in pairs from a row of oblique, elongated tubercles near inner margin, and being joined by alternating intermediate shorter ones, proceed in a curve to outer margin, where they terminate in rather depressed, large, alternating tubercles; edges, serrato-tuberculate; dissepiments very foliaceous; aperture obscurely sagittate, equal to half diameter of shell.

2. **A. Armatus.** (*Armed Ammonite.*) Involute, with six or seven exposed volutions pressed against each other, and crossed by many annular ribs, each with two series of large short, furrowed spines, five on each; costæ, after meeting in point of spines, continue on the other side; aperture obscurely four-sided; siphuncle situate near dorsal margin of aperture.

3. **A. Planus.** (*Flat Ammonite.*) Involute, carinated, compressed, deeply inserted, almost smooth; volutions crossed by nearly obsolete striæ; keel flat, with margin crenulated; aperture sagittate; dissepiments sinuate.

4. **A. Cordatus.** (*Cordate Ammonite.*) Involute, carinated; volutions, four or five, somewhat compressed, inner ones half inserted; sides, with undulating ribs, extending over inner half of each volution; remaining half, with about five divergent undulations to every two ribs, all terminating in exterior crenated margin; aperture cordiform, two-thirds of diameter of shell in length. Diameter, 1 to 2 in.; thickness about one-third of diameter.

5. **A. Browni.** (*Brown's Ammonite.*) Discoidal, carinated; five half-inserted volutions, with a zone of large, distant tubercles situate towards centre of the volutions, rather nearer inner side; from tubercles the other half of the volutions, with numerous equidistant, curving ribs, extending over rounded ambit; aperture cordiform.

6. **A. Annulatus.** (*Ringed Ammonite.*) Discoidal, with five to seven exposed volutions, crossed by many close, prominent ribs, frequently bifurcated on passing over rounded ambit; aperture cordiform.

7. **A. Curvatus.** (*Bending Ammonite.*) Also PLATE X. fig. 12. Discoidal, carinated, compressed, sub-umbilicate, with three deeply inserted volutions, with numerous transverse, falciform ribs, bifurcated at commencement, and terminating in broad, curved, tubercular costæ; keel, with longitudinal sulcus, situated between two marginal series of tubercles; ambit flat, narrow; umbilicus large; aperture obtusely sagittate; siphunculus situated in dorsal sulcus.

8. **A. Falcatus.** (*Hooked-Ribbed Ammonite.*) Discoidal, carinated, greatly compressed, sub-umbilicate, with three deeply inserted volutions, flat on both edges; sides, with numerous close, plicated, falciform ribs, extending a little way down the sides of small umbilicus; ambit flat, narrow, with longitudinal sulcus; margin plicated; aperture sagittate; siphunculus placed in sulcus.

9. **A. Brocchii.** (*Brocchi's Ammonite.*) Compressed, with three or four great rounded volutions; inner ones half concealed; sides hollow; ambit circular, with a row of oblong-ovate ribs near inner margin of volutions extending nearly to centre, where they meet numerous obtuse, arenated ribs, passing over round ambit; aperture semi-lunar; thickness half diameter of shell; septa very numerous and beautifully sinuated. Greatest diameter 5 in.

10. **A. Serratus.** (*Serrated Ammonite.*) Discoidal, involute, compressed, carinated, with five volutions, two-thirds inserted, with distant, strong, arcuated ribs extending from ambit to nearly centre of volutions; many curved costæ emanate from inner margins of volutions and nearly meet others in centre; sides of volutions somewhat concave, contiguous to cylindrical keel, with sharp crenulations and containing siphunculus; aperture narrow, pentangular, extending to half diameter of shell; septa close, with numerous deep undulations. Largest diameter 4 in., thickness 1 in.

Drawn by Capt. P. Bronn.
Engraved by G. Crayston.

PLATE IX.

1. **Ammonites Sowerbii.** (*Sowerby's Ammonite.*) Discoidal, carinated, with four volutions, inner ones half inserted or to base of tubercles, having a series of nine or ten spiriform tubercles in centre of each on obtuse ridges; inner half of volution smooth, outer half, with many slightly bending ribs, terminating at keel; keel defined, entire, projecting, greatly rounded externally, almost separated from volutions, with siphunculus situated in its outer extremity; aperture elliptical.

2. **A. Koenigi.** (*Koenig's Ammonite.*) Discoidal, convex, with six volutions; inner ones half inserted; sides with distant, strong ribs, like oblong tubercles, commencing at inner margins of volutions and extending to about the centre, met by many slightly arcuated, gently raised ribs extending over rounded ambit; aperture cordiform, elongated; septa few, with sinuated lobes.

3, 6. **A. Listeri.** (*Lister's Ammonite.*) Sub-discoidal, thickness nearly equal to diameter, with five or six narrow volutions; inner ones partly inserted and deeply sunk; back or ambit very convex, broad; sides inversely conical, with numerous strong, sharp ribs extending over the ambit, and meeting on opposite side, terminating in a series of strong, elevated, pointed tubercles on inner margin of volutions. Diameter $1\frac{1}{2}$ in. to 2 in.

4. **A. Discus.** (*Quoit Ammonite.*) Discoidal, umbilical, much compressed, volutions smooth, much concealed; outer margin acuminate; aperture sagittate, occupying half diameter of disc and one-sixth in breadth; septa irregularly undulated; aperture sagittate. Greatest diameter 4 in., thickness $\frac{1}{2}$ in.

5, 10. **A. Strangewaysii.** (*Strangeway's Ammonite.*) Discoidal, carinated, with five volutions, with sides nearly flat; obscure concentric furrow, the margin of outer one flattened, slanting from centre and inner edges of others obliquely depressed; the whole crossed by numerous, slightly raised, twice curved, undulating ribs, being frequently obscure on inner side and centre of volutions, but larger on dorsal edge; each rib forms two semicircles reversed to one another; aperture oblong, occupying nearly one-third of diameter of disc. Greatest diameter about 6 in.

7, 8. **A. Greenovii.** (*Greenough's Ammonite.*) Discoidal, compressed; volutions four or five, two-thirds inserted, outer one being nearly half diameter of shell; obscure ribs most apparent towards rounded back, over which they pass; those on inner volutions quite distinct; aperture elliptical, with deep indentation from insertion of volution; siphunculus placed near centre of back margin of aperture; septa close, greatly sinuated, locked into each other at margins. Greatest diameter 12 in. to 20 in.

9. **A. Vertebralis.** (*Jointed Ammonite.*) Discoidal, carinated; five volutions, inner one partly inserted; sides, with numerous prominent, slightly undulating ribs, tuberculate in centre, whence they bifurcate, each branch having acute, compressed tubercle near centre, whence branches curve towards keel, where another slightly reflected tubercle is produced and branches re-unite on opposite side; keel serrato-tuberculate, resembling somewhat the vertebral column in mammalia; aperture ten-sided.

11. **A. Concavus.** (*Concave Ammonite.*) Discoidal, involute, compressed, carinated, umbilicate; with four exposed volutions, concave near centre, crossed by numerous curved, unequally long ribs; keel sharp, entire; aperture half diameter of disc, acutely triangular; external angle sub-rotund, with interior angles obliquely truncated.

12. **A. Bechei.** (*De la Beche's Ammonite.*) Gibbous, umbilicate; inner volutions entirely concealed, sides very prominent, with many nearly straight, transverse ribs, crossed by many close, elevated, concentric striæ; each side with two rows of many small, depressed tubercles; aperture large, as wide as long, occupying half diameter of shell.

13. **A. Elegans.** (*Elegant Ammonite.*) Discoidal, involute, with very acute, entire keel, within which a small siphunculus, with three to four volutions, inner ones about two-thirds inserted, with many equal, doubly curved ribs; aperture acutely triangular, occupying two-thirds of disk; internal angles truncate; thickness of shell about one-third its diameter; septa rather close, with sinuous, plaited margins.

PLATE X.

1. **Ammonites Planatus.** (*Flattened Ammonite.*) Discoidal, compressed; volutions four, inner ones about one-third inserted, flat as far as exposed, flattened on sides, and contracted by four or five varices; inner half plain, outer with numerous, broad, slightly bent, regular, equidistant ribs, passing over back; aperture oblong-oval.

2. **A. Sutherlandiæ.** (*Sutherland's Ammonite.*) Discoidal, gibbous, umbilicate; with two or three volutions, inner ones much inserted; umbilicus large, deep; sides smooth, plain; back very thick, regularly rounded; length of aperture equal to about half diameter of shell. Diameter nearly 10 in.

3. **A. Selliguius.** (*Selliguius Ammonite.*) Discoidal, smooth; inner volutions few, almost wholly inserted, outer one enlarging rapidly; external margin or ambit obtuse; aperture very narrow, forming elongated ellipsis, sagittate wing to indentation of volution.

4. **A. Cinctus.** (*Girdled Ammonite.*) Discoidal, sub-umbilicate; volutions three, depressed, three-fourths inserted, with transverse, annular, bifurcate, undulated ribs; umbilicus expanded, with marginal zone of oblique tubercles; ambit convex, embraced by ribs; aperture ovato-sagittate.

5. **A. Catillus.** (*Porringer Ammonite.*) Discoidal, much compressed; three or four volutions, two-thirds concealed, thin inner margin narrow, obtuse; sides even, with row of short tubercles on each side of margin; aperture lanceolate-sagittate, with obtuse angles. Greatest diameter, 6 in.; thickness, not quite 1 in.

6. **A. Murchisonæ.** (*Murchison's Ammonite.*) Discoidal, carinated; with six or seven compressed volutions, with obtusely truncated inner edges, producing concave surface; inner ones two-thirds concealed: sides with obtuse undulations, bifurcating towards rounded ambit; aperture semi-elliptical; keel slightly protruding, containing siphunculus.

7, 8, 9. **A. Spinus.** (*Spined Ammonite.*) Discoidal; four volutions, inner ones exposed, with many sharp, forked ribs, almost disappearing towards ambit; aperture sub-rotund.

10, 11. **A. Denarius.** (*Denier Ammonite.*) Discoidal, compressed; with four partly exposed volutions, flattened on edge, and with row of ten or twelve conical, obtuse tubercles on each side, all united to two ribs, with usually a third rib between; in all, about thirty arcuated ribs, terminating abruptly near back; aperture oblong.

12. *Vide Pl. VIII., fig. 7.*

13. **A. Brodiei.** (*Brodie's Ammonite.*) Discoidal, gibbous, largely umbilicate; with seven nearly half-concealed volutions, with distant, transverse, strong ribs, from near edges of volutions, extending to centre, where they become very broad, with obtuse, nearly round tubercle, whence are numerous lesser, slightly curved ribs, passing over rounded ambit, meeting strong, tubercular ribs on opposite side; aperture curved, transversely oblong. Greatest diameter, nearly 4½ in.

14, 15. **A. Humphriesianus.** (*Humphries' Ammonite.*) Discoidal, very thick; with five volutions, inner ones exposed; sides with large, numerous, distant ribs, extending to nearly centre of volutions, with large, oblong-ovate, conical tubercles, branching into three arcuated ribs, and passing over greatly rounded ambit, and meeting tubercles on opposite side; in inner volutions tubercles close to suture or line of separation; inner volutions much flatter on back than the others, producing quadrangular sections; aperture in young shell arcuated, oblong; in the older shell semi-lunar.

PLATE XI.

1. **Ammonites Peramplus.** (*Very large Ammonite.*) Discoidal; with four or five ventriose volutions, inner ones nearly half-inserted, outer one increasing rapidly in dimensions, occupying one-third diameter of disk; sides, with a few distant, obtuse ribs, most conspicuous on inner sides of volutions, and obsolete before reaching rounded, plain ambit; aperture transversely obovate; septa crisped, sinuated.

2. **A. Perarmatus.** (*Well-armed Ammonite.*) Discoidal, compressed; with four exposed volutions, armed with two concentric series of acute tubercles, transversely united by eighteen or twenty pairs of obtuse ribs on each volution; rest of shell plain, flat; ambit rounded; aperture longer than wide, almost orbicular. Greatest diameter, $8\frac{1}{2}$ in.

3, 4. **A. Smithi.** (*Smith's Ammonite.*) Discoidal, compressed, earinated; with five nearly wholly exposed volutions, crossed by many eurved, distant ribs; sides flattened; keel obtuse; aperture oblong-ovate. Greatest diameter, 2 in.

5. **A. Fibulatus.** (*Button and Loop Ammonite.*) Discoidal, compressed; with six volutions, inner ones almost entirely exposed, flattened on sides, with inner margins plain, crossed by many transverse ribs, joined in pairs by smooth spines; ribs at unequal distances passing over dorsal margin without uniting the spines; these latter more numerous in external volutions, and sometimes alternate with spines; each rib, when separate from spine, divided into two; hence more costæ pass over the back than are found upon sides of shell; aperture oblong.

6. **A. Subarmatus.** (*Sub-armed Ammonite.*) Discoidal, compressed, concave; with six volutions, inner ones almost entirely exposed; sides, crossed by slightly eurved ribs, frequently united in pairs by smooth spines at exterior extremities; ribs on outer volution seldom divided. Spines hollow; sides of volutions convex, increasing rapidly in size.

7. **A. Dayæi.** (*Day's Ammonite.*) Discoidal, compressed; with about five entirely exposed volutions; sides flat, with numerous transverse areuated ribs, with a series of remote, obtuse tubercles in centre of volutions; aperture nearly orbicular.

8. **A. Lævigatus.** (*Smooth Ammonite.*) Discoidal, compressed, smooth; with three convex volutions, inner ones exposed; aperture transversely oblong-ovate, with thickened margin.

9. **A. Parvus.** (*Small Ammonite.*) Discoidal; with four or five volutions, inner ones exposed; sides, with numerous elevated, obtuse, divergent, undulating striæ; ambit considerably rounded; aperture ovate, occupying one-third of diameter of disk.

10. **A. Cristatus.** (*Crested Ammonite.*) Lenticular, compressed, earinated; inner volutions concealed, outer one increasing rapidly; keel thin, deeply notched.

11, 14. **A. Bakeriæ.** (*Baker's Ammonite.*) Discoidal, compressed; with four volutions, inner ones exposed; sides, with transverse, many fureated, armed ribs, and about ten or eleven sinuous lines extending over back; aperture oblong-ovate.

12. **A. Herveyi.** (*Hervey's Ammonite.*) Discoidal, gibbous, umbilicate; with four volutions, inner ones nearly concealed; sides, with many areuated, sharp, bifureate, or trifureate ribs; umbilicus very deep, with sides smooth, quadrangular; aperture semi-lunar, with obtuse angles; thickness of shell nearly equal to half diameter. Greatest diameter, $5\frac{1}{2}$ in.

13. **A. Brooki.** (*Brook's Ammonite.*) Discoidal, compressed, earinated; with four or five volutions, inner ones not quite half concealed; sides, with many strong, simple, areuated ribs; also marked by fine lines of growth; keel round, entire, with deep sulcus on each side; aperture oblong-ovate; about one-third of diameter of shell. Greatest diameter, $6\frac{1}{2}$ in.

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PLATE XII.

1. **Ammonites Varicosus.** (*Warted Ammonite.*) Discoidal, compressed; with six or seven exposed volutions; both sides, with irregular rows of tubercles upon inner margin, with large semi-lunar, curved, obtuse ribs; keel distinct; aperture oblong, about one-third diameter of disk.

2. **A. Rhotomagensis.** (*Rouen Ammonite.*) Discoidal, thick, sub-umbilicate; with four sub-quadrangular volutions, inner ones partly inserted; sides flattish, with many transverse, nearly straight, strong, prominent ribs, having three short blunted tubercles upon back; aperture oblong, nearly quadrangular; septa foliaceous. Greatest diameter, 12 in.

3. **A. Subradiatus.** (*Subradiated Ammonite.*) Lenticular, umbilicate, carinate; inner volutions concealed; sides, with numerous doubly curved ribs, obscure in middle of disk, stronger on outer margin, where they are furcated; ambit obtuse; keel small, entire; umbilicus small; aperture sagittate; thickness of shell about one-fifth of diameter.

4. **A. Taylora.** (*Taylor's Ammonite.*) Discoidal, with three entirely exposed volutions, inner ones small; the whole crossed by about twelve remote, strong, prominent ribs, all with large spiniform tubercle on each side of ambit; aperture transverse, nearly round; its length not quite one-third of diameter of shell.

5. **A. Hippocastanum.** (*Horse-chestnut Ammonite.*) Gibbose; umbilicate; with four convex, deeply inserted, nearly concealed volutions, crossed by ten or twelve distant, almost straight, unequal, elevated ribs, each with three tubercles on back or ambit, and with obtuse, oblong, somewhat tubercular elevations on sides; aperture transverse, obovate.

6. **A. Brevispina.** (*Short-spined Ammonite.*) Discoidal, with five or six entirely exposed compressed volutions, with numerous, somewhat obtuse, slightly curved ribs, emanating from suture and passing over back; each rib with two small, short spines on both sides near inner and outer edges of volutions; aperture obovate.

7. **A. Planorbis.** (*Planorbis-shaped Ammonite.*) Discoidal, with three or four smooth volutions, two-thirds exposed, much compressed, and crossed by many very fine lines of growth; on external surface beautiful, iridescent reflections.

8. **A. Gulielmi.** (*Williams' Ammonite.*) Lenticular, much compressed, with narrow, flat ambit; with five or six exposed volutions, crossed by numerous dissimilar, arcuated, acute ribs; each of longer ones with tubercle at inner end and another at about one-third of length; here ribs divide and alternate with shorter, more numerous ribs, which end in a border of round, prominent, distinct tubercles on each side of ambit; aperture elliptical.

9. **A. Blagdeni.** (*Blagden's Ammonite.*) Sub-cylindrical, very deeply umbilicate, occupying entire disk; with five or six volutions, almost wholly exposed, crossed by many strong, radiating ribs, terminating on outer edge by large spiniform tubercle; inner volutions deeply sunk; ambit very broad, slightly convex, fluted; aperture transverse, quadrangular, three times as wide as long. Greatest diameter, $6\frac{3}{4}$ in.; thickness, $4\frac{1}{2}$ in.

10. **A. Leachii.** (*Leach's Ammonite.*) Compressed; with four volutions; inner ones half inserted; crossed by many undulating, prominent, frequently furcated ribs, arcuated on crossing over front, inclining to aperture; ambit sharp, crenated; aperture ovate.

11. **A. Corrugatus.** (*Wrinkled Ammonite.*) Discoidal, carinated; with four volutions, crossed by many elevated, slightly curved and furcated ribs, furcations near centre; minor volutions three-fourths concealed; umbilicus broad, exposing part of volutions; back obtuse, with distinct carina in centre; aperture obovate.

PLATE XIII.

1. **Ammonites Funiferus.** (*Corded Ammonite.*) Lenticular, deeply umbilicate, carinated, thick in centre, thin at external margins; obscurely ribbed transversely, with stronger grooves passing over thinly carinated back; inner volutions concealed; aperture acutely sagittate, much compressed, nearly equal in length to half diameter of shell. Greatest diameter, 4 in.

2, 11. **A. Ptychomphalus.** (*Plaited-umbilicus Ammonite.*) Discoidal, largely umbilicate, around which from eight to ten divergent, wide, somewhat acute protuberances; ambit rounded, plain; aperture ovate. Greatest diameter, $5\frac{1}{2}$ in. Fig. 2 represents adult fossil; fig. 11 the young.

3. **A. Lenticularis.** (*Lens-shaped Ammonite.*) Lenticular, smooth, inner volutions concealed, umbilicate, with plain, slightly rounded keel; aperture sagittate, equal to nearly half diameter of shell; thickened in centre and sloping off towards thin, smoothly carinated ambit.

4. **A. Catinus.** (*Chain Ammonite.*) Depressed, with from six to eight smooth volutions, with flattened sides, inner ones exposed, with two series of short, blunt, fairly large, conical, round, pointed tubercles on each side of interior and exterior angles of volutions; ambit slightly convex; aperture quadrangular; margins of septa sharp, deeply sinuated. Largest diameter cir. 13 in.

5. **A. Parkinsoni.** (*Parkinson's Ammonite.*) Discoidal, with seven to nine slightly convex volutions; inner ones exposed; crossed by many elevated, arcuated ribs, bent forward at exterior ends, furcated near ambit; ambit narrow, plain; aperture oblong, narrowed towards back. Greatest diameter, 18 in.

6. **A. Solaris.** (*Sun Ammonite.*) Discoidal, carinated, with four flattish volutions, inner ones exposed, with numerous elevated, smooth ribs, reaching entirely across volutions; keel acutely triangular; aperture spatuliform, acute next to ambit.

7, 9. **A. Mutabilis.** (*Mutable Ammonite.*) Compressed, with four or five smooth volutions; inner ones two-thirds exposed, showing tuberculated, wide-set ribs; ambit rounded; aperture ovato-sagittate. Largest diameter, 10 in.; thickness of external volutions, $1\frac{1}{2}$ in. Fig. 9 represents shell in young state.

8. **A. Oculatus.** (*Eyed Ammonite.*) Compressed, slightly depressed; umbilicate; inner volutions hidden, with many, depressed undulating ribs from margin of umbilicus to near ambit, where is a series of remote, nearly circular, depressed tubercles; with series of close-set oblong tubercles on both sides of smooth ambit.

10. **A. Athleta.** (*Champion Ammonite.*) Shell strong, with six volutions, inner ones almost wholly exposed; sides, crossed by numerous, strong, elevated ribs, with oblong, produced tubercle at each end; each dividing into three narrow, exserted, smooth ribs on flattened, square ambit, uniting with tubercles on opposite side; inner volutions gradually diminish in thickness near centre, whole side forming widely reversed cone; aperture nearly quadrangular.

PLATE XIV.

1. **Ammonites Tuberculatus.** (*Tuberculated Ammonite.*) Compressed, umbilicate, with five convex volutions, inner ones two-thirds exposed; ambit flat; transversely ribbed; costæ oblong, arising in threes from large, circular tubercles, uniting in pairs towards back, and forming large, compressed tubercles on each side of broad ambit, with deep, narrow sulcus or groove in centre; aperture sub-orbicular; septa very foliaceous.

2. **A. Stokesii.** (*Stokes' Ammonite.*) Lenticular, depressed; inner edge of volutions strongly defined; crossed by many, slightly elevated ribs; inner volutions half concealed; ambit thin, crenulated; whole shell with marks of concentric striæ; aperture sagittate.

3. **A. Proboscidens.** (*Proboscis Ammonite.*) Depressed, with four or five ventricose, partly concealed volutions; outer one with two rows of large, remote, blunted, cylindrical tubercles; ambit concave; aperture orbicular, being in width about one-third diameter of shell.

4. **A. Dentatus.** (*Toothed Ammonite.*) Discoidal, umbilicated, with many prominent, slightly curved ribs, fureated near their origin and ending upon margin of ambit, producing on each side of back a serrated margin with plain, flat, intermediate space; aperture two-fifths of diameter of shell long, and one-fourth wide.

5. **A. Hystrix.** (*Hedgehog Ammonite.*) Discoidal, volutions somewhat inflated, with transverse, elevated ribs from inner margin, which is well defined and terminating on ambit; each rib with three series of tubercles, apparently elevated, subulate, sharp-pointed; those on inner margin one quarter of inch long; central series obtuse, as if worn down; dorsal ones entire, nearly half an inch long, curved forward.

6, 7. **A. Woolgari.** (*Woolgar's Ammonite.*) Discoidal, depressed, earinated; with three or four volutions, central ones one-third inserted; sides of central volutions compressed, with remote, slightly curved ribs, terminating on outer margin in compressed, earinated tubercles; keel acute, serrated. In some specimens two tubercles on outer extremity of each rib and one on inner margin.

8. **A. Biplicatus.** (*Two-plaited Ammonite.*) Compressed, earinated, slightly umbilicate, with three or four volutions, central ones two-thirds concealed; crossed by transverse, prominent, curved, bifureated ribs, emanating from a series of oblong, tubercular prominences, situate on inner margins of volutions, and ending in distinct tubercles on outer margin; keel depressed, bordered by alternating, depressed tubercles; aperture obtusely sagittate; in length somewhat less than diameter of shell.

9. **A. Birchii.** (*Birch's Ammonite.*) Discoidal, with six to eight wholly exposed, gradually increasing volutions; sides concave, each volution, with about thirty pairs of thin, obtuse tubercles, each pair united by a slightly elevated rib; back rounded, with obscure sulci; aperture transverse. Greatest diameter, $7\frac{1}{2}$ in.

10. **A. Goodhalli.** (*Goodhall's Ammonite.*) Discoidal, earinated; with five ribbed volutions, inner ones one-third inserted; both edges of volutions gradually rounded; sides nearly flat, with large, broad, undulated, irregular, rather flat ribs, with tubercles at outer end only; keel thin, very prominent; aperture oblong, slightly compressed in centre.

PLATE XV.

1. **Ammonites Bennetianus.** (*Bennet's Ammonite.*) Sub-globose, with four to six rapidly increasing volutions, inner ones partly concealed, with row of nine or ten large, conical, blunted tubercles on each side, and a series of twenty very large obtuse tubercles on each side of back or ambit, connected by prominent, obtusely rounded ribs; aperture transversely oblong.

2. **A. Tetrammatus.** (*Four-tubercled Ammonite.*) Discoidal, carinated; with four or five convex volutions crossed by numerous obscure, furcated ribs, each with four round, blunt tubercles, external ones compressed, and two on the shorter branches; carina sharp, entire.

3. **A. Vernoni.** (*Vernon's Ammonite.*) Discoidal, with three or four rounded volutions, inner ones nearly half inserted; sides with numerous elevated, furcated ribs, from inner sides of volutions bifurcating at centre, thence passing over rounded back adjoining those of opposite side; aperture oblong.

4. **A. Williamsoni.** (*Williamson's Ammonite.*) With five or six thick, slightly raised volutions, inner ones wholly exposed; sides crossed by many straight, elevated, parallel ribs from inner margin of volutions, passing over broad, flat, thick ambit to inner margin of volutions on opposite side; aperture oblong, nearly quadrangular.

5. **A. Vittatus.** (*Filleted Ammonite.*) Discoidal, carinated; with four or five slightly raised volutions, inner ones one-third inserted; sides crossed by many straight, slightly elevated ribs terminating on the side of sharp, thin, elevated carina; every rib with two tubercles, one at each end.

6. **A. Gowerianus.** (*Gower's Ammonite.*) Compressed, deeply umbilicate; with six or seven convex volutions, inner ones half inserted, deeply sunk below level of outer one; sides crossed by many elevated sharp ribs, with a large, sharp, elevated spine, at outer extremity of which, ribs separate into three or more obtuse, annulate ridges, passing over rounded back or ambit; aperture oblong, equal to nearly one-third diameter of shell; edge thin, slightly sinuated near inner termination.

7. **A. Navicularis.** (*Little Ship Ammonite.*) Umbilicate, with three to four narrow, compressed, deeply inserted, ventricose volutions, with a numerous series of strong, smooth elevated, annulose, transverse ribs from inner margin of volutions, passing over large rounded ambit to inner margin on opposite side of volutions; ribs and intervening sulci of nearly equal breadth; aperture transversely oblong. Greatest diameter, 7 in.

8. **A. Crenularis.** (*Crenulated Ammonite.*) Lenticular, umbilicate, with five inflated volutions, inner ones three-fourths inserted, central three deeply sunk; sides crossed by strong, elevated, remote, curved ribs, which, on reaching centre, are met by many smaller ribs passing over sharp ambit, producing crenulated, subcarinated back; aperture large, somewhat cordiform.

9. **A. Complanatus.** (*Levelled Ammonite.*) Lenticular, very flat, umbilicate; volutions entirely concealed, thickest in centre of shell; ambit protruded into narrow, slightly convex, crenated carina, produced by angular terminations of plicæ; inner half of disc, with transverse, undulating striæ; outer portion plicated; aperture slightly sagittate, not more than one-fifth of an inch wide; keel, with elevation and ridge down centre. Greatest thickness one-eighth inch; umbilicus very small; septa numerous, very foliaceous. Greatest diameter, 8 in.

10. **A. Undatus.** (*Waved Ammonite.*) Discoidal, much compressed, smooth, with three flat volutions, central ones partly visible, and inner margins of whole square; ambit slightly rounded; sides, with remote undulations, passing over back; aperture sagittate, greatly elongated, with obtuse angles.

PLATE XVI.

1. **Ammonites Subcarinatus.** (*Subcarinated Ammonite.*) Discoidal, lenticular, umbilicate, sub-carinate; inner volutions concealed; sides slightly inflated, thick in centre; crossed by many slightly developed ribs, rising in umbilicus and extending to ambit, crossing it and uniting with those on opposite side; aperture nearly cordate, equal to one-half diameter of disc.

2. **A. Laticostata.** (*Broad-ribbed Ammonite.*) Discoidal, compressed; with five exposed, flat-sided volutions, crossed by large, sharp, nearly parallel ribs, which, passing over ambit, unite with those of opposite side; all the ribs have indistinct indications of tubercles on each end; aperture oblong. Greatest diameter, $3\frac{1}{2}$ in.

3. **A. Heterophyllus.** (*Reversely-foliated Ammonite.*) Lenticular, umbilicate; with volutions entirely concealed; sides convex, wholly covered with many divergent, elevated, slightly undulating striæ; umbilicus small, deep; ambit rounded; aperture large, occupying nearly two-thirds of diameter of disc, elliptical, with slight notch for reception of preceding volution; septa of two kinds, small, acutely angular, and large, ovate; like two forms of pinnated foliage; siphuncle near ambit. Greatest diameter, $6\frac{3}{4}$ in.

4. **A. Fissicostatus.** (*Cleft-ribbed Ammonite.*) Discoidal, with five or six two-thirds exposed, somewhat depressed volutions, crossed by many, strong, slightly-undulated ribs, furcated near centre, and, passing over rounded ambit, join with cleft ribs of opposite side; aperture sub-ovate, being five-sixths of its length in width.

5. **A. Gemmatus.** (*Gemmed Ammonite.*) Discoidal, with four or five ventricose volutions, inner ones half exposed, much thinner on approaching centre; inner margin of volutions slightly flattened, whence emanate many, strong, elevated, nearly straight ribs, united at centre of sides to large, rounded, obtuse tubercles, whence ribs continue diagonally and terminate in large, slightly conical tubercles on both sides of broad, flat ambits. Greatest diameter, 6 in.

6. **A. Sublævis.** (*Half-smooth Ammonite.*) Orbicular, umbilicate; inner volutions enveloped in outer one; and their crenated edges only visible within deep conical umbilicus, internally undulated, with sharp, angular edge; aperture semi-circular, very wide, truncated at sides; whole outer surface smooth; septa numerous, with fine, prominent undulations, divided into many rounded foliations, margins resembling pinnate leaves; siphunculus close to outer margin of ambit. Diameter, 5 in.; umbilicus $1\frac{1}{4}$ in. wide.

7. **A. Flexicostatus.** (*Bent-ribbed Ammonite.*) Discoidal, compressed; with four or five two-thirds exposed volutions, slightly raised in centre of sides, slanting off to margins, crossed by many, elevated, bent ribs, becoming furcate in middle, and passing over thin, flattened ambit, join furcations on opposite side; aperture oblong-ovate.

8. **A. Crassus.** (*Thick Ammonite.*) Discoidal; with five thick, half-inserted volutions, somewhat flattened on sides crossed by many straight, prominent, rounded ribs, having at centre round, elevated tubercle, whence ribs split into two or three, divergent, smaller costæ and passing over rounded ambit, unite with those of opposite side; aperture sub-cordiform.

9. **A. Plicitalis.** (*Plaited Ammonite.*) Discoidal; with six exposed volutions; sides flat, crossed by many equal, straight ribs, bifurcating or trifurcating towards rounded ambit, smooth in centre; aperture quadrangular, with rounded angles, somewhat longer than wide; septa acutely sinuated. Thickness of shell about one-fourth diameter.

10. **A. Jamesoni.** (*Jameson's Ammonite.*) Discoidal; with five or six volutions, inner ones exposed; crossed by large, simple, obtuse, slightly bent ribs, and passing over rounded ambit meet those on opposite side; aperture oblong-ovate, its length equal to twice its width.

PLATE XVII.

1. **Ammonites Johnstoni.** (*Johnston's Ammonite.*) Discoidal; with six to nine greatly-compressed, one-third inserted volutions; crossed by central series of many short, straight, elevated ribs or elongated tubercles; inside of volutions plain; ambit plain; central volutions without ribs.

2. **A. Rotiformis.** (*Wheel-shaped Ammonite.*) Depressed, carinated; sides somewhat concave; with six to eight wholly exposed volutions; crossed by many distant, strong, slightly bent, elevated ribs, each with oblong, obtuse tubercle at outer extremity; ambit flat; keel slightly sunk, with sulcus on both sides; aperture almost square, only one-sixth diameter of shell. Greatest diameter, 7 in.

3. **A. Bifrons.** (*Two-fronted Ammonite.*) Discoidal, sub-umbilicate; with three or four convex volutions, inner ones one-third concealed; series of remote, rounded, prominent, nearly straight ribs from inner margin of volutions, and on reaching two-thirds across sides, terminate and meet many smaller ribs, passing over rounded ambit, producing erenulated profile.

4. **A. Longispinus.** (*Long-spined Ammonite.*) Discoidal, thick; with three or four plain, half-inserted volutions; sides with two concentric series of spiniform tubercles; ambit thick, smooth, gently rounded; aperture orbicular, deeply indented by contiguous volution; greatest diameter rather more than three-fifths diameter of disc; external surface pearly.

5. **A. Contractus.** (*Contracted Ammonite.*) Subglobose, deeply umbilicate; inner volutions nearly concealed; sides contracted; around umbilicus series of large, rather acute tubercles, whence numerous, smooth, rounded ribs, furcating into sets of three or four, and passing over greatly-rounded ambits join those on opposite side; aperture oblong, arcuated.

6. **A. Turneri.** (*Turner's Ammonite.*) Depressed, carinated; with five volutions, inner ones almost entirely exposed; sides flattened, with many equal ribs; carina only moderately elevated, with sulcus on each side; aperture oblong, quadrangular, about one-third diameter of disc.

7. **A. Læviusculus.** (*Smoothish Ammonite.*) Discoidal, carinated, umbilicate; with four or five volutions, inner ones partly exposed within small, shallow umbilicus; outer volution very large, its sides rather convex, with slightly elevated, smooth, waved, alternately long and short ribs; ambit obtuse; carina large, prominent; aperture sagittate, occupying half diameter of disc; size of umbilicus, one-third of remaining half.

8. **A. Striatulus.** (*Minutely-striated Ammonite.*) Discoidal, carinated; with six convex, wholly-exposed volutions; sides, with many slender, doubly-undulated ribs; whole surface, with minute striæ, lying parallel to ribs; carina slightly produced; aperture elliptical, its length about one-fourth diameter of disc.

9. **A. Banksii.** (*Banks' Ammonite.*) Discoidal, umbilicate, very thick; with five or six rounded volutions, margins well relieved; sides concave, with row of ten or eleven large, round, obtuse tubercles; back slightly convex, with series of oblique, fluted grooves towards aperture; inner volutions narrow, outer one very thick, equal to remainder of disc; aperture transverse, twice as broad as long.

10. **A. Rusticus.** (*Rude Ammonite.*) Depressed; with about three gibbous volutions; with row of conical, obtuse tubercles, and two rows of slightly elevated ones, round broad and flattened ambit on both sides; aperture wider than long, its inner side concave, shorter than other angles.

PLATE XVIII.

1. **Ammonites Marginatus.** (*Bordered Ammonite.*) Sub-globose, umbilicate, carinated; edges of inner volutions only visible in large, deep, conical umbilicus with sub-carinated margin, and series of round, prominent tubercles about its edge; outer volution very large, thick, wrinkled transversely; carina prominent, sharp.

2. **A. Maculatus.** (*Spotted Ammonite.*) Discoidal, thick; with five or six exposed volutions, with flattened sides, crossed by many straight, elevated ribs, from inner margins, passing over broad, flat ambit to inner margins of volutions on opposite side; aperture nearly orbicular.

3. **A. Sigmifer.** (*S-ribbed Ammonite.*) Discoidal, carinated; with four compressed volutions, crossed by distant, curved ribs; inner volutions half-concealed, increasing rapidly; carina sharp, broad.

4. **A. Discus.** (*Quoit Ammonite.*) V. PLATE IX., fig. 4.

5. **A. Compressus.** (*Compressed Ammonite.*) Elliptical, smooth, compressed; with four or five flat volutions, almost wholly exposed; inner margin of volutions flat, perpendicular to sides; ambit broad, flat; aperture oblong, rectangular. Greatest diameter, $7\frac{1}{4}$ in.

6. **A. Multicostatus.** (*Many-ribbed Ammonite.*) Discoidal, much depressed, carinate; with three or four wholly exposed volutions; crossed by many strong, sharp, slightly-bent ribs, with depressed, blunt, oblong tubercle on outer extremity of each, extending over ambit almost to dorsal sulcus; carina slightly elevated, with sulcus on both sides; aperture oblong, its length more than one-fourth diameter of last volution. Greatest diameter, 14 in.; thickness, 3 in. to 4 in.

7. **A. Monile.** (*Necklace Ammonite.*) Discoidal, thick, sub-umbilicate; with four wholly-exposed volutions, crossed by many curved, tubercular ribs; tubercles hollow; whole surface crossed by very fine, divergent striae; ambit somewhat concave with close, transverse striae; aperture transversely ovate, about one-third diameter of shell long and almost twice as wide.

8. **A. Crenularis.** (*Crenulated Ammonite.*) Lenticular, umbilicate; with five, two-thirds inserted volutions; umbilicus deep; outer volution thick in centre; ambit sharp, thin; sides, with series of strong, elevated, remote ribs, met at centre by many smaller, oblique ones passing over crenulated ambit; aperture nearly cordiform, its length almost equal to half diameter of disc; width about half its length.

9. **A. Inflatus.** (*Inflated Ammonite.*) Depressed, carinated; inner volutions wholly exposed, outer one inflated towards aperture; sides flattened, crossed by large, elevated, strong ribs, each commencing with large, compressed tubercle on inner end, furcated towards ambit; all the branches of ribs end in elongated, compressed tubercles on margin of flattened ambit; carina distinct, entire, obtuse; aperture somewhat quadrangular.

10. **A. Braikenridgii.** (*Braikenridge's Ammonite.*) Discoidal, compressed; with three or four volutions, inner ones exposed, outer ones rather less than one-third diameter of disc broad; crossed by many narrow, acute ribs from internal margin of volutions, and almost immediately furcate; at base of each furcation ribs with small, blunted tubercle; aperture orbicular; tip expanded into two oblong lobes.

11. **A. Clevelandicus.** (*Cleveland Ammonite.*) Discoidal; with five volutions, inner ones nearly half-inserted; with series of straight, sharp ribs from inner margin, terminating about centre of volutions in oblong, blunted tubercle; toward aperture ribs longer, thickened externally; all met by many smaller, nearly obsolete ribs passing over thin ambit, producing crenulated, sub-carinated centre; aperture nearly cordiform.

12. **A. Heterogenus.** (*Heterogenus Ammonite.*) Discoidal, somewhat compressed; volutions few, outer one, crossed by fourteen thick, depressed, rounded ribs, passing over scalloped ambit; ribs met by narrow, straight ribs, rising on inner margin and terminating at about three-fourths across shell.

13. **A. Erugatus.** (*Wrinkled Ammonite.*) Discoidal, thick; with five volutions almost wholly exposed; crossed by obsolete ribs; ambit rounded; aperture oblong-ovate, indented by preceding volution; its length about one-third diameter of disc.

14. **A. Funatus.** (*Ropy Ammonite.*) Elliptical; with three or four half-concealed volutions, crossed by many simple, rounded, rope-like ribs, separated by wide grooves, constricted at intervals; aperture semi-lunar. Greatest diameter, 3 in.; thickness, $1\frac{1}{2}$ in.

15. **A. Anguiliferus.** (*Hook-ribbed Ammonite.*) Discoidal, with five almost wholly exposed volutions, crossed by many elevated ribs, passing over thin ambit in a hooked form; aperture somewhat cordiform.

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PLATE XIX.

1. **Ammonites Loscombi.** (*Loscombe's Ammonite.*) Discoidal, compressed, umbilicate; inner volutions concealed; surface smooth, sides crossed by many, waved, flat ribs, with shallow interstices; back rounded; aperture oblong; about two-fifths diameter of disc long; thickness of shell one-third length of aperture.
2. **A. Geometricus.** (*Geometrical Ammonite.*) Discoidal, carinate, compressed; with five flat, almost wholly exposed volutions, crossed by many, sharp, straight ribs; back flattened, crenulated; ambit, with small, narrow undulating carina; aperture narrow, oblong-oval.
3. **A. Constrictus.** (*Constrained Ammonite.*) Discoidal, compressed, umbilicate; inner volutions concealed; sides crossed by many, undulating, long and short ribs; with row of acute tubercles on each side of margin of rounded ambit; aperture oblong, contracted by an obtusely edged lip; septa numerous, sinuated.
4. **A. Henslowi.** (*Henslow's Ammonite.*) Discoidal; with about four exposed volutions with flattened sides; ambit rounded, with three, simple, slipper-shaped lobes on each side; lobes pointed inwards; intermediate saddles rounded outwards; siphuncle situate on front edge in an acute lobe; aperture about four-fifths diameter of shell, double that in thickness.
5. **A. Artigyrus.** (*Perfectly Round-ribbed Ammonite.*) Discoidal; with five, wholly-exposed, slightly-rounded volutions; sides crossed by many, remote ribs; ambit rounded; aperture sub-orbicular.
6. **A. Hawkserensis.** (*Hawkser's Ammonite.*) Discoidal, umbilicate, carinate, thick; with six, flattened, wholly exposed volutions, inner ones gradually thinner towards centre, forming deep umbilicus; crossed by strong, thick ribs, projecting over margin of flattened ambit; carina narrow, rounded, slightly elevated above surface; aperture nearly quadrangular, corners rounded, and equal to about one-fourth diameter of disc.
7. **A. Walcotii.** (*Walcot's Ammonite.*) Discoidal, compressed, carinate; with four, one-fourth inserted volutions; on inner side of each a smooth concentric sulcus; external half of sides, crossed by many, semi-lunar ribs, about equal in breadth to intermediate sulci; on each side of carina a moderately deep groove; aperture oblong, length equal to one-third diameter of disc; size, 2 in. to 4 in.
8. **A. Exaratus.** (*Ploughed Ammonite.*) Discoidal, lenticular, umbilicate, carinate; with four volutions; inner ones almost wholly enveloped in outer one, visible only in small umbilicus; sides flattened, crossed by broad, flat, undulating ribs; carina small, narrow.
9. **A. Lythensis.** (*Lyth Ammonite.*) Discoidal, lenticular, umbilicate; with four volutions; inner ones wholly enveloped in outer one, and edges only seen in shallow umbilicus; sides flat, crossed by many, flat, waved ribs; ambit thin; aperture somewhat sagittate.
10. **A. Rostratus.** (*Beaked Ammonite.*) Compressed, carinate; with about four, wholly exposed, flattened volutions; sides crossed by large, strong, remote ribs, each with three or four oblong tubercles; aperture elliptical, less than one-third diameter of disc, and at ambit terminating in slightly reflected, compressed beak; tubercles confluent on outer volutions, but more distinctly divided on inner. Greatest diameter, $7\frac{1}{4}$ in.
11. **A. Henleyii.** (*Henley's Ammonite.*) Discoidal, with three or four wholly exposed volutions; sides crossed by many, flattened ribs, with large, compressed tubercles on reaching centre, whence they bifurcate and passing over ambit, produce crenulated margin to back; ribs also with tubercle near origin; between this and central row, volutions concave; aperture nearly orbicular, being two-fifths diameter of disc, with small sinus. Greatest diameter, 6 in.

PLATE XX.

1. **Ammonites Baltiatus.** (*Belted Ammonite.*) Discoidal; volutions wholly exposed; crossed by numerous, strong, elevated ribs, from inner margins of volutions, and passing over rounded ambit.

2, 9. **A. Decipiens.** (*Deceitful Ammonite.*) Discoidal, thick, with five or six exposed volutions, crossed by large, elevated ribs, rising near inner margin, and crossing sides, become obscure towards rounded ambit; aperture oblong.

3. **A. Ovatus.** (*Ovate Ammonite.*) Lenticular, umbilicate; inner volutions wholly concealed, their margins alone visible within small, deep umbilicus; sides thick internally, sloping towards thin, flattened back, crossed by many undulating depressed ribs from internal margin.

4. **A. Venustus.** (*Graceful Ammonite.*) Discoidal, thick; with three or four volutions, inner ones half concealed; sides crossed by many, straight, elevated ribs, met at centre by many, strong, rounded, curved ribs, passing over ambit and meeting with those on opposite side, producing crenated margin at back; aperture oblong.

5. **A. Concinnus.** (*Comely Ammonite.*) Discoidal, thick; with four volutions, inner ones half-inserted, with series of strong, remote ribs from inner margins of volutions, met at centre by many acute elevated ribs, passing over rounded ambit; aperture roundish.

6. **A. Minimus.** (*Smallest Ammonite.*) Discoidal, thick; with three volutions; inner ones two-thirds inserted, outer ones increasing rapidly; sides crossed by many, curved ribs, from inner margins, and passing over rounded ambit; aperture oblong.

7. **A. Curvinoides.** (*Curved-ribbed Ammonite.*) Volutions flattened, with remote, elevated, waved ribs from inner margins of volutions, and near ambit, suddenly and acutely curving towards aperture; between these, several depressed and nearly obsolete ribs; ambit thinnish.

8. **A. Varicostatus.** (*Variously-ribbed Ammonite.*) Discoidal; with six, two-thirds exposed, rounded volutions; inner ones crossed by many, narrow, greatly elevated, close-set ribs, bifurcated on rounded ambit; near termination of outer volution, ribs become large, broad, distant, slightly curved, without dorsal bifurcation; aperture oblong-ovate. Greatest diameter, 9 in.

10. **A. Rotundus.** (*Round Ammonite.*) Discoidal; volutions exposed; sides crossed by many thick ribs, bifurcating on passing over back; aperture orbicular, interrupted by small sinns from insertion of preceding volution.

11. **A. Heterophyllus.** (*Reversely-foliated Ammonite.*) V. Pl. XVI., fig. 3.

12. **A. Fimbriatus.** (*Fringed Ammonite.*) Discoidal; with cylindrical volutions, inner ones wholly exposed, crossed by many lines of growth, with fimbriated margins; aperture orbicular, with undulating frill.

PLATE XX.*

1. **Ammonites Allasii.** (*Allas's Ammonite.*) Six rounded volutions, wholly exposed, and crossed by many transverse, equidistant, bent ribs.

2. **A. Furcatus.** (*Forked Ammonite.*) Discoidal; sides and front flat; inner volutions partly visible; aperture, with square front, rather oblong, deeply impressed by preceding volution; lateral angles truncate; ribs rather distant, thick, curved, many forked, and passing at right angles over front.

3. **A. Cristatus.** (*Crested Ammonite.*) Rather compressed; with sharp, smooth keel; transverse ribs very irregular, some furcated and bent, some single, and others only extending over half volution.

4. **A. Calcar.** (*Spur Ammonite.*) Discoidal; inner volutions wholly concealed; sides with irregular, alternately long and short, curved ribs and central series of round tubercles; back with double keel of close-set, sharp tubercles.

5, 6. **A. Crenatus.** (*Crenated Ammonite.*) Sides flattened; inner volutions much exposed, with nearly smooth, rounded margins; those of outer volutions crenated on each side of concave space over siphuncellus.

7. **A. Cookii.** (*Cook's Ammonite.*) Aperture oblong; volutions moderately inflated, rapidly increasing, inner ones more than half concealed; surface smooth, with narrow ribs, every alternate one forked; ambit slightly flattened, with ribs passing over it; four volutions.

8. **A. Fimbriatus.** (*Fringed Ammonite.*) V. Pl. XX., fig. 12.

9, 10. **A. Circularis.** (*Circular Ammonite.*) Aperture circular; volutions just touching each other; nearly close, acute, circular; surface sometimes with transverse ridges.

11, 12, 13. **A. Dissimilis.** (*Dissimilar Ammonite.*) Inflated; with rapidly increasing volutions, smaller ones wholly concealed; largely umbilicate; crossed by broad sulci and flattened, curved ribs over thick back, with a few, elongated nodules on inner edges of volutions; aperture wide, sub-orbicular.

14, 15. **A. Rotifer.** (*Wheel-like Ammonite.*) Discoidal; with five rounded, smooth volutions, one-third concealed; with series of close-set ribs over rounded back to nearly middle of volutions on either side, where they meet wide-set, thick ribs from inner margins; aperture nearly orbicular.

16. **A. Mulgravius.** (*Mulgrave's Ammonite.*) Discoidal, umbilicate; volutions more than half concealed; internal sides bevelled inwards, inner edges defined by perpendicular, flat margin; back narrow, with central, smooth, narrow, low keel; surface, with series of falcated sulci, from inner edges in fine lines.

17, 18. **A. Symmetricus.** (*Symmetrical Ammonite.*) Aperture almost square; with rounded, notched keel; ribs obtuse, tumid as they approach hollow, where keel is immersed; sides of volutions flattened.

19. **A. Gamma.** (*Gamma Ammonite.*)

20, 21. **A. Trisercalis.** (*Three-Tubercled Ammonite.*) Discoidal, umbilicate; with flattened margin; sides with series of straight, transverse ribs, each with rounded, obtuse tubercle on outer end; marginal portion of rays, with three rows of tubercular protuberance, and about ten tubercles around umbilicus; aperture nearly square.

PLATE XX.**

1, 2, 3. **Ammonites Elizabethæ.** (*Elizabeth's Ammonite.*) Volutions six or seven, two-thirds exposed; angular from series of spines on each dorsal edge and two rows of tubercles on sides of volutions; sides with transverse ribs, angular near aperture; aperture with lengthened, spatulate projection, its surface deeply marked by lines of growth; back narrow, concave, ribs passing over it; siphunculus not visible.

4, 10. **A. Brightii.** (*Bright's Ammonite.*) Discoidal, nearly smooth; with about seven two-thirds exposed volutions; with several flat obtuse ribs from dorsal edge, which combine into compressed, elongated tubercles, reaching inner margin; siphunculus distinguished by sharp ridge on back.

5, 6, 11, 12. **A. Sulcatus.** (*Furrowed Ammonite.*) Moderately convex; with three or four volutions almost wholly exposed; crossed by alternately long and short, curved ribs; back with deep sulcus in young state; when young, ribs fine, close; back square in adult; aperture oblong.

7. **A. Comptoni.** (*Compton's Ammonite.*) Discoidal; with six or seven two-thirds exposed smooth volutions; transversely ribbed, alternately two short and one long, from dorsal margin; ambit rounded, with slight depression in middle, formed by ribs which nearly meet; aperture with spatulate projection of about $1\frac{1}{2}$ in. long and $\frac{3}{8}$ in. wide on each side.

8, 9. **A. Lacunatus.** (*Fretted Ammonite.*) Discoidal, with four or five half-concealed, slightly compressed volutions, crossed by close, curved, alternately long and short ribs, sometimes anastomosing; back with single narrow sulcus, absent in young state; aperture small, oblong.

13, 14. **A. Boblayei.** (*Boblaye's Ammonite.*) Compressed; with five rapidly increasing, two-thirds concealed volutions; deeply umbilicate; volutions crossed by very thick, curved ribs, projecting beyond dorsal line, more flattened on outer volutions.

15. **A. Stutchburii.** (*Stutchbury's Ammonite.*) Discoidal; with four two-thirds exposed volutions; sides with series of short, distant, curved ribs from inner sides of volutions, ending in compressed tubercles; beyond these, very many close-set waved ribs; back narrowed, with smaller ribs passing over it, and with series of sharp serrated projections on both sides; aperture with projecting beak.

16. **A. Fluctuosus.** (*Fluctuating Ammonite.*) Discoidal or lenticular; surface smooth, with six two-thirds exposed volutions; crossed by thick, distant ribs, almost always forked for nearly outer half; back plain.

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PLATE XXI.

- 1, 2, 3. *Goniatites Looneyi*. (*Looney's Goniatite*.) Depressed, glabrous; sides with sigmoidal striæ; umbilicus minute; aperture elliptical; with many septa; dorsal and lateral sinuses double, wide-set.
- 4, 5. *G. Gilbertsoni*. (*Gilbertson's Goniatite*.) Depressed; elliptical; glabrous; sides with greatly bent, minute striæ; umbilicus small; aperture oblong; septa many, with round lobes and sinuses; dorsal sinus double, wide; lateral sinus simple.
- 6, 6a, 7. *G. Paucilobus*. (*Few-lobed Goniatite*.) Depressed; sides with waved striæ and shallow nudulations; umbilicus minute; aperture elliptical; lobes and sinuses of all septa round; first lateral one very large.
- 8, 8a, 15. *G. Discrepans*. (*Discrepant Goniatite*.) Discoidal, smooth; with minute umbilicus; striæ doubly undulating; compressed towards ambit; aperture oblong-ovate; septa many, with double, wide dorsal and lateral sinuses.
- 9, 10, 10a. *G. Striolatus*. (*Grooved Goniatite*.) Globular; sides with somewhat flattened, broad ambit; with spiral transverse, delicate striæ; umbilicus minute; aperture ovate; septa with very wide, acute, dorsal sinuses, and lateral lobes widened and rounded.
- 11, 11a, 12. *G. Obtusus*. (*Obtuse Goniatite*.) Sub-globose; sides flattened; slightly transversely striate, with few, longitudinal striæ and internal bent, obscure ridges; umbilicus minute; septa delicately marked, undulating; edge of dorsal lobe very short; dorsal sinuses sharp; first lateral lobe rounded.
- 13, 14, 14a. *G. Nitidus*. (*Clear Goniatite*.) Sub-globose; sides crossed by slightly bent, prominent, furcate, striæ and by obsolete, spiral striæ; umbilicus wide, angular; aperture semi-lunar, transversely elongate; septa irregular, with dorsal lobes simple, small; lateral lobes, acute, large.
- 16, 16a, 17. *G. Serpentinus*. (*Serpentine Goniatite*.) Discoidal; with three wholly exposed volutions; sides with transverse, delicate, bent striæ; aperture nearly circular, slightly indented by preceding volutions; with three approximating, round-lobed septa; two round, lateral sinuses and central, acute, dorsal sinus.
- 18, 18a. *G. Discors*. (*Discordant Goniatite*.) Discoidal, smooth; sides with falcate, minute striæ; aperture oblong-ovate; septa many, with rounded lobes and sinuses; dorsal sinus wide, double, with simple, lateral sinus.
- 19, 20, 20a. *G. Cyclolobus*. (*Round-lobed Goniatite*.) Discoidal; with three or four half-exposed volutions, sides flattened; ambit broad, round; aperture oblong, its sides flat, rounded, its breadth two-thirds its length; septa with four, rounded, lateral lobes; small, double, dorsal lobe and small, pointed, dorsal sinuses; first lateral sinus double, neat simple, all rounded.
- 21, 22, 22a. *G. Mixolobus*. (*Mingling-lobed Goniatite*.) Discoidal; with five rapidly enlarging volutions, inner ones slightly concealed; septa with four, rounded, lateral lobes; first lateral sinus double, acute; second single, pointed; dorsal lobes and sinuses acute.
- 23, 24, 25. *G. Gibsoni*. (*Gibson's Goniatite*.) Discoidal; with five, two-thirds concealed volutions, with bent, acute ribs, prominent on margin and furcate on sides approaching ambit; without spiral striæ, but sides with a few curved constrictions.
- 26, 26a, 27. *G. Vesica*. (*Bladder Goniatite*.) Sub-globular, umbilicate; with two volutions, central one minute, outer one very large; umbilicus much rounded; sides with transverse, delicate striæ; undulations of septa low, rounded; dorsal sinuses shallow; aperture semi-lunar; thickness equal to two-thirds diameter.
- 28, 29. *G. Intercostalis*. (*Inter-ribbed Goniatite*.) Discoidal; with three volutions; sides crossed by claviform ribs, from inner margin of volutions, extending three-fourths across sides; whole shell with spiral, intercostal striæ; ambit round, produced in centre; aperture transversely elongated, narrowed internally.
- 30, 31, 31a. *G. Rotiformis*. (*Wheel-shaped Goniatite*.) Discoidal, carinated; with six, half-concealed, angular volutions; ambit with truncated carina; sides with transverse furrows, placed only on centre of volutions and not reaching sides.
- 32, 32a, 33. *G. Evolutus*. (*Unfolded Goniatite*.) Discoidal, umbilicate; with three, apparent rapidly-increasing volutions; aperture oblong with rounded angles; septa with deep, acute, dorsal sinus; first lateral lobe obtuse, angulated.
- 34, 34a. *G. Listeri*. (*Lister's Goniatite*.) Spheroidal, umbilicate; inner volutions concealed by outer one, their edges only being visible within umbilicus; outer volution obsoletely-striated transversely; constrictions nearly direct; umbilicus very wide, deep, acute, with edges plaited, crenated, or dentated; with double dorsal lobe, angular deep dorsal sinuses; first lateral lobe ample; very round, angular, deep, lateral sinus.
- 35, 35a, 36. *G. Truncatus*. (*Truncated Goniatite*.) Discoidal, umbilicate, much compressed; inner volutions wholly concealed; sides with transverse, strong, bent striæ; ambit in adult flattened; aperture elongated, narrow next ambit; contiguous volution intruding about one-third its length.
- 37, 38. *G. Carina*. (*Keel'd Goniatite*.) Lenticular, smooth; ambit with sharp keel; aperture sub-cordate.
- 39, 40. *G. Vittiger*. (*Filleted Goniatite*.) Lenticular, carinated; with five smooth, two-thirds concealed volutions; ambit with flattened carina.
- 41, 42, 42a. *G. Reticulatus*. (*Reticulated Goniatite*.) Discoidal compressed, in adult umbilicate; inner volutions wholly concealed; sides of outer volution crossed by many strong, bent striæ from inner margin of volutions; striæ crossed by rather wide, spiral striæ, producing reticulated appearance; umbilicus large, deep, angular; ambit angulated; septa with short dorsal lobe; first laterals rounded, large, with dorsal edges parallel; constrictions bent.
- 43, 45, 45a, 46. *G. Spirorbis*. (*Winding Goniatite*.) Discoidal; with seven or eight, rounded or oval, half-exposed, compressed volutions; coiled like a watch spring, crossed by very fine, slightly oblique striæ and divided by deep, angulated suture; aperture longitudinal, oblong-ovate, slightly indented by last volution; septa with two, rounded, lateral sinuses and acute, central, dorsal sinus.
- 44, 44a, 57. *G. Crenistriæ*. (*Crenulated-striate Goniatite*.) Sub-globose, umbilicate; inner volutions wholly concealed; sides with fine, crenulated, reticulated, curved striæ; longer ones from inner margins and passing over ambit, to margins of opposite side; umbilicus minute, rounded; septa, with dorsal lobe bifid; dorsal sinus acute; first lateral lobe sub-acute, double the length of dorsal lobe; second lateral lobe obtusely rounded, shorter than first; marginal sinus angular.
- 47, 48, 48a. *G. Stenolobus*. (*Narrow-lobed Goniatite*.) Sub-globular, umbilicate; inner volutions entirely concealed; outside with minute rugosities and direct constrictions; umbilicus fairly large; lobes and sinuses of suture rounded; dorsal lobe narrow.
- 49, 50, 50a. *G. Excavatus*. (*Excavated Goniatite*.) Depressed, umbilicate; inner volutions wholly concealed; ambit angulated; sides with crenulate, transverse, undulating, slightly furcate striæ; constrictions considerably waved; umbilicus large, acute; lateral sinuses as in *G. Reticulatus*, but more acute.
- 51, 51a, 52. *G. Obtusus*. (*Obtuse Goniatite*.) Sub-globose, umbilicate; inner volutions wholly concealed; sides flattened, with delicate, transverse, bent, furcate striæ; ambit broad, rounded; a few faint longitudinal striæ and some internal, bent ridges; aperture oblong-ovate; narrowed behind body, volution intruding upon it one-third; septa delicately marked, waved on edge; with short dorsal lobe, dorsal sinuses acute; first lateral lobe rounded.
- 53, 54, 54a. *G. Bidorsalis*. (*Double-backed Goniatite*.) Sub-globose umbilicate; inner volutions wholly concealed; sides rounded, with transverso, sigmoidal, sharp ribs; ambit rounded, with fine, spiral, distant striæ; umbilicus large; lateral lobes and sinus rounded, with double dorsal lobe.
- 55, 56. *G. Mutabilis*. (*Mutable Goniatite*.) Sub-globose, umbilicate; inner volutions wholly concealed; sides and ambit much rounded and smooth, with direct constrictions; aperture transverse, semi-lunar; umbilicus large, with acute margin; first lateral lobe narrow.
- 58, 58a. *G. Implicatus*. (*Involved Goniatite*.) Sub-globose, umbilicate; inner volutions wholly concealed; sides somewhat flattened, with delicate, transverse striæ; umbilicus rather small; septa many, with waved edges; first lateral lobes widely rounded, with dorsal margins parallel; with minute dorsal lobe with rounded dorsal sinuses.
- 59, 59a. *G. Platylobus*. (*Wide-lobed Goniatite*.) Sub-globose, umbilicate; inner volutions wholly concealed; sides and ambit rounded, with obsolete, spiral striæ, and crossed by direct constrictions; umbilicus fairly large, crenate at margin; with rounded sutural lobes and sinuses, and wide dorsal lobe.
- 60, 60a, 61. *G. Calyx*. (*Calyx Goniatite*.) Discoideo-cylindrical, umbilicate; with about five volutions wholly enveloped in outer one; ambit nearly flattened, glabrous, with delicate, transverse striæ; umbilicus wide, acute, deep, exposing within it margins of volutions; frequently crenate at edges; aperture sub-luniform, flat, transverse, acute at outer angles; constrictions direct; dorsal lobe and sinus forming waved, transverse line.

PLATE XXII.

1, 2, 3. **Scaphites Striatus.** (*Striated Scaphite.*) Inner volutions umbilicate, wholly concealed by outer one; ambit tumid; aperture entire, ovate, marginate; margin prominent; surface, with many oblique, annular, bifurcate striæ; septa concave. Situation of siphunculus unknown. Length, 1 in.; thickness, $\frac{1}{4}$ in.; width, $\frac{1}{3}$ in.

4, 5. **S. Costatus.** (*Ribbed Scaphite.*) Volutions convex, laterally compressed; inner volutions wholly inserted, concealed; sides with many, transverse, furcate striæ; sides of outer volutions smooth, with eight or ten oblique, nodular projections; ambit broad, convex. Length, 1 in.; width, $\frac{1}{8}$ in.; thickness of ambit, $\frac{1}{6}$ in.

6, 14. **S. Tuberculatus.** (*Tuberculated Scaphite.*) Involute, umbilicate; inner volutions concealed; with series of wide-set ribs from inner margin; ambit rounded. Length, 1 in.

7, 8, 9, 15. **S. Equalis.** (*Equal Scaphite.*) Involute, umbilicate; inner volutions concealed; inner parts of sides with projecting, distant ribs; ambit enlarged, ventricose, thickened; aperture incurved; outer coating pearly. Length, 1 in.

10, 11, 12, 13. **S. Obliquus.** (*Oblique Scaphite.*) Obliquely involute; umbilicate; inner volutions concealed; sides transversely striate; striæ bifurcate or trifurcate; ambit rounded. Length, 1 in.; width, $\frac{3}{4}$ in.; thickness, $\frac{1}{2}$ in.

16. **Nautilus Tetragonis.** (*Quadrangular Nautilus.*) Discoidal, flattened, with tetragonal volutions; ambit slightly concave, with small spiral ridge within angles; sides crossed by sharp bent striæ, rising into ridges on edges; septa outwardly concave.

17. **N. Inequalis.** (*Unequal Nautilus.*) Spheroidal, umbilicate; aperture nearly round; trilobate, embracing volutions, and nearly equal to half diameter of shell in length and width; septa curved, remote in inner volutions, contiguous in outer ones; siphunculus situate near inner margin of septum.

18. **N. Multicarinatus.** (*Many-keeled Nautilus.*) Discoidal, sub-globose, umbilicate; umbilicus large, deep, angular; sides of inner volution half-exposed; ambit compressed, very broad, flattened with centre plain, and with four sharp carinæ on each side, exclusive of the one investing margins of umbilicus.

19. **N. Cariniferus.** (*Keeled Nautilus.*) Discoidal, sub-globose, umbilicate; inner volutions half-exposed within very large, deep, sharp, margined umbilicus; ambit very broad, with centre plain, flat, and with two carinæ on each side and rounded broader one outside these; lip, with deep sinus.

20. **N. Cyclostomus.** (*Circle Nautilus.*) Partly spiral; inner volutions exposed, outer ones rapidly increasing to a nearly straight line; sides crossed by fine, flexuous striæ; suture outwardly concave; aperture circular; siphunculus situate near outer edge; number of volutions variable.

21. **N. Pentagonus.** (*Pentagonal Nautilus.*) Discoidal with five volutions; inner ones about one-third concealed; ambit sub-carinated; aperture orbicular, obscurely five-angled indented by preceding volution; sides flattened, with a few oblique wrinkles; septa numerous, slightly concave; siphunculus central. Greatest diameter $8\frac{1}{2}$ in.

22. **N. Sinuatus.** (*Sinuuous Nautilus.*) Very thick, umbilicate; inner volutions few, wholly concealed; sides depressed, conical, with close, fine, elevated, concentric striæ; ambit convex; aperture obtusely sagittate, truncated; septum elevated towards front, with large marginal sinus on each side; umbilicus shallow; siphunculus one-third length of aperture from ambit. Greatest diameter 5 in.; thickness $2\frac{1}{2}$ in.

PLATE XXIII.

1. **Nautilus Astacoides.** (*Little Lobster Nautilus.*) Discoidal, umbilicate; inner volutions wholly concealed; ambit narrowed toward aperture; sides smooth, concentrically lineated with transverse lines of growth; aperture expansive, occupying two-thirds diameter of shell; siphunculus central.

2. **N. Undulatus.** (*Waved Nautilus.*) Gibbous; inner volutions concealed; sides produced, with large undulations; edge of back scalloped; aperture obcordate; siphunculus central; septa numerous, crossed on surface by an undulation; thickness half diameter of disc. Greatest diameter 12 in.

3. **N. Oxystomus.** (*Sharp-mouthed Nautilus.*) Lenticular depressed; with four volutions, inner ones half exposed; sides smooth; ambit acute; septa outwardly concave.

4. **N. Truncatus.** (*Truncated Nautilus.*) Thick; inner volutions wholly concealed; umbilicate; sides flattened; ambit flat; aperture elongated, quadrangular; siphunculus oval, situate nearest inner end of aperture; septa many; thickness not quite equal half diameter.

5. **N. Simplex.** (*Simple Nautilus.*) Spheroidal, depressed; inner volutions wholly concealed; sides plain, umbilicate; aperture huate, with truncated angles, embracing sides of volutions; septa many, flattened; siphunculus situate near inner edge of septum; thickness three-fourths greatest diameter of disc, which is from 1 in. to 13 in.

6. **N. Excavatus.** (*Excavated Nautilus.*) Globose; largely umbilicate; umbilicus shape of reversed cone, producing excavated appearance in sides; sides smooth, straight; aperture sub-quadrangular, produced at sides by convex extremity of umbilicus, arcuated in front; siphunculus central.

7. **N. Sulcatus.** (*Furrowed Nautilus.*) Discoidal, with four almost wholly exposed volutions; sides ventricose, with two large spiral sulci and two or three shallow, broad, smaller ones on each side; one of sulci concealed in inner volutions and with sharp, carinated elevation between larger sulci; ambit concave, bounded by sharp margins; aperture one-half longer than wide, with sides indented; siphunculus situate opposite inner indentation; septa many, with straight margins.

8. **N. Polygonalis.** (*Many-cornered Nautilus.*) Spheroidal, umbilicate; inner volutions wholly concealed; sides compressed, smooth; umbilicus minute; aperture large, arcuated, its reflected extremities nearly concealing umbilicus; siphunculus situate near outer edge of septum and composed of many straight tubes, penetrating septa; septa distant, concave; thickness equal to two-thirds diameter.

9. **N. Biangulatus.** (*Two-angled Nautilus.*) Discoidal; sub-globose; umbilicate; inner volutions half-exposed; ambit rounded; umbilicus large, deep, in form of reversed cone, with margins acutely carinated; aperture elliptical, obtuse at extremities; width equal to two-thirds diameter of disc.

10. **N. Hexagonus.** (*Six-angled Nautilus.*) Cylindrical, short, umbilicate; inner volutions wholly concealed; sides depressed, with conical angle near centre; ambit broad, straight; umbilicus small; aperture sagittate, truncated on outer extremity; siphunculus situate near inner edge of septum; septa numerous, slightly curved.

11. **N. Globatus.** (*Globular Nautilus.*) Sub-globose, umbilicate; inner volution almost wholly concealed; sides smooth; ambit flattened; umbilicus small, deep, with sub-carinated margin; aperture large, wide, arcuated, with deep, wide sinus on back; thickness and diameter equal; septa many. Greatest diameter 6 in.

12. **N. Woodwardii.** (*Woodward's Nautilus.*) Discoidal, with four or five wholly exposed volutions; sides of volutions angular; surface with many concentric series of granulated lines; ambit rounded, with linear sulcus at centre; aperture obovate with angulated sides.

Drawn by Capt. Brown

Engraved by A. E. Arkman

PLATE XXIV.

1. **Nautilus Centralis.** (*Central-Siphuncled Nautilus.*) Involute, umbilicate; inner volutions wholly concealed; aperture transversely elongate, bluntly lunate; siphunculus central; umbilicus large, situate behind projecting sides of aperture; sides smooth; septa entire, bending, concave.

2. **N. Costalis.** (*Ribbed Nautilus.*) Spheroidal, umbilicate; inner volutions wholly concealed; sides with transverse flutings or ribs; ridges rising on margin of deep umbilicus, and ending in acute projections on ambit; with strong, elevated striæ, parallel to ridges; aperture lunate.

3. **N. Ziczac.** (*Zigzag Nautilus.*) Involute; sides flattened; inner volutions wholly concealed; aperture bluntly triangular; siphunculus situate nearest to inside; septa concave, recurved at ends, producing zigzag appearance; thickness one-third diameter.

4. **N. Striatus.** (*Striated Nautilus.*) Discoidal, gibbose; inner volutions few, wholly concealed; sides with very strong, elevated, many, irregular concentric striæ; umbilicus large; ambit compressed; aperture orbicular, flattened on back, equal to half diameter of disc. Greatest diameter 8 in.

5. **N. Imperialis.** (*Imperial Nautilus.*) Discoidal, umbilicate; inner volutions wholly concealed; sides gibbose, smooth, but striated concentrically in young state; aperture lunate, with blunted sides; siphunculus situate nearest to inside; septa entire, concave; truncated and somewhat recurved at ends; umbilicus rather large.

6. **N. Bilobatus.** (*Two-Lobed Nautilus.*) Sub-globose, umbilicate; inner volutions wholly concealed; sides smooth; back flattened; umbilicus minute, cylindrical; aperture transversely elongate, its width nearly four times its length; siphunculus central, on each side of which septa very concave, forming two elliptical lobes; thickness and width about equal.

7. **N. Intermedius.** (*Intermediate Nautilus.*) Globose, umbilicate; inner volutions half-exposed; sides rather depressed, concentrically striated; ambit broad, flattened; aperture rather quadrangular; siphunculus round, placed nearest external margin; septa many.

8. **N. Obesus.** (*Swollen Nautilus.*) Gibbose, umbilicate; inner volutions wholly concealed; sides plain; ambit broad, flat; aperture very large, rather quadrangular; its length about two-thirds diameter of disc; siphunculus oblong-ovate, transverse, central; septa very numerous; umbilicus large. Greatest diameter 13 in.

9. **N. Complanatus.** (*Flattened Nautilus.*) Discoidal, compressed, with four or five volutions; inner ones wholly exposed; their inner edges flattened, leaving concave surface; half of last volution without septa; sides flat, smooth; aperture lanceolate; its length nearly six times its width; near inner angle, edge of each septum with reversed sinus; ambit rounded.

10. **N. Tuberculatus.** (*Tuberculated Nautilus.*) Discoidal, thick, largely umbilicate; inner volutions almost wholly exposed; outer volutions thick; umbilicus deep, shape of reversed cone; at one-third of breadth of volutions is a series of large, round tubercles; ambit rounded; aperture transversely elongate and somewhat bi-angular, its width being twice its length; septa slightly concave, with edges waved.

PLATE XXV.

1. *Nautilus Dorsalis*. (*Back-siphuncled Nautilus*.) Discoidal, umbilicate; inner volutions wholly concealed; sides smooth, rounded; aperture sub-rotund; siphunculus situate close to back; septa distinct; umbilicus large, deep.

2. *N. Bistrialis*. (*Doubly-Striate Nautilus*.) Discoidal, umbilicate; inner volutions wholly concealed; sides slightly rounded; umbilicus very large, with several spiral striæ on margin.

3. *N. Goniolobatus*. (*Corner-Lobed Nautilus*.) Involute, sub-globose, umbilicate; inner volutions wholly concealed; sides smooth, inflated; ambit rounded; umbilicus small; sutures retroflexed in small, dorsal sinus; first lateral lobe angular; second not traceable.

4. *N. Ingens*. (*Huge Nautilus*.) Discoidal; inner volutions slightly concealed; sides smooth; ambit round; aperture orbicular; siphunculus round, situate at one-third length of aperture from ambit; septa many.

5. *N. Globatus*. (*Globular Nautilus*.) V. PLATE XXIII., Fig 11.

6. *N. Biangulatus*. (*Two-angled Nautilus*.) V. PLATE XXIII., Fig. 9.

7. *N. Lineatus*. (*Lineated Nautilus*.) Spheroidal, compressed, umbilicate; inner volutions wholly concealed; sides flattish, obscurely striated transversely; umbilicus small, well-defined; ambit flat, broad, with spiral, concave groove at centre; aperture rather quadrangular, with deep indentation from preceding volution; siphunculus situate near centre; septa many, concave, with three, slight, marginal undulations. Diameter one-third longer than thickness.

8. *N. Sulcatulus*. (*Sulcated Nautilus*.) Discoidal; inner volutions quadrangular, partly exposed; sides smooth, concave towards outer edge, convex towards marginal slope, with many acute, sigmoidal, transverse, and a few spiral striæ; volutions quadrangular; ambit concave along centre, bevelled to sides; aperture oblong, ten-sided; siphunculus situate near outer edge.

10. *N. Elegans*. (*Elegant Nautilus*.) Sub-globose, umbilicate; inner volutions one-third concealed; sides, with many, transverse, linear, curved, reflexed sulci, dividing surface into flat ribs; aperture obtusely sagittate; siphunculus large, central; septa concavo-convex, entire; umbilicus minute. Greatest diameter, 12 in.; greatest thickness equal to about twice width.

11. *N. Annularis*. (*Ringed Nautilus*.) Discoidal, with large circular annulation; sides raised; aperture very large; septa remote, slightly curved.

12. *N. Regalis*. (*Royal Nautilus*.) Gibbose, without umbilicus; inner volutions wholly concealed; sides plain, convex; ambit flattened; aperture wider than long; sides expanded, with considerable indentation from volution and straight next back. Greatest diameter, 9 in.; thickness, 5 in.

13, 14. *N. Expansus*. (*Expanded Nautilus*.) Sub-globose, umbilicate; inner volutions wholly concealed; sides, with fine, sharp, transverse striæ; back rounded; umbilicus small, nearly circular; aperture transverse, greatly exposed, laterally, so as to make axis longer than diameter of shell; septa intersect striæ; edges nearly straight in front.

15. *N. Radiatus*. (*Rayed Nautilus*.) Gibbose, umbilicate; inner volutions one-third inserted; sides rounded, with curved, radiating undulations; ambit rounded; umbilicus of fair size, exposing inner volutions and edges of septa; aperture circular, its length and breadth about equal, and exceeding half diameter of disc; deeply indented by intrusion of volutions. Greatest diameter, 6½ in.

PLATE XXVI.

1, 2. **Nummulites Comptoni.** (*Compton's Nummulite.*) Lenticular, obtusely carinated; surface smooth, with about ten, well-marked septa; aperture acutely triangular, formed of two, arcuated lips. Diameter not $\frac{1}{12}$ in.

3, 4, 5. **N. Variolaria.** (*Variable Nummulite.*) Very convex, smooth; with four or five volutions; margin obtuse; septa about twenty, forming rays near margin.

6, 7, 8. **N. Lævigata.** (*Smooth Nummulite.*) Lenticular, smooth; with about twelve, compressed volutions; sides convex, plain, except having a few elevated dots and slightly undulated in centre; margin narrow, rather obtuse, finely striated; aperture narrow.

9, 10, 11. **N. Elegans.** (*Elegant Nummulite.*) Compressed, smooth; with about six volutions; septa numerous, gently curved from axis; aperture prominent.

12, 22. **Bellerophon Tangentialis.** (*Tangent-Ridged Bellerophon.*) Cylandrico-globose; umbilicus largely rounded; aperture expanded; ambit broad, with acute, narrow carina, whence straight ridges and sulci, perpendicular to keel, forming tangents to inner margin.

13, 15. **B. Urii.** (*Ure's Bellerophon.*) Globular; sides of aperture expanded; axis solid; shell smooth, with many, regular, spiral, shallow sulci, and rounded, narrow ridges; without keel.

14, 20. **B. Woodwardii.** (*Woodward's Bellerophon.*) Discoidal, lenticular, sub-rhomboidal, with four or five volutions; sides angular, with many, concentric series of granulated lines; back rounded, with linear sulcus in centre; aperture obovate, with angulated sides.

16, 30. **B. Tenufascia.** (*Thin-Banded Bellerophon.*) Globular; aperture expanded; mesial keel thin, elevated, acute, with fine, close, transverse striæ; umbilicus small. Greatest diameter, 3 in.

17, 19. **B. Hiuleus.** (*Gaping Bellerophon.*) Globose; expanding widely from central volutions; mesial keel, broad, flat; axis perforated; sides with close-set, elevated striæ from axis and passing obliquely to keel; front sinus deep, producing arcuated striæ upon carina, whose sides are well defined by sharp, depressed lines; aperture expanding.

18. **B. Spiralis.** (*Spirally-furrowed Bellerophon.*) Ovate, umbilicate; back and edges of umbilicus obtusely angled, with many spiral ridges and sulci; whole surface minutely granular; lip of aperture somewhat triangularly pointed behind.

21. **B. Decussatus.** (*Decussated Bellerophon.*) Sub-globose, or longitudinally ovate, with small, spiral ridges and sulci, crossed by finer, thread-like, arcuated lines, producing decussated appearance; aperture much expanded; axis solid; mesial keel tumid, rounded, covered by the striæ.

23, 26. **B. Sulcatus.** (*Furrowed Bellerophon.*) Discoidal, with large, shallow umbilicus; sides inflated and crossed by many narrow, curved sulci; mesial keel elevated, with arcuated sulci; aperture expanded, arcuated, elevated behind.

24. **B. Costatus.** (*Ribbed Bellerophon.*) Sub-globose, with small, rounded umbilicus; mesial keel broad, depressed; striæ sharp, emanating from umbilicus in arcuated form, ending in a deep, V-shaped, dorsal sinus; aperture large, expanding.

25, 27. **B. Apertus.** (*Open Bellerophon.*) Nearly spherical; inner volutions concealed; axis solid, very thick; sides smooth; sides of aperture expanded; extremities squarish; without mesial keel; back rounded.

28. **B. Ovatus.** (*Oval Bellerophon.*) Ovate, gibbose, with shallow, central umbilicus; inner volutions concealed; sides rounded; surface smooth; aperture obtusely sagittate, with sides narrow. Greatest diameter thrice thickness of shell.

29. **B. Expansus.** (*Expanded Bellerophon.*) Sub-discoidal; umbilicus concealed; sides greatly produced, crossed by wide-set sulci; mesial keel elevated in arcuated form; aperture wide, gaping.

31, 32, 33. **B. Cornu-Arietus.** (*Ram's-Horn Bellerophon.*) Very thick, smooth, compressed; volutions few, inner ones minute; near aperture on back with longitudinal, carinated, regular, dorsal sinus, dividing aperture into two lobes; aperture large, dilated; axis solid, very thick.

PLATE XXVII.

1, 2. **Orthocera Pyriformis.** (*Pear-shaped Orthocera.*) Pyriform, tumid towards aperture, arched towards smaller end; smooth; section oval; siphunculus situate at one-third of diameter from edge.

3. **O. Cordiformis.** (*Heart-shaped Orthocera.*) Ob-conical, heart-shaped; sides convex; aperture round; surface smooth, plain; septa many; siphunculus nearly central; its tube inflated into globular form between each septum.

4. **O. Paradoxicum.** (*Paradoxical Orthocera.*) Lanceolate, triangular, flattened in front, edges projecting and producing gentle concavity; sides convex, somewhat dissimilar; aperture equilaterally triangular, with sides rounded and hollowed in front; siphunculus central.

5. **O. Angulare.** (*Angular Orthocera.*) Sub-cylindrical, with a few, longitudinal sulci; septa situate very distant.

6. **O. Gigantea.** (*Gigantic Orthocera.*) Straight, tapering; finely striated; aperture oval, more than 8 in. in diameter; septa direct, deep, many; siphunculus situate a little distance from centre.

7. **O. Inequisseptus.** (*Unequally-partitioned Orthocera.*) Straight, tapering; septa unequal, very distant in young shell; section circular.

8. **O. Reticulatus.** (*Reticulated Orthocera.*) Elongated; septa distant; surface annulated and reticulated with moniliform lines; sections circular.

9. **O. Gesneri.** (*Gesner's Orthocera.*) Curved, conical; with about thirty longitudinal, close, acute, regular ridges and rounded sulci; siphunculus nearly marginal; section slightly ovate.

PLATE XXVIII.

1. **Orthocera Fusiformis.** (*Spindle-shaped Orthocera.*) Arcuated, fusiform, smooth, round, tapering towards smaller end; siphunculus central; outer chamber large.

2, 3. **O. Circularis.** (*Circular Orthocera.*) Nearly cylindrical or tapering; partitions thin, concave, approximate, about one-sixteenth of inch distant, with edges even; siphunculus situate midway between centre and margin; diameter of large end 1 in.

4. **O. Cineta.** (*Girdled Orthocera.*) Elongate, almost cylindrical; surface with numerous sharp, undulous, annular striæ; siphunculus central; septa concave, distant; section slightly ovate.

5. **O. Breynii.** (*Breyn's Orthocera.*) Cylindrical, elongate, tapering; septa numerous, ovate, oblique, concave, approximate, shallow; siphunculus situate in one focus between centre and margin; outer shell thin, plain; section elongated, oval.

6, 7. **O. Conica.** (*Conical Orthocera.*) Elongated, conical, smooth; aperture ovate, chambers many; septa with even margins and regularly concave surfaces; siphunculus small, oval, close to margin.

8. **O. Rugosa.** (*Rugged Orthocera.*) Sub-cylindrical, arcuated; with annular, undulating, distant ridges, crossed by strong striæ of knotty appearance, intervening spaces with longitudinal, tuberculated, sub-echinated lines; siphunculus minute, situate close to edge; two chambers between each of transverse annulations.

9, 10. **O. Undulata.** (*Waved Orthocera.*) Oval, tapering, thin, smooth; partitions many, parallel, somewhat concave; their edges ascending, oval, with wave on each side, equidistant, siphunculus situate near thicker end, about one-sixth of diameter from side of shell; section broad oval.

11, 12. **O. Annulata.** (*Ringed Orthocera.*) Tapering, sub-compressed, with strong oblique, equidistant annulations, and minute, transverse, undulating striæ; space equal to four rings plain near aperture, within which siphunculus is situate; section oval.

13. **O. Cornu-Ibex.** (*Ibex-horn Orthocera.*) Somewhat arcuated, cylindrical, with many undulous, smooth annulations; intervening spaces smooth.

14. **O. Laterale.** (*Lateral Orthocera.*) Tapering, smooth, compressed, with equidistant, wide-set, oblique septa, sides arcuated; section ovate.

15. **O. Steinhaueri.** (*Steinhauer's Orthocera.*) Circular, very concave, with thin margins, even edged, wide, elongated, tapering; with parallel, regular, transverse, striæ; septa distant; chambers deep; siphunculus large, situate close to one side; section circular.

16. **O. Unguis.** (*Claw Orthocera.*) Smooth, abruptly arcuated toward thicker end; septa many; section orbicular.

17. **O. Striata.** (*Striated Orthocera.*) Nearly cylindrical, tapering; surface longitudinally striate; aperture oval, one-third broader than wide; septa very thin, many, wide-set; chambers deep; siphunculus large, central. Greatest known length, 11 in.

18. **O. Dentaloideum.** (*Tooth Orthocera.*) Greatly curved, tapering, with many small, longitudinal ridges and sulci.

PLATE XXIX.

1. **Belemnites Lanceolatus.** (*Spear-shaped Belemnite.*) Smooth, sub-fusiform, greatly elongated, one-half narrow, the other thickened, tapering to a point; each side, with double, obsolete sulcus; base obscurely triangular, convex or conical.

2. **B. Acutus.** (*Acute Belemnite.*) Conical, round, smooth; sides slightly compressed, without sulcus, ending in acute apex; base broad; cavity deep, central.

3. **B. Attenuatus.** (*Attenuated Belemnite.*) Sub-fusiform, quadrangular, tapering towards base; nearly cylindrical from above centre to obtuse apex, frequently striated; each side with obsolete, double, longitudinal sulcus in front.

4, 12. **B. Compressus.** (*Compressed Belemnite.*) Thick, straight, compressed; base wide, oval, not expanded, tapering to apex; apex surrounded by longitudinal, unequally long, deep sulci; sides flattened; cavity deep; apex central; septa many.

5. **B. Penicillatus.** (*Pencil-shaped Belemnite.*) Compressed, short; tapering towards superior end, abruptly contracted to almost central, longitudinally striated obtuse point; cavity of opposite extremity deepish.

6, 7. **B. Granulatus.** (*Granulated Belemnite.*) Sub-cylindrical; surface with small granulations and impressions of veins; tapering to obtuse, mucronated apex; sides with double, longitudinal, nearly obsolete sulcus.

8. **B. Allani.** (*Allan's Belemnite.*) Smooth, cylindrical; apex conical, with slender, produced point; alveolus conical, acute, with sub-lateral point; longitudinal section shows small tube from alveolus to apex of spathose part.

9. **B. Listeri.** (*Lister's Belemnite.*) Sub-fusiform, cylindrical; with slight, single, longitudinal sulcus, ending in acute apex; siphunculus central, from alveolus to apex of spathose part.

10. **B. Voluminis.** (*Scroll Belemnite.*) Smooth, fusiform; thickest in centre, tapering to each end, and terminating in blunt points; section circular.

11. **B. Elongatus.** (*Elongated Belemnite.*) Elongated, slender, cylindrical centrally; tapering to obtuse, round, plain apex; base broad, surrounded by many annulations; chambered part equal to two-thirds length of shell; basal diameter equal to one-fourth of length.

13. **B. Gracilis.** (*Slender Belemnite.*) Smooth, fusiform, thick at one end, tapering to obtuse point; extremely slender at other end; section orbicular.

14. **B. Fusiformis.** (*Spindle-shaped Belemnite.*) Fusiform; compressed in fore part, tapering towards apex; receptacle for alveolus situate towards base in conical form, with longitudinal sulcus one inch long.

15, 16. **B. Mucronatus.** (*Sharp-pointed Belemnite.*) Sub-cylindrical; apex ending in obtuse point with central micro; base expanded; aperture circular; sulcus extending along expanded portion; flattened space nearly whole length of shell on each side of back, whence numerous vein-like channels.

17. **B. Tubularia.** (*Tubular Belemnite.*) Tubular, elongated, smooth, tapering towards point, where it again bulges out into compressed, three-furrowed point; thicker towards base.

18, 19. **B. Abbreviatus.** (*Shortened Belemnite.*) Short, sub-cylindrical; fore part tapering to recurved, eccentric apex; base expanded; sides flattened; cavity equal to half length of shell.

20, 21. **B. Minimus.** (*Least Belemnite.*) Fusiform, quadrangular, spreading towards apex, cylindrical towards base; apex obsoletely papillose; each side, with double, obscure sulcus.

22. **B. Pistilliformis.** (*Pestle-shaped Belemnite.*) Fusiform, thickened toward apex; suddenly and greatly attenuated and elongated towards base; surface with slight impressions of veins.

23, 24. **Beloptera Anomala.** (*Anomalous Belloptera.*) Oblong, smooth, thin, curved; sides scarcely expanded; apex very obtuse, with small, circular perforation in front or on concave side; cone increasing in thickness at sides and back to its end; shell thin at base of cone; section trigonal.

25, 26. **Amplexus Coralloides.** (*Coral Amplexus.*) Tubular; irregularly bent; surface undulous, longitudinally striate; margins of septa reflexed, forming elongated cells, terminating in septa; lines of growth close, well-defined; septa equal to fourth or fifth part of diameter of tube, remote, with margins reflexed to adjoining septum. Diameter $\frac{1}{2}$ in. to $1\frac{1}{2}$ in.

27. **Conularia Quadrisulcata.** (*Four-furrowed Conularia.*) Straight; four-sided; each angle, with bent, oblique, transverse sulci; longitudinally striated; labia of two longer sides inflexed over base; septa with delicate, transverse, irregular striæ.

28. **C. Teres.** (*Taper Conularia.*) Conical, tapering, round, sub-cylindrical, irregularly arcuated, with transverse, irregular striæ; smooth space near apex ending in blunted cone.

PLATE XXIX.*

1, 2. **Belemnites Ellipticus.** (*Elliptical Belemnite.*) Guard much elongated, elliptical; opaque; greyish-brown, terminating in mucronated point.

3, 4. **Actinoceras Verus.** (*True Actinocineras.*)

5, 7, 25. **B. Elongatus.** (*Elongated Belemnite.*) V. PLATE XXIX., fig. 11.

6, 8. **B. Abbreviatus.** (*Shortened Belemnite.*) V. PLATE XXIX., figs. 18, 19.

9, 11. **B. Sulcatus.** (*Furrowed Belemnite.*) Guard sub-cylindrical, elongated, with longitudinal furrow and acute apex.

10. Variety of **B. Sulcatus**, figs. 9, 11.

12. Blood vessels on guard of **B. Electrinus**, figs. 23, 24.

13, 14. **B. Longissimus.** (*Lengthened Belemnite.*) Guard very strong, much lengthened, smooth, with conic point.

15, 16. **B. Tripartitus.** (*Three-parted Belemnite.*) Guard formed of three longitudinal portions, showing near apex three, distinct, longitudinal ridges.

17, 18. Variety of **B. Tripartitus**, figs. 15, 16.

19, 20. **B. Aduncatus.** (*Hooked Belemnite.*) Guard cylindrical, very smooth; sometimes finely striated, with hooked apex, with four or five ridges; intervening sulci sometimes slightly tuberculated.

21. Apex of **B. Aduncatus**, figs. 19, 20.

22. Variety of **B. Ellipticus**, figs. 1, 2.

23, 24. **B. Electrinus.** (*Amber Belemnite.*) Guard cylindrical, lower extremity conical; with mammillated point; amber coloured.

26, 27. **O. Microscopica.** (*Microscopic Orthocera.*) Taper, smooth; septa remote; aperture semi-oval. Length $\frac{1}{12}$ in.; thickness less than $\frac{1}{48}$ in.

28. **B. Gibsoni.** (*Gibson's Belemnite.*) Gradually tapering; smooth, shining; aperture nearly circular. Length $\frac{5}{8}$ in.; diameter at aperture $\frac{1}{8}$ in.

29. **O. Ascicularis.** (*Ascicular Orthocera.*) Very long, tapering abruptly; smooth; septa many, transversely parallel, regular, increasing with age; aperture circular; siphunculus situate near one side. Length $1\frac{1}{8}$ in.; diameter at aperture not $\frac{1}{8}$ in., at base $\frac{1}{24}$ in.

30. **O. Obtusa.** (*Obtuse Orthocera.*) Erect, taper, compressed; smooth, with undulating, transverse striæ; point for one quarter of an inch without striæ. Diameter near base $\frac{3}{4}$ in.; greatest known diameter $1\frac{1}{8}$ in.

31. **O. Brownii.** (*Brown's Orthocera.*) Subulate, arcuated; with seven longitudinal, elevated ribs; hence septangular form; surface smooth; septa many, undulating. Length $1\frac{1}{4}$ in.; diameter $\frac{1}{6}$ in.

PLATE XXX.

1, 10. **Conus Concinnus.** (*Neat Cone.*) Sub-fusiform; angular in centre; spire one-third length of shell, with small knobs, and fine, granulated, spiral striæ; base produced, with sulci, deepest towards point; breadth about one-third length.

2, 3. **C. Scabriusculus.** (*Rough Cone.*) Sub-fusiform, short, bulging in centre, tapering towards both ends; apex acute; base obtuse; with transverse, elevated, serrated, wide-set, compressed striæ; aperture more than half length, straitened above, effuse at base; outer lip arcuated, inflated in middle.

4, 5. **C. Highgatensis.** (*Highgate Cone.*) Conical, rather smooth; spire of about six volutions, with marks of obsolete tubercles; centre of each volution with spiral canal; aperture narrow, two-thirds length of shell.

6, 7. **C. Dormitor.** (*Long-sleep Cone.*) Sub-fusiform, short; tapering to both ends; with many transverse, elevated striæ; intervening spaces finely crenulated; length of spire equal to greatest diameter of base; aperture more than half length of shell; acute above; outer lip inflated in centre, narrowing aperture.

8. **C. Cingillus.** (*Zoned Cone.*) Sub-fusiform; tapering to both ends; with transverse, close striæ; intervening spaces crenulated; smooth, broad band on upper part of body; aperture equal to half length of shell; spire one-third its length.

9, 11. **C. Bartonensis.** (*Barton Cone.*) Conical, elongated; spire and body tapering to short point; spire not one-third length of shell; surface, with many close-set, minutely toothed, transverse striæ; aperture contracted, equal to two-thirds length of shell.

12. **Ancillaria Aveniformis.** (*Oat-shaped Ancillaria.*) Oblong-ovate; elongated, smooth, shining; spire long, with four or five volutions; apex sharp; base two-plaited; inner lip, with short extension; aperture more than half length of shell, contracted, angular above, expanded below.

13, 14. **A. Turritella.** (*Turreted Ancillaria.*) Sub-cylindrical; spire short, with live sub-turreted volutions; apex acute; with minute, transverse striæ; upper part of volutions glossy, middle parts with minute, decussated striæ; varix with nearly obsolete, spiral sulcus; columella three-plaited, with deep sulcus; aperture more than half length of shell; contracted above; outer lip expanded below.

15. **A. Anglica.** (*English Ancillaria.*) Oblong-ovate, smooth, shining; spire, with four or five volutions; apex acute; aperture more than half length of shell, contracted above, widening at centre, expanding at base; varix two-plaited; outer lip inflected.

16, 17. **Oliva Salisburiana.** (*Salisbury's Oliva.*) Ovate, smooth, short, ventricose; diameter equal to two-thirds length; inversely conical; aperture oblong, contracted above, widened at centre, narrower at base; both lips tumid above, separating body from short, conical spire of four volutions; apex pointed.

18, 19. **O. Branderi.** (*Brander's Oliva.*) Oblong-ovate; smooth; spire produced with four volutions; apex pointed; body ventricose; aperture oblong; outer lip thickened; inner lip plaited, varicose near base; diameter of body equal to half length of shell.

20, 21. **A. Subulata.** (*Awl-shaped Ancillaria.*) Subulate, elongated, smooth, glossy; spire lengthened, abruptly acute, with five volutions; varix at base of columella striated; aperture almost half length of shell, contracted above, expanded beneath.

22, 23. **Voluta Lamberti.** (*Lambert's Volute.*) Fusiform, elongated, smooth, tapering to both ends; spire short, with five, tapering volutions; apex blunted, papillose; aperture two-thirds length of shell, elongated, straitened and acute above, widening at centre, contracting beneath; base oblique, sub-truncated; columella with three or four plaits; outer lip sharp at edge, with sinus.

24, 25. **Terebellum Convolutum.** (*Convolutus Terebellum.*) Smooth, fragile, sub-cylindrical, elongated; tapering to both ends; apex obtuse, hollow, pointed; base obliquely truncated; spire internal, concealed; aperture longitudinal; columella smooth; outer lip sharp, inflected. Diameter one-third length.

26, 27. **T. Fusiforme.** (*Spindle-formed Terebellum.*) Sub-fusiform, sub-cylindrical; tapering towards apex and base; spire short, with two volutions; base obtuse; aperture three-fifths length of shell, with adpressed, straight canal; pillar lip reflected on columella; outer lip reflected, rounded at base.

28, 29. **Cypræa Coccinelloides.** (*Coccinella Cypræa.*) Ovate, spheroidal, with many, acute, transverse striæ; aperture arcuated, not contracted in centre; outer lip convex.

30, 31. **Volvaria Acutiusecula.** (*Acute Volvaria.*) Cylindrical, contracted towards both ends; spire concealed; crossed by many, transverse, square-punctured striæ; plaits on columella usually four or five; aperture widened at both ends; outer lip thickened, projecting above apex.

32, 33. **Ovula Leathesi.** (*Leathes' Ovula.*) Smooth, elliptical, elongated; ventricose at centre, tapering and contracted at both ends; columella, with large plait and thick testaceous glazing; outer lip very thick, smooth.

34, 35. **C. Oviformis.** (*Egg-shaped Cypræa.*) Oviform, tumid, smooth, shining, marginate; beak broad, caniculate; spire small, concealed; aperture longitudinal, narrow at broadest end, widening towards beak, dentated on both inflected lips.

36, 37. **C. Avellana.** (*Filbert Cypræa.*) Obovate or spheroidal; with many strong, wide-set, elevated, transverse striæ; aperture contracted, curved at both ends.

38, 39. **C. Retusa.** (*Blunted Cypræa.*) Ovate, spheroidal; with many, acute, transverse striæ; aperture arcuated; outer lip convex.

PLATE XXXI.

1, 5. **Voluta Nodosa.** (*Nodulous Volute.*) Ovate; spire conical, produced, nearly equal length of body, with five tumid volutions; apex acute; lower volution broad, hollow; volutions well-defined, with two rows of nodulous spines; body, with irregular, obtuse, longitudinal ribs; shell, crossed by many deep sulci; aperture oblong, wide in centre, narrowed at ends; columella three-plaited; outer lip striated within.

2. **V. Depauperata.** (*Depauperated Volute.*) Oblong-ovate; spire short, sub-turreted, with five volutions, flattened above, with series of erect, sub-acute spines; body longitudinally and unequally ribbed; base acute, with many transverse sulci; aperture oblong-ovate, straitened; columella one-plaited; outer lip smooth within.

3. **V. Suspensa.** (*Uncertain Volute.*) Ovate; spire, with six or seven volutions, with broad canal round it, and with sharp, spinous tubercles; apex acute; each volution with three or four, strong, undulous striæ at base; body ventricose above, tapering below, with strongish ribs, base produced; aperture elongated, narrow; columella three-plaited; outer lip plain.

4. **V. Geminata.** (*Double-spined Volute.*) Ovate; ventricose above, acuminate below; spire short, sub-turreted, with five volutions; apex pointed; with longitudinal prominent ribs and two obtuse spines; with many, transverse, oblique, strong striæ; aperture elongated; columella, with one large and several small curved plaits; outer lip smooth.

6, 7. **V. Lima.** (*Rasp Volute.*) Oblong-ovate; spire short, with five, sub-turreted volutions, separated by broad, deep, spiral canal, with many, longitudinal, dentato-crenated ribs, crossed by wide-set, transverse striæ; upper margin of volutions with series of tooth-like spines; aperture elongated, widened at centre; columella, with three unequal plaits; outer lip smooth within, margin crenulated.

8, 11. **V. Ambigua.** (*Ambiguous Volute.*) Oblong-ovate; spire short, with five volutions, hollowed above; apex pointed; with irregular, longitudinal ribs, angular above, crossed by many, transverse, undulous sulci; aperture elongated, wide at centre, narrowed towards each end; columella three-plaited; outer lip plaited within, granulated on edge.

9, 10. **V. Luctator.** (*Wrestler Volute.*) Acutely ovate; spire short, conical, with volutions concealed above; with tubercular spines; body, with longitudinal ribs; shell, crossed by many, transverse, undulous, linear sulci; with longitudinal striæ; spire one-third length of body, angular and ventricose above; upper edge, with obtuse tubercles; aperture oblong, straitened; outer lip undulous, plain within; columella three or four-plaited.

12, 13. **V. Dubia.** (*Dubious Volute.*) Oblong-ovate; spire acute, sub-turreted, with seven volutions; with one row of large and one of small spinous tubercles; apex acute; with broad, flat, transverse sulci and longitudinal ribs; with minute, longitudinal striæ; spire half length of body; aperture oblong, narrow above, widened at centre, narrow towards base; columella three or more plaited; outer lip plaited within, crenulated at margin.

14, 15. **V. Athleta.** (*Champion Volute.*) Ovate, ventricose; spire short, conical, with five or six volutions; apex acute; with large, spreading, remote, hollow, inflated spines; body smooth, ventricose, with longitudinal, irregular ribs; base obscurely sulcated; spire more than one-fourth length of body; aperture oblong, narrowed above, widened at centre, narrowed towards base; columella reflected, with three, unequal plaits; outer lip plain within.

16, 17. **V. Magorum.** (*Magician's Volute.*) Ovate, fusiform; spire conical, two-thirds length of body, with five volutions; apex obtuse; with about twelve, narrow ribs; with fine, transverse, obscure striæ; aperture oblong-ovate, rounded above; columella, with many plaits; outer lip smooth; beak short, curved.

18, 19. **V. Spinosa.** (*Spined Volute.*) Acutely ovate; spire conical, with about ten volutions, concave above, spirally striate below; with large, tubercular spines, and a series of smaller ones near their upper edge; apex acute; body ventricose above, tapering suddenly from centre to base; with series of thick, longitudinal ribs; crossed by transverse, obsolete, distant sulci; aperture oblong-ovate; columella three-plaited; outer lip plain within.

20, 25. **Mitra Scabra.** (*Rough Mitre.*) Ovate, fusiform; spire with five or six volutions; crossed by many, close, sharp, elevated, transverse, rough striæ, and by many longitudinal, irregularly elevated, undulating lines of growth; aperture fusiform; columella four-plaited, with usually two more slender, nearly obsolete ones above them; outer lip irregularly thickened, with blunt, tooth-like process on margin near centre.

21, 22. **V. Costata.** (*Ribbed Volute.*) Ovate, fusiform; spire conical, with six or seven volutions; apex acute; with about nine, longitudinal, broad, obtuse ribs; crossed by many, wide, indistinct striæ; columella three-plaited; pillar lip reflected on body; outer lip smooth, thickened by a rib; aperture oblong-ovate, rounded above.

23, 26. **M. Pumila.** (*Dwarf Mitre.*) Ovate, fusiform, short; spire with five inflated volutions, crenulated above; apex acute; with deep, transverse sulci; decussated by many elevated, longitudinal, equidistant ribs, dividing sulci into regular, square meshes; aperture elongated, acute above; columella four-plaited; outer lip plaited within.

24, 27. **M. Parva.** (*Small Mitre.*) Ovate, fusiform, short; spire with four, tumid volutions; with equal, transverse sulci; between sulci surface smooth, shining; aperture elongated, straitened above; columella four-plaited; outer lip plaited within. Length, $\frac{1}{4}$ in.; diameter, $\frac{1}{8}$ in.

PLATE XXXII.

1, 2. *Buccinum Lavatum*. (*Washed Buccinum*.) Oblong-ovate, with six acuminate, convex volutions, with short apex, and many prominent longitudinal, equal, curved ribs, crossed by many strong, spiral striæ; aperture oblong, contracted above, outer lip striated internally, crenulated at margin, without sinus.

3, 4. *Purpura Deserta*. (*Forsaken Purpura*.) Ovate; spire short, conical, with five depressed volutions, tapering, separated by broad, rounded groove, winding spirally close to suture; with many longitudinal, irregular, flattened ribs, with sharp points at upper extremities, crossed by remote, spiral striæ; aperture ovate, with distant grooves within; columella smooth, with obscure fold at base; canal short.

5, 6. *P. Dentii*. (*Dent's Purpura*.) Oblong-ovate; spire conical, with five, inflated volutions, tapering; apex obtuse; volutions separated by double, wide, spiral sulcus, situate just below suture; with strong, longitudinal, unequal ribs; aperture ovate, grooved internally; columella smooth; aperture short.

7. *B. Granulatum*. (*Granulated Buccinum*.) Oblong ovate, with five or six, broad, inflated volutions, tapering; apex obtuse; transversely striated, with twenty rows of elevated tubercles in shape of longitudinal ribs; aperture elongated, oblique; inner lip smooth, reflected on columella, with tooth on upper part, situate opposite one on outer lip; outer lip thickened, internally toothed, straitened internally in centre; basal sinus curved.

8, 9. *B. Unilineatum*. (*One-lined Buccinum*.) Elongated, with six volutions, with straight sides, tapering; apex obtuse; each volution with single, linear sulcus close to upper edge; body ventricose; with five spiral striæ; aperture oblique, elongated, narrow; beak short; columella smooth; outer lip thin. Length $\frac{3}{8}$ in.; breadth $\frac{1}{8}$ in.

10. *B. Imbricatum*. (*Imbricated Buccinum*.) Ovate; spire short, with four or five inflated volutions; with obscure, longitudinal striæ; aperture oblong-ovate, half length of shell.

11. *B. Rugosum*. (*Rough Buccinum*.) Oblong-ovate; volutions of spire prominent, longitudinally ribbed, with wide-set, transverse striæ; aperture obovate; one-third length of shell; columella smooth.

12, 13. *B. Tenerum*. (*Tender Buccinum*.) Ovate, thin; spire with four or five inflated volutions, with longitudinal, imbricated, arenated undulations; crossed by coarse, irregular, wide-set striæ; beak antiquated; columella smooth; aperture oblong-ovate.

14. *Littorina Breve*. (*Short Littorina*.) Globular; spire short, with three, rounded volutions; scalloped on upper edges, whilst passing over row of obtuse tubercles; with three or four transverse, remote rows of blunt tubercles; aperture sub-orbicular.

15. *B. Reticosum*. (*Reticulated Buccinum*.) Oblong-ovate; spire with six volutions, tapering; with strong, reticulated, longitudinal, transverse striæ; aperture short, ovate, with recurved sinus; columella smooth, reflected on body; outer lip even, toothed and striated within; Greatest width of shell, half its length.

16. *B. Globulare*. (*Globular Buccinum*.) Sub-globular, with six inflated volutions; spire small; apex obtuse; with wide-set, obsolete, spiral striæ; aperture sub-rotund; columella, with notch near centre; outer lip plain.

17, 18. *P. Tetragona*. (*Tetragonal Purpura*.) Thick, ovate; body large; spire short, with four narrow volutions, flattened above; with strong, elevated, longitudinal ribs, crossed by intermediate, transverse sulci; aperture oblong-ovate; columella smooth, broadly reflected; outer lip undulous on margin, with strong, blunt, tubercular teeth within; beak short, curved.

19. *B. Glabratum*. (*Smooth Buccinum*.) Ovate, tumid, smooth; body large; spire minute, with three rounded volutions; apex obtuse; aperture oblong-ovate; columella thickened, glabrous; outer lip thin, plain at margin; beak short, with few indistinct plications.

20. *C. Vittatum*. (*Girdled Callendrum*.) Elongated, smooth; body large, inflated; spire with six ventricose volutions; apex blunted; broad, flat; mesial band on back of outer lip, encompassing centre of body and superior volutions; aperture irregularly oval; columella undulous, reflected; without canal; outer lip broad, thick, reflected, thin and even on margin.

21. *B. Elongatum*. (*Elongated Buccinum*.) Elongated, more than twice greatest diameter; with seven or eight inflated volutions; with longitudinal ribs, more conspicuous on spire; with strong, regular, transverse striæ; aperture oval, with short, recurved sinus, angular above; outer lip even on margin, with obscure crenulations internally; pillar lip smooth.

22, 23. *B. Labiatum*. (*Thick-lipped Buccinum*.) Acuminate, with twelve or thirteen long, curved, prominent ribs, crossed by many, strong, elevated striæ; spire of six, broad, inflated volutions, concave above; apex acute; body longer than spire; aperture oblong; columella smooth; beak wide, open, twisted; outer lip thin, acute at edge, internally striated.

24, 25. *B. Spinosum*. (*Spined Buccinum*.) Conical, elongated, sub-turreted; each volution with sharp, spiral sulcus, above which series of large, blunt, tubercular spines, with row of smaller ones at base; aperture semi-ovate; columella smooth; beak produced.

26, 27. *B. Dalei*. (*Dale's Buccinum*.) Ovate, thick, smooth; spire short, with four, inflated, sulcated volutions, with deep suture; apex obtuse; aperture ovate; columella broad, recurved at edge; outer lip plain on margin; canal short.

28. *B. Leathesi*. (*Leathes' Buccinum*.) Oblong-ovate, with five flat volutions; apex obtuse; with strong, wide-set, transverse striæ; aperture elongated; outer lip plain on margin, toothed internally. Length $\frac{3}{4}$ in.; breadth $\frac{3}{8}$ in.

29. *B. Latus*. (*Broad Buccinum*.) Oblong-ovate; with five or six inflated volutions; spire short; apex acute; surface even, with transverse, linear striæ; oblique undulations on upper portion of each volution; aperture oblong-ovate; columella smooth; outer lip even, entire, smooth on edge, internally striate; beak straight, short, truncated, expanded into wide canal.

30. *B. Parallele*. (*Parallel Buccinum*.) Volutions slightly inflated; suture deep; spirally striated; upper portions plane, lower ones convex, with many, equal, spiral sulci.

31, 32. *B. Propinquum*. (*Kindred Buccinum*.) Oblong-ovate, acute; with six, deeply divided volutions; apex sharp; with many, strong, longitudinal ribs, crossed by many transverse, deep sulci; aperture circular; columella smooth, reflected; outer lip even on edge. Length $\frac{3}{4}$ in.; breadth $\frac{3}{8}$ in.

33, 34. *P. Crispata*. (*Curled Purpura*.) Oblong-ovate; body large; spire short, with five or six inflated volutions; apex acute; with many, close, spiral ribs, covered by rough, imbricated scales; aperture semi-ovate; inner lip smooth, reflected; outer lip reflected, thin, undulous, sub-crenated internally.

35, 36. *B. Elegans*. (*Elegant Buccinum*.) Sub-conic, acuminate; with seven, ventricose volutions; apex acute; with longitudinal, rounded, prominent ribs, crossed by nine or ten, sharp, distant, elevated striæ; aperture ovate; pillar lip smooth; outer lip toothed within.

37, 38. *B. Labiosum*. (*Gross-lipped Buccinum*.) Oblong-ovate; with seven volutions; spire tapering rapidly; apex acute; sides of volutions flattened; with fine, transverse sulci; aperture oblong-ovate; pillar lip reflected on columella; outer lip smooth, thin. Length $\frac{3}{4}$ in.

39, 40. *P. Incrassata*. (*Thickened Purpura*.) Very thick; ovate; body large; spire short, with four volutions; apex obtuse; volutions flattened above; body, with five or six rounded, transverse ribs; with irregular, broken, waved, longitudinal striæ; aperture small; pillar lip reflected on columella; outer lip thickened, undulous on margin with obscure sulci and blunted tubercles internally.

41, 42. *P. Carinata*. (*Keel'd Purpura*.) Oblong-ovate; sub-turreted; body large; spire short, with four or five flattened volutions; with strong, remote, transverse, rounded ribs, with rough, imbricated scales; intervening sulci, with longitudinal, curved striæ; aperture ovate; pillar lip smooth; canal short; outer lip thin; undulous on margin; sub-crenated internally.

43. *Terebra Granulata*. (*Granulated Terebra*.) With thirteen or fourteen tapering volutions; with strong, spiral, granulated striæ; aperture rounded above, narrowed below; pillar lip reflected on columella; outer lip plain.

44. *T. Vetusta*. (*Ancient Terebra*.) With eleven or twelve tapering volutions; apex acute; suture deepish; with longitudinal, straight, strong ribs; aperture elongated.

45. *T. Melanoides*. (*Blackish Terebra*.) With thirteen or fourteen tapering volutions; apex acute; with wide-set, longitudinal ribs; aperture straitened above and below.

PLATE XXXIII.

1, 2. *Cassidaria Carinata*. (*Keeled Cassidaria*.) Pyriform; body very large, obliquely flattened; spire short, with five or six, tapering, depressed, angular volutions; apex acute; body, with three ribs and many undulous, transverse, decussated striæ; aperture oblong; beak recurved; pillar lip concave, reflected on columella, with many tooth-like processes on inner margin, and two or three on inner margin of outer lip; outer lip broad, smooth on margin.

3, 4. *C. Striata*. (*Striated Cassidaria*.) Ovate; body large; spire small, with five or six, rounded, tapering volutions; apex sharp; with transverse, wide-set striæ; spiral ridge of oblong nodules on upper part of body, crossed by indistinct lines of growth; aperture elongated, narrow; pillar lip reflected on columella; canal narrow, bent, toothed within; outer lip broad, plicated internally, reflected over umbilicus.

5, 6. *Rostellaria Calcarata*. (*Spur-shaped Rostellaria*.) Turreted, with six or seven volutions; crossed by many, longitudinal, elevated, linear, curved ribs; body carinated; with close striæ; outer lip with large, oblong ascending process like curved spur; beak short, acute; inner lip entire.

7, 8. *Cassis Bieatinatus*. (*Double-chained Cassis*.) Ovate, ventricose; spire, with five volutions; apex obtuse; with many transverse, prominent, narrow ribs; with broad intermediate sulci, decussated by small, oblique, longitudinal costæ, like a chain; aperture ovate; canal short; pillar lip reflected on plaited columella; outer lip thickened, rounded, reflected, obscurely tuberculated within.

9, 10. *Dolium Nodosum*. (*Nodulous Dolium*.) Ovate, ventricose; spire depressed, with three volutions and spiral-rounded belts; crossed by a few, wide-set, longitudinal striæ; apex flattened; with numerous transverse rows of large, flattened knobs and intervening sulci.

11, 15. *R. Parkinsoni*. (*Parkinson's Rostellaria*.) Turreted, with numerous, oblique, longitudinal ribs, transversely striated; lower volution of spire ribbed; outer lip expanded, with only one, large, subulate, spur-like process; aperture elongated, narrow; beak long, subulate, pointed; canal very narrow.

12, 13. *R. Rimosa*. (*Cleft Rostellaria*.) Fusiform, shining; spire, with eight or nine convex volutions; apex acute, with many longitudinal ribs; transversely striated; columella strong; aperture obliquely ovate; canal deep; outer lip reflected, flattened, with sinus; beak straight, short.

14. *R. Bispinosa*. (*Two-spined Rostellaria*.) Turreted; spire, with seven volutions; apex acute; acute, spiral carina in centre of volutions; beak fairly long.

16. *R. Pes Pelicani*. (*Pelican's Foot Rostellaria*.) Spire pyramidal, tapering, with eight or ten, transversely ribbed and carinated volutions; apex acute; body, with two rows of tubercles on keels; outer lip expanded, quadrifid; its upper angle extending high upon spire; beak acutely pointed, with shallow canal in centre.

17, 18, 19. *R. Macroptera*. (*Long-winged Rostellaria*.) Fusiform, smooth; spire taper, acute, with ten to fourteen volutions; apex sharp; aperture oblong-ovate; inner lip smooth, shining, reflected on columella; outer lip very large, semicircular; canal bent, long; beak short, pointed.

20, 21. *R. Lucida*. (*Shining Rostellaria*.) Glossy, fusiform; spire, with eight tapering volutions; apex acute; crossed by many, transverse, elevated, obtuse striæ; inner lip smooth, reflected on columella; outer lip thickened, with very short canal; beak very short.

22. *R. Composita*. (*Composite Rostellaria*.) Turreted; spire costated with seven volutions; apex acute; lower volution bicarinated; columella smooth; outer lip spreading, with canal at upper end, and with spine where superior carina ends upon margin.

PLATE XXXIII.*

1. *Buccinum Naticoides*. (*Natica-like Buccinum*.) Ovate, smooth, thick; spire produced, with four or five volutions; body large, ventricose; aperture two-thirds length of shell.
- 2, 74*. *B. Angulatum*. (*Angulated Buccinum*.) Fusiform, short; spire, with obliquely straight sides; body, with transverse, central keel; aperture rhomboidal; beak short, rounded.
3. *Nassa Lineata*. (*Lineated Nassa*.) Ovate; body longer than spire, inflated; wide at base; surface transversely striated; volutions flattened, upper edges sharp; aperture longer than spire.
4. *N. Costellata*. (*Small-ribbed Nassa*.) Subulate; spire longer than body; with about seven, ventricose volutions, each with varix; whole, with longitudinal ribs and transverse striæ; aperture nearly circular, with thickened lip.
5. *Rostellaria Elongata*. (*Elongated Rostellaria*.) Turreted, elongated; with four or five volutions, divided by broad, hollow suture, crossed by longitudinal ribs, transversely striated; aperture sub-ovate, pointed; inner lip with sub-umbilicus.
- 6, 7. *R. Marginata*. (*Marginated Rostellaria*.) Conical, turreted; with six or seven inflated volutions, divided by elevated, linear suture; each volution with eight or ten longitudinal, short, obtuse ribs, with many striæ; body without ribs, but with central, elevated carina; aperture slightly ovate.
8. *R. Carinata*. (*Keeled Rostellaria*.) Turreted; spire acute, subulate; with eight or nine, convex volutions, with a series of elongated, small tubercles in centre of spire; body, with two carinae above centre of spire; whole shell, with minute, spiral striæ; aperture ovate, with wide canal; outer lip, with long, furcated projection; beak long, subulate.
9. *R. Buccinoides*. (*Buccinum-shaped Rostellaria*.) Subulate; body short; spire long, with eight, rounded volutions, each with single varix and acute apex; shell with many, slightly bent longitudinal ribs; outer lip without lobe.
- 10, 11. *Tornatella Elongata*. (*Elongated Tornatella*.) Elongated, elliptical; body large; spire short, with three or four volutions; aperture elongated; outer lip thickened; surface with spiral, regular sulci, crossed by longitudinal striæ.
- 12, 13. *T. Affinis*. (*Related Tornatella*.) Ovate; body large; spire short, with four, tapering volutions; apex acute; aperture half length of body, ovate, with truncated base; outer lip plain; columella, with single and double fold; surface, with many, spiral grooves, crossed by many, longitudinal, oblique striæ.
- 14, 15. *T. Popel*. (*Popel's Tornatella*.) Smooth; oblong-ovate; body large; spire small, with three volutions; aperture oblong, wide, occupying about two-thirds of body; columella, with two plaits.
18. *Paludina Sussexensis*. (*Sussex Paludina*.) Elongated, smooth; spire acute, with four, flat-sided volutions.
- 19, 20, 56. *Natica Canaliculata*. (*Canalised Natica*.) Spherical, depressed, smooth; spire short, with two, inflated volutions, transversely striated with concave groove; apex blunt; umbilicus large, circular.
21. *N. Elegans*. (*Elegant Natica*.) Oblong, smooth; spire small, with four, flat-sided volutions; apex acute; aperture more than two-thirds length of shell.
- 22, 23. *N. Carinata*. (*Keeled Natica*.) Transversely ovate; body very large, flattened above; spire small, with two volutions; body, with five, rugged keels, terminating on margin of outer lip, forming scalloped edge; aperture very large, semi-lunar; inner lip reflected on columella.
- 24, 25. *N. Granosa*. (*Granular Natica*.) Sub-globose; body large, inflated with many, regular, spiral edges, crossed by striæ; spire small, with three volutions; apex sharp; aperture oblong; outer lip dilated; inner lip broad, with open umbilicus.
26. *Melanopsis Tricarinata*. (*Three-keeled Melanopsis*.) Turreted, subulate, conical; three carinae on exposed portion of volutions, crossed by strong striæ; aperture sub-orbicular.
27. *Melania Scalarioidea*. (*Scalariform Melania*.) Scalariform, elongated; volutions broad, convex on sides, with longitudinal, equal, thread-like striæ.
30. *Auricula Inflata*. (*Inflated Auricula*.) Oblong-ovate; body long, spire short, with four, inflated volutions, apical one acute; aperture sub-quadrangular; outer lip thickened, with two strong plaits; surface, with many spiral lines of elongated punctures.
31. *Bulla Mantelliana*. (*Mantell's Bulla*.)
- 32, 33. *Pyrula Flittoni*. (*Flitton's Pyrula*.) Oval short; body large; spire small, with two or three volutions, with two spiral keels in young state; many, transverse striæ and obscure longitudinal ribs; aperture expanded.
- 34, 35. *Solarium Conoides*. (*Conical Solarium*.) Conical; height equal to diameter of base; volutions slightly depressed; with decussating striæ; umbilicus deep, narrow, with inner spiral ridges erenated; aperture rhomboidal.
- 36, 37, 38. *Fusus Rigldus*. (*Rigid Fusus*.) Elongated, fusiform, with five or six volutions; body lengthened; whole, with longitudinal prominent ribs, ventricose in middle; compressed above and transversely striated; aperture elliptical; beak variously elongated.
- 40, 41. *F. Rusticus*. (*Rustic Fusus*.) Short, ventricose; spire short, with four or five volutions, crossed by ten or twelve prominent, longitudinal ribs, giving squareness to sides; with transverse striæ; aperture obliquely elongated; pillar lip reflected.
42. *F. Clathratus*. (*Ladder Fusus*.) Pyriform; spire short; body large; longitudinally striated; four, waved, transverse ribs; aperture rather wide.
43. *P. Depressa*. (*Depressed Pyrula*.) Pyriform; spire depressed; body ventricose; base narrowed; with many transverse ribs.
- 44, 45. *P. Brightii*. (*Bright's Pyrula*.) Pyriform, ventricose; with four volutions; transversely bi-carinated, with many spiral ribs; aperture wide.
46. *R. Retusa*. Short, ovate; body long; spire small; with four, narrow volutions, each with elevated carina; with polished surface and close, spiral striæ; outer lip with elongated, narrow, spur-like process from elevated carina.
- 48, 49*. *Terebra Portlandica*. (*Portland Terebra*.) Turreted; whole surface longitudinally striated; aperture elliptical; beak curved, very short.
49. *Nerita Spirata*. (*Short-spined Nerita*.) Sub-globose, smooth; spire minute; with two volutions; body large, broadly canaliculate; aperture transversely ovate.
- 50, 51, 52. *Trochus Tathamii*. (*Tatham's Trochus*.) Sub-conic; with five, inflated volutions, apex obtuse; aperture transversely ovate; surface smooth, with hollow zone around body.
53. *Euomphalus tenuistriatus*. (*Thin-striated Euomphalus*.) Discoidal, with three increasing volutions, crossed by five, regular striæ; aperture round. Diameter $\frac{1}{2}$ in.
- 54, 55. *Turbo Expansa*. (*Broad Turbo*.) Body very large; spire small; apex acute; aperture sub-orbicular, with minute, spiral striæ.
57. *Littorina Punctata*. (*Punctured Littorina*.) Sub-conic, ventricose; with five, inflated volutions; surface, with many regular, longitudinal lines of small punctures.
58. *E. Corndensis*. (*Cornden Euomphalus*.) Discoidal, smooth; with three volutions; keel, with series of nodules; aperture transversely oval. Diameter $\frac{1}{2}$ in.
- 59, 64. *T. Helleites*. (*Helix-like Trochus*.) Depressed above, convex beneath; smooth; with four volutions; umbilicus small, deep.
- 60, 61. *T. Inflatus*. (*Inflated Trochus*.) Sub-conic; with five volutions; with well-marked suture; base umbilicate; aperture quadrangular; pearly within; with strong, spiral striæ.
62. *T. Sinuosa*. (*Sinuuous Terebra*.) Turreted, subulate; with sharp lines of growth; lip, with angular sinus.
63. *Scalaria pulchra*. (*Hand-some Scalaria*.) Elongated; with ten, close volutions, crossed by longitudinal ribs; spire acute; aperture sub-ovate.
- 65, 66, 67. *Turbo bicostatus*. (*Double-ribbed Turbo*.) Short, conical; volutions depressed; body large; spire short, with two volutions; body, with two, strong, spiral ribs; top of volutions hollow; aperture sub-orbicular, sub-transverse; outer lip thin; whole shell, with strong, irregular, waved, longitudinal wrinkles.
- 68, 69. *Melania Compressa*. (*Compressed Melania*.) Elongated; spire with six or seven, tapering volutions; apex acute; with irregular, waved, longitudinal striæ.
- 70, 71. *F. Imbricatus*. (*Imbricated Fusus*.) Turreted; with six volutions; spire tapering to acute apex; with lamellar, thin ribs; aperture semi-ovate; pillar lip broad; outer lip thin, reflected.
72. *Littorina Striatella*. (*Finely-striated Littorina*.) Conical; with three or four inflated volutions; base convex; with fine, longitudinal striæ.
73. *Cancellaria Minuta*. (*Minute Cancellaria*.) Turreted; spire shorter than body; with three volutions; aperture oblong; with raised, smooth, longitudinal ribs and transverse striæ.
74. *B. Striatum*. (*Striated Buccinum*.) Volutions longitudinally undulated; transversely striated; longitudinal ribs rather straight.
- 74*. *B. Angulatum*. (*Angulated Buccinum*.) Fusiform, short; spire, with obliquely straight sides; body, with transverse, central keel; aperture rhomboidal, with short, rounded beak.
75. *Turritella Cancellata*. (*Cancellated Turritella*.) Subulate; with longitudinal striæ and spiral, unequal ribs on each volution.
76. *T. Coralli*. (*Coral Turbo*.) Conical; spire with about five, rounded volutions; aperture orbicular; umbilicus closed. Length, 1 in.; width, $\frac{1}{2}$ in.
77. *Globulus Smithii*. (*Smith's Globulus*.) Ventricose, sub-globose, smooth, glossy; spire, with three, depressed volutions, with deep groove; aperture oblong-ovate; pillar-lip reflected on columella.
78. *Bulla Undulata*. (*Waved Bulla*.) Oviform, ventricose; aperture expanded; surface smooth, with a few, longitudinal, shallow sulci.
79. *N. Clausa*. (*Close Natica*.) Ovate, with five volutions; spire very short; aperture oblique, semi-ovate; pillar-lip reflected on columella; umbilicus closed; surface, with longitudinally oblique striæ.
80. *Velutina Undata*. (*Waved Velutina*.) Orbicular; spire small; apex depressed; whole shell, with strong, longitudinal wrinkles, crossed by wide, obsolete, spiral striæ; aperture sub-orbicular, large; pillar-lip reflected on columella.
- 81, 82. *Turritella Gregaria*. (*Gregarious Turritella*.) Subulate, with six, smooth, convex volutions; aperture orbicular. Length, $\frac{1}{2}$ to $\frac{1}{4}$ in.; width, $\frac{1}{2}$ in.
83. *F. Quadratus*. (*Squarish Fusus*.) Fusiform; body and spire forming reverse cones from centre of body, which is square, with two, obscure, transverse keels; spire, with four volutions; base acute; whole, with wide-set, thin striæ; aperture sub-rhomboidal.
84. *Pleurotomaria Angulata*. (*Angled Pleurotomaria*.) Conical; surface probably striated; aperture nearly circular, with angle at its upper part.
85. *P. Lloydii*. (*Lloyd's Pleurotomaria*.) Conical, sub-turreted; body long; spire short; with four volutions; apex obtuse; surface with five, transverse keels; aperture oblong-ovate.
- 86, 87. *R. Parkinsoni*. (*Parkinson's Rostellaria*.) Turreted; with many, oblique, longitudinal ribs; transversely striated; aperture elongated, narrow; beak long, subulate, pointed.
88. *T. Obsoleta*. (*Obsolete Turritella*.) Subulate, smooth; with nine, convex volutions; aperture round. Length, $1\frac{1}{2}$ in.; width, $\frac{1}{2}$ in.
89. *Melania*.
90. *T. Pryceæ*. (*Pryce's Turbo*.) Body large, with angular middle; spire short; umbilicus deep, curved.

PLATE XXXIV.

1, 2. **Murex Cristatus.** (*Crested Murex.*) Ovate, body large; spire short, with five volutions; apex pointed; six or seven longitudinal ribs cover body of shell; these are spiniform and canaliculated, each, with three or four plaits; shell, with five, spiral striæ; aperture ovate; beak curved; canal wide; inner lip reflected on columella.

3, 4. **Typhis Tubifer.** (*Tubular Typhis.*) Oblong-ovate; with four or five volutions, each with four or five longitudinal rows of tubular spines, generally in sets of three, between each of which is a solitary, erect, arcuated tube upon superior portion of volution.

5, 6. **T. Fistulosus.** (*Pipe Typhis.*) Sub-cylindrical; with several, thick, foliated varices; spire short, with four or five volutions; apex acute; aperture entire; sub-ovate; beak nearly straight, closed in front, obliquely truncated below.

7, 8. **Triton Canaliculatum.** (*Canalled Triton.*) Elongated; spire with six volutions, separated by caniculate suture with prominent margin; upper volutions, with strong, longitudinal ribs; whole shell transversely striated; inner lip smooth; outer lip thickened, with internal crenulations, plain at margin; aperture ovate; beak short, curved.

9, 10. **M. Minax.** (*Threatening Murex.*) Short; body large; spire, with four, narrow volutions; apex sharp; body inflated, with double zone of tubercles; whole shell with undulous, irregular striæ; base of body sulcated; aperture orbicular; inner lip smooth, reflected on columella; outer lip thin; beak short, curved.

11, 12. **M. Defossus.** (*Hidden Murex.*) Oblong-ovate; spire, with seven, rounded, well-marked volutions; apex acute; whole shell, with many, sharp, longitudinal, large and small, transverse ribs; aperture ovate; inner lip smooth, reflected on columella; outer lip thin on edge, with many, elongated, lamellar teeth; beak short, curved.

13, 14. **M. Tricarinatus.** (*Three-keeled Murex.*) Oblong-ovate; spire, with six, sub-turreted volutions; apex acute; with three, elevated, foliaceous, dentated varices, crossed by about seven, wide-set, prominent striæ, with long, canaliculate spine on top of each; aperture semi-ovate; inner lip reflected on columella; outer lip, with broad, foliated margin; beak recurved; canal wide.

15, 16. **M. Alveolatus.** (*Celled Murex.*) Oblong-ovate; acuminated; spire, with seven volutions with well-marked suture; apex acute; whole shell, with prominent, longitudinal, transverse ribs; aperture ovate; beak short, curved, inner lip smooth, reflected on columella, with open umbilicus at base; outer lip thickened, dentated within.

15*. **M. Quadratus.** (*Squarish Murex.*) Short, rhomboidal; spire short, with three, tapering volutions; apex obtuse; body bicarinated; with regular, elevated striæ; aperture sub-quadrangular; canal very short, straight.

17, 18. **M. Sexdentatus.** (*Six-toothed Murex.*) Oblong-ovate; spire, with five, ventricose volutions and well-marked suture; with many, longitudinal ribs, decussated with sharp, spiral striæ; aperture elongated, narrow beneath; inner lip smooth, with sub-umbilicus behind; outer lip thickened, with five or six, obtuse teeth inside.

19, 20. **M. Torosus.** (*Knobby Murex.*) Oblong-ovate; sub-turreted; spire, with five or six volutions; apex pointed; body, with many, large, blunted ribs, with obtuse knots; base convex; whole shell, with many, rough striæ, crossed by strong, spiral striæ; aperture ovate; outer lip blunt; beak short, slightly curved.

20*. **Typhis Fistulosus.** (*Pipe Typhis.*) V. figs. 5, 6.

21. **Pyrula Bullata.** (*Bossed Pyrula.*) Orbicular; body large; spire short, with three, rounded, depressed volutions; apex blunted; body, with large, distant knobs in three rows; aperture ovate.

22, 23. **M. Frondosus.** (*Leaved Murex.*) Oblong-ovate; spire short, sub-turreted, with five, well-marked volutions; apex acute; body, with eight or nine longitudinal, foliated varices, with many transverse ribs; surface lamellated; aperture circular; beak short, thick, curved; canal nearly closed; inner lip smooth, reflected over columella; outer lip sharp on edge, with broad, foliated expansion.

24, 25. **M. Bispinosus.** (*Two-spined Murex.*) Oblong-ovate; spire with six volutions; apex acute; body, with three foliated and laminated varices, with two prominent, acute spines on each varix; spire, with two or three, transverse ridges; small tubercle between each varix; aperture ovate; inner lip reflected on columella; outer lip thin on margin, thickened and dentated within; beak straight.

26, 27. **P. Smithii.** (*Smith's Pyrula.*) Pyriform; body large; spire, with four, depressed volutions; on body three rows of oblong, short, blunted tubercles; with unequal, spiral striæ; beak produced; aperture sub-quadrangular; inner lip not thickened upon columella; outer lip thin.

28. **M. Haccanensis.** (*Hackness Murex.*) Turreted; spire, with six or seven volutions, and nine or ten, strongly elevated, longitudinal ribs, transversely striated; aperture obovate; outer lip thin.

29, 30. **M. Tortuosus.** (*Tortuous Murex.*) Turreted; spire, with four or five volutions; body and spire with three sub-foliaceous varices, with two or three knobs between each; crossed by wide-set, transverse ribs; beak short, slightly bent; aperture oblong-ovate; inner lip smooth, reflected on columella; outer lip thin, straight.

31, 32. **M. Calcar.** (*Spur Murex.*) Oblong-ovate; spire acuminated, with six, sub-turreted volutions; apex acute; spire, with many, sharp ribs; two transverse spinous ribs on body volution, assuming spur-like appearance, with slight canal in their centre; shell, with strong, remote, granulated striæ; aperture sub-quadrangular; inner lip smooth, reflected on columella; outer lip, thin; beak long.

33, 34. **M. Coronatus.** (*Crowned Murex.*) Oblong-ovate; turreted; spire, with four or five volutions; apex obtuse; body and spire with ten, longitudinal, acute ribs; striate between the ribs; aperture oblong-ovate; inner lip reflected on columella; outer lip thick, crenulated internally; beak curved.

35, 36. **M. Argutus.** (*Sugar-loaf Murex.*) Oblong-ovate; spire, with eight prominent volutions, and well-marked suture; body with five or six, transverse ribs, knotted at regular intervals; about three, longitudinal varices traverse the body; whole surface, with many, spiral striæ; aperture circular; inner lip smooth, reflected on columella; outer lip thick, with strong crenulations; beak, short and thick.

PLATE XXXV.

1, 2, 3. **Ranella Bartonensis.** (*Barton Ranella.*) Oblong-ovate; spire, with four volutions; apex obtuse; with many longitudinal ribs; interstices, crossed by fine, regular, transverse striæ; aperture elongated, curved, acute; with shallow canal above and oblique canal below; inner lip smooth, reflected on columella; outer lip undulate, with margin broad and dentated within; inner lip also dentated; beak short, thick, curved.

4, 5. **Pyrula Greenwoodii.** (*Greenwood's Pyrula.*) Pyriform, thin, spire short, with four volutions; apex obtuse; with irregular, longitudinal, transverse striæ; aperture elongated; beak pointed.

6, 7. **P. Nexilis.** (*Wreathed Pyrula.*) Pyriform or obovate; spire short, with three volutions; apex obtuse; with wide-set, longitudinal, spiral striæ; aperture long, narrow, acute above, ending in contracted canal.

8, 9. **Fusus Ficulneus.** (*Fig-like Fusus.*) Ovate, sub-fusiform, ventricose; spire short, with five volutions; apex sharp, with many longitudinal ribs; base and part of beak with strongish, transverse striæ; aperture oblong-ovate, ending in widish canal; inner lip reflected on columella, with single plait at base; outer lip expanded.

10. **F. Contrarius.** (*Reversed Fusus.*) Elongated, fusiform, reversed; spire, with five or six hetrostrophe, ventricose volutions; with many, spiral striæ; aperture oblong; canal, open, short, bent; inner lip reflected on columella; outer lip thickened.

11. **F. Sigmiliniatus.** (*Sigma-lined Fusus.*) Elongated; spire, with six or seven volutions; with sigmoidal striæ; aperture oblong-oval; beak short, straight; outer lip thin, even.

12, 13. **F. Bulbiformis.** (*Bulb-shaped Fusus.*) Ovate, ventricose, nearly smooth; spire mucronated, short, with six volutions; apex short; aperture oblong-ovate; canal short, curved; inner lip smooth, reflected on columella; outer lip thick, smooth, sharp on edge.

14. **F. Longævus.** (*Lengthened Fusus.*) Ventricose, smooth; spire, with eight or nine, turreted volutions; aperture circular; canal long, straight, narrow, inner lip smooth, reflected on columella; outer lip thin, even on edge.

15, 16. **F. Regularis.** (*Straight Fusus.*) Elongated; spire, with five to eight, inflated volutions; apex obtuse; with many, spiral, sharp striæ; aperture elongated; canal straight, short; inner lip smooth, reflected on columella; outer lip sharp on edge, with a few plaits internally.

17. **F. Porrectus.** (*Elongated Fusus.*) Elongated, narrow; spire, with twelve or thirteen volutions; with many, prominent, longitudinal ribs, with eight or nine, elevated striæ; aperture sub-ovate; canal long, narrow; inner lip smooth; outer lip thin.

18. **F. Asper.** (*Rough Fusus.*) Elongated; spire, with six or seven volutions; apex acute; with many, longitudinal ribs, crossed by four or five, elevated, tuberculate ridges; aperture oblong-ovate; canal long, contracted; inner lip reflected on columella; outer lip thin.

19. **F. Lima.** (*File Fusus.*) Fusiform; spire, with six volutions; apex pointed; with transverse, longitudinal ribs.

20. **F. Corneus.** (*Horny Fusus.*) Elongated, slender; spire long, with seven or eight, inflated volutions; apex obtuse; with many, spiral striæ; aperture oblong-ovate; canal short, straight; inner lip smooth; outer lip thin, even on edge.

21, 23, 24. **E. Complanatus.** (*Flattened Fusus.*) Fusiform; spire, with five volutions; with large, oblique, longitudinal ribs, crossed by many, spiral striæ; aperture ovate; canal curved; inner lip smooth; outer lip sharp on edge.

22. **F. Acuminatus.** (*Acuminated Fusus.*) Elongated, acicular; spire, with eight or ten volutions; apex acute; with many, longitudinal ribs, crossed by four or five, elevated, tuberculate ridges; aperture oblong-ovate; canal long, contracted; inner lip reflected on columella; outer lip thin.

PLATE XXXVI.

1, 2. *Fusus Coniferus*. (*Pine-shaped Fusus*.) Elongated; spire, with six or seven volutions; apex acute; body, with twelve or thirteen spiral ribs; spire, with only four or five; aperture oblong-ovate; canal short, wide; inner lip smooth, narrow; outer lip sharp, even on edge.

3, 4. *F. Mitrula*. (*Mitre-formed Fusus*.) Turreted; spire long, with six or seven volutions; apex acute; with ten to twelve, longitudinal ribs; aperture elongated; canal short, straight, wide; inner lip reflected on straight columella; outer lip straight on margin.

5, 6. *F. Curtus*. (*Short Fusus*.) Ovate, ventricose; spire short, with four volutions; apex obtuse; with twelve, longitudinal ribs on each volution; with many striae; aperture oval; canal short, narrow; pillar lip reflected on columella; outer lip thin, internally striated.

7, 8. *F. Gradatus*. (*Graduated Fusus*.) Ventricose; spire short, acute, with four volutions; apex sharp, with ten longitudinal, varicose ribs; aperture oval; canal short, open, curved; inner lip smooth.

9, 10. *F. Echinatus*. (*Spined Fusus*.) Elongated, turreted; spire long, with five, ventricose volutions and deep suture; with many, sharp ribs, crossed by transverse striae; aperture ovate; canal curved; striae continued over columella; outer lip thickened.

11, 12. *F. Costelliferus*. (*Small-ribbed Fusus*.) Sub-turreted; spire, with four volutions and about eighteen, longitudinal ribs, crossed by spiral striae; aperture sub-ovate; canal nearly straight; inner lip reflected on columella; outer lip expanded.

13, 14. *F. Heywoodii*. (*Heywood's Fusus*.) Oblong-ovate; spire, with five or six, inflated volutions; surface smooth, with fourteen, longitudinal ribs and several varices; aperture ovate; canal slightly twisted; inner lip smooth, reflected on columella; outer lip thin.

15, 16. *F. Cancellatus*. (*Latticed Fusus*.) Elongated; spire long, with five volutions; apex sharp, with acute, transverse, longitudinal ribs; aperture elongated; canal curved, open.

17. *F. Parkinsonii*. (*Parkinson's Fusus*.) Elongated; spire with five or six volutions; apex obtuse, with longitudinal, flat ribs and faint, transverse striae; aperture ovate; pillar lip smooth, reflected on columella; outer lip thickened.

18, 19. *F. Suleatus*. (*Furrowed Fusus*.) Greatly elongated, sub-turreted; spire produced, with six or seven volutions; apex obtuse, with about seven, linear, transverse sulci in each volution; aperture ovate; canal recurved; pillar lip smooth; outer lip thickened, with twelve teeth internally.

20, 21. *F. Manni*. (*Mann's Fusus*.) Sub-fusiform; spire, with five or six volutions; apex obtuse, with twelve, longitudinal ribs; the whole with spiral striae; body volution devoid of ribs; aperture elliptical; canal short, straight; inner lip smooth, reflected on columella above; outer lip thickened.

22, 23. *F. Regularis*. (*Straight Fusus*.) V. PLATE XXXV., Figs. 15, 16.

24, 25. *F. Carinellus*. (*Small-keeled Fusus*.) Elongated; spire short, with six convex volutions, in the middle of which is a sub-carina; the whole with many, longitudinal ribs, crossed by many, spiral striae; aperture oblong-ovate; canal long, straight, open; inner lip reflected on columella; outer lip thin, even.

26. *F. Striatus*. (*Striated Fusus*.) Ventricose; spire short; with five or six volutions; apex obtuse; the whole, with many, transverse ribs, with three to five, parallel striae; aperture semi-ovate; canal short, wide, straight; inner lip smooth, reflected on columella; outer lip smooth, even.

27, 28. *F. Alveolatus*. (*Chequered Fusus*.) Turreted, elongated; spire, with six or seven volutions; the whole, with thick, longitudinal ribs, crossed by two, spiral ribs on volution of spire, and by six or seven on body; intervals between ribs forming square, deep cells; aperture round; inner lip smooth, reflected on columella; outer lip plain; beak half-cylindrical.

29, 30. *F. Juncus*. (*Slender Fusus*.) Elongated, taper; spire produced, with six or seven, inflated volutions; apex obtuse; with spiral, longitudinal striae; aperture long, narrow, acute; canal short, straight; inner lip smooth; outer lip sharp at edge.

31, 32. *F. Harpulus*. (*Little Harp Fusus*.) Oblong-ovate; spire short, with five squarish volutions; apex sharp; with many, longitudinal ribs; aperture orbicular; canal nearly straight.

33, 34. *F. Errans*. (*Wandering Fusus*.) Oblong-ovate; spire acute, sub-turreted, with six volutions; apex acute; body with two prominent and several lesser ribs; with fine, spiral, crossed by longitudinal striae; aperture oblong-ovate; canal nearly straight; inner lip smooth; outer lip thin.

35, 36. *F. Trilineatus*. (*Three-lined Fusus*.) Elongated; spire short, with five or six volutions; apex obtuse; with many, transverse ribs; aperture elongated; canal straight, short, open; inner lip reflected on columella; outer lip thin, with nine or ten folds within.

37, 38. *F. Interruptus*. (*Interrupted Fusus*.) Sub-turreted; spire smooth, with five or six, flat volutions; apex acute; body, with many, spiral sulci; aperture ovate; inner lip smooth, reflected on columella; outer lip plaited internally, smooth on margin.

39, 40. *Cancellaria laeviuscula*. (*Smoothish Cancellaria*.) Short; body large; spire small, with four, inflated volutions; with well-marked suture; apex acute; with varicose ribs, crossed by many, elevated striae; aperture oblique; inner lip reflected on columella, with two plaits and a spiral ridge; outer lip thickened on edge, ribbed internally.

41, 42. *C. Quadrata*. (*Square-shaped Cancellaria*.) Oblong-ovate; spire, with four, inflated volutions, separated by narrow suture; apex obtuse; with spiral, longitudinal striae; aperture oblique, oblong-ovate; inner lip spread over columella, with two, obtuse plaits and spiral fold on its edge; outer lip entire, internally striated.

43, 44. *F. Bifasciatus*. (*Two-faced Fusus*.) Elongated; spire long, with six turreted volutions; with carina from centre of body volution to outer lip; with strong, longitudinal and transverse striae; aperture oblong; canal short, straight.

45. *F. Carinatus*. (*Keeled Fusus*.) Oblong-ovate; spire, with four volutions; apex obtuse; body, with six or seven transverse ribs and two on volutions of spire; aperture oblong-ovate; canal short, oblique, open; pillar-lip smooth, reflected on columella; outer lip regular.

46, 47. *C. Evulsa*. (*Drawn-out Cancellaria*.) Ovate, short; body large; spire short, with five, sub-turreted volutions, with longitudinal varices and ribs; crossed by transverse, spiral striae; aperture oblique, oblong-ovate; pillar-lip reflected on columella, with two plaits and spiral ridge; canal very short, rounded; outer lip, with strong varix behind, striated internally.

PLATE XXXVII.

1. *Pleurotoma Attenuata*. (*Slender Pleurotoma*.) Fusiform; spire, with nine volutions, with well-marked suture; each with a series of blunted tubercles; body, with five or six longitudinal costæ, crossed by many, undulous ribs, with many fine striæ; aperture elongated, narrow; diameter of shell one-fourth its length.
2. *P. Exorta*. (*Risen Pleurotoma*.) Elongated, turreted; base conical; spire, with nine or ten inflated volutions; with twelve or fourteen, longitudinal costæ; length of aperture and beak equal to two-fifths of length of shell; canal short, slightly curved; outer lip thin; inner lip reflected on columella.
- 3, 4. *P. Brevirostra*. (*Short-beaked Pleurotoma*.) Elongated, turreted; body short; spire long, with ten or eleven volutions, separated by deep suture; with many, elevated, longitudinal ribs, crossed by many spiral striæ; aperture obovate; canal narrow, curved; outer lip thin, inner lip smooth, reflected on columella.
5. *P. Semicolon*. (*Semicolon-marked Pleurotoma*.) Elongated, turreted; spire with four or five inflated volutions, with granulated margins; aperture ovate, one-third length of shell; canal nearly straight; outer lip thin on edge; pillar-lip smooth, reflected on columella.
6. *P. Acuminata*. (*Acuminated Pleurotoma*.) Greatly elongated; body with nine or ten, inflated volutions, with fimbriated margin; apex acute; with many, longitudinal ribs, and many fine striæ; aperture oblong-ovate; canal wide.
7. *P. Comma*. (*Comma-marked Pleurotoma*.) Elongated, turreted; spire, with five or six volutions; with many, longitudinal ribs, pointed like commas; with a few, acute, spiral striæ; aperture oblong-ovate; canal short, slightly curved.
- 8, 9. *P. Lævigata*. (*Smooth Pleurotoma*.) Elongated, turreted, smooth; spire, with seven ventricose volutions, with well-marked suture; with longitudinal ribs; with a few, spiral striæ; aperture oblong-ovate; canal, short, straight, narrow.
10. *P. Colon*. (*Colon-marked Pleurotoma*.) Fusiform; with six or seven subturreted volutions; apex acute; suture deep; with fine striæ, crossed by longitudinal undulations; base conical; aperture oblong-ovate.
11. *P. Rostrata*. (*Beaked Pleurotoma*.) Fusiform; spire, with eight or nine, convex volutions; with short, broad, longitudinal ribs; crossed by spiral ridges and narrow, undulating ribs; aperture ovate; canal long, narrow, straight.
- 12, 13. *P. Priseus*. (*Ancient Pleurotoma*.) Fusiform, turreted, smooth; spire with eight convex volutions; apex sharp; outer lip wing-shaped; aperture elongated, oblique; inner lip reflected on columella.
14. *P. Fusiformis*. (*Spindle-shaped Pleurotoma*.) Elongated; fusiform; body long; spire short, with seven volutions, sub-carinated; lower portion of spire, with eight or nine, longitudinal ribs; the whole, with spiral striæ; aperture oblong, lanceolate; canal widish; outer lip rather thick; inner lip reflected on columella, transversely striated.
- 15, 16. *Cerithium Funatum*. (*Corded Cerithium*.) Conical, elongated; apex pointed; spire, with nine or ten volutions, each with two crenulated ridges; aperture quadrangular; canal slightly twisted, short; pillar-lip reflected on columella.
17. *C. Cornucopia*. (*Horn of Plenty Cerithium*.) Subulate, turreted, punctuated; with about thirty volutions; tubercles on upper margin gradually increase; whole surface with minute punctures disposed in lines; aperture quadrate; canal short, narrow, curved; its edge rising on plaited columella; outer lip semicircular; columella, with three, strong, oblique plaits.
18. *C. Giganteum*. (*Gigantic Cerithium*.) Subulate; body short; spire very long, with many, punctured volutions; suture shallow, narrow; with six or seven, transverse striæ; aperture ovate; columella, with four plaits.
19. *Potamis Duplex*. (*Doubled Potamis*.) Subulate, conical; body short; spire, with eleven or twelve, flat, tapering volutions; upper ones, with two spiral belts of tubercles, lower ones with three; aperture small, roundish; canal, twisted, oblique, short; outer lip waved.
20. *P. Dubius*. (*Doubtful Potamis*.) Subulate, turreted; spire, with ten volutions, with spiral carina of sharp, ovate tubercles near centre and two series of lesser tubercles below; aperture nearly circular; canal short, twisted.
21. *P. Politus*. (*Polished Potamis*.) Subulate, smooth, shining, turreted, with longitudinal undulations; spire, with ten or eleven volutions; suture distinct; carina spiral, with long, oblong tubercles; aperture circular; canal short, curved.
- 22, 23. *C. Gemminatum*. (*Gemmed Cerithium*.) Elongated, turreted, conical, smooth; spire, with ten or eleven, turreted volutions; apex acute; each volution, with seven or eight pairs of longitudinal volutions; body, with two rows of minute tubercles; aperture orbicular; canal slightly recurved; outer lip even; inner lip reflected on columella.
24. *P. Plicatus*. (*Wrinkled Potamis*.) Subulate, conical; body large, ventricose; spire, with ten or eleven volutions, with longitudinal plaits and three or four, spiral sulci; aperture subovate, oblique; canal wide, twisted; outer lip crenulated; pillar lip smooth, reflected on columella.
25. *P. Ventricosus*. (*Bellied Potamis*.) Conical, turreted; spire, with nine or ten longitudinally ribbed and spirally striated volutions, each with two or three striæ; base convex; aperture orbicular; canal very short, slightly curved; outer lip but little twisted; inner lip reflected on columella.
26. *P. Cinetus*. (*Girdled Potamis*.) Subulate-conical; body short, spire long, with ten or eleven, inflated volutions; apex obtuse; each volution with three belts of granules and two carinæ; aperture sub-rotund; canal longish; columella, with single plait; outer lip long, thin.
27. *P. Acutus*. (*Acute Potamis*.) Conical-turreted; spire, with seven or eight, bi-carinated volutions; apex acute; base convex, bi-striated; aperture orbicular; canal short, narrow, curved; outer lip inflected.
- 28, 29. *C. Pyramidalis*. (*Pyramidal Cerithium*.) Pyramidal, turreted; spire, with nine or ten volutions, with six, prominent, tuberculated ribs, with three, transverse, obtuse carinæ, each with three tubercles; body volution with six, compressed volutions, and seven or eight carinæ; whole surface, with minute, spiral striæ; aperture orbicular, with short, twisted canal; outer lip expanded, undulous; pillar lip reflected on columella.
- 30, 31. *P. Rigidus*. (*Rigid Potamis*.) Conical, smooth; spire, with seven or eight volutions; suture shallow, narrow; whole surface with regular, curved grooves; aperture oval; canal, short, straight; outer lip expanded.
32. *P. Intermedius*. (*Intermediate Potamis*.) Pyramidal; with twelve or thirteen volutions; with thick, crenulated carina and sharp striæ; aperture sub-ovate; canal short and slightly bent.
33. *P. Margaritaceus*. (*Pearly Potamis*.) Conical, turreted; spire long, with ten or eleven, ventricose volutions, each with five, spiral bands of bead-like tubercles; aperture sub-ovate, oblique; canal rounded, oblique; outer lip expanded; inner lip smooth, reflected on columella.
34. *P. Concavus*. (*Concave Potamis*.) Subulate, conical; with shallow, transverse striæ; spire, with nine or ten volutions; with longitudinal, irregular costæ; aperture circular; canal short; outer lip enlarged; columella smooth; base convex.
35. *P. Funiculatus*. (*Rope-like Potamis*.) Pyramidal; spire, with ten or eleven volutions; suture shallow; with four, crenulated, rope-like carinæ; aperture circular; canal short, twisted; margin of outer lip plain.

PLATE XXXVII.*

1, 2. *Voluta Cithara*. (*Harp Voluta*.) Oblong-ovate; spire depressed; with remote ribs; pillar lip reflected, with six plaits; a few transverse, spiral striæ.

3, 4. *Fusus Multicostatus*. (*Many-ribbed Fusus*.) Fusiform; spire, with three or four broad volutions, flattened above, straight on sides; body, with ten to fourteen smooth ribs; outer costal ribs with spiral, longitudinal striæ; aperture wide above, narrowed beneath; pillar-lip reflected.

5, 6. *V. Labrella*. (*Small-lipped Voluta*.) Pyriform; pointed at base, transversely furrowed; spire short, with five, slightly ribbed volutions; columella, with one, large, and several, small plaits; aperture as long as body; outer lip tumid above.

7. *Nerita Angulata*. (*Angulated Nerita*.) Sub-globose; body large, with elevated, spiral carina below centre; spire small, obtuse; aperture oblong.

8, 9. *V. Angusta*. (*Narrow Voluta*.) Elongated; spire lengthened; volutions obliquely depressed; apex acute; with seven or eight, longitudinal ribs; with five, minute plaits on columella; aperture narrow.

10, 11. *Nerina Goodhalli*. (*Goodhall's Nerina*.) Turreted, smooth; with many, concave volutions; interior with three plaits, one on columella, one opposite it, and another above it within volution; aperture rhomboidal.

12. *Pleurotomaria Undata*. (*Waved Pleurotomaria*.) Ventricose, sub-conic, with four, inflated volutions; body large; spire small; apex obtuse; base convex; with many, longitudinal, curved undulations; lip, with deep sinus, with narrow band around volutions; aperture orbicular.

13, 14. *Pseudoliva Obtusa*. (*Obtuse Pseudoliva*.) Obovate, smooth, ventricose; spire short, small, somewhat concealed by expansion of inner lip; canal projecting; with transverse sulcus below middle of body, and with a few striæ beneath it.

15. *Cerithium Giganteum*. (*Gigantic Cerithium*.) V. PLATE XXXVII., Fig. 18.

16, 17. *Phasianella Formosa*. (*Handsome Phasianella*.) Oblong-oval, sub-cylindrical, smooth; body very large; spire minute; with four, inflated volutions and well-marked suture-line; base, with a few striæ; aperture elliptical; outer lip thin, even; pillar-lip reflected on columella.

18, 19. *Littorina Gracilis*. (*Slender Littorina*.) Elongated, acute; with five, ventricose volutions; apex pointed; aperture round; outer lip even; pillar-lip reflected on columella; the whole, with wide, longitudinal sulci, crossed by transverse, spiral striæ.

20. *Pleurotoma Articulata*. (*Articulated Pleurotoma*.) Turreted, with eight or ten, convex volutions, with sinus nearly in middle, forming a broad band; surface smooth, with a few, sharp striæ.

21, 22. *P. Striata*. (*Striated Phasianella*.) Elliptical; body very large; spire, short, with four, inflated volutions; apex acute; entire surface with strong, spiral striæ; aperture oval; outer lip plain, thin; inner lip reflected on columella.

23, 24. *Solarium Ornatum*. (*Adorned Solarium*.) Discoidal; with seven or eight volutions; apex acute; lower volutions, with obtuse, radiating ribs, with sharp carina bounding the body volution; aperture rhomboidal.

25. *Neritina Fittoni*. (*Fitton's Neritina*.) Convex; spire minute; without volution; body large, with three, prominent, transverse carinæ; aperture large.

26. *P. Pusilla*. (*Slender Phasianella*.) Elliptical, smooth; body large; spire, with four, flat volutions, apex obtuse; aperture ovate; outer lip thin, even; pillar-lip reflected at base.

27. *Nassa Lineata*. (*Lineated Nassa*.) Ovate; body inflated; whole surface transversely striated; volutions somewhat flattened; aperture longer than spire.

28. *N. Costellata*. (*Small-ribbed Nassa*.) Subulate; spire, with seven ventricose volutions, each with varix; with longitudinal ribs and transverse striæ; aperture circular, with thickened lip.

29. *P. Gigantea*. (*Gigantic Pleurotomaria*.) Conical, with straight sides and volutions overlapping; lip, with deep sinus; band transversely striated; whole surface concentrically striated.

30. *L. Pungens*. (*Pricking Littorina*.) Conical, smooth; body large, ventricose; spire short, with five, narrow volutions; apex acute; aperture orbicular; outer lip thin, even.

31. *Auricula Inflata*. (*Inflated Auricula*.) Oblong-ovate; body long; spire short, with four, inflated volutions; aperture sub-quadrangular below; outer lip thickened, obtuse on edge, united with inner lip, which has two strong plaits; surface, with many spiral lines of elongated punctures.

PLATE XXXVIII.

1. *Turritella Elongata*. (*Lengthened Turritella*.) Greatly elongated; spire with thirteen or fourteen lengthened volutions; suture well-defined; with many striae and fine intermediate striae.
2. *T. Suturalis*. (*Broad-sutured Turritella*.) Conical, smooth; with broad volutions, projecting at edge of suture, concave below sutural edges.
3. *T. Brevis*. (*Short Turritella*.) Elongated; spire with nine or ten volutions, with ten or twelve spiral, crenulated striae. Length, 1 in.
4. *T. Phillipsii*. (*Phillips's Turritella*.) Subulate, smooth; spire, with seven narrow, ventricose volutions; apex acute.
5. *T. Triserialis*. (*Three-notched Turritella*.) Elongated; with many ventricose volutions, with well-marked suture; each volution, with three medial, one sutural, and one inferior, spiral, granulated striae.
6. *T. Muricata*. (*Prickly Turritella*.) Subulate; spire, with ten or eleven volutions; apex acute; with strong, muricated, spiral striae; and also with longitudinal ribs; base convex, with elevated striae. Length, 1 in.
7. *T. Taeniata*. (*Worm-like Turritella*.) Turreted, elongated, with convex volutions; with flat, mesial band and wide, flexuous, spiral striae.
8. *T. Excavata*. (*Excavated Turritella*.) Subulate, short, smooth; body short; spire, with eleven or twelve volutions; base convex.
9. *T. Cingenda*. (*Girdled Turritella*.) Subulate; spire, with fourteen volutions, each with crenated girdle; the whole, with distinct, spiral striae; base flat, with rounded edge, whence the girdle emanates.
10. *T. Sulcata*. (*Furrowed Turritella*.) Strong, elongated; body short; spire long, with sixteen or seventeen volutions, with spiral striae; separated by well-defined, concave sulcus.
11. *T. Tenuistria*. (*Thin-striated Turritella*.) Conical; volutions imbricated, flat-sided, broad, plain, with widish, spiral striae, and oblique, distant, longitudinal striae.
12. *Rissoa Levis*. (*Smooth Rissoa*.) Minute, oblong-oval, smooth, sub-cylindrical; spire, with five, flat-sided volutions; apex fairly acute; aperture oblique, narrow; outer lip broad; pillar-lip reflected on base of columella. Length, $\frac{1}{2}$ in. Diameter, $\frac{1}{8}$ in.
13. *T. Abbreviata*. (*Shortened Turritella*.) Very short; conical, acute; body large; spire, with seven volutions; base produced.
- 14, 15. *R. Duplicata*. (*Two-plaited Rissoa*.) Minute, elongated, turreted; spire, with five volutions, and flat, spiral keel, winding along centre; apex very sharp; with many, longitudinal, straight ribs, divided in middle by carina; aperture large, oblique, oblong-oval; outer lip broad; pillar-lip reflected on columella. Length, $\frac{1}{2}$ in. Diameter, $\frac{1}{8}$ in.
16. *T. Quadrivittata*. (*Four-banded Turritella*.) Elongated; spire, with six, ventricose volutions, crossed by many, strong, spiral striae; apex acute; outer lip thin; inner lip reflected on columella.
17. *T. Spiralis*. (*Spiral Turritella*.) Conical; with imbricated, broad volutions; with spiral, equidistant striae, and oblique, longitudinal striae.
18. *T. Granulata*. (*Granulated Turritella*.) Subulate; spire, with about fourteen, inflated volutions; apex acute; upper edges of volutions with broad, flat, spiral band; with spiral striae; and many, regular granules.
- 19, 20. *R. Obliquata*. (*Oblique Rissoa*.) Minute, elongated, sub-turreted; spire, with five, ventricose volutions; apex blunted; with many, oblique, longitudinal ribs, aperture small, narrow, oblique; outer lip broad; inner lip reflected on columella. Length, $\frac{3}{8}$ in.; diameter, $\frac{1}{8}$ in.
21. *T. Edita*. (*Produced Turritella*.) Elongated; spire very long, with eighteen or nineteen volutions, with many striae; aperture circular; outer lip plain.
22. *T. Cingenda*. (*Girdled Turritella*.) Variety. V. fig. 9.
23. *T. Conoidea*. (*Conical Turritella*.) Elongated, taper, spire long, with sixteen or seventeen volutions, with angular, spiral groove; with regular, spiral striae, all acutely crenulated; aperture circular; outer lip plain, simple.
24. *T. Costata*. (*Ribbed Turritella*.) Subulate, elongated, acute; spire, with fifteen or sixteen volutions, with thread-like, carinated, spiral ridge, separating volutions; with longitudinal costae, crossed by many, fine striae, base flat, with carinated margin.
- 25, 26. *R. Acuta*. (*Acute Rissoa*.) Minute, elongated, turreted; spire, with six, ventricose, turreted volutions; apex acute; aperture large, oblique; outer lip expanded; pillar-lip reflected on columella; with longitudinal, prominent ribs, ten or twelve on each volution. Length, $\frac{3}{8}$ in.; diameter less than $\frac{1}{2}$ in.
27. *T. Terebra*. (*Wimble Turritella*.) Turreted, elongated; body short; spire, with thirteen or fourteen volutions; apex acute; with many, equal, spiral striae.
28. *T. Incrassata*. (*Thickened Turritella*.) Strong, elongated; spire, with about fourteen volutions; apex acute; with three, smooth, spiral striae; inner lip reflected on columella, behind which the base, with deep umbilicus, nearly concealed by reflection of columella lip.
29. *Phasianella Angulosa*. (*Cornered Phasianella*.) Conical, smooth; body large; spire short, with five or six, angulated volutions; aperture circular; outer lip plain, sharp on edge.
- 30, 37. *Turbo Carinatus*. (*Keel'd Turbo*.) Conical, oblong-ovate; body large; spire, with five or six, deeply divided volutions; with many, strong, spiral, crenulated ridges; centre volution, with prominent, thick, spiral carina; aperture ovate.
- 31, 33. *T. Sulcatus*. (*Ridged Turbo*.) Conical; spire, with four, inflated volutions; apex acute; with canaliculate, sutural line; with strong, spiral grooves, crossed by minute, longitudinal striae; base, with small umbilicus, with recurved expansion; aperture circular; outer lip thin, serrated on margin; inner lip reflected on columella.
32. *T. Tiara*. (*Tiara Turbo*.) Short, conical, turban-shaped; volutions few, depressed, crowned by about twenty, large knobs; spire, with six volutions; apex flattened; base convex, umbilicated.
34. *P. Orbicularis*. (*Orbicular Phasianella*.) Conical, acute, smooth; body large; spire small, with five ventricose volutions; apex acute; with a few longitudinal, oblique striae, and some spiral striae upon superior volutions; aperture orbicular.
- 35, 36. *P. Minuta*. (*Minute Phasianella*.) Elongated, smooth; body large, ventricose; spire short, with four, inflated, squarish volutions; apex acute; aperture oblong.
38. *P. Cincta*. (*Girdled Phasianella*.) Conical, smooth; body with broad, elevated, spiral girdle; spire, with five, narrow volutions; apex obtuse.
- 39, 40. *T. Rotundatus*. (*Rounded Turbo*.) Ovate, sub-globose, smooth; with a few, longitudinal, distant striae; body large, ventricose; spire short, with five, inflated volutions; apex sharp; with narrow umbilicus; aperture large, sub-orbicular; outer lip plain; inner lip reflected on columella.
- 41, 42. *T. Muricatus*. (*Prickly Turbo*.) Short, sub-conic; body large; spire, with four ventricose volutions; apex acute; body inflated; surface with many spiral, muricated ridges; spines short, semi-cylindrical, hollow; outer lip plaited internally; inner lip reflected on columella, with longitudinal indentation, or sub-umbilicus behind it.
- 43, 44. *T. Ornatus*. (*Embellished Turbo*.) Conical, sub-turreted; spire, with four or five volutions; apex obtuse; with longitudinal striae; each volution with three or four, strong, tuberculated, spiral ribs; tubercles connected by narrow carinae; base, with three or four, concentric ridges; with blunt tubercles; aperture entire, orbicular.
- 45, 46. *T. Obtusus*. (*Obtuse Turbo*.) Conical, short; spire, with three volutions; apex obtuse; base convex, solid; aperture sub-orbicular, oblique; with many fine striae, and crossed by fine, longitudinal striae.
47. *T. Undulatus*. (*Waved Turbo*.) Sub-conic; body large; spire small, with three or four inflated volutions; with spiral, undulating, strong striae, crossed by a few, indistinct, broken striae.
- 48, 49. *T. Moniliferus*. (*Collared Turbo*.) Conical, short; spire, with five inflated volutions, with channelled suture; each volution with granulated fillet on superior margin; with many equidistant, prominent striae; with large, wrinkled umbilicus; aperture orbicular.
- 50, 51. *T. Conicus*. (*Conical Turbo*.) Ovately-conical; body large, ventricose; spire short, with four ventricose volutions; apex very acute; with many, fine, spiral striae; crossed by slender striae; with small, deep umbilicus; aperture circular; outer lip thin, even.
- 52, 53. *T. Laevigatus*. (*Smooth Turbo*.) Sub-conic, smooth; body large; spire small, with four, inflated volutions; apex acute; with indistinct, longitudinal striae.
- 54, 55. *Littorina Bartonensis*. (*Barton Littorina*.) Oblong-ovate, thick; body large; spire small, with three, inflated volutions; apex obtuse; with spiral, irregular striae; aperture sub-ovate; outer lip even at edge, thickened within; pillar lip reflected on columella.
56. *L. Communis*. (*Common Littorina*.) Sub-ovate; body large; spire short, acute, with three or four, inflated volutions; apex acute; aperture sub-orbicular; with many, nodulous, regular striae.
- 57, 58. *L. Rudis*. (*Robust Littorina*.) Sub-ovate; spire, with four, inflated volutions; with many, spiral, irregular striae; crossed by longitudinal wrinkles.
59. *T. Funiculatus*. (*Rope-girdled Turbo*.) Short, sub-conic; body large; spire small, with few volutions; body, with six or seven, strong, transverse, rope-like ribs.
60. *T. Sulcostomus*. (*Sulcated Turbo*.) Sub-conic; body large; spire small, with three, smooth, ventricose volutions; apex obtuse; body, with three or four, sharp, spiral costae; outer lip grooved internally.

PLATE XXXIX.

1, 2. **Trochus Duplicatus.** (*Two-plaited Trochus.*) Conical, shining; spire, with four volutions, with concave sides, with double, crenulated, spiral carina round base of each; base, with open umbilicus, margin of which with seven, prominent tubercles; aperture quadrangular.

3, 4. **T. Gibsii.** (*Gibbs's Trochus.*) Conical, short; spire, with four or five, flattened volutions, with obtusely carinated edges, on their upper parts concentric, spiral band, crossed by curved striæ; base convex, with concentric, radiating striæ; umbilicus large, smooth; aperture rhomboidal; inner lip reflected over base of columella.

5. **T. Dimidiatus.** (*Divided Trochus.*) Conical; surface rough, body flat on sides, concave above, with entire carina in centre; superior volutions convex, base convex, with carinated margin; aperture pentagonal; columella straight, solid.

6, 7. **T. Concavus.** (*Concave Trochus.*) Conical; spire, with three, spirally striated volutions; with weak row of tubercles; lower margin of each volution carinated; base smooth, without umbilicus; aperture acutely rhomboidal.

8, 9, 9*. **T. Similis.** (*Similar Trochus.*) Conical; spire, with four, flat-sided volutions, each with many, transverse ridges; several of ridges granulated.

10. **T. Dubius.** (*Doubtful Trochus.*) Smooth, sub-conic; spire, with three, inflated, well-marked volutions; base rounded.

11. **T. Mantelli.** (*Mantell's Trochus.*) Depressed, discoidal, with convex base; with plicated, wide, shallow, scalloped umbilicus; margin of which acutely angular; aperture oblong.

12, 13. **T. Tiara.** (*Tiara Trochus.*) Sub-conic, sub-depressed; body large; spire small, with divergent sulci and ridges; volutions, with two, obscure carinae; body spirally striated; base produced, concentrically striated; with wide, deep umbilicus.

14. **T. Fasciatus.** (*Banded Trochus.*) Conical; body large; spire, with six or seven, well-divided volutions, with spiral band round centre of each; base flattened; surface, with longitudinal, spiral striæ; aperture large, quadrangular; columella, with single plait.

15, 16. **T. Monilifer.** (*Necklace Trochus.*) Conical; volutions slightly produced, each with three, spiral rows of tubercles, and lower edges crenated; base convex, with six rows of regular granules, and centre smooth; aperture quadrangular, oblique, margin entire, undulous, inside pearly, columella truncated.

17. **T. Guttatus.** (*Spotted Trochus.*) Depressed, sub-conic; base wide; spire, with four volutions, at base of each a band of large granules; surface smooth, with rust-coloured spots.

18. **T. Linearis.** (*Lineated Trochus.*) Conical, sub-depressed; volutions convex, transversely striated, with narrow, prominent, spiral fillet in centre and at base of each volution; base flat; umbilicus obscured by last volution; aperture transversely depressed.

19, 20. **T. Reticulatus.** (*Reticulated Trochus.*) Conical, sub-turreted; body large; spire, with six, obliquely flattened volutions; upper and under margins, with broad, elevated carina; aperture obtusely quadrangular; base, with close umbilicus; with many, spiral, longitudinal striæ.

21. **T. Anglicus.** (*English Trochus.*) Conical; body large; spire small, with six or seven, sub-turreted volutions, with two spiral rows of depressed tubercles; three, strong, spiral striæ invest surface, crossed by many, sharp, close striæ; aperture quadrangular; columella imperforate; inner lip thickened.

22, 23. **T. Extensus.** (*Extended Trochus.*) Depressed, conical; volutions elevated in centre, obliquely striated and with rugose undulations; base convex, smooth, with large, smooth umbilicus.

24, 25. **T. Lævigatus.** (*Smooth Trochus.*) Conical; body large; spire small, with six, inflated volutions; base convex; columella smooth, oblique, angular; aperture sub-rhomboidal, with smooth, glossy surface, and a few spiral grooves, crossed by fine striæ; without umbilicus.

26. **T. Arenosus.** (*Sandy Trochus.*) Conical, short, sub-turreted; volutions, with central, spiral band; base convex, almost smooth; with spiral, longitudinal sulci.

27. **T. Prominens.** (*Prominent Trochus.*) Conical, short, sub-turreted; spire, with four, convex, flattened volutions, with spiral sulcus around centre, and finely striated spirally, crossed by many undulations; sulcus crossed by minute striæ.

28. **T. Bisertus.** (*Two-plaited Trochus.*) Conical; sides flattish; base prominent; each volution with two plaits of small papillæ and with minute, longitudinal striæ.

29. **T. Pyramidatus.** (*Pyramidal Trochus.*) Conical; apex acute; spire, with four, raised volutions and well-marked suture, and with oblique, longitudinal ribs; base flat; aperture sub-quadrangular.

30. **T. Tornatilis.** (*Turned Trochus.*) Depressed; spire, with three volutions; body rounded on sides; a narrow, flattened space from insertion of outer lip, winding spirally along superior margin of volutions.

31. **T. Punctatus.** (*Punctured Trochus.*) Conical; sides flat; volutions, with many, minute, spiral striæ, crossed by longitudinal, undulating lines; between every two sets a narrow, spiral fillet.

32. **T. Sedgwickii.** (*Sedgwick's Trochus.*) Conical, smooth; volutions, with obtuse, carinated edge and indistinct striæ; base convex, with concentric striæ; aperture rhomboidal, umbilicus closed.

33. **T. Elongatus.** (*Elongated Trochus.*) Conical, elongated; with nine or ten, concave volutions, each with broad, prominent band at base, and obscure fillet somewhat below middle; with strong, spiral striæ, granulated near apex.

34. **T. Pallium.** (*Mantled Trochus.*) Subconic, depressed; body large; spire small, with three or four volutions, each, with band of elongated, divergent tubercles; body, with three series of tubercles; with divergent striæ; base convex, with tubercular, concentric striæ, umbilicated and plaited sometimes; margin, with large crenulations.

35. **T. Imbricatus.** (*Imbricated Trochus.*) Pyramidal, sub-turreted; volutions angular; each volution, with several, thread-like lines, crossed by many, longitudinal striæ; base convex, striated like superior portion of shell; umbilicus closed.

36. **T. Abbreviatus.** (*Shortened Trochus.*) Conical, abbreviated; base of each volution, with produced, spiral fillet; with fine, spiral striæ; base flattish, with sharp, concentric striæ.

PLATE XL.

1. *Pleurotomaria Atomaria*. (*Atomized Pleurotomaria*.) Ovate; body large, inflated; spire small, with three, tabulated volutions; apex obtuse; with two, sharp, spiral carinae; with fine, punctuated, spiral, longitudinal striae.
2. *P. Undulata*. (*Waved Pleurotomaria*.) Ovate; body large, ventricose; spire small, with two, convex volutions; apex acute; a broad, flat band traverses centre of body and lower portion of spire; with longitudinal, undulating striae.
- 3, 5. *P. Inconspicua*. (*Inconspicuous Pleurotomaria*.) Depressed; body large; spire minute, with two, flattened volutions; convex at sides; aperture large, transversely oval, expanded; outer lip plain; inner lip reflected on columella; narrow band traverses centre of body and base of volutions; with distinct, undulating, longitudinal striae.
4. *P. Depressa*. (*Depressed Pleurotomaria*.) Depressed; volutions plane above, convex and concentrically striated beneath; with prominent, rounded band on centre of body.
6. *P. Fibula*. (*Button Pleurotomaria*.) Depressed; body large, inflated; spire short, with three volutions; apex acute; mesial band broad, plain; with fine, regular, spiral striae.
7. *P. Sulcata*. (*Sulcated Pleurotomaria*.) Ovoid; body large; spire minute, with three volutions and obscure, transverse, mesial band; with many, spiral sulci.
8. *P. Expansa*. (*Expanded Pleurotomaria*.) Sub-conic; depressed; body large; spire minute, with three, depressed volutions; aperture expanded transversely; mesial band flattened and crossed by striae; with oblique striae and obsolete, spiral striae.
- 9, 10. *P. Lirata*. (*Ridged Pleurotomaria*.) Conical; body large; spire small, with four volutions; apex acute; aperture circular; outer lip plain; inner lip reflected on columella; mesial band prominent, with transverse striae; surface above band, with longitudinal, oblique sulci, and with straight, longitudinal sulci beneath band; base rounded.
11. *P. Sulcatula*. (*Furrowed Pleurotomaria*.) Sub-depressed; body large, spire small, conoidal, with three inflated volutions; apex sub-acute; aperture oblong, expanded; with spiral sulci above, and fine, concentric striae below; mesial band narrow.
12. *P. Acuta*. (*Acute Pleurotomaria*.) Reversed, conical spire, with three, inflated volutions; with short, mesial band; surface obliquely striated above carina, with spiral lines below.
- 13, 14. *P. Abdita*. (*Concealed Pleurotomaria*.) Smooth, sub-depressed; body large; spire minute, with three, flat volutions; apex obtuse; aperture large, transversely expanded; outer lip bounded by band; inner lip reflected on columella; mesial band broad, flat.
- 15, 16. *P. Striata*. (*Striated Pleurotomaria*.) Conical sub-depressed; body large; spire small, with three, flattened volutions; aperture sub-orbicular; with broad, transverse, mesial band, crossed by arcuated striae; columella solid; with oblique, widish striae.
17. *P. Glabrata*. (*Smooth Pleurotomaria*.) Depressed, smooth; body large; spire small, with three volutions; body rounded at sides; without band.
18. *P. Flammigera*. (*Flame Pleurotomaria*.) Sub-conic; with three, inflated volutions; with broad, mesial band and arcuated, transverse striae; above the band, surface, with handsome, flame-like, zigzag lines of colour.
19. *P. Ovoidea*. (*Ovate Pleurotomaria*.) Smooth, ovate, sub-conic; body large; spire small, with four volutions, sub-angular below; with flexuous striae.
20. *P. Helicoides*. (*Helix-formed Pleurotomaria*.) Smooth; sub-depressed; body large; spire small, with four volutions; apex acute; base umbilicated, with edges spirally striated; aperture lunate; with faint striae, retroflexed in centre.
21. *P. Vittata*. (*Banded Pleurotomaria*.) Conical, sub-turreted; volutions ventricose; with broad, flat, spiral, mesial band; with longitudinal, oblique striae.
22. *P. Sculpta*. (*Carved Pleurotomaria*.) Conical, elongated; body large; spire small, with three, inflated, tabulated volutions, each, with three carinae; upper and under surfaces longitudinally plaited.
23. *P. Interstitialis*. (*Interstriated Pleurotomaria*.) Oblong-ovate, pyramidal; spire conical, with four volutions; apex acute; body, with three, prominent, spiral carinae, each with two or three, spiral striae between; base convex, concentrically striate; aperture orbicular; with longitudinal, fimbriated striae.
- 24, 25. *P. Carinata*. (*Keeled Pleurotomaria*.) Pyramidal; body large; spire small, with four volutions; apex acute; body, with broad, spiral, mesial band; body below band smooth; umbilicus large, open; upper portion of body and spire, as well as band, with oblique striae; aperture large, expanded.
26. *P. Tumida*. (*Tumid Pleurotomaria*.) Sub-depressed; body large, tumid; spire short, with three volutions; with broad, spira, mesial band; with spiral striae and longitudinal, arcuated striae.
27. *P. Dubia*. (*Doubtful Pleurotomaria*.) Cirri-form, depressed, smooth; spire small, with two, flat volutions.
- 28, 29. *P. Gemmulifera*. (*Gemmed Pleurotomaria*.) Sub-conic, sub-depressed; body large; spire small; volutions convex above, flat below; edge nodular; aperture large, expanded; with gemmuliferous, spiral striae.
- 30, 31. *P. Monilifera*. (*Necklace Pleurotomaria*.) Oblong-ovate; upper part of body and spire conical; body, with large, spiral, mesial band on extreme edge, and smaller one below; aperture fairly large; with moniliform, spiral striae.
31. *P. Concentrica*. (*Concentric Pleurotomaria*.) Turreted; with quadrate, sub-tabulate volutions above, convex below; umbilicus closed; with many, strong, spiral sulci.
32. *P. Conica*. (*Conical Pleurotomaria*.) Conical; body ventricose; spire, with five, flat-sided volutions; apex acute; base umbilicated; aperture large, sub-ovate, expanded; with bicarinate, spiral, mesial band, with oblique striae.
33. *P. Limbata*. (*Bordered Pleurotomaria*.) Conical, sub-depressed; spire, with five, flat-sided volutions; with many, oblique ribs; upper margin of all volutions nodular; base flat.
35. *P. Biserrata*. (*Doubly-serrated Pleurotomaria*.) Acutely conical; suture of spire and lower angle of volutions, with doubly-serrated carina, between which a crenulated line; base, with three, concentric sulci; with oblique striae.
36. *P. Tornatilis*. (*Turned Pleurotomaria*.) Ovate; body large, inflated; spire small, with four, ventricose volutions; base acute; body, with broad, spiral, mesial band, with sulcus on each side; base with two, concentric sulci; with distinct, spiral striae.
37. *P. Squamula*. (*Scaly Pleurotomaria*.) Regularly conical; sides flat; spire, with five volutions; with many, squamous, oblique ribs, entire or bifurcate long or short.
- 38, 42. *P. Cirriformis*. (*Cirrus-shaped Pleurotomaria*.) Conical, ventricose; volutions tabulate above; aperture circular; with broad, mesial band, crossed by arcuated striae; with longitudinal, spiral, distinct, arcuated striae; with narrow umbilicus.
39. *P. Excavata*. (*Excavated Pleurotomaria*.) Conical; volutions tumid, with sharp carina on sides; plain above and below; umbilicus closed.
40. *P. Fusiformis*. (*Spindle-shaped Pleurotomaria*.) Smooth, fusiform; sides of volutions flattish, with three, spiral carinae; aperture ovate.
41. *P. Serrilimba*. (*Tooth-bordered Pleurotomaria*.) Acutely conical; body short; spire long, with flat sides; with band traversing lower margin, with serrated margin.

PLATE XLI.

1, 2. **Solarium Discoideum.** (*Discoidal Solarium.*) Discoidal; spire, with five or six volutions; outer edge of body volution, with very sharp earina and shallow canal; upper margin broad, undulated, with spiral striæ; umbilicus deep, transversely wrinkled; aperture rhomboidal; outer lip acute at margin.

3, 4. **S. Canaliculatum.** (*Canalled Solarium.*) Discoidal, convex; body, with prominent, crenated margin, with many, spiral, granulated lines; umbilicus furrowed, crenated internally; aperture circular.

5, 6. **S. Conoideum.** (*Conical Solarium.*) Conical, smooth; volutions depressed, with decussating striæ; umbilicus deep, narrow, with inner, spiral ridges crenated; aperture rhomboidal.

7, 8. **S. Sowerbyi.** (*Sowerby's Solarium.*) Discoidal; spire depressed; umbilicus large, with crenulations on margin, striated internally.

9, 21. **Cirrus Nodosus.** (*Knotty Cirrus.*) Conical, rugose, reversed; body large, discoidal; spire acutely conical, with ten or eleven, flat-sided volutions, with narrow suture and two rows of lengthened tubercles, and crossed by many small earinæ; body, with four rows of spiral earinæ, crossed by many tubercles; with fine, regular striæ between transverse striæ.

10, 11. **S. Plicatum.** (*Plicated Solarium.*) Convex, sub-discoidal; upper surface longitudinally wrinkled, with three or four, narrow, spiral sulci; with small umbilicus, with produced, crenated ridge; with five or six, concentric sulci; aperture orbicular.

12, 13. **S. Patulum.** (*Spreading Solarium.*) Depressed, discoidal, smooth; volutions, with crenulated carina; umbilicus wide, with crenulated margin, with border of small denticles; with fine, longitudinal striæ; base, with divergent striæ.

14. **S. Tabulatum.** (*Boarded Solarium.*) Pyramidal, sub-turreted; volutions, with carinated margins; apex acute; with wide-set, longitudinal striæ; base flat; umbilicus small.

15. **S. Calyx.** (*Chalice Solarium.*) Pyramidal, turreted; body large; spire small, with four, flat-sided volutions, with crenulated, spiral bands; base flattish; umbilicus expanded; aperture quadrangular.

16. **C. Pentagonalis.** (*Pentagonal Cirrus.*) Conical, obtuse; body large; spire, short, with sub-pentagonal volutions; base flattish, with acute margin; umbilicus large, deep, with acute margin; aperture sub-ovate, transverse; outer lip thin; inner lip reflected on columella.

17. **C. Cingulatus.** (*Small-girdled Cirrus.*) Sub-conic, sub-depressed, turban-shaped; spire, with spiral, longitudinal striæ; each volution, with smooth girdle; body, with many, longitudinal, smooth bands; base rounded; apex obtuse.

18. **C. Spiralis.** (*Spiral Cirrus.*) Conical; body large; spire short, with three, rounded volutions; apex sub-acute; base rounded; with strong, spiral, longitudinal, oblique striæ.

19. **C. Leachii.** (*Leach's Cirrus.*) Conical; volutions, with many, longitudinal striæ, with several rows of tubercles, crossed by many, small earinæ; upper row of tubercles on body, with strong, compressed spines.

20. **C. Plicatus.** (*Plicated Cirrus.*) Conical; body large; spire small, with four, flat-sided volutions; with widish, spiral striæ; base angular; aperture sub-quadrangular; umbilicus plaited, small.

22. **C. Pileopsideus.** (*Cap-like Cirrus.*) Depressed; body large; spire small, with three, flattened volutions; with irregular, areolated striæ.

23, 25. **C. Acutus.** (*Acute Cirrus.*) Conical; body large; spire short, with six or seven, ventricose volutions, each with obscure earina; apex acute; base rounded; umbilicus funnel-shaped, expanding; aperture orbicular; surface, with fine striæ.

24. **C. Turbanoides.** (*Turbaned Cirrus.*) Reversed; body volution discoidal; with spire, of which four or five, superior volutions conical; apex acute; with divergent ribs; aperture sub-ovate.

26, 27. **C. Rotundatus.** (*Rounded Cirrus.*) Conical, smooth; volutions convex; base rounded; umbilicus large; aperture orbicular; with fine striæ.

28. **C. Tabulatus.** (*Boarded Cirrus.*) Sub-conic, depressed; volutions few, sub-quadrangle, tabulate, with upper margins acute; aperture transverse, ovate.

29, 30. **C. Depressus.** (*Depressed Cirrus.*) Depressed, sub-discoidal; volutions, with deep, wide, canaliculate suture; aperture obtusely angular; with strong, spiral striæ.

31, 33. **C. Perspectivus.** (*Perspective Cirrus.*) Obtusely conical; volutions six or seven, convex; base flattened; umbilicus wide, deep; aperture transversely oblong; surface, with fine, spiral striæ; inner surface pearly.

32. **C. Carinatus.** (*Keeled Cirrus.*) Discoidal, smooth; spire depressed, with three or four, ventricose volutions, carinated; umbilicus large, deep; aperture transverse, sub-ovate.

PLATE XLII.

1. **Scalaria Frondosa.** (*Leafy Scalaria.*) Conical, turreted; with seven or eight, distinct volutions, with twelve, longitudinal, membranaceous, reflected ribs; with concave spines above upper margins.

2. **S. Foiacea.** (*Foliated Scalaria.*) Turreted; with seven or eight, disunited volutions, with broad-based, longitudinal, reflected ribs; aperture circular, without umbilicus.

3, 4. **S. Reticulata.** (*Reticulated Scalaria.*) Subulate, short; with eight, inflated, acute volutions, with many, longitudinal ribs, crossed by nine or ten, spiral striæ; columella hollow; base smooth.

5, 6. **S. Similis.** (*Similar Scalaria.*) With eight or nine volutions, with remote, circular, longitudinal ribs; with row of five or six, spiral ribs; aperture ovate; lips broad.

7, 8. **S. Interrupta.** (*Interrupted Scalaria.*) Subulate; volutions united, convex; with many, longitudinal ribs; with a large varix on each volution, with spiral striæ between the ribs; aperture circular; all the ribs united by thread-like, spiral rib.

9, 10. **S. Subulata.** (*Subulate Scalaria.*) Subulate, turreted; with eight, contiguous volutions; with ten or twelve, thick, longitudinal ribs, reflected; aperture circular; without cord around base and without umbilicus.

11, 12. **S. Acuta.** (*Acute Scalaria.*) Turreted; with eight or nine, well-marked volutions; with many, longitudinal, recurved ribs; with three, spiral, depressed ribs from base to apex, and a fourth near lower margin of each volution; aperture circular, with margin reflected.

13. **S. Undosa.** (*Waved Scalaria.*) Subulate; volutions united, convex; with about twenty-four, waved, longitudinal ribs, and crossed by many, spiral striæ, ending in transverse band; base smooth.

14, 15. **S. Minuta.** (*Minute Scalaria.*) Turreted; with seven or eight, smooth volutions, each, with about twenty obtuse, straightish, longitudinal ribs; aperture ovate, with narrow lip all round; without umbilicus.

16, 17. **S. Semicostata.** (*Semi-ribbed Scalaria.*) With about seven, contiguous, inflated volutions; with many, longitudinal ribs, halfway down each volution; upper portion with spiral striæ; aperture circular. Length, $\frac{1}{2}$ in.

18. **S. Plicata.** (*Plaited Scalaria.*) Elongated; with eleven or twelve, inflated volutions; apex acute; with many, longitudinal ribs; base of body smooth; aperture ovate; lips smooth, rounded.

19. **S. Mutica.** (*Barbless Scalaria.*) Sub-turreted; with seven, inflated volutions and about sixteen, longitudinal, thick, reflected ribs on each volution; with about four, flat, narrow, spiral ribs between longitudinal ones; aperture circular; margin thin.

20, 21, 22. **Euomphalus Coronatus.** (*Crowned Euomphalus.*) Discoidal, flat above; with volutions on same plane margin, with carina of broad, sharp spines; volutions below rounded, concave; umbilicus central.

23. **E. Calyx.** (*Flower-cup Euomphalus.*) Depressed; with three or four volutions; volutions, with narrow carina on external margin; base deeply concave.

24, 25. **E. Funatus.** (*Corded Euomphalus.*) Sub-conic, very short, with three depressed volutions; with a row of narrow, thread-like, spiral ribs; crossed by many, transverse striæ; umbilicus small; base with several concentric ridges.

26, 27. **E. Angulatus.** (*Angular Euomphalus.*) With three, depressed volutions, and row of three, spiral ribs on their upper surface; with many, longitudinal, sub-imbricated, irregular striæ; base, with five, concentric ribs, crossed by remote striæ; aperture obscurely octangular.

28, 29. **E. Pentangulatus.** (*Five-angled Euomphalus.*) With five or six, depressed volutions; volutions, with acute, spiral carina; base, with angular, concentric ridge; crossed by fine, sharp striæ; aperture obscurely pentangular; deeply umbilicated.

30, 31. **E. Catillus.** (*Little-Dish Euomphalus.*) Depressed; with four or five, exposed volutions, with central carina; one side deeply umbilicate; aperture sub-triangular.

32, 33. **E. Discors.** (*Discordant Euomphalus.*) Sub-depressed; with three or four volutions, with wide-set, transverse striæ; with spiral carina; with five, spiral ribs; base of body volution smooth, large, rounded; with centre deep, umbilicate.

34, 35. **E. Rugosus.** (*Wrinkled Euomphalus.*) With three or four, depressed volutions, crossed by oblique, undulating striæ; under surface of body with strong, transversely curved plaits; deeply umbilicate; aperture sub-ovate.

36. **E. Cristatus.** (*Crested Euomphalus.*) With three, wide-set, smooth volutions; exterior margin with row of large and small, conical, recurved, tooth-like processes.

37, 38. **E. Nodosus.** (*Knotty Euomphalus.*) Depressed, smooth; with four volutions; upper side, with central, spiral ridge; under side, with central, spiral series of ovate, nodular elevations; aperture orbicular; under surface forming cup-shaped, hollow cone.

39. **E. Bifrons.** (*Double-fronted Euomphalus.*) With three, rounded volutions; with spiral series of orbicular, prominent tubercles, obtusely angulated, umbilicated.

PLATE XLIII.

1. *Vermetus Bognoriensis*. (*Bognor Vermetus*.) Spire smooth, circular, conical, concave beneath; tube pentangular, with sulcus above and below; tubular projection cylindrical, curved.
2. *V. Polygonalis*. (*Polygonal Vermetus*.) Spire in form of short cone, with one involute, erect ridge, winding to apex, and two round margins, ending in short spines; tubular projection, with trumpet-shaped termination, with seven acute angles.
3. *V. Concinnus*. (*Trim Vermetus*.) Circularly convolute; convex one side, concave the other; great portion of tube projecting; tube pentangular.
- 4, 5. *V. Tumidus*. (*Tumid Vermetus*.) Thick, discoidal; with few volutions; with broad, concentric sulcus; prolonged portion small, short, cylindrical; margin of aperture thickened; apex with a callus.
- 6-8. *Tornatella Acutus*. (*Acute Tornatella*.) Subcylindrical, smooth; spire short, conical, acute; columella, with one plait; aperture three-fourths length of shell. Fig. 7, natural size; figs. 6, 8, magnified.
- 9, 10. *T. Noë*. (*Noah's Tornatella*.) Oval, fragile, subcylindrical; with one large plait at base of columella; aperture oblong-ovate; outer lip sulcated within; with many transverse striae, decussated by longitudinal ones.
- 11, 12. *T. Cuspidatus*. (*Pointed Tornatella*.) Smooth, subcylindrical; spire conical, with four volutions; apex sharp; aperture elongated; columella with single plait and acute spiral edge; outer lip crenated.
13. *T. Retusus*. (*Blunted Tornatella*.) Subovate, smooth; body large, ventricose; spire small, with three volutions; apex obtuse; aperture subovate; columella with two plaits; outer lip plain, acute.
- 14, 15. *V. Striatus*. (*Striated Vermetus*.) Strong; spire leucular; with radiating striae, sharp and acute near umbilicus; under side umbilicated; aperture orbicular.
- 16, 17. *Sigaretus Canaliculatus*. (*Canalled Sigaretus*.) Ovate, convex; spire depressed, with two canaliculate volutions; apex acute; aperture subovate; inner lip reflected on columella; umbilicus behind, with longitudinal striae, decussated by transverse striae. Length. $\frac{1}{2}$ to $\frac{3}{4}$ in.
- 18, 19. *Natica Sigaretina*. (*Sigaretus-formed Natica*.) Smooth, depressed; spire small, with three volutions, hardly rising above body; aperture ovate; outer lip even; thickening in pillar narrow; umbilicus large, with lenticular callus.
- 20, 21. *N. Cirriformis*. (*Cirrus-shaped Natica*.) Subglobose; spire short, with three depressed volutions; body flattened; aperture small, subulate; pillar lip thickened, with central sinus; umbilicus large, exposing volutions within.
- 22, 23. *N. Patula*. (*Open Natica*.) Ovate; body large, flattened; spire short, depressed, with four minute volutions; apex acute; aperture subulate; pillar lip thickened; umbilicus large, partly filled by a callus; surface smooth, with minute concentric striae.
24. *N. Discrepans*. (*Differing Natica*.) Ovate, smooth, glossy; spire very short, with four depressed volutions; aperture large, subulate; outer lip expanded, plain at edge; pillar lip thickened on columella; umbilicus deep, wide.
25. *N. Cineta*. (*Girdled Natica*.) Ovate; spire depressed, with three volutions; body with subcarinated edge; aperture subulate, with outer lip sharp; umbilicus small; outer surface smooth, with distinct striae; body with spiral fillet.
- 26, 27. *N. Ampliata*. (*Ample Natica*.) Hemispherical; body large, inflated; spire small, with two depressed volutions; aperture ample, outer lip expanded; columella lip plain; with small, filiform, longitudinal striae.
- 28, 29. *N. Similis*. (*Similar Natica*.) Smooth, rhomboidal, ovate; spire with three or four depressed volutions; aperture subulate, longitudinal; outer lip plain; inner lip thickened, bilobate, dividing deep umbilicus.
- 30, 31. *N. Glaucinoides*. (*Greyish Natica*.) Semiglobular; body large, inflated; spire small, with four rounded volutions; apex acute; umbilicus, large, simple; surface glossy, light grey-brown, with darker bands.
32. *N. Plicistria*. (*Plicistria Natica*.) Oblong-ovate; body large, smooth; spire small, subconic, with three plicistriae volutions, superior edges being flattened.
- 33, 41. *N. Adducta*. (*Close Natica*.) Smooth, hemispherical; body large; spire large, with four inflated volutions; apex sharp.
34. *N. Elliptica*. (*Elliptical Natica*.) Elliptical; body large, with fine oblique striae; spire short, small, with three depressed volutions; columella plain, arcuated.
35. *N. Planispira*. (*Flat-spined Natica*.) Oblong-ovate; body large; spire small, with two flattened volutions; aperture wide, subquadrate; outer lip expanded; columellar lip thickened; umbilicus closed.
- 36, 37. *N. Hemicausa*. (*Half-closed Natica*.) Smooth, subovate; body large; spire with two small volutions; aperture ovate; outer lip smooth-edged; pillar lip thickened, reflected into umbilicus, which it half closes; base produced.
- 38, 39. *N. Lyrata*. (*Lyre-shaped Natica*.) Suborbicular; body large; spire minute, mammillary, with two or three volutions; apex rounded; aperture smooth internally; outer lip expanded; with longitudinal, lamellar, filiform striae, resembling strings of lyre.
40. *N. Tabulata*. (*Tabulated Natica*.) Oblong-ovate; spire produced, with three flattened volutions; body subcylindrical, with subacute base, with five longitudinal striae.
- 42, 43. *N. Tumidula*. (*Slightly Tumid Natica*.) Smooth, orbicular; body large, tumid; spire minute, with two volutions, hardly rising above body; aperture large; outer lip sharp at edge; pillar lip reflected on columella, with large callus closing umbilicus.
44. *N. Elongata*. (*Elongated Natica*.) Oblong-ovate; body large, oblique; spire small, with two or three mammillated volutions; with oblique, minute striae.
- 45, 46. *N. Variata*. (*Variable Natica*.) Subovate; spire small, with two volutions; apex acute; with oblique and spiral striae; aperture suboval; outer lip expanding; pillar lip reflected on columella; umbilicus closed.
- 47, 48. *N. Striata*. (*Striated Natica*.) Smooth, oblong-ovate; spire small, with three narrow volutions; outer lip blunted at edge; inner lip reflected on columella, with sinus at umbilical region; umbilicus open; base concentrically striate.
- 49, 50. *N. Depressa*. (*Depressed Natica*.) Ovate; spire with five rounded volutions; aperture slightly ovate; inner lip reflected on columella; umbilicus small, oblong, shallow.

PLATE XLIV.

1, 2. **Nerita Costata.** (*Ribbed Nerita.*) Globular; spire depressed, with two volutions, with canaliculate suture; with many sharp longitudinal ribs; aperture orbicular, expanded; outer lip expanded; pillar lip produced, obtuse, divided by slight sinus into two blunt teeth.

3, 4. **N. Lævigata.** (*Smooth Nerita.*) Subglobose, smooth, glossy; spire conical, with two flat-sided volutions; body with sub-central, transverse sulcus; base convex; aperture sublunate; outer lip smooth-edged; columella obscure.

5-7. **N. Minuta.** (*Minute Nerita.*) Orbicular, smooth; spire obscure, depressed; aperture oval; outer lip blunted; pillar lip destitute of teeth. Diameter less than $\frac{1}{8}$ in. Fig. 7, natural size.

8, 9. **N. Aperta.** (*Open Nerita.*) Suborbicular, smooth, with acute, zigzag lines; spire depressed, with two volutions; aperture wide, semilunate; outer lip thickened; inner lip reflected on columella; its inner edge crenated, and with one large tooth.

10, 11. **N. Globosa.** (*Globular Nerita.*) Suborbicular; spire with two volutions; aperture orbicular, within which a lamelliform tooth; outer lip thin; pillar lip reflected on columella, with obtuse tooth; surface transversely sulcated.

12-14. **Pileolus Plicatus.** (*Plicated Pileolus.*) Conical, with divergent ridges; margin crenated; centre of base in cushion-like form, divided by sulcus into two parts; inner lip strongly crenated.

15-17. **P. Lævis.** (*Smooth Pileolus.*) Depressed, smooth, with irregular, divergent sulci; margin entire; inner lip crenated.

18, 19. **Neritina Uniplicata.** (*One-plaited Neritina.*) Subglobular; body large; spire concealed; aperture semilunar; outer lip sharp at edge; inner lip very broad, convex, its edge curved, and with one tooth-like projection.

20, 21. **N. Concava.** (*Concave Neritina.*) Subovate; body large, with undulating, zigzag, dark-coloured lines; spire short, oblique, with three volutions; aperture semicircular; outer lip entire, smooth, even on edge; pillar lip reflected on columella.

22, 23. **Ampullaria Patula.** (*Wide Ampullaria.*) Ovate, ventricose, smooth; body large; spire small, with four rounded volutions; apex acute; aperture subovate; outer lip smooth, even; inner lip reflected on columella; umbilicus large, open.

24, 25. **N. Spirata.** (*Short-spined Nerita.*) Subglobose, smooth; spire minute with two volutions and obscure canal round their base; body large, broadly canaliculate above; aperture transversely ovate.

26, 27. **N. Sinuosa.** (*Sinuuated Nerita.*) Subovate; spire short, with three inflated volutions; aperture elongated; outer lip plain, with sinuated lobe on its edge near base; columellar lip broad, flat; body with angular, transverse sinus, and bordered by obtuse keel; with irregular, well-marked striae.

28. **A. Nobilis.** (*Noble Ampullaria.*) Subglobose; spire conical, with five inflated volutions; apex acute; base convex, without umbilicus; aperture oblong-oval, sublunate.

29, 30. **A. Helicoides.** (*Helix-like Ampullaria.*) Discoidal, smooth; spire short, with inflated volutions; body inflated at sides; base with deep umbilicus; aperture ovate; outer lip expanded.

31, 32. **A. Ambulacrum.** (*Gallery Ampullaria.*) Spherical, smooth; body large, inflated; spire small, conical, with seven ventricose volutions and deep spiral canal; aperture oblong-ovate; outer lip smooth, even; inner lip reflected on columella; umbilicus open, plain internally.

33, 34. **A. Acuta.** (*Acute Ampullaria.*) Subovate, smooth, ventricose; body large; spire conical, with five inflated volutions; apex acute; aperture oblong-ovate; outer lip plain, smooth; pillar lip curved, reflected on columella; umbilicus small.

35, 36. **A. Sigaretina.** (*Sigaretus-like Ampullaria.*) Body large, inflated; spire small, subconic, with four ventricose volutions; aperture large, suborbicular; outer lip expanded, smooth, even; inner lip reflected on columella; with sharp, irregular, waved striae externally.

PLATE XLV.

1. *Paludina Conceinna*. (*Neat Paludina*.) Conical, smooth; spire, with four inflated volutions; apex sharp; aperture ovate.
- 2, 3, 9. *P. Lenta*. (*Flimsy Paludina*.) Oblong-ovate, smooth; spire, with four inflated volutions; apex acute; aperture orbicular, entire; sometimes with distinct striae. Length, 1 in.; breadth, $\frac{1}{2}$ in.
- 4, 5. *P. Extensa*. (*Long Paludina*.) Smooth, oblong-ovate; body inflated; spire, with four ventricose volutions; aperture orbicular; outer lip extended; inner lip reflected on columella; umbilicus small, narrow.
6. *Melanopsis Sedgwickii*. (*Sedgwick's Melanopsis*.) Smooth, oblong, fusiform; body very large; spire short, with three volutions; aperture oblong; outer lip inflected; pillar lip spread over columella.
- 7, 8. *P. Suboperta*. (*Half-covered Paludina*.) Convex, smooth; spire, with four inflated volutions; apex acute; aperture ovate; inner lip reflected on columella.
- 10, 11. *P. Carinifera*. (*Keeled Paludina*.) Elongated, smooth, convex; spire, with three or four volutions; apex blunted; two upper volutions with linear keel at lower edge; aperture ovate.
- 12, 13. *P. Fluviorum*. (*Fresh-water Paludina*.) Ventricose, smooth; spire, with four or five inflated volutions; apex acute; striae sharp, equidistant.
- 14, 15. *P. Elongata*. (*Lengthened Paludina*.) Elongated, smooth; body, with four well-defined, oblique volutions; apex sharp; aperture oblong.
- 16, 17. *M. Subulata*. (*Awl-shaped Melanopsis*.) Smooth, subulate, conical; spire elongated, with six or seven flat-sided volutions; aperture ovate, short.
- 18, 19. *M. Carinata*. (*Keeled Melanopsis*.) Oblong-ovate, acuminate, smooth; body large, spire short, with five volutions, with spiral keel on upper edge of each; apex acute; aperture elongated; outer lip thin, plain; inner lip reflected on columella.
- 20, 21. *M. Fusiformis*. (*Fusiform Melanopsis*.) Smooth, sub-cylindrical, fusiform; spire, with four volutions; apex obtuse; aperture oblong; inner lip glossy, spread over columella.
- 22, 23. *M. Deptfordensis*. (*Deptford Melanopsis*.) Smooth, oblong-ovate, fusiform, acuminate; body ventricose in middle; spire, with three flat-sided volutions; apex acute; aperture elongated, sharp; outer lip undulated; inner lip reflected on columella.
- 24, 25. *M. Brevis*. (*Short Melanopsis*.) Ovate; body large, inflated, smooth; spire, with three volutions; apex acute; aperture oval; outer lip plain; inner lip thickened; callus flattish.
26. *Melania Sulculosa*. (*Sulcated Melania*.) Elongated; with convex volutions, with longitudinal, arcuated sulci.
- 27, 28. *M. Truncata*. (*Truncated Melania*.) Smooth, polished, elongated, conical; body short; spire long, with eight or nine volutions; aperture ovate, truncate; outer lip thickened. Length less than $\frac{1}{2}$ in.
- 29, 30. *M. Minima*. (*Least Melania*.) Smooth, subulate; body short, spire long, with eight or nine volutions; aperture ovate; very minute. Length less than $\frac{1}{2}$ in.
- 31, 32. *M. Lineata*. (*Lineated Melania*.) Acuminate; body short; spire long, with nine or ten raised volutions; with fine, regular striae; aperture sub-ovate.
33. *M. Heddingtonensis*. (*Heddington Melania*.) Fusiform; body short; spire long, with eight or ten volutions; surface rugged, with deep lines of growth.
34. *M. Vittata*. (*Filleted Melania*.) Elongated; volutions well defined, with oblique, flattened fillet on superior portion of each, hollow in centre.
35. *M. Striata*. (*Striated Melania*.) Elongated, tapering; spire, with eleven or twelve inflated volutions; with spiral, narrow ribs, about sixteen on each volution, crossed by sharp, longitudinal striae. Length sometimes 8 in.
- 36, 37, 38. *M. Fusciata*. (*Banded Melania*.) Turreted; spire, with five volutions, each crowned with obtuse knobs; with three coloured, transverse bands, and many spiral striae; aperture ovate, oblique. Fig. 33, natural size.
- 39, 40, 41. *M. Costata*. (*Ribbed Melania*.) Turreted; spire long, with six or seven tapering volutions, with many longitudinal ribs, crossed by spiral striae; aperture oblique, ovate. Fig. 41, natural size.
42. *M. Tumida*. (*Swollen Melania*.) Turreted, smooth; body short; spire long, with eight tumid volutions; with fine, longitudinal striae; aperture oblique, ovate.
- 43, 44. *M. Constricta*. (*Constricted Melania*.) Turreted, smooth; spire, with eight or nine volutions, constricted above, tumid below; with crenated, fimbriated margin.
45. *M. Rugifera*. (*Rugged Melania*.) Turreted, elongated, smooth, striated; body short; spire long, with eleven or twelve volutions, convex below; with strong, longitudinal ribs; apex acute; aperture subovate.

PLATE XLVI.

1, 2. *Lymnæa Pyramidalls.* (*Pyramidal Lymnæa.*) Elongated, sub-cylindrical; body large, spire pyramidal, small, with five inflated volutions; aperture oblong; outer lip sharp, expanded; callus on columella.

3, 4. *L. Maxima.* (*Great Lymnæa.*) Oblong-ovate; sub-cylindrical; body large, inflated; spire pyramidal, with five convex volutions; apex obtuse; aperture oblong; outer lip thin; columellar lip reflected.

5, 6, 7. *L. Minima.* (*Least Lymnæa.*) Oblong-oval, convex, smooth; body large; spire small, with four inflated volutions; apex acute; aperture elongated, contracted. Length, $\frac{1}{4}$ in.

8, 9. *L. Longiscata.* (*Lengthened Lymnæa.*) Elongated, smooth, shining; body large; spire, with six or seven inflated volutions; apex acute; aperture ovate; outer lip thin; pillar lip broad, with shallow, twisted plait.

10, 11. *L. Fusiformis.* (*Spindle-shaped Lymnæa.*) Subfusiform, smooth, shining; body large, inflated; spire small, pyramidal with five volutions; aperture elongated; with sharp, regular lines of growth.

12, 13. *Planorbis Obtusus.* (*Obtuse Planorbis.*) Depressed, discoidal, smooth, pellucid, shining; volutions few, greatly concealed; aperture oblique, obtuse, sub-cordiform.

14, 15. *Vermetus Striatus.* (*Striated Vermetus.*) V. PLATE XLIII., figs. 14, 15.

16, 17. *L. Columellaris.* (*Columellar Lymnæa.*) Oblong-ovate, smooth; body large; spire short, with four volutions; aperture oblong, wide; outer lip thin, ample; inner lip, with broad, twisted, thick columella.

18, 19, 20. *P. Hæmestoma.* (*Red-mouthed Planorbis.*) Discoidal, depressed, smooth; spire convex, umbilicate; base flat; aperture sub-triangular, oblique. Diameter, $\frac{1}{12}$ in.; thickness, $\frac{1}{8}$ in.

21, 22. *P. Cylindricus.* (*Cylindrical Planorbis.*) Cylindrical; with three or four volutions; with concentric striæ on left side; aperture transverse, oblong, quadrangular.

23, 24. *P. Euomphalus.* (*Euomphalus-formed Planorbis.*) Discoidal; with five or six volutions, sub-carinated; with concentric striæ; upper side flat; under side rounded, umbilicate; aperture sub-triangular.

25. *Crassidorsa Equalis.* (*Equal-sided Crassidorsa.*) Smooth, concave; with single keel on right side, and two on left; with five rounded volutions; aperture orbicular; with concentric striæ.

26, 27. *P. Lens.* (*Lens-shaped Planorbis.*) Lenticular, flat; concave above and below, sub-carinated; aperture sub-cordate, oblique.

28. *Auricula Sedgwickii.* (*Sedgwick's Auricula.*) Ovate; body large; spire small, with three volutions; apex obtuse; aperture oval; one plait on pillar lip.

29. *A. Obsoleta.* (*Obsolete Auricula.*) Sub-orbicular; body large; spire small, with two volutions; with series of many spiral punctuated striæ.

30, 31. *Bulimus Costellatus.* (*Ribbed Bulimus.*) Oblong-ovate, inflated; spire, with four volutions; apex obtuse; aperture, elongated, acute above; with many small, longitudinal, oblique ribs.

32, 33. *A. Pyramidalis.* (*Pyramidal Auricula.*) Ovate, smooth; body large; spire small, pyramidal, with five or six volutions; apex acute; aperture elongated; outer lip sharp; inner lip thickened, with two plaits on columella; umbilicus behind.

34, 35. *A. Ventricosa.* (*Ventricose Auricula.*) Sub-ovate; body large, inflated; spire conical, with four volutions; apex acute; aperture elongated, contracted; outer lip thickened, reflected; inner lip, with broad, thick, callous plait and three sharp plaits; base notched; with regular, spiral striæ. Length, $\frac{3}{8}$ in.

36, 37. *B. Ellipticus.* (*Elliptical Bulimus.*) Elongated ellipsis; spire, with five reversed, inflated volutions; apex obtuse; aperture small, narrow; columella oblique; outer lip plain; with many longitudinal, oblique ribs, with sulci between. Length sometimes 4 in.

38, 39. *A. Buccinea.* (*Buccinum Auricula.*) Subovate, smooth; body ventricose; spire, with four volutions; apex acute; aperture elongated, narrow; outer lip thickened; inner lip, with broad reflection, and three strong plaits; base notched. Length, $\frac{3}{8}$ in.

40, 41. *A. Simulata.* (*Dissembled Auricula.*) Oblong-ovate; spire, with four ventricose volutions; aperture elongated; outer lip sharp, striated internally; columellar lip thickened, with two broad plaits; with spiral, close-set, serrated ribs. Length, $\frac{3}{4}$ in.

42, 43. *A. Discrepans.* (*Discrepant Auricula.*) Oblong-ovate; spire conical, with five ventricose volutions; apex acute; aperture oblong; outer lip plain, sharp, internally striate; pillar lip reflected on columella, with three oblique plaits; with spiral, serrated ribs.

44, 45. *A. Incrassata.* (*Thickened Auricula.*) Ovate, ventricose; body large; spire small, with three volutions; aperture smooth, oblong, semi-lunar; outer lip broad, thickened, with longitudinal lines of growth, instead of sulci, reflected; pillar lip broad, thick, with three plaits; with many spiral ribs, with sulci with sharp, wider-set striæ.

46, 47. *A. Turgida.* (*Swollen Auricula.*) Sub-ovate, glossy; body large, orbicular; spire short, with three volutions; apex acute; aperture oblong; outer lip thick, smooth internally; inner lip reflected on columella, with two, thin folds; with fine, regular, spiral striæ. Length more than $\frac{1}{8}$ in.

PLATE XLVII.

- 1, 2. *Cochlicarina Expansa*. (*Expanded Cochlicarina*.) Sub-orbicular, smooth; body, with acute earina; spire conical, depressed, with four volutions; apex acute; body, with callus at columella.
- 3, 4. *C. Solarioides*. (*Sun-like Cochlicarina*.) Sub-discoidal; spire depressed, with four volutions, and indistinct earina at base of each; body flat, carinated above, convex beneath; callus narrow; with obscure striae.
- 5, 6. *C. Polita*. (*Polished Cochlicarina*.) Sub-rotund, smooth, polished; spire sub-conic, with five volutions, with earina at base; body, divided from spire by impressed fillet; callus thin; aperture sub-quadrangular.
- 7, 8. *C. Compressa*. (*Compressed Cochlicarina*.) Sub-globose, smooth, thick; spire depressed; carinated; base convex; callus broad; aperture angular.
- 9, 10. *Helix Gentii*. (*Gent's Helix*.) Sub-globose, smooth; body large, spire small, with three volutions; apex obtuse; with spiral, hollow sulcus; aperture elliptical, expanded; with obscure lines of growth.
- 11, 12. *Bulla Convoluta*. (*Convolute Bulla*.) Cylindrical, smooth; aperture narrow, linear; vertex obtuse, sub-truncated, perforate; umbilicus deep.
- 13, 14. *B. Elliptica*. (*Elliptical Bulla*.) Elliptical, elongated; vertex perforate; aperture linear; with fine, transverse striae. Length, $\frac{1}{4}$ in.
- 15, 16. *B. Acuminata*. (*Acuminated Bulla*.) Elongated, cylindrical; vertex acuminate; aperture linear; outer lip, rising above vertex, and produced to a point; with fine, transverse striae.
- 17, 18. *B. Constricta*. (*Constricted Bulla*.) Sub-cylindrical, with central constriction; vertex truncated, perforate; aperture linear; base rounded; with obscure, spiral striae.
19. *B. Elongata*. (*Elongated Bulla*.) Elongated, smooth, narrow, umbilicate; outer lip plain, hollow in centre; aperture contracted above, round below.
20. *B. Filosa*. (*Thready Bulla*.) Elliptical; aperture narrow above, rounded beneath; outer lip expanded; with many, transverse striae.
- 21, 22, 23. *Utriculus Crenatus*. (*Crenated Utriculus*.) Oblong-ovate; body large, ventricose; spire small, acute, with four inflated volutions; aperture elongated, narrow, base rounded; outer lip sharp; columella, with a series of minute crenulations.
- 24, 25. *B. Attenuata*. (*Attenuated Bulla*.) Elliptical; aperture long, curved; outer lip, extending below top of body; body truncated above, perforate; with fine, transverse striae.
26. *U. Humeralis*. (*Shouldered Utriculus*.) Sub-cylindrical, smooth; body long; spire short, with four sub-turreted volutions; apex acute; aperture oblong-oval; outer lip, with flexure near centre; inner lip reflected on columella.
- 27, 28, 29. *U. Elongatus*. (*Elongated Utriculus*.) Elongated, sub-cylindrical; body long; spire, with four volutions; apex obtuse; aperture short, oblique; outer lip expanded; with fine, spiral striae. Fig. 28, natural size.
30. *U. Glaber*. (*Smooth Utriculus*.) Cylindrical, oblong; body large, spire short, with three inflated volutions; aperture elongated; outer lip straight; surface smooth, with wide-set, transverse striae; base rounded.
- 31, 32, 33. *Ancylus Elegans*. (*Elegant Ancylus*.) Sub-conical, convex, smooth; apex oblique; aperture sub-ovate; with minute divergent striae.
- 33, 34. *H. Globosa*. (*Globular Helix*.) Globular; body large; spire short, obtuse, with three, broad, tumid volutions, with spiral striae, crossed by lines of growth; aperture semi-lunate; outer lip reflected; umbilicus, concealed by glazing on columellar lip.
- 36, 37. *Calyptrea Echinulatum*. (*Spined Calyptrea*.) Smooth, conical, depressed, oblique, with three or four volutions; body, with series of short spines. Diameter, $\frac{3}{4}$ in.
- 38, 39. *C. Rectum*. (*Rectangular Calyptrea*.) Conical; apex central; body inflated; spire, with two or three volutions; vertex acute, nearly central; aperture circular; internal plate rectangular, with one volution; columella slender; surface, with concentric striae.
- 40, 41, 42. *C. Obliquum*. (*Oblique Calyptrea*.) Sub-conic, depressed, smooth, oblique; vertex on one side; aperture circular; internal transverse partition, reflected near columella. Fig. 42, natural size.
- 43, 44. *Pileopsis Unguis*. (*Hoof Pileopsis*.) Sub-depressed, sub-orbicular; vertex recurved, oblique; convolution, small, acute; base sub-oval; outer lip even.
45. *C. Tuberculatum*. (*Tuberculated Calyptrea*.) Sub-conic, inflated, oblique; spire, with two or three volutions; apex obtuse; with spiral bands of rugose tubercles; aperture sub-rotund.
- 46, 47. *C. Spinulosum*. (*Spinous Calyptrea*.) Sub-conic, ventricose, with three or four volutions; vertex central; apex acute; with many, short, reflected, hollow spines; aperture orbicular; outer lip curved. Diameter, $1\frac{1}{2}$ in.
- 48, 51. *P. Neritoides*. (*Nerita-formed Pileopsis*.) Obliquely spiral; spire depressed, with two volutions; apex blunted; aperture oval; outer surface, with strong lines of growth, concentrically striate.
49. *P. Striatus*. (*Striated Pileopsis*.) Oval; apex, near one end; vertex incurved, free; areolated from base to vertex; surface with strong, radiating striae; crossed by many lines of growth; base sub-oval.
- 50, 55. *P. Trilobus*. (*Three-lobed Pileopsis*.) Sub-conic, smooth; areolated from base to vertex; tapering, acute at vertex; aperture trilobate; base undulous.
52. *P. Tubifer*. (*Tubed Pileopsis*.) Elongated, smooth, areolated; vertex slightly curved; with three, divergent, spinous ridges near vertex, and three rows of tubular spines.
53. *P. Vetustus*. (*Ancient Pileopsis*.) Sub-conical, areolated, smooth; vertex blunt and bent; sides, with two or three irregular undulations, crossed by wavy lines of growth; aperture oblong-ovate.
54. *P. Angustus*. (*Straitened Pileopsis*.) Sub-conic, spiral, smooth; vertex on one side; obtuse, with transverse lines of growth; aperture elongated, expanded.

PLATE XLVIII.

- 1, 2. *Sipho Clathrata*. (*Barred Sipho*.) Conical; vertex thick, incurved; with strong, longitudinal ribs from apex to base; crossed by transverse ribs; aperture oval.
- 3, 4. *Emarginula Reticulata*. (*Reticulated Emarginula*.) Conical, elongated; vertex elevated; with twenty-four or more divergent ribs, crossed by many, filiform striæ; fissure short; aperture oval; smooth internally.
- 5, 5*, 6. *E. Scalaris*. (*Ladder-like Emarginula*.) Conical; vertex eccentric, obtuse; with divergent, equal ribs; crossed by fine striæ; aperture obovate. Diameter $\frac{1}{2}$ in. Fig. 5*, natural size.
- 7, 8. *Fissurella Græca*. (*Greek Fissurella*.) Oblong-ovate, convex; with many, small ribs; crossed by many, transverse, filiform ribs; inside oblong-oval, smooth, margin crenulated.
- 9, 10. *E. Crassa*. (*Thick Emarginula*.) Conical, thick; vertex short; apex sub-acute; with equidistant, divergent, flat ribs; intervening sulci with four or five longitudinal striæ, crossed by lines of growth; marginal fissure wide; aperture oblong-oval, glossy.
11. *Patella Mucronata*. (*Pointed Patella*.) Smooth, sub-conic, depressed; apex mucronate, central, acute; aperture orbicular; marginal lips concave.
- 12, 13. *P. Striata*. (*Striated Patella*.) Oblong-ovate, oblique, conical; with many, acute, divergent ribs; sides frequently pressed inwards; vertex acute.
- 14, 14*, 15. *E. Tricarinata*. (*Three-keeled Emarginula*.) Conical; with three, principal, divergent ribs; aperture elongated, quadrangular. Fig. 14*, natural size.
- 16, 16*, 17. *E. Sulcata*. (*Furrowed Emarginula*.) Acute, conical; with seventeen flat ribs and broad sulci between, crossed by fine striæ; marginal fissure short; aperture sub-orbicular. Fig. 16*, natural size.
18. *P. Rugosa*. (*Rugged Patella*.) Obovate, thick, depressed; apex depressed; dorsal end concave; with many divergent ribs and two or three concentric undulations.
19. *P. Sinuosa*. (*Crooked Patella*.) Oviform, smooth, depressed, sub-conic; vertex irregular, prominent; with indistinct lines of growth.
20. *P. Scutiformis*. (*Scuttle-shaped Patella*.) Scutiform, smooth, elliptical, depressed; vertex inflexed, acute; with fine, divergent striæ.
- 21, 22. *P. Lævis*. (*Smooth Patella*.) Sub-conic, slender, depressed; vertex obtuse, eccentric; surface smooth, shining; aperture oviform.
23. *P. Lata*. (*Broad Patella*.) Obovate, depressed; vertex eccentric; with thirty, obtuse, divergent ribs.
- 24, 25, 26. *P. Nana*. (*Dwarf Patella*.) Oblique, smooth, sub-conic; vertex obtuse; aperture oval. Fig. 26, natural size.
- 27, 28, 29. *P. Ancilloides*. (*Ancilla-shaped Patella*.) Convex, smooth, depressed; vertex spiral; apex reflected. Fig. 29, natural size.
30. *P. Retrosa*. (*Retroflexed Patella*.) Sub-conic, smooth, depressed; apex retroflexed, acute; with about fourteen, broad, divergent ribs; aperture elliptical; margin undulated.
- 31, 32. *P. Æqualis*. (*Equal Patella*.) Conical, smooth; with a few, obsolete radii; apex obtuse; base oviform.
33. *P. Curvata*. (*Curved Patella*.) Conical, smooth; anterior end curved; vertex inclined posteriorly; apex acute; aperture deep, orbicular; marginal lip plain.
34. *P. Latissima*. (*Very Broad Patella*.) Depressed, smooth, thin; vertex eccentric, flat; concentrically undulated; aperture orbicular.
- 35, 40. *Metoptoma Imbricata*. (*Imbricated Metoptoma*.) Conical, scutiform; apex obtuse; with concentric imbricated ribs.
36. *P. Lateralis*. (*Lateral Patella*.) Sub-conic, smooth; vertex depressed; apex acute; with lateral sulcus and posterior radiations.
37. *M. Sulcata*. (*Furrowed Metoptoma*.) Convex; posterior side arcuated; concentrically sulcated; apex obtuse.
38. *M. Oblonga*. (*Oblong Metoptoma*.) Oblong, cordiform, conical, convex; margin rounded; vertex obtuse.
39. *M. Pileus*. (*Bonnet Metoptoma*.) Scutiform, conical, smooth; apex obtuse.
41. *M. Elliptica*. (*Elliptical Metoptoma*.) Elliptical, sub-conic, smooth; vertex terminal, acute, elongated.

PLATE XLIX.

1, 10, 21, 22. **Orbicula Nitida.** (*Shining Orbicula.*) Ovate; upper valve conico-lenticular; apex obtuse; with fine striæ from apex to sides.

2. **Lingula Ovalis.** (*Oval Lingula.*) Oblong-oval, smooth, depressed; beaks rounded, blunt; base broad, circular. Length, $\frac{1}{2}$ in.; breadth, $\frac{1}{4}$ in.

3. **L. Elliptica.** (*Elliptical Lingula.*) Elongated ellipsis; plain, with wide-set striæ, radiating from umbones; basal line acute.

4. **L. Squamiformis.** (*Scale-shaped Lingula.*) Oblong, umbones acuminate; base truncated; valves inflated above, compressed below; sides parallel; with longitudinal, concentric lines, and radiating striæ at base.

5, 13. **Magus Pumilus.** (*Dwarf Magus.*) Beaked valve spherical, smooth, with circular edge; beak small, straight; flat valve depressed; hinge-line long, parallel; with many, minute punctures.

6. **L. Mytiloides.** (*Mytilus-like Lingula.*) Oval, smooth, shining; umbones obtuse, rounded at base.

7. **L. Beanii.** (*Bean's Lingula.*) Oblong-ovate, smooth, glossy; with projecting beaks, obtuse at point; sides parallel; base rounded; with delicate lines of growth.

8, 9. **O. Humphriesiana.** (*Humphrie's Orbicula.*) Conical, orbicular; conical depressed; apex eccentric, obtuse; with many, divergent striæ.

11, 15. **L. Parallela.** (*Parallel Lingula.*) Ovate; umbones elevated; with shallow lines of growth. Fig. 11, flatter valve; fig. 15, deeper valve.

12. **L. Marginata.** (*Margined Lingula.*) Elongated, truncated; edges of valves turned up; sides parallel; valves, with elevated, mesial ridge; with small, oval, concentric, radiating striæ.

14. **L. Obliqua.** (*Oblique Lingula.*)

16, 26. **O. Granulata.** (*Granulated Orbicula.*) Orbicular, conical, patellæform; apex acute; sides rounded; with many, granulated, radiating striæ, crossed by many lines of growth.

17, 18, 19. **O. Reflexa.** (*Reflexed Orbicula.*) Elliptical, thin, smooth, polished; upper valve convex; apex eccentric; lower valve flat, with central vertex; byssal sinus large.

20. **L. Scutiformis.** (*Scuttle-shaped Lingula.*) Scuttle-shaped, truncated, smooth; with obsolete lines of growth; sides parallel.

23. **L. Tenuis.** (*Thin Lingula.*)

24. **Gypidium Aylesfordi.** (*Aylesford's Gypidium.*) Orbicular; with strong, longitudinal ribs; larger valve inflated; beak prominent, incurved.

25, 36, 37, 38. **Spirifer Cuspidatus.** (*Pointed Spirifer.*) Inversely pyramidal, longitudinally sulcated; deeper valve flat on back, triangular; beak incurved; with semi-circular sinus; margin semi-circular; with about fifteen sulci on each side of smooth undulation; with a few lines of growth and fine, longitudinal striæ; foramen, with reflected edges.

27, 28. **S. Insculpta.** (*Carved Spirifer.*) Cardinal area wide, with mesial, and two or three, lateral folds, large, triangular, deep, acute at edges, with transverse striæ.

29. **S. Senilis.** (*Aged Spirifer.*) Cardinal area large, with transverse striæ and indistinct, mesial fold; surface smooth, with radiating striæ.

30. **S. Crenistria.** (*Creni-striated Spirifer.*) Cardinal area narrow; mesial fold almost obsolete; smooth, with many, divaricating striæ, crossed by strongish lines of growth.

31, 32. **G. Knightii.** (*Knight's Gypidium.*) Sub-orbicular; one small and one large valve; beak incurved; with many, longitudinal ribs, crossed by lines of growth; cardinal area smooth, triangular.

33, 34. **S. Distanis.** (*Distant-beaked Spirifer.*) Gibbose, semi-circular; sides, with ten to twelve, longitudinal sulci; cardinal area broad, triangular, enrved; beaks incurved, distant; mesial ridge plain.

35. **S. Septosa.** (*Dyked Spirifer.*) Upper valve more convex than lower; both with wide, deep sulci, bifurcating or trifurcating towards margins; with two, divergent ribs on each side.

39, 40, 41. **G. Lævis.** (*Smooth Gypidium.*) Smooth; sub-cordiform; beaks greatly incurved; base produced.

PLATE L.

1, 2, 3, 4. **Spirifer Trigonalis.** (*Trigonal Spirifer.*) Gibbose; cardinal area acute at extremities; umbones incurved, approximate; upper valve semi-circular, rounded, with longitudinal, divergent ribs; lower valve flat, with fine, transverse striæ.

5. **S. Triangularis.** (*Triangular Spirifer.*) Elongated, triangular, convex; cardinal area flat; front elevation acute; mesial fold narrow; with smooth, longitudinal ribs.

6, 7. **S. Lineatus.** (*Lineated Spirifer.*) Gibbose; umbones produced, remote; cardinal area long, narrow, with triangular foramen; front semi-circular; mesial fold elevated, ending in beak; with many, granulated striæ.

8. **S. Beanii.** (*Bean's Spirifer.*) Beaks approximate; cardinal area contracted; hinge-line parallel; with strong, radiating sulci; mesial fold broad, smoothish.

9, 10. **S. Octoplicatus.** (*Eight-plaited Spirifer.*) Elongated, semi-circular, inflated; beaks remote; cardinal area wide, triangular, with eight to ten, angular, longitudinal plaits; with crenulated margin; mesial fold plain.

11, 12. **S. Pinguis.** (*Plump Spirifer.*) Gibbose, globular, obovate; beaks close; cardinal area shallow, with eight or nine, longitudinal ribs on each side of mesial fold.

13, 14. **S. Walcottii.** (*Walcott's Spirifer.*) Sub-orbicular, gibbose, smooth; cardinal area triangular; both beaks with angular foramen; mesial fold wide, with four, longitudinal ribs on each side.

15, 16. **S. Minimus.** (*Least Spirifer.*) Oblong, inflated, smooth; umbones acute at points; cardinal area long, flat; with fifteen, longitudinal ridges.

17, 18. **S. Rotundatus.** (*Rounded Spirifer.*) Globose, obovate; cardinal area triangular; beaks incurved; upper valve with smooth ridge; with depressed, longitudinal ribs, crossed by lines of growth; margin of valves sharp.

19, 20. **S. Striatus.** (*Striated Spirifer.*) Elongated, sub-compressed; cardinal area wide, smooth, acute at sides; mesial sinus angular; beaks incurved; with many, longitudinal ribs and lines of growth.

21, 22. **S. Bisulcatus.** (*Two-furrowed Spirifer.*) Gibbous, semi-circular; cardinal area long, with parallel sides; beaks prominent, curved, with deep sulcus on each side of mesial ridge; with about thirty longitudinal ribs.

23, 24. **S. Semi-circularis.** (*Semi-circular Spirifer.*) Upper valve semi-circular; cardinal area sharp at extremities; beaks obtuse; mesial fold broad, sulcated; with radiating, longitudinal ribs.

25, 26. **S. Attenuatus.** (*Attenuated Spirifer.*) Convex, elongated; cardinal area straight, with parallel edges; sides produced, acute; beaks short; front rounded; mesial fold, with deep sulcus on each side; with many, linear sulci.

27, 28. **S. Undulatus.** (*Waved Spirifer.*) Convex, elongated; cardinal area flat, narrow, with parallel edges; beaks approximate; mesial elevation inflated; with many, longitudinal ribs, crossed by regular striæ.

PLATE LI.

1. **Spirifer Ovalis**. (*Oval Spirifer*.) Elliptical; cardinal area triangular; umbones incurved; mesial fold large; with six or seven, broad ribs on each side.
- 2, 16. **S. Rhomboidea**. (*Rhomboidal Spirifer*.) Cardinal area wide; with smooth, longitudinal ribs.
3. **S. Humerosus**. (*Hooded Spirifer*.) Sub-cordiform; lower valve large; mesial fold produced; ridge of upper valve angular, elevated; with many, longitudinal ribs.
- 4, 5. **S. Fusiformis**. (*Spindle-shaped Spirifer*.) Mesial fold ill-defined; cardinal area broad; with obtuse, longitudinal ribs and intervening sulci.
6. **S. Planata**. (*Plane Spirifer*.) Sub-orbicular; cardinal area wide; umbones obtuse, remote; with many, plain ribs; upper valve plain.
7. **S. Pyramidalis**. (*Pyramidal Spirifer*.) Triangularly pyramidal; mesial fold narrow; umbo of lower valve inflected; base sharp; with seventeen to nineteen longitudinal ribs.
8. **S. Integricosta**. (*Inter-ribbed Spirifer*.) Orbicular, inflated; umbones large, curved; mesial fold of medium size; with few, obtuse, longitudinal ribs.
9. **S. Trisulcosa**. (*Three-furrowed Spirifer*.) Elongated, smooth; beaks produced; cardinal area sub-triangular; upper valve with large, mesial fold and lateral plait on each side.
10. **S. Triradialis**. (*Three-rayed Spirifer*.) Orbicular, smooth; beaks of lower valve large, incurved; upper valve depressed; with broad, mesial fold and lateral fold on each side.
- 11, 12. **S. Gloveri**. (*Glover's Spirifer*.) Circular, convex; both valves, with mesial sulcus; beaks produced; both valves with longitudinal striæ, crossed by lines of growth; hinge-line short.
13. **S. Duplicicosta**. (*Double-ribbed Spirifer*.) Elongated; umbones pointed; cardinal area wide; mesial fold angular; with many, longitudinal ribs; sides rounded.
14. **S. Linguilifera**. (*Tongue-shaped Spirifer*.) Oblong, convex; mesial fold rounded; umbones produced; beaks obtuse; lateral radiations and lines of growth obscure.
15. **S. Convoluta**. (*Rolled Spirifer*.) Elongated; cardinal area concave, with obsolete, remote striæ, and obtuse, longitudinal ribs.
17. **S. Sexradialis**. (*Six-rayed Spirifer*.) Oblong-ovate, smooth; cardinal area long; upper valve with broad, mesial ridge, and three, lateral ridges.
18. **S. Mesoloba**. (*Middle-folded Spirifer*.) Sub-orbicular, smooth; umbo of larger valve produced; beak acute, inflected; cardinal area triangular; mesial fold broad.
19. **S. Tæniata**. (*Filleted Spirifer*.) Orbicular, smooth; cardinal area narrow, transversely striated; mesial fold obsolete.
20. **S. Oblatus**. (*Raised Spirifer*.) Gibbous, obovate, smooth; mesial rib depressed; beaks approximate; foramen of cardinal area triangular.
21. **S. Elliptica**. (*Elliptical Spirifer*.) Transversely oval; beaks not much produced; mesial fold obtuse, broad; with wide rays and concentric striæ; cardinal area flat, smooth.
22. **S. Obtusa**. (*Obtuse Spirifer*.) Gibbous; transversely ovate; with longitudinal striæ; beaks blunt, distant.
23. **S. Symmetrica**. (*Symmetrical Spirifer*.) Sub-quadrate, gibbous, smooth; with wide, mesial fold; beaks incurved.
24. **S. Lata**. (*Broad Spirifer*.) Gibbous, transversely elongated, smooth; mesial fold round, sub-depressed; with lateral radiation; umbones blunt, short.
25. **S. Imbricata**. (*Imbricated Spirifer*.) Short, transverse ellipsis; mesial fold obsolete; umbones approximate; with strong, radiating striæ, crossed by concentric, imbricated laminæ.
26. **S. Decora**. (*Adorned Spirifer*.) Orbicular, convex; umbones prominent; beaks acute; cardinal area triangular, wide; with obscure radiations.
- 27, 28, 29. **S. Glabra**. (*Smooth Spirifer*.) Gibbous, smooth; umbones sub-acute; mesial fold rounded, depressed in middle; margins sharp; with indistinct lines of growth.
- 30, 31. **S. Filaria**. (*Threaded Spirifer*.) Orbicular, flat; beaks small, contiguous; with fine, longitudinal striæ, crossed by many lines of growth; with fine striæ internally; hinge-line short.

PLATE LII.

1. **Spirifer Squamosa.** (*Scaly Spirifer.*) Depressed, oblong-ovate; mesial fold small; smooth, with transverse imbrications; umbones approximate.
2. **Orthis Filaria.** (*Thready Orthis.*) Elongated, pocket-shaped; hinge-line short; cardinal area narrow; umbones blunted; with wide-set, filamentary processes.
3. **S. Elongata.** (*Elongated Spirifer.*) Elongated, pentahedral; sides flat, smooth; with many, longitudinal radiations; mesial sulcus shallow; base flat, straight.
4. **S. Planosulcata.** (*Flat-furrowed Spirifer.*) Pentahedral, depressed; central sulci of each valve flattened; umbones approximate.
5. **S. Expansa.** (*Expanded Spirifer.*) Transversely sub-ovate, compressed; without mesial fold; with fine, longitudinal radiations, crossed by concentric striae.
6. **S. Resupinata.** (*Resupient Spirifer.*) Transversely elliptical; umbones small, approximate; upper valve depressed in middle; lower valve concave; with many, longitudinal striae.
7. **S. Glabistria.** (*Smooth-striated Spirifer.*) Transversely oblong; umbones obtuse, approximate; with longitudinal radiating striae; mesial fold produced.
8. **S. Radialis.** (*Radiating Spirifer.*) Semi-elliptical, transversely elongated; hinge-line parallel; base semi-circular; with strong, divergent ribs, crossed by imbricated lamellae; umbones obtuse.
- 9, 10. **Terebratula Hastata.** (*Spear-shaped Terebratula.*) Elongated, elliptical, semi-compressed; valves equal; base truncated, indented; edges sharp.
- 11, 20. **T. Indentata.** (*Indented Terebratula.*) Elliptical, smooth, inflated; valves convex; beak small, incurved; base, with deep notch; valves, with broad sulci.
12. **S. Globularis.** (*Globular Spirifer.*) Sub-globose, smooth; umbones obtuse, approximate; mesial fold broad.
13. **Orthis Connivens.** (*Connivant Orthis.*) Sub-globose; with undulated margin; with coarse, divergent, longitudinal striae.
- 14, 21. **T. Triquetra.** (*Triangular Terebratula.*) Sub-orbicular: valves convex; beak produced, incurved, keel-shaped; perforation triangular; base indented; edge of upper valve level, sharp; surface smooth.
- 15, 16. **T. Perovalis.** (*Somewhat Oval Terebratula.*) Sub-ovate; valves convex; smooth; beak incurved, acute; margin obtuse; base, with two sinuses.
- 17, 18. **T. Globata.** (*Globular Terebratula.*)
19. **Orthis Arachnoidea.** (*Spider's-web Orthis.*) Scutiform, compressed; hinge-line parallel; umbones minute, blunt; upper valve convex; with fine, sharp, divergent striae, crossed by remote lines of growth.
- 22, 23. **T. Emarginata.** (*Emarginate Terebratula.*) Sub-rhomboidal; larger valve convex; smaller one flat; base emarginate or with two angles.
24. **Leptaena Papilionacea.** (*Butterfly-like Leptaena.*) Wide, semi-elliptical; hinge-line parallel; umbones minute; with fine, longitudinal striae; crenulated in young state.
- 25, 26. **T. Bullata.** (*Swelled Terebratula.*) Orbicular, ventricose; beak produced, incurved; base indented; edges level.
- 27, 28. **T. Obtusa.** (*Obtuse Terebratula.*) Sub-orbicular, depressed; valves regularly convex, abruptly bent near edges; margin obtuse, square; base broad, elevated.
- 29, 30. **T. Maxillata.** (*Combe Terebratula.*) Sub-quadrangular, convex; umbo large, incurved; base, with two acute sinuses, and one obtuse one on each side; upper valve, with three sulci; lower valve, with two sulci; base rounded.
- 31, 32. **T. Sella.** (*Saddle-formed Terebratula.*) Sub-quadrangular, or trigonal, convex; beak obtuse, curved; sides compressed; base elevated, narrow.
- 33, 34. **T. Elongata.** (*Elongated Terebratula.*) Oval; valves equally convex; beak small, acute, incurved: smooth.
- 35, 36. **T. Biplicata.** (*Two-plaited Terebratula.*) Oblong, gibbose; beak large, incurved; sides rounded; base parallel, with two, distant plaits or obtuse ribs.
- 37, 38. **T. Bucculenta.** (*Full-checked Terebratula.*) Squarish; valves equal; convex; beak short, incurved; sides convex; edges level; base produced, truncated.
- 39, 40. **T. Sacculus.** (*Little Bag Terebratula.*) Obovate, gibbose; with broad, central sulcus, dividing larger valve into two lobes; smaller valve, with minute sinus at edge; beak small, sharp.

PLATE LII.*

- 1, 2. *Orthis Grandis*. (*Great Orthis*.) Compressed, semi-oval, short; with many, bifurcate radiations. Length, $1\frac{1}{2}$ in.; breadth, 2 in.
- 3, 4. *O. Elegantula*. (*Elegant Orthis*.) Transversely semi-oval; larger valve, with acute, incurved beak; smaller valve with concave mesial sulcus; base pointed, compressed; with fine, radiating striae. Length, $\frac{1}{2}$ in.
- 5, 6. *Strigocephalus Brevirostri*. (*Short-beaked Strigocephalus*.) Tumid, smooth, sub-orbicular; smaller valve orbicular; larger valve, extending into short, incurved nubo; beak tumid; foramen acute, broad.
7. *O. Virgata*. (*Branched Orthis*.) Transversely obovate; with about thirty, smooth radii; hinge-line arcuated. Length, $\frac{3}{4}$ in.; breadth, 1 in.
- 8, 9. *O. Vespertilio*. (*Bat Orthis*.) Semi-circular; with many, radiating ridges; upper valve convex, with longitudinal, central rib; lower valve convex, with deep, mesial sulcus; sides angular. Length, $\frac{3}{4}$ in.; breadth, $1\frac{1}{4}$ in.
10. *O. Testudinaria*. (*Tortoise Orthis*.) Orbicular; with many, granulated radii; upper valve convex, with incurved beak; lower valve, with mesial sulcus. Length, $\frac{1}{2}$ in.; breadth, $\frac{3}{4}$ in.
11. *Trigonosemus Lyra*. (*Lyre-formed Trigonosemus*.) Elongated; beak of lower valve elongated; with two, longitudinal septa; beak of upper valve, short, incurved; with furcated plaits, crossed by remote lines of growth.
- 12, 13. *S. Giganteus*. (*Gigantic Strigocephalus*.) Smooth, convex, sub-orbicular; valves equal; beak of larger valve straight, pointed, beneath which is rectangular-triangular, flat area; foramen narrow.
14. *O. Triangularis*. (*Triangular Orthis*.) Triangular, convex; with many, fine radiations. Length, $\frac{1}{2}$ in.; breadth, $\frac{1}{2}$ in.
- 15, 16. *S. Burtini*. (*Burtin's Strigocephalus*.) Sub-globose, smooth; valves inflated; lower valve, with long, curved, acute beak; foramen long, wide, flat at bottom.
- 17, 18, 19. *Spirifer Heteroclitus*. (*Heteroclit Spirifer*.) Acutely pyramidal; nubo of lower valve pointed; foramen long, narrow; mesial fold broad, with four or five, lateral, radiating plaits, with transverse striae.
- 20, 21, 22. *S. Biloba*. (*Two-lobed Spirifer*.) Obcordate, bilobate, with longitudinal striae; larger valve, with incurved beak; hinge-area triangular. Length and breadth, $\frac{1}{2}$ in.
23. *S. Giganteus*. (*Gigantic Spirifer*.) Convex; sides cuspidate, with many, radiating ribs; front deep, emarginate; with concentric lines of growth crossing ribs. Often 9 in. wide.
- 24, 25. *S. Speciosus*. (*Handsome Spirifer*.) Transversely elongated, fusiform, convex; with broad, divergent ribs; lower valve, with deep, broad depression; cardinal area broad, with parallel margin.
26. *S. Striatus*. (*Striated Spirifer*.) Transversely obovate; valves convex, lower one, with wide, longitudinal canal in centre; sides, with many, radiating striae. Length and breadth, 1 in.
- 27, 28. *S. Radiatus*. (*Rayed Spirifer*.) Larger valve, with produced nubo and incurved beak; hinge-area sub-triangular; smaller valve, with double, produced rib in centre, and intermediate sulcus; with many, divergent striae. Length, $1\frac{1}{2}$ in.; breadth, $1\frac{1}{4}$ in.
28. *S. Phalæna*. (*Moth-like Spirifer*.) Transversely elongated, sides rounded; larger valve, with deep, mesial sulcus; with regular, small ridges, beak produced.
29. *S. Obliteratus*. (*Obliterated Spirifer*.) Convex, semi-circular; cardinal area, with acute terminations; with elevated radiations, crossed by remote lines of growth; mesial sulcus shallow.
- 30, 31. *S. Pisum*. (*Pea Spirifer*.) Convex, lenticular, smooth, hexagonal; base truncated; beak small; cardinal area small, triangular. Length and breadth, $\frac{1}{2}$ in.
- 32, 33. *S. Ptychodes*. (*Two-folded Spirifer*.) Elongated, smooth, with fine, longitudinal folds; beak of larger valve produced, curved. Length and breadth, $\frac{1}{2}$ in.
34. *S. Affinis*. (*Allied Spirifer*.) Lenticular, with many, longitudinal ribs, crossed by thin laminae; cardinal area flat, triangular; beak of lower valve produced.
- 35, 36. *S. Costatus*. (*Ribbed Spirifer*.) Convex, fusiform, transversely elongated; with two, central ribs and five or six, thick ones on each side of these; lower valve, with broad, deep sulcus and two, strong ribs; hinge-area broad, with parallel edges.
37. *S. Inornatus*. (*Unadorned Spirifer*.) Transversely elongated, fusiform, compressed, smooth; sides, with obscure radiation; base even; beaks obscure.
38. *S. Extensus*. (*Extended Spirifer*.) Convex, transversely elongated, fusiform; with many radii; beak small.
- 39, 40. *Orthis Flabellum*. (*Little Fan Orthis*.) Transversely sub-ovate; hinge-line arcuated; one valve flat, the other convex, with slight, mesial channel; with about twenty-four rounded radii. Length, $\frac{3}{4}$ in.; breadth, 1 in.
- 41, 42. *S. Interlineatus*. (*Interlined Spirifer*.) Transversely oval, convex; cardinal area wide; nubo of larger valve produced; beak, curved to meet beak of opposite valve; with many, longitudinal ribs, five on each side. Length and breadth, $\frac{1}{2}$ in.
- 43, 44. *S. Trapezoidalis*. (*Trapeziform Spirifer*.) Semi-circular, transversely elongated; cardinal area large, arcuated; foramen narrow; with mesial, elevated rib from beak to base in upper valve and with similar sulcus in lower one.
- 45, 46. *S. Grandævus*. (*Aged Spirifer*.) Semi-elliptical; hinge-line straight, projecting; smaller valve, with large, rounded, mesial ridge, with sulci on either side and about ten radiations on both sides.
47. *S. Crispus*. (*Curled Spirifer*.) Gibbose, transversely elongated; with five to seven plaits, crossed by strong laminae; hinge-line, with obtuse ends; beak remote. Length, $\frac{1}{2}$ in.; breadth, $\frac{1}{2}$ in.
48. *S. Disjunctus*. (*Disjoined Spirifer*.) Convex, semi-circular; base emarginate; upper valve, with about twelve, strongish ribs; lower valve, with many, rounded ribs, about twenty-five on each side of mesial one; hinge-area broad, curved, with parallel edges; beaks remote.
- 49, 50. *S. Simplex*. (*Simple Spirifer*.) Pyramidal; cardinal area large, triangular; mesial rib, with obtuse borders; triangular foramen; smaller valve convex; without ribs or sulci.
- 50, 51. *S. Partitus*. (*Divided Spirifer*.) Round; lower valve, with deep sinus, extending to base; opposite valve, with corresponding rib; with three to six sulci and ribs.
52. *S. Lævis*. (*Smooth Spirifer*.) Transversely elongated, semi-circular, smooth, compressed; beaks of umbones prominent. Length, $\frac{3}{4}$ in.; breadth, $1\frac{1}{4}$ in.
53. *S. Calcaratus*. (*Spur Spirifer*.) Transversely elongated, semi-circular; sides convex, cuspidate, smooth, with longitudinal sulci; with many ribs; cardinal area narrow.
- 54, 55. *S. Ureii*. (*Ure's Spirifer*.) Hemispherical, smooth; beak inflated; base emarginate; lower valve convex, with channelled beak; upper valve compressed.
56. *S. Nudus*. (*Naked Spirifer*.) Semi-circular; beaks prominent, smooth; a mesial rib, with sulcus on each side; margin obtuse.
57. *S. Plicatus*. (*Plaited Spirifer*.) Transversely elongated, semi-circular, convex; with many, sharp plaits; beaks contiguous; cardinal area narrow. Length, 1 in.; breadth, $1\frac{1}{4}$ in.
59. *S. Subconicus*. (*Sub-conic Spirifer*.) Larger valve sub-conic, with central, longitudinal sulcus and several strong ribs, crossed by a few lines of growth; cardinal area large, triangular, flat.
61. *O. Plicata*. (*Plaited Orthis*.) Transversely elongated, depressed, with many, sharp plaits.

PLATE LIII.

- 1, 2, 3. *Orthis Interlineata*. (*Interlinear Orthis*.) Transversely elliptical, compressed; beak prominent; smaller valve, with shallow depression; base straight; with many, filiform, radiating striæ; with sub-rostral plaits arcuated to include cordiform area.
- 4, 5. *O. Pennatus*. (*Unequal-winged Orthis*.) Semi-ovate, oblique, inflated; hinge-line parallel; with many acute, radiating ribs, with two or three remote lines of growth; margins crenated. Length and breadth, $\frac{1}{2}$ in.
- 6, 7, 8. *O. Orbiculata*. (*Orbicular Orthis*.) Orbicular; with fine, radiating striæ; larger valve convex; beak curved, with straight, longitudinal ridge internally and curved one on either side; smaller valve convex, with central depression; hinge-area minute. Length and breadth, $\frac{1}{2}$ in.
- 9, 16. *O. Parallela*. (*Parallel Orthis*.) Oblong-oval, compressed; hinge-line narrow; base wide; deeper valve, with tumid, mesial line; flatter valve, with hollowed, mesial depression; with many radiating striæ, crossed by lines of growth; sub-rostral ridges of deeper valve parallel.
10. *O. Radians*. (*Radiated Orthis*.) Semi-cylindrical, compressed; base concave; with about fifteen, sharp plaits, beaks produced. Length, $\frac{3}{4}$ in.; breadth, $\frac{1}{2}$ in.
- 11, 12. *O. Tenuistriata*. (*Thin-Striated Orthis*.) Semi-circular; base straight; with many, fine striæ; one valve convex, the other flatter; hinge-area narrow, parallel.
- 13, 14. *O. Alata*. (*Winged Orthis*.) Semi-circular; hinge-line parallel, with cuspidate, auriform processes; with about eighteen radiating plaits; sides crenated. Length, $\frac{1}{2}$ in.; breadth, $\frac{3}{4}$ in.
15. *O. Granulosa*. (*Granular Orthis*.) Orbicular, compressed, lenticular; with many granulated striæ.
17. *O. Rustica*. (*Rude Orthis*.) Transversely sub-quadrated, depressed; hinge-area large, triangular; with about forty to fifty ribs; base straight. Length, 1 in.; breadth, $1\frac{1}{2}$ in.
- 18, 19. *O. Alternata*. (*Alternately-ribbed Orthis*.) Transversely, obovately sub-quadrangular; with numerous, raised striæ. Length, $\frac{3}{4}$ in.; breadth, $1\frac{1}{2}$ in.
20. *O. Compressa*. (*Compressed Orthis*.) Semi-ovate, lenticular, compressed; hinge-line parallel; with many, punctuated striæ. Length, 1 in.; breadth, $1\frac{1}{4}$ in.
21. *O. Protensa*. (*Stretched-out Orthis*.) Semi-ovate, depressed; unequally thick; with sharp, divergent striæ, crossed by a few remote lines of growth. Length, $\frac{3}{4}$ in.; breadth, $\frac{1}{2}$ in.
22. *O. Callactis*. Circular; compressed; with about twenty radiating ribs. Length, $\frac{1}{2}$ in.; breadth, $\frac{3}{4}$ in.
23. *O. Arcuata*. (*Arcuated Orthis*.) Transversely oblong-ovate, compressed; one valve convex, the other with mesial sulcus; with fine, divergent striæ.
- 24, 25. *O. Antiquata*. (*Antiquated Orthis*.) Semi-circular, compressed; hinge-area narrow; smaller valve flat; with many radiating striæ, crossed by remote lines of growth. Length, $\frac{1}{2}$ in.; breadth, $\frac{3}{4}$ in.
26. *O. Expansa*. (*Expanded Orthis*.) Semi-circular, compressed; hinge-line parallel, internally plaited; base rounded. Length, $1\frac{1}{2}$ in.; breadth, 2 in.
27. *O. Subarachnoidea*. (*Spider Web-like Orthis*.) Elongated; hinge-line parallel; lesser valve convex; with many subdivided striæ.
28. *O. Anomala*. (*Anomalous Orthis*.) Longitudinally oblong; convex; umbones obtuse; sides straight; with many longitudinal striæ; base rounded. Length and breadth, $1\frac{1}{2}$ in.
29. *O. Lata*. (*Wide Orthis*.) Transversely semi-cylindrical, depressed; base straight; sides rounded; with linear, divergent striæ. Length, $\frac{1}{2}$ in.; breadth, $\frac{3}{4}$ in.
- 30, 31. *O. Semicircularis*. (*Semi-circular Orthis*.) Semi-circular, convex; base rounded; with about thirty radiating striæ; umbo protruding. Length, $\frac{1}{2}$ in.; breadth, $\frac{1}{4}$ in.
- 32, 33. *O. Umbraculum*. (*Shaded Orthis*.) Semi-circular; hinge-line parallel; lower valve convex towards beak; cardinal area low, strongly sulcated; upper valve flat, with low, triangular, cardinal area; with twelve or thirteen, filiform costæ from umbones, with many striæ.
- 34, 35, 36. *O. Canalis*. (*Canalled Orthis*.) Longitudinally semi-ovate; one valve convex, beak produced, incurved; other valve flattish, with central sulcus; base pointed, depressed; with fine, radiating striæ. Length and breadth, $\frac{1}{2}$ in.
37. *O. Longisulcata*. (*Long-furrowed Orthis*.) Transversely elliptical, compressed; sides rounded; hinge-line arcuated; with many, divaricating striæ, crossed by concentric lines of growth; internal plates divergent.
38. *O. Actoniæ*. (*Acton's Orthis*.) Transversely obovate; one valve convex, the other flat; with about fourteen, radiating ribs, quadrifid or trifid at outer extremities. Length, $\frac{3}{4}$ in.; breadth, 1 in.
- 39, 40. *O. Bilobata*. (*Two-lobed Orthis*.) Transversely sub-quadrated; hinge-line parallel; upper valve concave, with broad, longitudinal elevation; lower valve convex, with deep, broad, longitudinal channel; with many, radiating ridges. Length, $1\frac{1}{2}$ in.; breadth, $1\frac{1}{2}$ in.
41. *O. Concentrica*. (*Concentric Orthis*.) Semi-circular, compressed; hinge-line parallel; with internal plaits; with divergent, filiform striæ.
42. *O. Filosa*. (*Threaded Orthis*.) Semi-oval, thin, flattened; beaks hardly elevated; sides straight; with many, filiform, radiating striæ. Length and breadth, $\frac{3}{4}$ in.
43. *O. Intercostata*. (*Inter-ribbed Orthis*.) Orbicular; hinge area triangular; with filiform, divergent ribs.
- 44, 45. *O. Lens*. (*Lens-shaped Orthis*.) Sub-orbicular, compressed; valves convex; lower valve, with mesial sulcus near umbo; with about twenty undulated striæ.
46. *O. Cancellata*. (*Cancellated Orthis*.) Suborbicular, compressed; umbones produced; with many, radiating ribs; with four or five longitudinal striæ; the whole crossed by many, concentric striæ.
47. *O. Multifurcatus*. (*Many-forked Orthis*.) Fan-shaped, convex; base rounded; with many radiating forked ridges. Length, 1 in.; breadth, $1\frac{1}{4}$ in.
48. *O. Interstitialis*. (*Interstriated Orthis*.) Semi-circular, hinge-line parallel, with sub-auriform processes; one valve convex, the other depressed; with many, radiating striæ.
49. *O. Parallela*. (*Parallel Orthis*.) V. Figs. 9, 16.
50. *O. Costata*. (*Ribbed Orthis*.) Semi-circular; one valve conical; hinge-line arcuated; umbones produced, with triangular area beneath; sides angular; with about twenty, radiating ribs. Length, $\frac{1}{2}$ in.; breadth, $\frac{3}{4}$ in.
- 51, 52. *O. Semilunata*. (*Semilunar Orthis*.) Transversely sub-quadrangular; with deep, longitudinal striæ; beaks not prominent; hinge-area small; lesser valve, with longitudinal, central depression; internally with two, semi-circular ridges. Length and breadth, $\frac{1}{2}$ in.
- 53, 54. *Leptæna Reticulata*. (*Reticulated Leptæna*.) Sub-ovate, sub-compressed; hinge-line parallel; sides straight; base rounded; with strong striæ, crossed by concentric striæ.
55. *O. Calcar*. (*Spur Orthis*.) Semi-circular; with about twelve, granulated, divergent ribs, forming fringe all round.
- 56, 57, 58. *O. Lunata*. (*Moon-shaped Orthis*.) Semi-oval, convex; with many, fine striæ, crossed by equidistant lines of growth; one valve flat. Length, $1\frac{1}{2}$ in.; breadth, 2 in.
- 59, 60, 61. *O. Hybrida*. (*Hybrid Orthis*.) Orbicular; lenticular; valves equal; base straightish; with many, radiating striæ. Length and breadth, $\frac{1}{2}$ in.
- 62, 63. *L. Prælonga*. (*Lengthened Leptæna*.) Transversely obovate, convex, with central sulcus; beak of larger valve ventricose; smaller valve concave; margin deflected; with coarse, transverse striæ.

PLATE LIII.*

1. *Orthis Pecten*. (*Pecten-formed Orthis*.) Transversely ovate; depressed, with many, radiating sulci. Length, $\frac{5}{8}$ in.; breadth, $1\frac{1}{2}$ in.
- 2, 3, 4. *Leptæna Distorta*. (*Distorted Leptæna*.) Orbicular, convex; hinge-line parallel, with triangular area; beaks prominent; concentrically undulated, with strong, longitudinal striæ; margin flattened.
5. *L. Margaritacea*. (*Pearly Leptæna*.) Sub-orbicular, inflated; hinge-line parallel; beaks large, prominent; ears rounded; with many, radiating striæ; with two or three spines on ears and sides.
6. *L. Plicatilis*. (*Plicated Leptæna*.) Transversely elongated; hinge-line parallel; umbo produced; with transverse, flexuous ribs and longitudinal striæ.
7. *L. Caperata*. (*Wrinkled Leptæna*.) Semi-elliptical, convex; margin deflected; lower valve convex; upper one concave; with concentric wrinkles; with adpressed spines.
- 8, 9. *L. Scotica*. (*Scottish Leptæna*.) Semi-circular; hinge-line parallel; umbo of larger valve prominent; both valves gibbose; sides expanded; convex valve, with divergent striæ, and remote, parallel lines of growth; shallow valve, with divergent striæ, but without spines.
10. *L. Analoga*. (*Analogous Leptæna*.) Semi-circular, compressed; hinge-line straight; lower valve convex near umbo; surface corrugated, with flexuous wrinkles; crossed by straight, radiating striæ. Length, 1 in.
11. *L. Spinosa*. (*Spinous Leptæna*.) Sub-orbicular, gibbous; hinge-line short; convex valve, with cylindrical spines; concave valve without spines; with many, longitudinal striæ.
12. *L. Tenuistriata*. (*Thin-striated Leptæna*.) Semi-cylindrical; with many, longitudinal striæ, crossed by twelve to fourteen, concentric convex sulci; sides expanded.
13. *L. Pugilis*. (*Fighting Leptæna*.) Semi-circular; hinge, ending in spinous, auricular processes; umbo large, produced; with many, radiating striæ and longitudinal spines; with strong, irregular ribs, and a few, blunted spines towards the sides; margin much indented.
14. *L. Scabricula*. (*Rough Leptæna*.) Orbicular; hinge-line parallel; sides straight; beak large, prominent; smaller valve flat, with radiating striæ; larger valve, with longitudinal, tuberculated striæ; mesial sulcus broad.
15. *L. Costata*. (*Ribbed Leptæna*.) Transversely elongated; convex valve, with deep, mesial sulcus and longitudinal ribs, decussated by concentric sulci; base deflected; each side, with two or three spines and small lobe.
16. *L. Comoides*. (*More Handsome Leptæna*.) Semi-circular; globose near beak; disc inflated; with undulating striæ and large, longitudinal sulci; hinge-area flat; thick, rough internally.
17. *L. Membranacea*. (*Membranous Leptæna*.) Semi-circular, very flat, thin; hinge-line parallel, produced, with spines; concentrically striated; with undulating lines, with small spines.
- 18, 19. *L. Sordida*. (*Dilapidated Leptæna*.) Transversely elongated, convex; hinge-line, with rounded angles; with irregular striæ.
20. *L. Sulcata*. (*Furrowed Leptæna*.) Semi-cylindrical, short, convex above, with mesial sulcus; with spinose, longitudinal ridges.
21. *L. Nodulosa*. (*Nodulous Leptæna*.) Semi-circular; lower valve concentrically angulated; near border rectangularly reflected; with irregular, concentric ridges and sulci; with many, flexuous, longitudinal striæ.
22. *L. Pectenoides*. (*Pecten-shaped Leptæna*.) Orbicular hinge-line, ending in auricular processes; umbo large, prominent; with many, smooth, longitudinal ribs, created towards base.
- 23, 24. *L. Sericea*. (*Silky Leptæna*.) Elongated semi-circle; larger valve convex, smaller depressed; base deflected at margin; with silky lustre, and many, radiating striæ; with obscure lines of growth. Length, $\frac{1}{2}$ in.; breadth, 1 in.
25. *L. Lepisma*. (*Silvery Leptæna*.) Semi-circular, convex; with silvery lustre; with a few, forked radiations; base deflected. Length, $\frac{1}{4}$ in.; breadth, $\frac{1}{4}$ in.
26. *L. Decepta*. (*Deceptious Leptæna*.) Sub-triangular; hinge-line parallel, with auriform processes; base pointed; surface, with remote, narrow ribs.
27. *L. Edelburgensis*. (*Addleburgh Leptæna*.) Semi-circular; hinge-line parallel, wide; beak somewhat produced; deeper valve convex; sides compressed; with coarse, longitudinal striæ; spines few, or none.
28. *L. Englypha*. (*Well-carved Leptæna*.) Sub-triangular; base obtuse; flat above; hinge-area long, straight, narrow; with many, radiating ridges, and fine, elevated striæ. Length of flat space, 1 in.; width, $2\frac{1}{4}$ in.
- 29, 30, 31. *L. Depressa*. (*Depressed Leptæna*.) Semi-circular; depressed above; with longitudinal striæ, crossed by transverse, narrow sulci; hinge-area long, with auriform processes; upper valve rounded, with produced umbo; concave near margin; front curved, deflected; lower valve, concave in centre. Length of flat space, $\frac{2}{3}$ in.; width, $1\frac{1}{2}$ in.
- 32, 33. *L. Hardrensis*. (*Hardren's Leptæna*.) Semi-circular; hinge-line straight, spinous; smaller valve concave; with many, radiating striæ, crossed by lines of growth; internally minutely punctated.
34. *L. Interrupta*. (*Interrupted Striae Leptæna*.) Semi-circular, gibbose; umbo slightly produced; larger valve, with longitudinal striæ, interrupted by concentric ribs.
35. *L. Lævigata*. (*Smooth Leptæna*.) Semi-circular, depressed; hinge-line parallel; with short, auriform processes; smooth, shining, with radiating striæ; base depressed. Length, $\frac{1}{4}$ in.; width, $\frac{1}{4}$ in.
- 36, 37. *L. Aculeata*. (*Spined Leptæna*.) Orbicular; concave valve smooth; convex valve gibbose, with reflected spines, and a few, concentric undulations; base indented.
38. *L. Latissima*. (*Very Broad Leptæna*.) Transversely elongated, fusiform or convoluted; hinge-line partly concealed by beak; umbo incurved; with coarse, longitudinal striæ and many, bristle-like spines.
39. *L. Convoluta*. (*Convolute Leptæna*.) Semi-circular; hinge-line, with auriform processes; middle of lower valve convex; with many, longitudinal striæ.
40. *L. Sarcinulata*. (*Little Truss Leptæna*.) Semi-circular; hinge-line parallel; with eight or ten, simple, tubular spines; upper valve convex; lower valve concave; with many, radiating ribs.
- 41, 42. *L. Lobata*. (*Lobed Leptæna*.) Oblong, gibbose; beak incurved; larger valve, divided into two lobes by deep, mesial sulcus; with many, longitudinal, spinous striæ.
43. *L. Humerosus*. (*Shouldered Leptæna*.) Oblong, squarish, compressed; larger valve, with two cavities near beak; smaller valve flattish; with longitudinal striæ.
44. *L. Personata*. (*Masked Leptæna*.) Hemispherical; hinge-line arcuated; larger valve, with three, deep cavities; smooth, with longitudinal striæ.
- 45, 46. *Atrypa Didyma*. (*Spread Atrypa*.) Globular; umbones small; base emarginate; each valve, with central sulcus. Length and breadth, $\frac{1}{2}$ in.

PLATE LIV.

1. *Atrypa Hispida*. (*Bristly Atrypa*.) Transversely oval, compressed; beak produced; with concentric fringes of spines.
- 2, 3. *Leptæna Transversalis*. (*Transverse Leptæna*.) Semi-circular, convex; lesser valve concave; hinge inflected, with parallel lines; with longitudinal ribs and intermediate striæ. Length, $\frac{1}{2}$ in.; breadth, $\frac{3}{4}$ in.
- 4, 5. *A. Cuboides*. (*Slightly-cubular Atrypa*.) Sub-globose, base elevated; margin, with deep sinus; beak small, acute; lower valve small, with large, produced appendage; with many, narrow ribs.
- 6, 7. *L. Minima*. (*Least Leptæna*.) Semi-circular; hinge-line parallel, inflated; with many, radiating ribs; sides prolonged, auriform. Length, $\frac{1}{2}$ in.; breadth, $\frac{1}{2}$ in.
8. *L. Fimbriata*. (*Fringed Leptæna*.) Oblong, hemispherical; umbo large, produced; with six to eight, transverse, arcuated sulci; lesser valve concave.
9. *L. Fragaria*. (*Rough Leptæna*.) Hemispherical, with sides produced; beak of convex valve sub-acute; with concentric undulations, pustulated.
- 10, 11. *L. Anomala*. (*Anomalous Leptæna*.) Elongated, triangular; hinge-area long, large, triangular, acute; beak produced, with spinous sides and longitudinal striæ.
12. *L. Complanata*. (*Even Leptæna*.) Semi-ovate, compressed; hinge-line arcuated; beak produced; with many, linear striæ, crossed by undulating lines of growth; base deflected. Length and breadth, 1 in.
13. *L. Duplicata*. (*Double-plaited Leptæna*.) Semi-circular, transversely elongated, convex; with longitudinal sulci internally. Length, $\frac{1}{2}$ in.; width, $\frac{3}{4}$ in.
- 14, 15. *A. Hemisphærica*. (*Hemispherical Atrypa*.) Orbicular, fan-shaped; valves unequal; one hemispherical, the other flat; with straight back and about twelve, angular radii. Length and breadth, $\frac{1}{2}$ in.
- 16, 17. *A. Latissima*. (*Very Broad Atrypa*.) Transversely oblong-ovate; beak short, straight; one valve rounded, the other with centre of base reflected; with a series of radiating ribs on margins of valves; with a few lines of growth.
- 16*. *L. Ambigua*. (*Ambiguous Leptæna*.) Compressed; hinge-line parallel; beaks produced; deeper valve concentrically angulated; with strong, longitudinal striæ, crossed by flexuous, rounded ribs.
18. *A. Fallax*. (*Falae Atrypa*.) Transversely ovate, inflated; with many, strong ribs and deep sulci; with crenulated margin.
- 19, 20. *L. Lata*. (*Broad Leptæna*.) Semi-circular; base straight; upper valve convex; lower valve concave; with radiating ridges; hinge-line parallel; with eight to ten, simple, acute spines.
- 21, 22. *A. Linguifera*. (*Tongue-shaped Atrypa*.) Orbicular; convex, smooth; beaks large; base tongue-shaped. Length, $\frac{1}{2}$ in.
- 23, 24. *A. Indentata*. (*Indented Atrypa*.) Transversely obovate, with indented base; beak small, produced.
- 25, 26. *A. Globosa*. (*Globular Atrypa*.) Globular, smooth, with obscure channels. Diameter, $\frac{1}{2}$ in.
27. *A. Triloba*. (*Three-lobed Atrypa*.) Tetrahedral, three-lobed; upper valve inflated; lower one flat; base, with about twelve plaits; lateral lobes reflexed, plaited; with radiating ribs and shallow sulci.
- 28, 29. *A. Orbicularis*. (*Orbicular Atrypa*.) Sub-orbicular; valves equal, with small sinus in base and many, forked sulci. Length, $\frac{1}{2}$ in.; breadth, $\frac{3}{4}$ in.
- 30, 31. *A. Lachryma*. (*Tear Atrypa*.) Longitudinally sub-globose, smooth; sides rounded; base straight; base sinuated by projection of inferior valve; mesial sulcus broad, flat, with two, sharp ridges.
- 32, 33. *A. Impleta*. (*Filled-up Atrypa*.) Transversely elongated, ventricose; sides rounded; beaks produced; base elevated with six sulci; with radiating, flattened ribs and shallow sulci.
- 34, 35. *A. Crenulata*. (*Crenulated Atrypa*.) Pentagonal, compressed, smooth; beak minute; base elevated; with many crenulations near margins.
- 36, 37. *A. Subdentata*. (*Half-toothed Atrypa*.) Orbicular, convex, smooth; beak minute, but prominent; base three-plaited, raised.
- 36*. *L. Rugosa*. (*Rugged Leptæna*.) Semi-circular; hinge-line, with two, aniform processes; lower valve convex; with regular, concentric wrinkles; border, with rounded undulations, crossed by many, filiform striæ. Length, 1 in.
- 38, 39. *A. Crassa*. (*Thick Atrypa*.) Spherical, smooth, thick; with three, deep, muscular impressions, central one linguiform, striated; lateral ones with five or six sulci.
- 40, 41. *A. Obovata*. (*Obovate Atrypa*.) Transversely obovate, convex, smooth; beaks small, contiguous; base, with marginal elevation in one valve, forming rounded sinus in edge of other. Length and breadth, $\frac{1}{2}$ in.
- 42, 43. *A. Gibbosa*. (*Gibbous Atrypa*.) Orbicular; both valves convex; ventral one especially so, having hunch-backed aspect; dorsal one, with small, linguiform processes in centre; beaks distant.
- 44, 45. *A. Compressa*. (*Compressed Atrypa*.) Transverse, ovate, compressed, smooth; beaks small; sides rounded. Length and breadth, $\frac{1}{2}$ in.
46. *A. Striatula*. (*Finely-striated Atrypa*.) Sub-orbicular, convex; with five, longitudinal, divergent striæ.
- 47, 48, 50. *A. Oblonga*. (*Oblong Atrypa*.) Oblong-oval, convex; base hollowed; beak small, incurved; sides obtuse; centre of each valve with shallow, mesial furrow.
- 49, 50. *A. Aspera*. (*Rough Atrypa*.) Orbicular; valves convex; base truncated; with many, radiating sulci, crossed by undulating laminæ. Diameter, $\frac{1}{2}$ in.
- 51, 52. *A. Plebeia*. (*Common Atrypa*.) Transversely obovate, smooth, convex; beak hardly protruding; base produced.
53. *A. Cassidea*. (*Little Helmet Atrypa*.) Oblong-ovate, ventricose, smooth; beak large; sides and base rounded; with a few lines of growth on each valve.
54. *A. Decussata*. (*Decussated Atrypa*.) Circular; valves convex; beaks incurved, approximate; with sharp, concentric striæ and radiating lines.
- 55, 56. *A. Protracta*. (*Continued Atrypa*.) Transverse, triangular; beak produced, acute; sides flattened; seam undulating; base, with about four plaits.
- 57, 58. *A. Sphærica*. (*Spherical Atrypa*.) Ventricose, spherical; beak small, adpressed; with large, longitudinal ridges, and shallow sulci; base sinuated, with five ribs.
- 60, 61. *A. Lineata*. (*Lineated Atrypa*.) Transversely oval, gibbose; umbones produced, incurved; with transverse sulci, and minute, longitudinal striæ.
- 62, 63. *L. Longispina*. (*Long-spined Leptæna*.) Semi-circular; hinge-line, with large auricular processes; convex valve, with mesial furrow; smaller valve concave; one long, horizontal spine and several smaller ones near each side of convex valve.
- 64, 65. *A. Rotunda*. (*Rounded Atrypa*.) Orbicular, convex, smooth; beaks small, equal; with fine, longitudinal sulci towards base. Length and breadth about $\frac{1}{2}$ in.
- 66, 67. *A. Imbricata*. (*Imbricated Atrypa*.) Transversely oval, gibbose; beaks produced, incurved; hinge-line short; with about twelve laminæ, with longitudinal sulci.
- 68, 69. *A. Lens*. (*Lens-formed Atrypa*.) Sub-orbicular, compressed, smooth, with obscure radiations; upper valve elevated in centre. Length, $2\frac{3}{4}$ in.; breadth, 2 in.
- 70, 71. *A. Expansa*. (*Expanded Atrypa*.) Transversely sub-ovate, inflated; base straight; without mesial fold; with striated, imbricated fringes; beak small, produced, incurved.
- 72, 73. *A. Fimbriata*. (*Fringed Atrypa*.) Transversely sub-ovate, sub-compressed; centre of each valve longitudinally depressed; with imbricated, striated fringes.
- 74, 75. *A. Juvenis*. (*Young Atrypa*.) Longitudinally ovate, convex, smooth, curved; base pointed; valves equal.
- 76, 77. *A. Undata*. (*Waved Atrypa*.) Transversely elliptical, inflated, smooth; one valve, with central elevation leading to linguiform sinus. Length, $\frac{3}{4}$ in.; breadth, $1\frac{1}{2}$ in.
- 78, 79, 79*. *A. Depressa*. (*Depressed Atrypa*.) Transversely obovate, compressed, smooth; sides depressed; base elevated; beaks unequal; with three or four, longitudinal sulci in centre. Length, $\frac{3}{4}$ in.; breadth, $\frac{1}{2}$ in.
80. *A. Tenuistriata*. (*Thin-striated Atrypa*.) Transversely ovate, gibbose; beaks small, waved, bent; base, with narrow protrusion; with longitudinal striæ. Diameter, $1\frac{3}{4}$ in.
- 81, 82. *A. Planosulcata*. (*Flat-furrowed Atrypa*.) Pentahedral; sides rounded, depressed; with undulating fringes.
- 83, 84. *A. Implexa*. (*Plaited Atrypa*.) Transversely obovate; base straight, flat; with many, acute plaits, forming toothed margin; with edges of valves locked into each other.

PLATE LIV.*

1, 2. **Atrypa Desquamata.** (*Peeled Atrypa.*) Oblong, gibbous; base obtuse; smaller valve deeper than larger one; with longitudinal striæ; internally striated.

3. **A. Affinis.** (*Allied Atrypa.*) Orbicular; with strong, radiating striæ; upper valve gibbous, with elevated sinus in front; lower valve flat.

4, 5. **Composita Ambigua.** (*Ambiguous Composita.*) Sub-pentangular; beak produced, perforated; hinge-line short; sides rounded; with mesial furrow in larger valve; base three-sided; surface smooth.

6, 7. **A. Pectinifera.** (*Comb-like Atrypa.*) Transversely obovate, convex, sub-compressed; beak small; with concentric, ciliated fringes.

8. **A. Triangularis.** (*Triangular Atrypa.*) Triangular; base, with two folds; beaks, hardly produced beyond circumference of valves.

9, 10. **Terebratula Prælonga.** (*Prolonged Terebratula.*) Ovate, elongated, gibbose; base elevated, with depression in centre; beak large, prominent; surface smooth.

11, 12, 13, 13*. **T. Sublobata.** (*Sublobate Terebratula.*) Elongated; dorsal valve, grooved from beak to base; ventral valve grooved to margin, and trilobate; valves crossed by lines of growth.

14. **T. Lata.** (*Broad Terebratula.*) Sub-orbicular, smooth, sub-depressed; larger valve sub-carinated; beak prominent, straight; base rounded.

15. **T. Trilineata.** (*Three-lined Terebratula.*) Ovate-rhomboidal, sub-depressed; margin faintly undulated; valves, with two or three striæ; beak convex, straight; base produced.

16. **Leptæna Hemisphærica.** (*Hemispherical Leptæna.*) Orbicular; larger valve inflated, with many, longitudinal striæ and concentric ridges; hinge-line parallel; lesser valve flat, with longitudinal striæ.

17, 18. **T. Virgo.** (*Virgin Terebratula.*)

19, 20, 21, 22. **T. Variabilis.** (*Variable Terebratula.*) Oblong, convex, smooth; beak produced, truncated; perforation large, round, truncated; internal area, with large sinus.

23. **T. Ornithocephala.** (*Bird's Head Terebratula.*) Ovate, rhomboidal, gibbous; base straight, bounded by two, lateral depressions on each valve; beak, with large perforation; sides depressed.

24. **T. Hastata.** (*Spear-shaped Terebratula.*) V. PLATE LII., Figs. 9, 10.

25, 36. **T. Biplicata.** (*Two-plaited Terebratula.*) Oblong, gibbose; beak prominent, incurved; sides rounded; base, parallel, whence two, well-defined plaits.

26, 27. **T. Faba.** (*Bean-shaped Terebratula.*) Longitudinally elliptical, narrow, gibbose; beak short, prominent; front concave; surface smooth.

28, 29. **T. Obesa.** (*Swollen Terebratula.*) Ovate, globose; valves convex; beak short, obtuse, incurved; base obtuse, with shallow sinus in centre.

30, 31, 32, 33. **T. Carneæ.** (*Flesh-coloured Terebratula.*) Sub-rotund, obtusely pentangular, depressed; valves convex, smooth; beak small, flat; base flat, short; sides plain; some specimens of fine flesh-colour. Diameter, 1 in.

34. **T. Ovoides.** (*Oval Terebratula.*) Oblong-ovate, smooth; beak produced; larger valve gibbous, sub-carinated; smaller valve convex; base produced.

35. **T. Intermedia.** (*Intermediate Terebratula.*) Obscurely pentangular, depressed, smooth; larger valve, with two depressions; smaller valve with three; base, with deepish undulations.

37, 38. **T. Tamarinda.** (*Tamarind Terebratula.*) Orbicular, smooth; margin obtuse; disc depressed; beaks curved, with flat ridge on each side.

39, 40. **T. Navicula.** (*Little Ship Terebratula.*) Oblong, boat-shaped, smooth, beak short, incurved; upper valve flat; lower valve, with obtuse keel. Length and breadth, $\frac{1}{2}$ in.

41, 42. **T. Resupinata.** (*Back-lying Terebratula.*) Oblong-ovate; beak small, incurved; lower valve obtusely carinated; base, with large plait; sides elevated; lower valve, with obtuse, rounded keel and longitudinal ridge on each side.

43, 44. **T. Subundata.** (*Half-waved Terebratula.*) Circular, depressed, smooth; valves equally convex; base straight, with single undulation on each side.

45, 46. **T. Semiglobosa.** (*Nearly Globular Terebratula.*) Nearly globular, inflated, smooth; large valve deeper, gibbous; smaller valve, with two elevations; base undulated.

47, 48, 49. **T. Sacculus.** (*Little Bag Terebratula.*) V. PLATE LII., Figs. 39, 40.

PLATE LV.

1, 10. **Leptæna Aurita.** (*Eared Leptæna.*) Hemispherical; sides, with prominent, rugose ears; with obtuse, radiating striæ and a few lines of growth.

2, 3. **L. Scabricula.** (*Rough Leptæna.*) V. PLATE LIII.*, Fig. 14.

4. **L. Concinna.** (*Neat Leptæna.*) Semi-cylindrical; smaller valve concave, deeply inserted; larger valve convex; neatly striated and spined longitudinally; smooth, polished.

5. **L. Lirata.** (*Ridged Leptæna.*) Sub-orbicular; umbo large, produced; larger valve, with longitudinal sulci and blunt ridges.

6. **L. Spinosa.** (*Spinous Leptæna.*) V. PLATE LIII.*, Fig. 11.

7. **L. Quincuncialis.** (*Squarish Leptæna.*) Sub-orbicular; cardinal area flat; beak large, prominent; sides rounded; with longitudinal ribs, intersected by remote lines of growth.

8. **L. Pustulosa.** (*Pustulous Leptæna.*) Orbicular, inflated, with transverse sulci; beak prominent, acute; with some pustule-like tubercles; ears angular, sulcated, without spines.

9, 19. **L. Martini.** (*Martin's Leptæna.*) Semi-cylindrical; hinge-line produced; umbo inflated; with flattened base and many, filiform, longitudinal striæ; lesser valve flattish, deeply inserted; auricles distinct, with two rows of spines.

11. **L. Antiquata.** (*Antiquated Leptæna.*) Semi-cylindrical; hinge-line ending in auriform processes; sides parallel; umbo large, produced; larger valve inflated; smaller valve flattish; mesial sulcus wide; with radiating ribs, reticulated at umbo by concentric undulations.

12. **L. Gigantea.** (*Gigantic Leptæna.*) Transversely elongated, inflated; hinge-line parallel, ending in auriform processes; with radiating, obtuse ribs and waved striæ.

13, 14. **L. Calva.** (*Smooth Leptæna.*) Sub-quadrangular; hinge-line parallel, with a row of spines on each side; beak large, incurved; larger valve inflated, with deep mesial sulcus; smooth, with equidistant lines of growth; lesser valve smooth, with transverse lines of growth.

15. **L. Mesoloba.** (*Middle-lobed Leptæna.*) Sub-ovate; auricles obtusely angled; with mesial ridge on convex valve and corresponding sulcus on other; smooth, wrinkled.

16. **L. Laxispina.** (*Wide-spined Leptæna.*) Hemispherical; margin regular; lower valve convex, without mesial sulcus; with slender spines, incurved outward on hinge-line.

17. **L. Muricata.** (*Muricated Leptæna.*) Orbicular; umbo large, produced; back flattened; with broad, strong, continuous ridges, and regular, blunt murications.

18. **L. Setosa.** (*Bristled Leptæna.*) Semi-circular; hinge-line parallel, with auriform processes; with strong, longitudinal striæ, and needle-shaped spines.

20, 21, 22, 24. **L. Punctata.** (*Punctured Leptæna.*) Obovate; larger valve gibbose, with deep, mesial sulcus; with concentric, laminar ridges and sulci; with many, minute spines; smaller valve flat, with concentric sulci and flattened ridges.

23. **L. Ovalis.** (*Oval Leptæna.*) Oblong; hinge-line arcuated; larger valve gibbose; umbo large, produced; mesial sulcus slight, with concentric sulci; with many, spinulose puncta; smaller valve flat, with a few, concentric sulci.

PLATE LV.*

- 1, 2. *Terebratula Cuneata*. (*Wedge-shaped Terebratula*.) Triangular; beak of larger valve straight, produced; with ten to twelve plaits. Length, $\frac{1}{2}$ in.; depth of each valve, $\frac{1}{4}$ in.
- 3, 4. *T. Coartata*. (*Straitened Terebratula*.) Sub-heptagonal, gibbose; larger valve bicipitated, with deep sulcus between the plates; lesser valve convex, sub-trilobated; beak produced; decussated with longitudinal and transverse striae, and with many, minute bristles.
5. *T. Ornithocephala*. (*Bird's Head Terebratula*.) V. PLATE LIV., Fig. 23.
- 6, 7. *T. Seminula*. (*Little Seed Terebratula*.) Orbicular; beak pointed; perforation small; smooth, with one lateral plait.
- 8, 9. *T. Similis*. (*Similar Terebratula*.)
- 9*. *T. Lampas*. (*Lamp-shaped Terebratula*.) Oval, sub-rhomboidal, gibbous; base parallel, produced; sides of larger valve concave; smaller valve depressed.
10. *T. Cornuta*. (*Horned Terebratula*.) Pentagonal, short, convex; edges obtuse, four-lobed; beak short, incurved, with sharp carina on each side; smooth, shining.
- 11, 12, 13. *T. Digona*. (*Digonal Terebratula*.) Triangular, oblong, gibbous; beak produced; sides rounded; base convex or concave; with two prominent angles in adult; minutely punctated.
- 14, 15. *T. Pentagonalis*. (*Pentagonal Terebratula*.) Pentagonal; beak produced; sides parallel; with mesial sulcus from beak of larger valve to base; smaller valve, depressed in centre; base concave in centre; smooth.
16. *T. Ambigua*. (*Ambiguous Terebratula*.) Pentagonal; base undulated; beak produced, with circular aperture; smaller valve, with two longitudinal ridges; smooth.
- 17, 18. *T. Antiquata*. (*Ancient Terebratula*.) Oblong-oval; beak prominent; hinge-line parallel; base rounded, upper valve plain, with two divergent ribs from combs; lower valve convex; smooth.
- 19, 20. *T. Pentahedra*. (*Pentagonal Terebratula*.) Pentagonal, compressed; beak large, perforation minute; front and sides emarginate; surface undulated.
- 21, 22. *T. Decussata*. (*Decussated Terebratula*.) Obovate, gibboso; base triangular; larger valve plicated, with shallow groove between ridges; smaller valve convex; with longitudinal and transverse striae and blunt spines.
- 23, 24. *T. Lentiformis*. (*Lens-shaped Terebratula*.) Orbicular, lenticular; beak small, perforation minute; smooth.
- 25, 26. *T. Fimbria*. (*Fringed Terebratula*.) Orbicular, gibbose; beak rounded; perforation round; margin, with undulating plaits; disc of valves inflated.
- 27, 28. *T. Punctata*. (*Punctured Terebratula*.) Oblong-ovate, sub-compressed; valves convex; margin, straight at base; with fine punctures.
- 29, 30. *T. Rhomboidea*. (*Rhomboidal Terebratula*.) Sub-rhomboidal; beak large, rounded; perforation minute, with lateral plaits.
31. *T. Sacculus*. (*Little Bag Terebratula*.) V. PLATE LIV., Figs. 47, 48, 49.
32. *T. Lineolata*. (*Lined Terebratula*.) Sub-quadrata; beak produced; incurved; sides rounded; base, with central projection; with divergent striae.
33. *T. Canalis*. (*Canalled Terebratula*.) Elongated, elliptical, smooth; beak incurved; with narrow, longitudinal sulcus; base emarginate. Length, $\frac{1}{2}$ in.; breadth, $\frac{1}{3}$ in.
- 34, 35. *T. Ovata*. (*Ovate Terebratula*.) Ovate, compressed; smaller valve pentagonal, sub-depressed; beak produced; smooth.
- 36, 37. *T. Sphaeroidalis*. (*Spheroidal Terebratula*.) Spheroidal, compressed; beak produced, incurved; edges of valves even; smooth.
- 38, 39. *T. Rhomboidea*. (*Rhomboidal Terebratula*.) V. Figs. 29, 30.
- 40, 41. *T. Subrotunda*. (*Sub-rotund Terebratula*.) Circular, compressed; valves convex; beak short, curved; smooth.
42. *T. Quadrata*. (*Square-shaped Terebratula*.) Oblong-ovate, gibbose; beak large; base parallel; both valves, with eight or nine longitudinal ribs.
43. *T. Obovata*. (*Obovate Terebratula*.) Obovate; sides rounded; sub-depressed; margin flat; base parallel, with two plaits; beak produced.
- 44, 45. *T. Seminula*. (*Little Seed Terebratula*.) V. Figs. 6, 7.
- 46, 47. *T. Rostrata*. (*Beaked Terebratula*.) Sub-orbicular; beak large, projecting, incurved, acute; with nearly thirty rounded plaits; front elevated.
48. *T. Angulata*. (*Cornered Terebratula*.) Oblong, compressed; beak small, incurved; with seven or eight angular, flat-sided plaits, and deep sulci; base deeply indented.
49. *T. Pugnus*. (*Fist-like Terebratula*.) Obovate, deltoidal, compressed; beak short, straight; sides of valves convex, with plaits on edges; base elevated, with four to six obtuse plaits in centre of sinus; striated.
- 50, 51. *T. Convexa*. (*Convex Terebratula*.) Sub-triangular, sacculiform; beak large, produced, incurved; angles rounded; valves convex; front elevated; with many, divergent ribs.
52. *T. Proava*. (*Great Grandfather Terebratula*.) Oblong; larger valve, with beak produced; with square, mesial fold; valves, with many, radiating ribs.
- 53, 54. *T. Oblonga*. (*Oblong Terebratula*.) Oblong, gibbose; beak large, curved; with about sixteen forked plaits; hinge-line broad; front even.
55. *T. Concinna*. (*Neat Terebratula*.) Globose; beak projecting, acute; centre, with seven plates and about twelve sharp plaits.
- 56, 57. *T. Psittacus*. (*Parrot-beaked Terebratula*.) Convex, globose; beaks produced, curved; sides, with a few longitudinal striae; front margin indented, with five longitudinal striae; perforation sub-triangular.
- 58, 59. *T. Orbicularis*. (*Orbicular Terebratula*.) Convex; smaller valve orbicular; larger one, with incurved beak; minutely punctated, with about fifteen plaits.
60. *T. Triplicata*. (*Three-plaited Terebratula*.) Transversely elongated; inflated; beak short, obtuse; upper valve convex, with three longitudinal folds; under valve concave, with three plaits.
- 61, 62. *T. Annularis*. (*Ringed Terebratula*.) Sub-triangular; hinge-line straight; beak short; with broad, longitudinal sulcus in larger valve; with many striae.
- 63, 64. *T. Flabellulum*. (*Fan Terebratula*.) Depressed; beak straight, rectangular; smaller valve transversely obovate; with about sixteen rounded plaits.
65. *T. Tumida*. (*Tumid Terebratula*.) Obovate, tumid; lower valve flatter than upper; with longitudinal ribs.
- 66, 67, 68, 69, 70, 71, 72, 73, 74. *T. Acuminata*. (*Acuminated Terebratula*.) Cordiform, gibbose; beaks minute; one valve, with deep, central sinus; the other elevated; with many, divergent striae.
- 75, 76. *T. Elegans*. (*Elegant Terebratula*.) Transversely obovate; beak prominent, acute, straight; front elevated, straight; with many, narrow ribs.
- 77, 78. *T. Comta*. (*Elegant Terebratula*.) Oblong, convex, pentahedral; beak long, straight; with many ribs; front elevated.
- 79, 80. *T. Martini*. (*Martin's Terebratula*.) Sub-orbicular; thick, compressed; beak small, incurved; with many, simple plaits; base elevated.
- 81, 82. *T. Deflexa*. (*Bending Terebratula*.) Transversely obovate, gibbose; lower valve, with sinus; beaks small, adpressed; with about twenty-four plaits. Length, $\frac{1}{2}$ in.; breadth, $\frac{1}{2}$ in.; depth, $\frac{1}{4}$ in.
- 83, 84. *T. Parvirostris*. (*Short-beaked Terebratula*.) Tetrahedral, orbicular; beak small, acute; sides angular, produced; with many, divergent ribs.
85. *T. Tetrahedra*. (*Four-sided Terebratula*.) Obtusely deltoidal, gibbose; tetrahedral; beaks incurved; front, with four or five sharp plaits on each side from beak to sides.
- 86, 87. *T. Sphaerica*. (*Spherical Terebratula*.) Orbicular, ventricose; beaks equal; with about fourteen obtuse, forked plaits; sides concave. Diameter, $\frac{1}{2}$ in.
88. *T. Decomplicata*. (*Ten-plaited Terebratula*.) Globular; beaks small, acute; with ten plaits. Length and breadth, $\frac{1}{2}$ in.
89. *T. Imbricata*. (*Imbricated Terebratula*.) Transversely obovate, trilobate; with many, bifurcated and trifurcated plaits, crossed by imbricating scales; base elevated. Diameter, $\frac{3}{4}$ in.
- 90, 91. *T. Wilsoni*. (*Wilson's Terebratula*.) Circular, plaited; valves, compressed near beaks; base cylindrical; margin acutely dentated, with nine or ten plaits on each side; front sinus deep.
- 92, 93, 94. *T. Cordiformis*. (*Heart-shaped Terebratula*.) Cordiform; front elevated; with deep, marginal sinus; sides convex, with sharp edges; centre, with acute, angular sulci, from beaks to base; size variable.
95. *T. Bidens*. (*Two-toothed Terebratula*.) Sub-orbicular; beaks small; upper valve convex, lower one concave; each with two, central plaits, with two, tooth-like plaits in the sides.
- 96, 97. *T. Crumena*. (*Pocket-shaped Terebratula*.) Deltoidal, gibbose; beak prominent; front, with three plaits from beak; sides, with four or more plaits below centre.
- 98, 99. *T. Acuta-plicata*. (*Acute-plaited Terebratula*.) Transversely elongated; pocket-shaped; gibbose; beak produced, small, curved; front elevated, with six plaits; surface, with many, sharp plaits.
100. *T. Megatrema*. (*Largely-perforated Terebratula*.) Transversely obovate, convex; beak large, produced, with ample perforation; with a few, large, divergent ribs.

PLATE LVI.

- 1, 2. *Terebratula Nucula*. (*Kernel Terebratula*.) Globose, trilobate; lower valve flattened; beak small, adpressed; with about fifteen sharp plaits. Diameter, $\frac{1}{2}$ in.
- 3, 4. *T. Brevisrostra*. (*Short-Beaked Terebratula*.) Transversely elliptical; valves convex, equal; beaks large, short; with about twenty-five plaits. Length, $\frac{1}{2}$ in.; breadth, $\frac{1}{2}$ in.
- 5, 6. *T. Ferita*. (— *Terebratula*.) Sub-triangular; beak long, straight, acute; lateral angles truncated; with a few, large ribs, transversely striated; hinge-line short, straight.
- 7, 8. *T. Interplicata*. (*Interplaited Terebratula*.) Transversely obovate; valves equal, convex; beaks short; with many plaits; sides, near beaks smooth, with prominent edges. Length and breadth, $\frac{1}{2}$ in.; depth, $\frac{1}{4}$ in.
- 9, 10. *T. Depressa*. (*Depressed Terebratula*.) Triangular, depressed; front elevated, with about eight plaits; beaks produced; lateral angles rounded; with about twenty, divergent ribs.
- 11, 12, 13. *T. Inconstans*. (*Inconstant Terebratula*.) Globular; beak small, acute, incurved; one half of margin turned up, the other down; medial depression in larger valve; with twenty-four to twenty-six angular plaits.
- 14, 15. *T. Angularis*. (*Angular Terebratula*.) Pentagonal convex; beak prominent; front, with three or four plaits; margin compressed; with deep, angular sulcus from centre of lower valve.
- 16, 17. *T. Radialis*. (*Radiating Terebratula*.) Orbicular; without mesial fold; beak elevated, straight; with many, radiating ribs.
18. *T. Pusilla*. (*Slender Terebratula*.) Globose; with about fourteen, sharp plaits, four elevated at base. Diameter, $\frac{1}{4}$ in.
19. *T. Læviuscula*. (*Very Smooth Terebratula*.) Rhomboidal, convex, smooth; base rounded; sides angular. Diameter, $\frac{1}{4}$ in.
- 20, 21. *T. Truncata*. (*Truncated Terebratula*.) Ovate; hinge-line straight; larger valve sub-conical, with large, short, straight beak, with ample, rounded aperture; with about twenty, sometimes furcated plaits; smaller valve much flattened.
- 22, 23. *T. Proboscidalis*. (*Trunked Terebratula*.) Elongated; beak prominent; front margin broad, protruding; with many, equal striæ.
- 24, 25. *T. Quadrata*. (*Square-shaped Terebratula*.) V. PLATE LV., Fig. 42.
26. *T. Borealis*. (*Northern Terebratula*.) Obovate, gibbose, trilobate; with about sixteen, acute, longitudinal plaits; beak small, acute, incurved. Length, $\frac{1}{2}$ in.; breadth, $\frac{3}{8}$ in.
- 27, 28. *T. Subplicata*. (*Half-plaited Terebratula*.) Transversely ovate; gibbose; beak large; base parallel; both valves, with eight or nine large, longitudinal ribs.
29. *T. Tripartita*. (*Three-parted Terebratula*.) Transversely oval, convex; with fifteen to twenty rough plates, often furcated; centre elevated. Length, $\frac{1}{2}$ in.; breadth, $1\frac{1}{2}$ in.
- 30, 50. *T. Platyloba*. (*Flat-lobed Terebratula*.) Transversely ovate, compressed; umbo obtuse; base, with seven or eight obtuse ridges; sides, with one or two plaits on edges.
- 31, 32. *T. Bidentata*. (*Two-toothed Terebratula*.) Triangular, smooth, depressed; acutely plaited. Length and breadth, $\frac{1}{2}$ in.
- 33, 34. *T. Pentagona*. (*Pentagonal Terebratula*.) Pentagonal, depressed; beak minute; trilobate; with about twenty five plaits. Length and breadth, $\frac{1}{2}$ in.
35. *T. Pulchra*. (*Beautiful Terebratula*.) Globose, triangular; beak small, produced; trilobate; with about twenty plaits. Diameter, $\frac{1}{2}$ in.
36. *T. Unguis*. (*Gloven Terebratula*.) Orbicular, inflated; beak incurved; with about twelve, sharp plaits. Length and breadth, $\frac{1}{2}$ in.
37. *T. Neglecta*. (*Neglected Terebratula*.) Orbicular, convex; beaks small; with seventeen, acute plaits.
- 38, 39, 40, 55, 56. *T. Reniformis*. (*Kidney-shaped Terebratula*.) Reniform, bilobate, inflated; centre with three or four longitudinal ridges, ending in acute plaits; sides inflated.
- 41, 42. *T. Hemisphærica*. (*Hemispherical Terebratula*.) Hemispherical; beak produced, incurved; smaller valve flattish; with many, longitudinal ribs; margin toothed.
- 43, 44. *T. Rigida*. (*Rigid Terebratula*.) Orbicular; beak small; smaller valve flattish; larger valve convex; with many plaits; front even.
- 45, 46. *T. Tetrahedra*. (*Four-sided Terebratula*.) V. PLATE LV., Fig. 85.
- 47, 48, 49. *T. Furcata*. (*Forked Terebratula*.) Orbicular, smooth; one beak greatly curved; interior, with several sulci and furcate channel in centre. Diameter, $\frac{1}{4}$ in.
- 51, 52, 62, 63. *T. Plicatilis*. (*Fine-plaited Terebratula*.) Gibbose, transversely obovate; beaks short, incurved; larger valve inflated; centre, with twelve, obtuse plaits, and fifteen or more on each side.
- 53, 54. *T. Mantelliana*. (*Mantell's Terebratula*.) Transversely obovate, inflated; beak small, incurved; with about sixteen, large, simple plaits.
57. *T. Pleurodon*. (*Side-toothed Terebratula*.) Transversely ovate; beak prominent; hinge-line arcuated; with prominent ribs from umbones to base; sides deeply reflexo-dextate.
- 58, 59. *T. Anisodonta*. (*Unequal-notched Terebratula*.) Transversely oval, depressed; beak prominent; front straight, with large, angular elevation; mesial edge straight, indented by six, narrow ribs; sides reflected towards deeper valve; broadly and deeply notched.
- 60, 61. *T. Chrysalis*. (*Chrysalid Terebratula*.) Oblong-ovate, sub-compressed; beak long, acute, incurved; hinge-line of smaller valve straight, with auriform processes; with largish ribs; margin crenulated.
- 64, 65. *T. Flexistria*. (*Waved Striate Terebratula*.) Oblate, sub-depressed; beak minute; mesial elevation rounded; lower valve smaller and flatter than the other; sides curved; with many, flexuous striæ.
- 66, 67. *T. Gibbsiana*. (*Gibb's Terebratula*.) Sub-orbicular, triangular, inflated; beak small, acute, incurved; with many, simple plaits; front elevated, with ten or twelve, flattened plaits.
- 68, 69. *T. Plicatella*. (*Folded Terebratula*.) Elongated, quadrangular, inflated; beak small, incurved; with about forty rounded plaits, sometimes furcated near beaks.
- 70, 71. *T. Dilatata*. (*Enlarging Terebratula*.) Transversely elliptical, trilobate; central lobe elevated; beak of larger valve short, large; with about fifty divergent plaits.
- 72, 73. *T. Mesogonia*. (*Interangular Terebratula*.) Tetrahedral, frontal elevation single or cleft; sides with one or two ribs.
- 74, 75. *T. Crenulata*. (*Crenulated Terebratula*.) Pentagonal; beaks obtuse, compressed; sides and base parallel; with fine, deep sulci and flat intermediate ribs.
- 76, 77. *T. Bifera*. (*Double Terebratula*.) Tetrahedral; beak acute; upper valve trilobate; with many, radiating striæ, bifurcating towards margins.
- 78, 79. *T. Gallina*. (*Fowl Terebratula*.) Transversely obovate; convex; lower valve, with wide, central sulcus; beak acute, small; both valves with wide, longitudinal ribs.
- 80, 81. *T. Crispata*. (*Curled Terebratula*.) Rhomboidal, convex, transverse; beaks small, sub-trilobate; with about eighteen, acute plaits; sides smooth. Length and breadth, $\frac{5}{8}$ in.
- 82, 83. *T. Acuta*. (*Acute Terebratula*.) Triangular; centre elevated, with one, acutely angular plait; sides, with one large, and several small, lateral plaits; beak obtuse; front sinns almost an equilateral triangle.
- 84, 85. *T. Ventilabrum*. (*Bellied Terebratula*.) Rhomboideo-deltoidal; margin sharp, with obtuse ribs; upper valve sulcate near obtuse beak; sides obliquely parallel, with five or six, mesial ribs.
- 86, 87. *T. Latissima*. (*Very Broad Terebratula*.) Transversely elongated, convex; larger valve, with produced beak; front elevated; with forty, narrow, divergent ribs.
- 88, 89. *T. Pectita*. (*Little Comb Terebratula*.) Sub-orbicular, gibbose; with medial hollow from beaks to base; beak produced, incurved; with many, longitudinal striæ, often furcated towards the base.
90. *T. Obsoleta*. (*Obsolete Terebratula*.) Orbicular, gibbose; centre of front with seven plaits; beak produced; sides, with seven to eleven plaits.
91. *T. Socialis*. (*Social Terebratula*.) Transversely oblong-ovate; beak short; mesial elevation with about four ribs; sides rounded; with strong, acute ribs.

PLATE LVI.*

1. *Terebratula Spinosa*. (*Spinous Terebratula*.) Sub-triangular; beaks obtuse; sides rounded; with broad, longitudinal ribs, with obtuse spines.

2, 3, 4, 5, 6, 7. *T. Pleurodon*. (*Side-toothed Terebratula*.) V. PLATE LVI., Fig. 57.

8. *T. Obliqua*. (*Oblique Terebratula*.) Sub-compressed, transversely obovate; beak produced, incurved; with about fifteen angular plaits; on one side five, central one elevated.

9, 12. *T. Sulcirostris*. (*Furrow-beaked Terebratula*.) Rhomboideo-deltoidal; beaks developed; central area, with five to nine divergent sulci, and intermediate ribs; ribs on sides flat; edge sharp.

10, 11. *T. Laticosta*. (*Broad-ribbed Terebratula*.) Transversely elliptical; beaks small, produced, angulated, with minute perforation; front with mesial sinus; with about twenty obtuse ribs, crossed by distinct lines of growth.

13. *T. Nuciformis*. (*Nut-shaped Terebratula*.) Transversely elongated; globose; front elevated; beak produced; with thirty regular narrow ribs, with edges plain, rounded.

14. *T. Mantiæ*. (*Mant's Terebratula*.) Sub-compressed; sub-trigonal; beak prominent, incurved; front rounded; with about sixteen angular plaits; upper valve convex.

15. *T. Lacunosa*. Transversely elliptical, with projecting sinns; with many divergent ribs; beak of larger valve incurved; beaks obtuse.

17, 18, 19. *T. Imbricata*. (*Imbricated Terebratula*.) V. PLATE LV., Fig. 89.

22, 23. *T. Dimidiata*. (*Divided Terebratula*.) Transversely obovate, sub-compressed; beak straight, produced; upper valve convex; with about thirty plaits.

24, 25. *T. Serrata*. (*Serrated Terebratula*.) Sub-orbicular, sub-triangular, inflated; margin obtuse; beak small, incurved, with large concave space on each side beneath it; with about eleven sharp plaits.

28, 29. *T. Stricklandii*. (*Strickland's Terebratula*.) Transversely obovate, ventricose; beaks small, adpressed, pointed; with longitudinal canal; with about thirty sharp plaits. Length and breadth, 1 in.

30. *T. Lateralis*. (*Broad Terebratula*.) Semi-ovate, gibbose; beak elevated, curved; front with three deep plaits, forming three deep angular notches, filled by sharp teeth in opposite valve; each side with two plaits; perforated valve flatter than the other.

31, 32. *T. Crebricosta*. (*Many-plaited Terebratula*.) Transversely obovate, sub-cylindrical, depressed; beak small, acute; with about thirty plaits. Length, $\frac{1}{2}$ in.; breadth, $\frac{3}{8}$ in.

33. *T. Ambligonia*. (*Obtuse-angled Terebratula*.) Pentahedral, oblong, convex; umbone produced, with mesial sulcus; with five large divergent ribs on each side.

36, 37, 38. *T. Striatula*. (*Finer-striated Terebratula*.) Longitudinally oblong-ovate, compressed; beak large, with circular aperture; front truncated, sometimes with sinus; with many granulated striæ.

39. *Crania Antiquior*. (*Ancient Crania*.) Orbicular, compressed; umbo large, extended, straight.

40. *Pecten Flemingii*. (*Fleming's Pecten*.) Convex, with many undulating ribs; base and sides crossed by many irregular lines of growth and striæ.

41, 42, 43, 44, 45. *Hipponyx Cornucopiæ*. (*Horn of Plenty Hipponyx*.) Lower valve a depressed cone, with vertex nearly central, crossed by rugose lines of growth; upper valve conical; surface with many rugose lines of growth, with many longitudinal striæ.

46, 47, 48, 49, 50, 51. *H. Lævis*. (*Smooth Hipponyx*.) Lower valve nearly flat; upper valve oblique, conical; surface smooth, with a few regular lines of growth.

52, 53. *Calceola Sandalina*. (*Sandal-shaped Calceola*.) Equilateral, inequivalve, triangular; hinge-margin transversely straight, notched; upper edge arcuated; upper valve semi-orbicular.

54. *Orbicula Punctata*. (*Punctured Orbicula*.) Lenticular, compressed; apex sub-marginal; surface with fine granulations. Diameter, $\frac{1}{2}$ in.

55, 56. *C. Parisiensis*. (*Parisian Crania*.) V. PLATE LIII., Figs. 1, 2, 3, 4.

57, 58. *O. Rugata*. (*Rough Orbicula*.) Orbicular; upper valve a much depressed cone; surface concentrically wrinkled; lower valve nearly flat. Diameter, $\frac{1}{2}$ in.; height, $\frac{1}{6}$ in.

59. *C. Ovalis*. (*Oval Crania*.) Oval; centre of superior valve conical; vertex curved; with many divergent sulci and intermediate ribs; margin plain.

60. *C. Striata*. (*Striated Crania*.) Orbicular; upper valve conical; with about fifteen strong sulci; intermediate ribs rounded; interior strongly marked.

61, 62. *O. Striata*. (*Striated Orbicula*.) Orbicular, very convex; apex deflected, marginal, with minute radiating striæ. Diameter, $\frac{1}{2}$ in.; height, $\frac{1}{4}$ in.

PLATE LVII.

1. **Ostrea Bellovacina.** (*Belovian Oyster.*) Oblong, irregular, thick; lower valve convex, with sub-imbricated laminae; beak produced, straight; ligamental area elevated above surface of shell; hollow valve curved, acute, with deep canal in centre.

2, 3. **O. Acuminata.** (*Acuminated Oyster.*) Elongated, depressed, incurved; upper valve concave, smooth; with ears and acute umbones; base acuminate; surface, with sub-imbricated, transverse laminae.

4. **O. Gigantea.** (*Gigantic Oyster.*) Elongated, thick; umbo short; hinge-pit large, tripartite, with its sides flat, striated.

5, 6, 7, 8. **Anomia Lineata.** (*Lineated Anomia.*) Sub-orbicular, convex; with many, fine, radiating striae. Fig. 8, adult stage.

9. **O. Canaliculata.** (*Canalled Oyster.*) Depressed, elongated, curved, slightly eared; sides parallel; with a few, concentric laminae near beak, and two or more, canaliculated projections in lower valve; upper valve flat.

10. **O. Gregaria.** (*Gregarious Oyster.*) Clustered, oblong, curved; beaks long; hinge-pit, with central cavity in lower valve; one valve deeper than the other; surface, with broken, longitudinal plait, whence many, furcated ribs, crossed by imbricated laminae.

11, 12. **O. Flabellula.** (*Little Fan Oyster.*) Oblong, sub-areolated; beaks prominent; larger valve deep, longitudinally curved and plaited with dentated margin; smaller valve flat, smooth; margin plain; with lateral crenulations.

13. **O. Læviuscula.** (*Very Smooth Oyster.*) Depressed, rounded; beak sub-acute, retroflected; scales distant; surface smooth, obscurely imbricated; lower valve without ribs.

14. **O. Tenera.** (*Tender Oyster.*) Elongated, curved, thin, depressed; beak of upper valve acute, canaliculated; surface plain, smooth, with imbricated laminae.

15. **O. Edulina.** (*Smaller Edible Oyster.*) Sub-orbicular, thickish; lower valve convex, with undulating laminae; upper valve smooth, depressed; beak curved, pointed.

16. **A. Squamula.** (*Scaled Anomia.*) Sub-orbicular, very thin, flat; with indistinct, concentric wrinkles.

17. **A. Aculiata.** (*Spined Anomia.*) Orbicular, compressed, with many, divergent striae, surmounted by concave, obtuse spines; umbones small; under valve flat, smooth. Diameter, $\frac{3}{8}$ in.

18, 19. **A. Convexa.** (*Convex Anomia.*) Very convex; beak large, prominent; surface smooth.

20, 21. **A. Lævigata.** (*Smooth Anomia.*) Circular, very thin, flat; surface smooth; umbo scarcely elevated.

22. **A. Radiata.** (*Rayed Anomia.*) Flat, irregularly orbicular, with fine, radiating striae.

PLATE LVIII.

1, 2. **Ostrea Macroptera.** (*Long-winged Oyster.*) Falciform, compressed, with large, rectangular wing within the curve; with irregular, deep plaits; deeply furrowed and acutely ribbed towards margin of valves, producing series of deep, tooth-like processes; hinge-area wide, triangular; beaks long, incurved, pointed.

3. **O. Meadii.** (*Mead's Oyster.*) Elongated, thick; hinge-area large; pit wide; beaks projecting; attached valve deep, with longitudinal rugæ; other valve plain, flat, with lateral crenulations near the hinge; edges irregular.

4. **O. Undosa.** (*Waved Oyster.*) Obliquely ovate; umbones central; sides near hinge almost even; on one side an indistinct, longitudinal sulcus; on the other a series of obliquely transverse, strong undulations.

5. **O. Archetypa.** (*Original Oyster.*) Umbo near one side, obtuse; with large sulcus from disc, and a narrower one in front; contour of shell oblique; margins undulated.

6. **O. Undulata.** (*Waved Oyster.*) Sub-triangular, recurved, convex; thick; beaks blunt; with many, longitudinal ribs and shallow sulci, with many, imbricated laminæ; cicatrix elongated, ovate, oblique.

7. **O. Expansa.** (*Expanded Oyster.*) Broad; deltoidal, with obtuse angles; beaks obscure, hinge-area wide, flat; cicatrix broad, with sinus at beak; margin largely undulated; surface laminar.

8. **O. Indistincta.** (*Indistinct Oyster.*) Oblong, obliquely triangular, surface smooth.

9. **O. Costata.** (*Ribbed Oyster.*) Sub-orbicular; lower valve, with many, furcated and bifurcated ribs; upper valve flat, with undulated margin; beak obscure.

PLATE LIX.

1. **Ostrea Duriuscula.**

2. **O. Dorsata.** (*Backed Oyster.*) Oblong; variable; convex; beaks blunt; upper valve convex, with many, longitudinal, sub-imbricated, fureated striæ; inner margin dentated.

3, 4. **O. Obscura.** (*Obscure Oyster.*) Oblong, irregular; beak obtuse, curved; hinge-area large, triangular; lower valve very deep; the other flat.

5. **O. Inequalis.** (*Unequal Oyster.*) Surface very rugged; margins irregularly undulated; lines of growth waved.

6. **O. Carinata.** (*Keeled Oyster.*) Elongated, arcuated, inflated, pointed at both ends; sides flattened; with many, transverse sulci, and strong, angular ribs; centre, with keel; margin, with strong, tooth-like processes.

7. **O. Semiplana.** (*Half-plain Oyster.*) Oval; depressed; surface foliated; valves flat in centre.

8, 11. **O. Solitaria.** (*Solitary Oyster.*) Obovate, thick; sometimes incurved; beaks short; with many, divergent, fureated ribs and deep sulci, crossed by rugged, imbricated laminæ; one valve flatter than the other.

12. **O. Pulchra.** (*Fine Oyster.*) Orbicular, compressed; one valve convex, with obscure beak and many, radiating, flat ribs and shallow sulci, crossed by wide-set laminæ; the other valve flat, with short, blunted, incurved beak; hinge-line parallel.

13. **Anomia Ehippium.** (*Saddle-shaped Anomia.*) Sub-orbicular, irregularly waved and wrinkled; one valve convex; the other flat; perforation large.

14. **A. Undulata.** (*Waved Anomia.*) Strong, flat, sub-orbicular, with many, strong, divergent striæ; umbo flat; perforation large.

PLATE LX.

1. **Gryphæa Incurva.** (*Incurved Gryphæa.*) Elongated; larger valve incurved; beak, when visible, sharp; smaller valve oblong, externally concave; surface concentrically undulated; sometimes laminated; sides straight.

2. **G. Bullata.** (*Gem Gryphæa.*) Transversely obovate, thin, smooth, compressed; upper valve smaller than lower; lower valve concave, with concentric lines of growth; beaks minute; lateral lobe small, obscure.

3, 10, 11, 12, 13. **G. Conica.** (*Conical Gryphæa.*) Oblong, curved; larger valve convex, with conical, obtuse beak and small, wing-like process; smaller valve oval, flat, with margin and wing crenated.

4. **G. Recurvata.** (*Recurved Gryphæa.*) Sub-rotund; one valve very convex, conical, with curved apex; the other shallow, lid-shaped; beak sub-involute; hinge indistinct; surface smooth.

5. **G. Sinuata.** (*Bent Gryphæa.*) Obliquely ovate; larger valve concave, bent, with one side flat; umbo curved, minute; smaller valve flat, triangular; surface smoothish, with many lines of growth; hinge-pit marginal, long, narrow, curved.

6, 7, 8, 9. **G. Haliotoidea.** (*Haliotis-formed Gryphæa.*) Oval, compressed; one valve, with deep, internal groove; margin thin, broad, fringed externally, crenated internally; surface transversely wrinkled; beaks involute. Length, $1\frac{1}{2}$ in.

14, 15. **G. Undata.** (*Waved Gryphæa.*) Elongated, convex; deeper valve carinated along centre; with a series of branching ribs, diverging from keel; flat valve smooth, plain.

16. **G. Digitata.** (*Fingered Gryphæa.*) Obliquely elongated, curved, gibbose; with five or six, marginal, canaliculated, finger-like processes; surface smooth; deeper valve with several ridges.

17. **G. Lævigata.** (*Smooth Gryphæa.*) Elongated, curved, smooth; deeper valve inflated, obtusely carinated near hollow side; flat valve semi-circular; beak small, pointed.

18. **Hinnus Dubissoni.** (*Dubisson's Hinnus.*) Oblong, thickish; with many, divergent ribs, imbricated towards lower part of valves, and with remote lines of growth; cars nearly equal, with a few, longitudinal sulci; umbo obtuse.

19. **G. Macullochii.** (*Maculloch's Gryphæa.*) Longitudinal, obovate, gibbose, oblique; beaks produced, incurved; base angular; surface strong, with curved lines of growth.

PLATE LXI.

1, 6, 7. **Gryphæa Dilatata.** (*Extended Gryphæa.*) Orbicular, obscurely lobed, upper valve compressed, flat; umbo obtuse; under valve hemispherical, with large, incurved umbo.

2. **G. Globosa.** (*Globular Gryphæa.*) Obliquely sub-globose, thin, smooth; beak truncated; upper valve concave; hinge-line straight; anterior lobe conspicuous.

3, 4. **G. Nana.** (*Dwarf Gryphæa.*) Oblong-ovate, inflated; surface rugged; umbo pointed, obliquely incurved; variable; hinge-pit narrow, curved.

5. **G. Gigantea.** (*Gigantic Gryphæa.*) Orbicular; upper valve thin, concave; lower valve convex, with small, incurved umbo; hinge small; surface smooth, with imbricated laminae; anterior lobe separated by small sinus in edge of laminae.

8, 9. **G. Vesiculosa.** (*Bladder Gryphæa.*) Sub-rhomboidal, oblong, deep; smaller valve concave, curved; beaks pointed; hinge small; lobe distinct; surface smooth.

10, 11, 12. **G. Minuta.** (*Minute Gryphæa.*) Orbicular, thin; gibbose; beak spiral; lobe obscure; much compressed.

13, 14. **G. Phillipsii.** (*Phillips' Gryphæa.*) Longitudinal, incurved; beaks largish; both valves inflated.

15. **G. Columba.** (*Pigeon Gryphæa.*) Ovate, rounded; beaks central, attenuated; surface smooth; upper valve striated near hinge, somewhat quadrangular; undulated; posterior margin thick, flattened; opposite valve obtusely carinated.

16, 17. **G. Obliquata.** (*Oblique Gryphæa.*) Obliquely oblong-ovate; involute; with obscure lobe on right side; smaller valve ovate, externally concave; beak pointing to right side.

18. **G. Canaliculata.** (*Canalled Gryphæa.*) Oblong-oval, depressed, transversely and concentrically sulcated; deeper valve, with wing-shaped, canaliculated appendage and umbo curved towards wing; beak of opposite valve short.

19. **G. Depressa.** (*Depressed Gryphæa.*) Ovate, oblique; beaks obtuse; margins and surface smooth, with distinct lines of growth; flat valve plain.

PLATE LXI.*

1, 2. **Ostræa Alæformis.** (*Wing-shaped Oyster.*) Wing-shaped; umbo near one side; with many divergent ribs from umbones; margins, with many plaits and horizontal frill; valves irregular.

3, 4. **O. Palmetta.** (*Palmated Oyster.*) Oblong-ovate, depressed; umbo straight, central curved; with single, obscure ear; with many, blunt, oblique ribs; margins plaited.

5, 6, 7, 8. **O. Lateralis.** (*Lateral Oyster.*) Oblong-ovate, incurved, anterior beak involute; upper valve, with concentric lineations; lower valve plain, with deep foliations attached by beak.

9, 10. **O. Triangularis.** (*Triangular Oyster.*) Triangular, oblong, oblique, with acute beak; surface smoothish.

11. **Plagiostoma Asperum.** (*Rough Plagiostoma.*) Obovate, sub-compressed, with many, flat ribs, fringed with minute, sharp prickles; lines of growth few.

12. **P. Mantelli.** (*Mantell's Plagiostoma.*) Obliquely semi-circular; right side truncated; with radiating striæ and a few, concentric ones; lunule hollow, lineated.

13. **O. Inæquicostata.** (*Unequal-ribbed Oyster.*) Obliquely quadrangular, umbo much on one side; hinge-line nearly parallel; surface, with many, unequal ribs; margins plicated.

14. **G. Suilla.** (*Swine Gryphæa.*) Sub-orbicular, with concentric, striated laminæ; upper valve plain; lower with short, blunt, oblique beak; lateral edges of lips greatly incurved.

15, 16. **G. Decussata.** (*Decussated Gryphæa.*) Lower valve oblong-oval, convex, with apex laterally attached; with decussated, waved striæ.

17, 18, 19. **G. Aquila.** (*Eagle-beaked Gryphæa.*) Obliquely sub-triangular, larger valve deep, with undulated ridge from beak to base, whence the side is obliquely wrinkled, with undulating margin; surface from ridge to posterior side transversely waved and longitudinally wrinkled; beak large; upper valve flat, with obtuse beak; smooth and uneven in centre, other portion with broad, concentric striæ.

20, 21. **O. Lunata.** (*Crescent-shaped Oyster.*) Equivalve, oblong, crescent-shaped, with surface and margins undulating, smooth; posterior side triangular.

22, 23. **G. Cymbium.** (*Boat Gryphæa.*) Oblong-ovate; upper valve concave, with concentric striæ; lower valve boat-shaped, with concentric lines and striæ; beak acute. Length $5\frac{1}{2}$ in., breadth $3\frac{1}{4}$ in.

24, 25. **Pecten Subulatus.** (*Elongated Pecten.*) Elongated, large, sub-ovate, hinge-line straight; ears unequal; surface of upper valve with weak, longitudinal ribs, crossed by minute, undulating, concentric striæ; lower valve smooth.

26, 27, 28. **G. Plicata.** (*Plaited Gryphæa.*) Oblong-ovate, arenated; beaks incurved; surface rugged, with transverse and longitudinal, irregular, strong, striated ridges and sulci; margins scolloped; inside deep.

29, 32. **P. Textilis.** (*Woven Pecten.*) Orbicular; hinge-line oblique; ears nearly equal, obtuse; deeper valve, with many, radiating ribs, with wide sulci, crossed by fine, concentric striæ; upper valve flattish, with radiating striæ, crossed by fine concentric striæ; margin slightly crenated.

30, 31. **O. Sulcifera.** (*Furrowed Oyster.*) Oblong-ovate, inflated; with broad, central sulci from umbones; with several, oblique undulations diverging from central sulcus; margins slightly foliated.

33. **Lima Plicatula.** (*Plicated Lima.*) Convex, inequilateral, obliquely ovate, orbicular; anterior side truncated; posterior side produced; beaks projecting; surface, with fourteen or sixteen, divergent ribs; sulci concentrically striated. Length $\frac{1}{2}$ in.

34. **Limatula Subauriculata.** (*Sub-auricled Limatula.*) Equilateral, oblong-ovate, convex; surface, with longitudinal, divergent striæ; basal margin finely crenulated. Length $\frac{1}{2}$ in., breadth $\frac{1}{4}$ in.

35. **L. Ovata.** (*Ovate Limatula.*) Equilateral, oblong-ovate, convex; beaks projecting; surface, with from six to eight rounded, divergent ribs from beaks. Length $\frac{3}{10}$ in., breadth $\frac{1}{2}$ in.

PLATE LXI.**

1. *Avicula Longiaxis*. (*Lengthened Axis Avicula*.) Valves equal; hinge-line straight; anterior side acuminate; posterior side short; surface, with fine, transverse striae; shell thin.
2. *Pecten Gentilis*. (*Kindred Pecten*.) Ovate, convex, smooth, with fifteen, slightly elevated, longitudinal, divergent ribs, alternately long and short; ears equal.
3. *P. Sclaris*. (*Ladder Pecten*.)
4. *P. Semicostatus*. (*Semi-ribbed Pecten*.) Orbicular, convex; ears almost equal; posterior one square, anterior one more pointed; surface, with many, rounded ribs.
5. *A. Antiqua*. (*Ancient Avicula*.) Very oblique and arcuated; auricles unequal; anterior one short, blunt; posterior one very long, acute at upper angle; posterior side lengthened, with strongish, concentric ridges; anterior side short; beaks obtuse; surface, with imbricated striae.
6. *P. Ottonis*. (*Ottonian Pecten*.) Sub-orbicular, convex, oblique; surface, with many, longitudinal, radiating ribs, decussated by fine, concentric striae; ears unequal; margin crenated.
- 7, 8. *P. Sexcostatus*. (*Six-ribbed Pecten*.) Triangular, convex, with small, nearly equal ears; beak of larger valve incurved; both valves with six, longitudinal, divergent ribs; margins crenated.
9. *A. Complicata*. (*Complicated Avicula*.) Hinge-line oblique; right beak short, transversely ribbed, acute; left beak rounded; valves twisted, with longitudinal, nodulous ribs.
10. *P. Nexilis*. (*Wreathed Pecten*.) Sub-orbicular, somewhat convex and inequilateral; ears large, radiated; surface, with fine, longitudinal, divergent ribs.
11. *A. Papyracea*. (*Papyraceous Avicula*.) Obliquely sub-ovate, compressed; valves flat; ears large, unequal, rectangular, with broad, divergent striae, and close, longitudinal striae on larger ear; surface, with many, elevated striae, crossed by distant lines of growth.
12. *P. Valoniensis*. (*Valonian Pecten*.) Sub-orbicular; ears nearly equal, blunt; larger one with radiating, small ribs, crossed by many, longitudinal striae; surface, with many, longitudinal, irregular ribs.
13. *P. Transversus*. (*Transverse Pecten*.) Transversely obovate; slightly convex; ears large, nearly equal; surface, with many, longitudinal ribs in threes, crossed by many, regular lines of growth.
14. *A. Longiarea*. (*Long-area'd Avicula*.) Hinge-line lengthened, straight; anterior auricle long, broad, notched; posterior auricle shorter, narrow, acute; valves inflated; surface, with longitudinal, wide sulci; posterior side without sulci.
15. *Plagiostoma Brightonense*. (*Brighton Plagiostoma*.) Obovate, compressed; posterior side with an ear; anterior side, concave, lunulate, small; surface, with many, divergent, rounded ribs; margin crenated.
- 16, 17. *Pterinea Ventricosa*. (*Inflated Pterinea*.) Obliquely elongated; ventricose; hinge-line straight, slightly oblique; auricles unequal; beaks obtuse; hinge, with oblique, narrow teeth, forming a triangular series, with a series of shorter teeth behind; surface smooth.
- 17*. *P. Calvus*. (*Bald Pecten*.) Orbicularly ovate, equilateral; convexo-plano, pellenid, shining; ears obtusely angular.
18. *P. Concentricus*. (*Concentric Pecten*.) Elongated, smooth, with irregular, concentric ribs and depressed, divergent ribs; ears unequal; sides even.
- 18*, 19. *Monotis Decussata*. (*Decussated Monotis*.) Sub-orbicular; under valve convex, upper one flattish; hinge-line straight, horizontal; umbo rounded, blunt; surface, with many, divergent ribs, beset with imbricated spines; margins scalloped; upper valve, with large, posterior auricle; anterior side, with small, acute ear; with many, undulating ribs from umbo. Length, $\frac{3}{4}$ in.; breadth, $\frac{1}{2}$ in.
Fig. 20 represents the hinge of *Monotis Subcostata*.
21. *Avicula Neptuni*. (*Neptune's Avicula*.) Sub-orbicular, sub-compressed, hinge-line horizontal; anterior auricle short; posterior one large; surface, with many, divergent, unequal ribs; sides and base rounded.
22. *P. Radiata*. (*Rayed Pterinea*.) Transversely oblong; surface, with a series of wide-set, longitudinal, divergent ribs, crossed by many, waved striae; margin scalloped.
- 23, 24. *A. Modiolaris*. (*Modiola-like Avicula*.) Obliquely and transversely elongated; compressed; keeled towards beaks; auricles undefined; hinge-line straight.
25. *Posidonia Transversa*. (*Transverse Posidonia*.) Transverse, oblique, compressed; beaks obtuse, rounded, placed near anterior margin; surface, with strong, transverse folds.
26. *P. Truncata*. (*Truncated Posidonia*.) Sub-quadrate; somewhat oblique; hinge-line straight, horizontal; anterior side short, narrow; posterior side, sloping obliquely from hinge-line; umbones obtuse; surface, with many, concentric ridges, with narrow sulci and minute, concentric striae.
- 27, 28. *A. Quadrata*. (*Squarish Avicula*.) Sub-quadrangular, convex; hinge-line straight; anterior auricle small, rounded; keel from beak to basal margin.
29. *A. Subradiata*. (*Sub-rayed Avicula*.) Obliquely and transversely elongated; hinge-line horizontal; one valve flat, the other convex; posterior auricle, with a few, concentric lines; anterior side narrow, pointed; posterior side smooth, concavish; surface, with remote, radiating lines, crossed by concentric lines of growth.
30. *Gervillia Inconspicua*. (*Inconspicuous Gervillia*.) Transversely elongated; hinge-line whole length of valve; anterior side short, rounded; posterior side truncated; surface, with concentric wrinkles.
31. *G. Minor*. (*Small Gervillia*.) Very oblique; umbones flat; hinge-line long, straight; surface, with many, concentric, strong wrinkles, with smaller, intermediate ones. Length, $\frac{3}{8}$ in.; breadth, $\frac{1}{4}$ in.
32. *P. Minuta*. (*Small Posidonia*.) Sub-triangular, inflated; umbo large, obtuse; surface, with transverse wrinkles.
33. *P. Complanata*. (*Compressed Posidonia*.) Inequivalve, transverse, oblong-ovate; one valve a little convex, the other flat, and enveloped by the opposite one; hinge-line straight; beaks nearly obsolete; surface, with concentric lines of growth. Breadth, $\frac{1}{3}$ in.
34. *P. Tuberculata*. (*Tuberculated Posidonia*.) Sub-triangular, compressed, elongated; umbones central; surface, with concentric ridges, crossed by three or four ribs, producing tuberculated appearance.
35. *P. Becheri*. (*Becher's Posidonia*.) Obliquely sub-triangular, compressed; with many, concentric ridges and fine striae; umbones nearest anterior side.
36. *Pterinea Lævis*, magnified.
37. Ditto, natural size.
38. *P. Venusta*. (*Handsome Posidonia*.) Transversely oval, concentrically wrinkled, striate; ear large; umbo short.
41. *Plagiostoma Mantelli*. V. PLATE LXI., Fig. 12.

PLATE LXI.***

1. **Posidonia Anodontoidea.** (*Anodon-shaped Posidonia.*) Transversely oblong-ovate; hinge-line curved; umbones obtuse; surface, with many, narrow, concentric ridges.
2. **P. Lateralis.** (*Lateral Posidonia.*) Transversely elongated, oblong-ovate, oblique, compressed; beaks near anterior extremity; surface, with concentric, angular ridges.
3. **Perna Rugosa.** (*Rugged Perna.*) Sub-quadrata; hinge-line oblique; area, with eighteen or nineteen, parallel grooves; beaks acute, with lunular excavation beneath; surface, with many, concentric lines of growth.
4. **Crenatula Ventricosa.** (*Bellied Crenatula.*) Ovate, gibbose, ventricose, carinated; hinge-line short; posterior side compressed; anterior side rounded; interior pearly.
5. **C. Listeri.** (*Lister's Crenatula.*) Elongated; hinge-line oblique; crenulations large; valves narrow above, wide below.
- 6, 6*. **C. Producta.** (*Produced Crenatula.*) Elongated; hinge-line oblique, with four, large crenulations; beaks prominent; basal margins of valves produced; external surface, with concentric laminae.
7. Hinge of **Crenatula Ventricosa.**
- 8, 9. **Catillus Crispus.** (*Crisp's Catillus.*) Obovate, compressed, with many, transverse ridges; beaks acuminate; posterior side small, depressed; anterior side expanded; hinge-line oblique.
10. **C. Lamarckii.** (*Lamarck's Catillus.*) Valves equal, convex, with obscure, longitudinal undulations and transverse ridges; surface, with many, concentric striae; posterior side sub-compressed; anterior side lobate, expanded; hinge-line transverse.
- 11, 12. **Modiola Amygdalina.** (*Almond-shaped Modiola.*) Elliptical, gibbous; beaks close to anterior side, incurved over excavated, small lunule; surface, with fine, concentric striae.
13. **M. Expansa.** (*Expanded Modiola.*) Elongated; hinge-line straight; rounded and narrowed anteriorly; expanded posteriorly, with oblique, curved truncation.
- 14, 15, 16. **M. Macadami.** (*Macadam's Modiola.*) Lengthened, narrow, convex, cylindrical; beaks obscure; front rounded; hinge-line straight; surface, with fine, concentric striae.
17. **M. Nerei.** (*Nere's Modiola.*) Obovate, convex, thick; beaks terminal; sides equal, curved; hinge-line straight; surface, with fine, regular striae.
18. **M. Subparallela.** (*Sub-parallel Modiola.*) Oblong-ovate, convex; beaks obtuse; hinge-line straight; with a diagonal rise from beak to margin; surface, with irregular, concentric striae.
- 19, 20. **M. Carinata.** (*Keeled Modiola.*) Ventricose, boat-shaped; valves deep; beaks obtuse; with abrupt, carinated ridge from beaks to posterior, lower angle of valves; surface, with a few lines of growth.
21. **Trigonia Literata.** (*Lettered Trigonia.*) Sub-triangular, sub-conic, convex; anterior side sub-truncated; posterior side acuminate below, with longitudinal, linear row of tubercles; anterior portion of surface, with series of rugged ribs, which at centre of valve turn upwards at an acute angle in form of letter V; ribs, crossed by rough striae; beaks acuminate; lunule large; basal line convex.
- 24, 25, 25*. **Pleurodon Ovalis.** (*Oval Pleurodon.*) Ovate, deltoidal, gibbose, sub-orbicular; smooth; margin entire; hinge, with five or six cardinal teeth, and one lateral tooth in each anterior side of valves. Diameter, $\frac{3}{8}$ in.
26. **Macrodon Rugosus.** (*Rough Macrodon.*) Transversely elongated; surface and margin flexuous; extremities truncated; surface, with many, concentric lines of growth; sulci with strong, prominent, radiating ribs; basal line undulating.
27. **Astarte Obliqua.** (*Oblique Astarte.*) Gibbose, transversely obovate; anterior side truncated; lunette concave, heart-shaped; surface, with many, small, concentric ridges; edge broad, flat, crossed by sulci; shell thick.
28. **Lysianassa Rhombifera.** (*Rounded Lysianassa.*) Ovally trapeziform; narrow in front; obliquely truncated posteriorly; beaks sub-central; ribs angulated, truncated, recurved.
29. **Pleurorhynchus Elongatus.** (*Elongated Pleurorhynchus.*) Transversely elongated; ventricose; anterior side conical; posterior side short, inflated; surface, with many, radiating striae.

PLATE LXII.

1, 2. **Plicatula Spinosa.** (*Spinous Plicatula.*) Obliquely-ovate, compressed, with an angle at the beaks; deeper valve, with radiating undulations and many, sharp spines; other valve concave, with irregular, hollow spines, frequently hooked; margins entire.

3, 4. **P. Pectinoides.** (*Pectinated Plicatula.*) Oblong-ovate, curved, depressed; beaks curved, projecting; surface, with many, divergent ridges, with many, depressed spines; free valve concave.

5. **P. Inflata.** (*Inflated Plicatula.*) Sub-orbicular, gibbose; both valves convex; beaks central, obtuse; surface smoothish, with a few, longitudinal ridges, each with a few, depressed spines.

6. **Pecten Corneus.** (*Horny Pecten.*) Orbicular, compressed, smooth, shining; beaks prominent, well-marked; ears small, equal; with two, obtuse teeth in each valve; shell thin, fragile.

7. **P. Cinctus.** (*Girdled Pecten.*) Circular, gibbose; valves convex; ears small, with close ridges; with longitudinal striæ; edges entire; shell thick.

8. **P. Obscurus.** (*Obscure Pecten.*) Almost orbicular; compressed; ears largish; surface smooth, with obsolete, divergent sulci; edge thick.

9. **P. Lamellosus.** (*Plated Pecten.*) Orbicular; valves convex; ears large, distant; beaks rectangular; surface, with concentric laminæ and divergent, small striæ near the beaks.

10. **P. Rigidus.** (*Rigid Pecten.*) Orbicular, compressed; hinge-line triangular; ears unequal, large; surface, with strong, longitudinal striæ and slender, concentric striæ.

11. **P. Lens.** (*Lens-shaped Pecten.*) Orbicular, convex, lenticular; surface, with divergent, arcuated, punctured striæ; shell thin.

12. **P. Beaveri.** (*Beaver's Pecten.*) Orbicular, compressed; surface smooth, with irregular, longitudinal ribs; ears equal; shell thin.

13. **P. Princeps.** (*Emperor Pecten.*) Ovate, compressed; ears large, unequal, squamose; surface, with many, narrow ribs; thickly covered with erect, concave scales; margins crenated.

14. **P. Laminatus.** (*Laminated Pecten.*) Sub-orbicular, compressed; ears unequal, triangular, the larger plaited; surface, with arcuated striæ.

15. **P. Arcuatus.** (*Arcuated Pecten.*) Orbicular, compressed; ears large, dissimilar, larger one quadrangular, punctated; side of shell arcuated; surface, with punctated striæ, and sometimes forked sulci.

PLATE LXIII.

1. **Pecten Plicatus.** (*Plicated Pecten.*) Orbicular, oblique, convex; ears undefined; surface, with many, smooth, elevated striæ.

2. **P. Grandis.** (*Great Pecten.*) Sub-orbicular; convex valve, with thirteen, large, divergent ribs, most of which with central sulcus, containing a secondary rib; ears square, equal, longitudinally striated; surface of convex valve, with irregular, concentric striæ; on other valve regular, close-set striæ.

3. **P. Inæquicostatus.** (*Unequal-ribbed Pecten.*) Orbicular, smooth; with nine, flat, unequal ribs; ears moderate, equal.

4, 5, 6, 7. **P. Obsoletus.** (*Obsolete Pecten.*) Obovate; ears unequal; surface, with many, divergent ribs; sometimes plain, with minute, nearly obsolete, longitudinal striæ.

8. **P. Vimineus.** (*Wicker Pecten.*) Convex; with about twenty, prominent ribs, with close-set, elevated scales.

9. **P. Annulatus.** (*Ringed Pecten.*) Orbicular, convex; surface, with many, thin, concentric laminae, crossed by fine, longitudinal striæ; ears large.

10. **P. Complanatus.** (*Plain Pecten.*) Sub-orbicular; one valve nearly flat, concave near beak; ears square, equal; surface, with thirteen or fourteen, broad, flattened ribs.

11. **P. Gracilis.** (*Slender Pecten.*) Orbicular, convex; thin, slender; with many, longitudinal ridges, crossed by many, close, uniform, concentric striæ; ears unequal; margin entire.

12. **P. Reconditus.** (*Recondite Pecten.*) Orbicular, oblique; valves convex; ears unequal, obliquely ribbed; surface, with about twenty, longitudinal ribs; intermediate surface, with concentric lines of sharp scales; ribs, with three rows of scales; internal surface furrowed.

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PLATE LXIV.

1. **Pecten Carinatus.** (*Keeled Pecten.*) Orbicular, elongated, convex; ears large, smooth, square; surface, with about seventeen, longitudinal, rounded ribs, with a sharp keel on each, and broad, flat, intervening space, with sharp line along the middle.

2. **P. Nitidus.** (*Shining Pecten.*) Obovate, shining, one valve convex, with many, crenulated ridges; other valve flat, with as many smooth ridges; interstices striated transversely; ears equal; margins entire.

3. **P. Jacobæus.** (*Jacobean Pecten.*) Upper valve flat, with about sixteen, longitudinally grooved, decussated, quadrangular ribs; lower valve with sixteen, grooved ribs and interstices transversely striated; ears equal, rectangular, with decussated striæ.

4, 5. **P. Duplicatus.** (*Double-plaited Pecten.*) Orbicular, compressed; ears small, defined; surface, with one valve smooth, the other rough, with many, distant, rounded ribs, becoming from ten near the beak to about forty at basal margin; covered with minute, sharp scales.

6. **P. Orbicularis.** (*Orbicular Pecten.*) Orbicular, compressed; one valve smooth, with wide-set, sharp, concentric striæ; ears equal, large; shell tender.

7. **P. Barbatus.** (*Bearded Pecten.*) Orbicular, compressed; ears nearly equal; surface, with about fourteen, flattened ribs; those on one valve with spines and transverse striæ; ribs on opposite valve convex, crossed by striæ; sides of both valves pectinated near the ears.

8. **P. Cingillatus.** (*Banded Pecten.*) Elongated; ears small, equal; surface crossed by many, equidistant transverse ribs.

9, 10. **P. Millerii.** (*Miller's Pecten.*) Oblong-oval, inflated; ears unequal, small; surface, with many smooth, divergent ribs.

11. **P. Similis.** (*Similar Pecten.*) Sub-orbicular, compressed; with longitudinal, arched striæ; ears unequal; sides nearly straight.

12, 13, 14. **P. Compositus.** (*Composite Pecten.*) Oblong, with about twenty, sharp, radiating ribs, and two rows of scales in each sulcus.

15. **P. Opercularis.** (*Lid-shaped Pecten.*) Orbicular; valves convex, with eighteen to twenty, tripartite ribs; surface, rough, with small scales; intercostal sulci, with longitudinal striæ; margins scalloped; ears equal

16. **P. Dentatus.** (*Toothed Pecten.*) Orbicular, convex; ears small, unequal; surface, with about twenty, angular, longitudinal ribs, crossed by minute, concentric striæ; margin dentated.

17. **P. Maximus.** (*Great Pecten.*) Upper valve flat, with fourteen to seventeen, longitudinally striated or grooved ribs; lower valve convex, with longitudinal striæ; intercostal sulci of both valves striated; ears rectangular, with decussated striæ.

18. **P. Striatus.** (*Striated Pecten.*) Oval; valves equal, convex, with smooth, scaly ridges; margins entire; ears large, unequal; shell thick.

19. **P. Obliquus.** (*Oblique Pecten.*) Obliquely oval; valves unequally convex; ears large; surface, with many ribs, roughened by imbricated scales, every third being larger than the other two.

20. **P. Vagans.** (*Wandering Pecten.*) Ovate, convex; with about eleven, convex ribs, with large, concave scales; ears equal, crossed by scales.

21. **P. Fibrosus.** (*Fibrous Pecten.*) Orbicular, compressed; ears equal, rectangular; surface, with nine or ten, longitudinal, divergent sulci, and many, concentric striæ; beak rectangular; margin internally undulated.

PLATE LXV.

1. **P. Stutchburiensis.** (*Stutchbury's Pecten.*) Sub-triangular, elongated, compressed, with about sixty, close-set, scaly ribs; intercostal sulci, obliquely striated.
2. **P. Quadricostatus.** (*Four-ribbed Pecten.*) Triangular; posterior auricle large; front semi-circular; margin notched; convex valve, with six, large ribs, and three smaller ones.
3. **P. Quinquecostatus.** (*Five-ribbed Pecten.*) Sub-triangular, oblique; front semi-circular, toothed; convex valve gibbose; with five or six, principal ribs and four, lesser ones; upper valve flat, toothed; surface, with minute, transverse striæ, intersected by lines of growth.
4. **Avicula Papyracea.** (*Papyraceous Avicula.*) V. PLATE LXI.**, Fig. 11.
5. **A. Hemisphærica.** (*Hemispherical Avicula.*) Orbicular; lower valve circular, convex; ears undefined; hinge-line straight, oblique; surface, with squamose striæ.
6. **P. Æquivalvis.** (*Equal-valved Pecten.*) Lenticular; valves convex; ears equal, large; surface, with about twenty, longitudinal ribs, crossed by many, concentric striæ.
7. **P. Stellaris.** (*Little Star Pecten.*) Sub-orbicular; with about fifteen, strong, smooth, longitudinal, divergent ribs.
8. **A. Plicata.** (*Plicated Avicula.*) Orbicular; oblique; valves compressed; hinge-line triangular; ears large, unequal, with divergent, distinct striæ, crossed by curved striæ; one ear concave on the side; surface, with many, radiating striæ, crossed by indistinct ones; margins even.
9. **P. Abjectus.** (*Abject Pecten.*) Orbicular; hinge-line oblique, ears small; surface, with many, longitudinal, narrow ribs, crossed by indistinct, concentric striæ; margin erenulated.
- 10, 11. **P. Arenosus.** (*Sandy Pecten.*) Equal-sided; ears small, unequal, square; surface, with many, radiating striæ, alternately large and small, crossed by many, crenulated striæ.
12. **Avicula Similis.** (*Similar Avicula.*) Orbicular; ears large, with transverse and longitudinal, oblique striæ; hinge-line triangular; surface smooth, with divergent striæ; one side, with ear and margin straight.
13. **A. Oweni.** (*Owen's Avicula.*) Orbicular, compressed, with large, unequal ears; surface, with many, divergent striæ, and a few, distinct lines of growth; sides plain.
14. **P. Sublævis.** (*Half-smooth Pecten.*) Convex, orbicular; ears unequal, blunt; surface, with about nineteen, smooth, longitudinal ribs; margins crenulated.
15. **P. Demissus.** (*Humble Pecten.*) Elongated; sides finely rounded; ears equal, small.
16. **P. Granosus.** (*Granulated Pecten.*) Orbicular, oblique, convex; ears unequal, undefined; surface, with about thirty, granulated, longitudinal ribs, with intervening smooth ones.
17. **P. Discrepans.** (*Discrepant Pecten.*) Sub-orbicular; ears equal, with obliquely longitudinal ribs; surface, with about twelve, large, longitudinal, sub-imbricated ribs; margins scalloped.
18. **P. Virguiliferus.** (*Whitish Pecten.*) Oblong, flattish; ears unequal; surface, with many, longitudinal striæ, covered with short, imbricated scales.
19. **P. Ellipticus.** (*Elliptical Pecten.*) Elliptical, compressed, smooth; ears unequal, short; sides not much rounded.
- 20, 21. **P. Dissimilis.** (*Dissimilar Pecten.*) Sub-orbicular, elongated; lower valve, with many, longitudinal, scaly ribs; ears equal, ribbed; with transverse and longitudinal striæ; upper valve concave, with flat, concentric ribs.
22. **P. Fimbriatus.** (*Fringed Pecten.*) Ovate, compressed; ears small, plain; surface, with many, radiating ribs and sulci; margin erenulated.
23. **P. Asper.** (*Rough Pecten.*) Orbicular, oblique; valves convex; ears equal; surface, with about seventeen ribs, roughened by a series of sub-tubular scales; margin crenated; inside plain, with fringed margin.
24. **P. Anisotus.** Oblong-oval, oblique; ears unequal, longitudinally and transversely striated; surface, with obscure, divergent striæ and distant lines of growth.
25. **P. Deornatus.** (*Unadorned Pecten.*) Orbicular, smooth; ears small, equal; surface, with equidistant, smooth, concentric sulci.
- 26, 27. **P. Simplex.** (*Simple Pecten.*) Oblong-ovate, oblique; lower valve tumid, with strong, radiating, arched ribs; upper valve flatter, with corresponding, but flatter sulci; ears of medium size; hinge-line oblique.
28. **P. Interstitialis.** (*Interstiate Pecten.*) Oblong, oblique; ears of medium size, acute; surface, with about sixteen, longitudinal, sharp ribs; intervening sulci, with three finer ribs.

PLATE LXVI.

1. **Plagiostoma Rusticum.** (*Rude Plagiostoma.*) Transversely oblong-ovate, oblique, smooth, convex; ears obscure, short; surface, with about twenty-five, deep, strong, wavy, divergent, longitudinal sulci; beak somewhat prominent.
2. **P. Concentricum.** (*Concentric Plagiostoma.*) Obliquely elliptical, convex; hinge-line short, oblique; surface, with many, longitudinal, divergent striæ, and a few, concentric lines of growth; beaks somewhat produced; shell thick.
3. **P. Obscurum.** (*Obscure Plagiostoma.*) Gibbous, sub-ovate; ears unequal, beaks produced; surface smooth, with many, fine, divergent ribs, and a few, concentric lines of growth.
4. **P. Elongatum.** (*Elongated Plagiostoma.*) Transversely elongated; acutely convex; sides parallel; beaks sharp; lower margin straight, short; surface, with a few, transverse sulci.
5. **P. Rigidum.** (*Rigid Plagiostoma.*) Inflated, obliquely obovate; hinge-line long; ears narrow, equal; anterior side long, straight, concave; posterior side rounded; beaks obtuse; surface, with many, sharp, thread-like, longitudinal ribs, with minute, intervening striæ; beaks produced.
6. **P. Duplicatum.** (*Double-plaited Plagiostoma.*) Obliquely oboval, convex; beaks produced; surface, with many, sharp, divergent ribs, with a sharp, elevated line between each; with about twenty-five ribs.
7. **P. Rigidulum.** (*Rigid Plagiostoma.*) Elongated, sub-triangular; anterior side concave; posterior side rounded; ears unequal; beak large, obtuse; surface smooth, with many, oblique, rounded ribs.
8. **P. Ambiguum.** (*Ambiguous Plagiostoma.*) Sub-triangular; sides nearly equal; hinge-line short; beaks obtuse, produced; surface, with about twenty-three, rounded ribs, crossed by a few lines of growth; margins scalloped.
9. **P. Pectinoides.** (*Pectinated Plagiostoma.*) Oblong-ovate, compressed; beaks acute; hinge-line long; ears equal; surface, with about twenty, carinated ribs; intercostal sulci transversely striated; margin scalloped; inside plain.
10. **P. Giganteum.** (*Gigantic Plagiostoma.*) Obliquely-oblong, sub-compressed, deltoidal; umbones straight, obtuse; auricles small, anterior and longest one in large, broad, deep sulcus; surface smooth, with obscure, longitudinal striæ, crossed by a few, hollow lines of growth.
11. **P. Interstinctum.** (*Divided Plagiostoma.*) Obliquely obovate; beaks produced; ears indistinct; surface, with many, sharp, irregular ribs; margin crenated.
12. **P. Hermani.** (*Herman's Plagiostoma.*) Sub-rotund; anterior side straight; posterior side short; ears unequal; beaks slightly produced; surface smooth, with about fifteen, very flat, longitudinal ribs and a few lines of growth.
13. **P. Ovale.** (*Oval Plagiostoma.*) Ventricose, elongated; sides equal, anterior one recurved; ears large; surface, with many, small, equidistant ribs; intercostal sulci, with minute, transverse striæ.
14. **P. Cardiforme.** (*Cardium-shaped Plagiostoma.*) Nearly circular, inflated; ears equal; beaks prominent; surface smooth, with many, longitudinal sulci, crossed by transverse striæ, scarcely visible except in the sulci, where they look like minute punctures.
15. **P. Punctatum.** (*Punctated Plagiostoma.*) See 19 below.
16. **P. Dubium.** (*Dubious Plagiostoma.*) Obliquely ovate, anterior side nearly straight; posterior side rounded; beaks obtuse; many flat divergent ribs, obsolete towards apex; few remote lines of growth.
17. **P. Læviusculum.** (*Smooth Plagiostoma.*) Sub-triangular, oblique; hinge-line oblique, short, intercepted; ears small, unequal, longitudinally furrowed; surface, with many, longitudinal ribs, and many, concentric lines of growth; margin scalloped.
18. **P. Hoperi.** (*Hoper's Plagiostoma.*) Transversely and obliquely ovate; convex; almost smooth; surface, with slender, punctated striæ; ears unequal, small, with longitudinal striæ.
19. **P. Punctatum.** (*Punctated Plagiostoma.*) Obliquely obovate, compressed; anterior side long; ears equal; surface, with many, longitudinal, coarse striæ, and very fine, transverse striæ.

PLATE LXVI.*

1, 2. **Dianchora Striata.** (*Striated Dianchora.*) Triangularly ovate, oblique; beak prominent; free valve obscurely ribbed; ears small, continuous along sides of valves.

3. **D. Lata.** (*Broad Dianchora.*) Attached convexity moderate; semi-circular; beak of valve produced; free valve plain; surface, with obscure lines of growth, and a few, obsolete striæ; edge very sharp.

4. **Plagiostoma Spinosum.** (*Spinous Plagiostoma.*) Obovate; umbones central, blunt; one valve flat; surface, with many, flat ribs and deep sulci; margins crenulated; convex valve, with curved, long spines; whole surface, with fine, transverse striæ.

5, 6, 7. **Avicula Inæquivalvis.** (*Unequal-valved Avicula.*) Deeper valve convex, enveloping smaller valve, with large, projecting auricle; surface, with thirteen, narrow, rounded ribs, with striæ between; flatter valve a little convex, smooth, with divergent sulci; posterior auricles of both valves minute; shell very thin.

8, 9. **A. Costata.** (*Ribbed Avicula.*) Deep valve transversely ovate; auricles equal; surface, with eight, smooth, longitudinal, curved ribs, with internal sulci to correspond; shallow valve nearly flat, with many, external rays, posterior auricle of which separated from shell by deep, narrow sinus, and with a few, sharp teeth under auricle; opposite auricle large, elongated, acute.

10. **A. Lineata.** (*Lineated Avicula.*) Obliquely ovate, compressed; surface, with many, elevated lines; anterior auricle minute; posterior one triangular. Length, $\frac{3}{4}$ in.; width, $1\frac{1}{8}$ in.

11. **A. Rectangularis.** (*Rectangular Avicula.*) Smooth, sub-triangular, very convex; hinge-line long, straight; anterior side straight; posterior one produced in form of a lobe; front rounded; beaks acute.

12. **Anomia Radiata.** (*Rayed Anomia.*) Flat; irregularly orbicular, with fine, radiating striæ.

13, 14. **A. Lævigata.** (*Smooth Anomia.*) Nearly circular, very thin, flat; surface smooth; umbo hardly elevated.

15, 16. **A. Convexa.** (*Convex Anomia.*) Very convex; beak large, prominent; surface smooth.

17. **A. Retroflexa.** (*Bent-back Avicula.*) Short, broad, semi-circular, rather convex; transversely wrinkled; anterior ear minute. Length, $\frac{5}{8}$ in.; breadth, $1\frac{3}{4}$ in.

18. **A. Murchisoni.** (*Murchison's Avicula.*) Obliquely elongated, inflated, smooth; with very obtuse, concentric ridges; beaks small, acute; anterior auricle minute; posterior auricle not protruding beyond the margin.

19. **A. Modioliforme.** (*Modiola-formed Avicula.*) Transversely elongated; umbones on one side; hinge-line undefined; with triangular ear on one side; surface transversely wrinkled.

20. **A. Reticulata.** (*Reticulated Avicula.*) Oblong-ovate, oblique; one valve convex; surface, with many, longitudinal ribs, decussated by strong lines of growth; auricles unequal.

21. **A. Orbicularis.** (*Orbicular Avicula.*) Orbicular, convex, smooth; with a few, almost obsolete lines of growth; beaks produced; auricles small; hinge-line straight.

22. **A. Anomala.** (*Anomalous Avicula.*) Obliquely elongated, disc flattened; beaks acute; hinge-line very oblique; surface, with many, longitudinal, narrow ridges, crossed by ill-defined lines of growth; valves very deep; basal line sub-triangular.

23. **A. Obligua.** (*Oblique Avicula.*) Elongated, obliquely ovate, convex, smooth; hinge-line short; auricles undefined. Length, $1\frac{3}{4}$ in.

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Engraved by A. L. Arkman

PLATE LXVI.**

1. *Avicula Humata*. (*Buried Avicula*.) Sub-depressed; valves very oblique; hinge-line long, straight; surface, with many, elevated, longitudinal ribs; beaks slightly protruding; edge crenulated; crossed by many, fine lines of growth; auricles of medium size. Length and breadth, about $\frac{1}{2}$ in.
2. *A. Pectinata*. (*Pectinated Avicula*.) Obliquely elongated, somewhat convex; hinge-line straight, horizontal; beaks obtuse; auricles large; posterior one concave; anterior one convex, rounded; surface, with long and short, linear ridges.
3. *A. Discors*. (*Discordant Avicula*.) Smooth, oblique; anterior side short, acute; posterior one broad; one auricle large, the other small, parallel to hinge-line; beaks small, prominent. Length, $\frac{1}{4}$ in.; breadth, $\frac{3}{8}$ in.
- 4, 7, 8. *A. Inflata*. (*Inflated Avicula*.) Oblique, inflated, transversely oblong-ovate; hinge-line much on one side; auricle small, acute. Length, $\frac{3}{16}$ in.; breadth, $\frac{1}{4}$ in.
- 5, 6. *A. Binneyi*. (*Binney's Avicula*.) Smooth, oblique; beaks prominent, acute; larger auricle, parallel with undefined hinge-line; the other small; hinge-line straight; centre of valves ventricose. Length, $\frac{3}{16}$ in.; breadth, $\frac{1}{4}$ in.
- 9, 10, 11. *A. Echinata*. (*Spinous Avicula*.) Obovate, gibbose; deeper valve, with many, imbricated ribs and unequal auricles; anterior one rectangular; flatter valve, with anterior auricle acute.
12. *A. Novemcostæ*. (*Nine-ribbed Avicula*.) Obliquely oval; hinge-line oblique; one ear minute, the other large; surface smooth, with nine, longitudinal, rounded ribs.
13. *A. Expansa*. (*Expanded Avicula*.) Oblong-ovate, oblique; posterior side produced; anterior side short, curved; auricles well-defined, unequal; hinge-line oblique; surface smooth, with about sixteen, rounded, longitudinal ribs.
14. *A. Ovalis*. (*Oval Avicula*.) Oblong-oval; ears unequal; hinge-line oblique, straight; beaks produced; sides unequal, gently rounded; surface, with many, shallow, longitudinal sulci, and a few concentric lines of growth.
- 15, 16. *A. Longicostata*. (*Long-ribbed Avicula*.) Ovate, inequivalve; ears unequal; surface of lower valve with six, elevated, narrow, longitudinal ribs, central, second, and sixth ribs being more raised; rib next the larger ear tripartite; intercostal spaces, with fine, irregular, longitudinal striae, crossed towards base with lines of growth; surface of flat valve, with five or six, longitudinal sulci, opposite ribs in other valve; intermediate spaces, with many, fine, longitudinal striae; margins plain, circular.
17. *A. Cygnipes*. (*Swan's-foot Avicula*.) Sub-quadrate, oblique; lower valve convex, the other flat; hinge-line straight, oblique; umbo of convex valve rounded, obtuse; auricles unequal; surface, with four to five, longitudinal, curved-ribs, ending in acute points; intercostal spaces with fine, longitudinal striae; flat valve, with sulci corresponding in number to ribs of other valve, with coarser longitudinal striae and apex, concentric lines of growth.
18. *A. Ovata*. (*Ovate Avicula*.) Convex, transversely ovate; posterior side elongated, obtuse; hinge-line long, forming part of posterior wing.
- 19, 20. *A. Graphoides*. (*Graphite Avicula*.) Obliquely elongated; convex valve ovate; beak produced, incurved; with two small, equal auricles; upper valve flat, sub-orbicular, with a single auricle.
21. *A. Elegantissima*. (*Very Elegant Avicula*.) Transversely elongated; twice as long as broad; beaks produced, large, rounded; anterior side short, straight; surface smooth, with seven to nine, longitudinal, smooth ribs in centre of valves.
22. *Gryphæa Bulla*. (*Vesicular Gryphæa*.) Oblong, convex; beaks short, curved laterally; surface nearly smooth; form variable.
- 23, 24. *Ostrea Distorta*. (*Distorted Oyster*.) Elongated, narrowed towards hinge; one valve flat; surface of both valves smooth.
- 25, 26. *G. Virgula*. (*Fallen Gryphæa*.) Elongated, arcuated; one valve convex, with elevated lines, the other flat.
27. *O. Falcata*. (*Hooked Oyster*.) Elongated, curved towards posterior side; one valve flat, thick; surface, with many foliations.
28. *O. Retusa*. (*Blunt Oyster*.) Form very variable, but chiefly orbicular and greatly curved; thickish, plain in middle, with angular plaits on margin.
29. *A. Samuelsii*. (*Samuels' Avicula*.) Semi-circular; hinge-line straight; auricles undefined; beaks small, pointed; surface with rounded, longitudinal ribs, crossed by many, distinct lines of growth. Length, $\frac{1}{4}$ in.; breadth, $\frac{1}{2}$ in.
30. *A. Radiata*. (*Rayed Avicula*.) Sub-orbicular; hinge-line straight; beaks central; auricles unequal, acute; surface, with many, broadish ribs and narrow, intervening sulci; base rounded.
31. *A. Tessellata*. (*Tessellated Avicula*.) Sub-quadrangular; hinge-line curving downwards; auricles large, unequal, sub-acute; surface, with eight to fifteen, rounded ridges; margin scalloped.
32. *A. Sublobata*. (*Half-lobed Avicula*.) Oval, oblique; hinge-line short, straight; small auricle on one side; surface, with many, flat, narrow ribs and intervening sulci with fine, concentric striae.
33. *A. Bamburiensis*. (*Bambury Avicula*.) Ovate, oblique; hinge-line oblique; auricles unequal; surface, with many, longitudinal ribs, with many, imbricated scales; basal margin scalloped; beaks obtuse.
34. *A. Cycloptera*. (*Cyclops Avicula*.) Sub-quadrangular; sides conical; surface smooth, with four or five, radiating ridges; basal margin rounded, scalloped; lines of growth slightly imbricated on disc of valves.

PLATE LXVII.

1, 2, 6. *Perna Mytiloides*. (*Mytilus-formed Perna*.) Mytiliform, elongated; posteriorly incurved; hinge-line curved, oblique; ligamentary grooves, seven or eight, elongated; beaks obtuse; surface smooth, with shallow, concentric lines of growth.

3, 4. *Lima Subovalis*. (*Sub-oval Lima*.) Quadrangular, elongated; with many, rounded ribs, each with distant, obtuse scales.

5. *Catillus Mytiloides*. (*Mytilus-shaped Catillus*.) Equivalved, depressed, elongated; convex, obtuse towards beaks; beaks short, sharp-pointed; posterior side produced; hinge-line oblique; surface, with slight, irregular undulations.

7. *L. Antiquata*. (*Antiquated Lima*.) Elliptical, depressed; anterior ear deeply wrinkled, open; smaller ear striated; surface, with many, coarse, longitudinal striæ.

8, 9. *L. Gibbosa*. (*Gibbose Lima*.) Elongated, gibbose, oblique; ears undefined; surface smooth, with a series of radiating sulci in centre of valves.

10. *Gervillia Laminosa*. (*Laminated Gervillia*.) Oblique, inflated hinge-line, with auriform processes on both sides of beaks; surface smooth, with concentric lines of growth; base rounded.

11. *L. Rudis*. (*Rugged Lima*.) Obovate, oblique, inflated; anterior ear open, with thickened lobes; the other small, with thick, inflated edges to valves; surface, with about seven, large, convex, rugged, longitudinal ribs; edges of valves thick, reflected.

12. *Pinna Inflata*. (*Inflated Pinna*.) Conical, inflated; beaks central; surface, with many, small, close-set, equal sulci.

13, 14. *L. Semisulcata*. (*Half-furrowed Lima*.) Oblong-ovate, convex; auricles small, equal; beaks incurved, short; disc, with series of twelve to sixteen, rounded ribs, crossed by lines of growth; sides smooth.

15. *Posidonia Vetusta*. (*Ancient Posidonia*.) Sub-ovate, convex; beaks prominent; sides straight, rounded below; surface smooth, with broad, concentric ribs and shallow sulci; anterior side with space like a lunette.

16. *G. Laminosa*. (*Laminated Gervillia*.) (A cast.) V. Fig. 10.

17. *Avicula Lunulata*. (*Crescent-shaped Avicula*.) Oblique, arcuated; hinge-line very oblique; auricles unequal; posterior side lengthened, with strongish, concentric ridges; anterior side short; beaks obtuse; surface, with slight, imbricated striæ.

18. *G. Squamosa*. (*Scaly Gervillia*.) Very oblique; hinge-line straight; one ear large, the other small; posterior side ridged; surface, with scaly striæ.

19. *P. Flabelliformis*. (*Fan-shaped Pinna*.) Elongated, narrow, straight; beaks acute; centre of valves, with many, longitudinal, narrow, deep grooves, crossed by remote, concentric lines of growth.

20. *L. Proboscidea*. (*Proboscis Lima*.) Sub-ovate, broad, convex; ears small; surface, with about twelve, elevated, rounded ribs, each with several, large, tubular processes, with funnel-shaped termination.

21. *C. Cuvieri*. (*Cuvier's Catillus*.) Convex, ovate, curved; anterior side concave, with small, smooth lobe near beak; beaks short, rather acute; hinge-line long; surface, with transverse, distant, shallow sulci; lines of growth laminated.

22. *C. Lævis*. (*Smooth Catillus*.) Oblong-ovate, smooth; with many, concentric, obsolete wrinkles; umbones small, rounded. Length, $\frac{3}{4}$ in.; breadth, $\frac{1}{2}$ in.

23. *C. Obliquatus*. (*Oblique Catillus*.) Ovate, smooth; umbones large; surface, with several, distinct lines of growth; sides unequal.

24. *C. Kirkmani*. (*Kirkman's Catillus*.) Oblong-ovate, convex, smooth; sides equal, with four, concentric lines of growth; umbones prominent, central, rounded; with several, concentric lines of growth; margins sharp, even.

25. *C. Costatus*. (*Ribbed Catillus*.) Oblong, ovate; with many, flat, longitudinal, small ribs, crossed by many, distinct lines of growth. Length, $\frac{1}{2}$ in.; breadth, $\frac{3}{8}$ in.

PLATE LXVIII.

1. **Catillus Sulcatus.** (*Furrowed Catillus.*) Oblong, inequivalve; beaks prominent, that of one valve incurved, acute; surface, with about nine, large, longitudinal plaits.
2. **C. Dubius.** (*Doubtful Catillus.*) Concave, ovate, pointed; valves unequal; beaks short, pointed; surface, with concentric striæ and indistinct undulations.
3. **C. Striatus.** (*Striated Catillus.*) Sub-globose, plain; anterior side concave, smooth; beaks short, obtuse; surface, with shallow, concentric sulci and striæ.
4. Hinge of **Catillus Brongniartii.** V. Figs. 5, 6.
- 5, 6. **C. Brongniartii.** (*Brongniart's Catillus.*) Oblong, gibbose; posterior side cordiform, angular, lobed; anterior side truncated, flat, smooth; beaks small, curved, acute; surface, with large, transverse undulations.
7. **C. Pictus.** (*Painted Catillus.*) Convex, oblong; valves equal; anterior side flattened, smooth; surface wavy, almost covered with small, concentric sulci, and generally with longitudinal stripes of brown colour.
8. **C. Latus.** (*Broad Catillus.*) Depressed, ovate-rhomboidal; valves equal; anterior side concave; posterior side broad, expanding; hinge-line oblique; beaks small, short; surface, with concentric undulations and sharp striæ.
9. **Avicula Tenua.** (*Thin Avicula.*) Oblique, compressed; hinge-line oblique; anterior side straight, with auricle undefined; posterior side, with curvature under ear; surface smooth, with irregular, concentric wrinkles.
10. **A. Squamula.** (*Scale Avicula.*) Oblique, compressed; hinge-line oblique; anterior side straight; posterior side curved; surface smooth, with a few, concentric wrinkles.
11. **C. Concentricus.** (*Concentric Catillus.*) Ovate, inequivalve; beaks produced, incurved, transversely undulated and striated; hinge-line, with about twelve grooves for reception of ligament.
12. **C. Involutus.** (*Involute Catillus.*) Globular; valves unequal; one valve inflated, with large, incurved beak, the other flat, with deep, concentric undulations; margin thick, deflected.
13. Hinge of **Catillus Involutus.** V. Fig. 12.
14. **C. Digitatus.** (*Fingered Catillus.*) Very large, with large, longitudinal sulci, with intervening ribs round, and crossed by distinct lines of growth.
15. **C. Cordiformis.** (*Heart-shaped Catillus.*) Equivalved, cordiform; anterior side angular; posterior side undefined; beaks large, incurved; surface transversely waved.
16. **C. Gryphæoides.** (*Gryphæ-formed Catillus.*) Ventricose, ovate; inequivalve, the smaller globose; beaks incurved, acute; surface concentrically undulating.
17. **C. Kellyi.** (*Kelly's Catillus.*) Mytiliform, elongated, smooth; with concentric lines of growth; umbones small, rounded; valves narrow above, rounded and wide towards base.
18. **C. Minutus.** (*Minute Catillus.*) Modioliform, smooth; with distinct lines of growth; umbones small, rounded. Length, $\frac{1}{12}$ in.; breadth somewhat less.
19. **A. Humata.** (*Buried Avicula.*) V. PLATE LXVI.** , Fig. 1.

PLATE LXIX.

1, 2. **Gervillia Lata.** (*Broad Gervillia.*) Obliquely transverse, inflated; hinge-line long, oblique; anterior side short; posterior side large; beaks obtuse; surface smooth, with many, concentric lines of growth.

3. **Avicula Lanceolata.** (*Lanceolate Avicula.*) Transversely lengthened, very flat; obliquely linear, lanceolate, compressed; posterior auricle large, obtusely angled; anterior auricle minute, pointed.

4, 5. **G. Acuta.** (*Acute Gervillia.*) Ovate, lanceolate; oblique, narrow, depressed, curved; shell very thin; anterior part attenuated, opposite extremity rounded.

6. **G. Solenoides.** (*Solen-shaped Gervillia.*) Transversely elongated; depressed, curved, smooth; anterior end truncated, open; teeth of hinge irregular, linear.

7, 8, 9. **G. Aviculoides.** (*Bird's-wing Gervillia.*) Obliquely ovate, lanceolate, curved, both ends acute; hinge-line nearly one-half length of shell; teeth few.

10. **Pinna Lanceolata.** (*Spear-shaped Pinna.*) Lanceolate, elongated, arcuated; each valve divided into two, flat, sub-triangular parts by mesial line; surface, with longitudinal striæ at beaks, with transverse, shallow wrinkles.

11. **Perna Quadrata.** (*Squarish Perna.*) Elongated, squarish; valves unequal-sided; gibbose, unequal; hinge-line curved; beak pointed; surface smooth, with a few, shallow lines of growth.

12. **P. Gracilis.** (*Slender Pinna.*) Elongated, slender, arcuated; beaks obtuse; anterior side, with longitudinal, shallow sulci and remote, shallow, transverse lines of growth.

13. **P. Cuneata.** (*Wedge-shaped Pinna.*) Conical, wedge-shaped; umbones obtuse; surface smooth, with a few, transverse, shallow wrinkles.

14, 15. **P. Rostrata.** (*Beaked Perna.*) Ovate, compressed; hinge-line straight, horizontal; lesser wing produced, well-defined; base rounded; beaks obtuse; shell thin.

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From the collection of the British Museum

PLATE LXX.

1. **Pinna Arcuata.** (*Arcuated Pinna.*) Short, equilateral, arcuated, ventricose; beaks obtuse, curved; hinge-line bent; anterior half with wide, longitudinal striæ and shallow sulci; opposite side smooth, with some transverse lines of growth.

2. **P. Folium.** (*Leaf Pinna.*) Elongated, curved, sub-quadrate; one side, with oblique, transverse folds; the other with curved, shallow folds.

3. **P. Tetragona.** (*Tetragonal Pinna.*) Abruptly conical, arcuated, smooth; with obscure, longitudinal ribs, with a suture in centre.

4. **P. Mitis.** (*Buried Pinna.*) Elongated, straight; beaks acute; surface, with concentric ridges.

5. **P. Granulata.** (*Granulated Pinna.*) Broad, conical, equilateral, convex; anterior side rounded; edge thick towards anterior side; surface obscurely decussated. Length, 8 in.; breadth, 6 in.

6. **P. Affinis.** (*Allied Pinna.*) Equilateral, ventricose, straight, wedge-shaped, smooth; with irregular, longitudinal ribs, disappearing near the edge.

PLATE LXXI.

1. **Mytilus Edentulus.** (*Toothless Mytilus.*) Elongated; beak sharp; disc obtusely carinated; posterior side straight; front rounded, obtuse; surface smooth; hinge without teeth.

2. **M. Lanceolatus.** (*Spear-shaped Mytilus.*) Lanceolate, curved, smooth; beaks acute; disc carinated, smooth; within each beak a lamellate tooth.

3, 4. **Dreissina Brardii.** (*Brard's Dreissina.*) Convex, straight, fusiform, elongated; beaks acute; within each a transverse plate for the tendon; valves arcuated.

5, 6. **M. Inæqualvis.** (*Unequal-valved Mytilus.*) Sub-triangular; beaks central, broad, sub-compressed; surface smooth, with faint, concentric lines of growth.

7, 8. **M. Tridens.** (*Three-toothed Mytilus.*) Elongated, convex, carinated; beaks acute; hinge-line straight, with three unequal teeth; surface very smooth.

9, 10. **M. Prælongus.** (*Lengthened Mytilus.*) Elongated, narrow, arcuated, carinated; hinge-line straight, long, without teeth; surface smooth; shell very thick.

11. **M. Edulis.** (*Edible Mytilus.*) Obovate; beak acuminate, curved, smooth; hinge, with three teeth; side deeply indented.

12, 13. **Modiola Funata.** (*Buried Modiola.*) Transversely oblong-ovate; hinge-line arcuated; beaks very blunt; surface, with wrinkled lines of growth.

14. **M. Cuneatus.** (*Wedge-shaped Mytilus.*) Cuneiform, short; posterior side straight; anterior side produced; beaks obtuse; surface smooth, with widish striæ.

15. **M. Æquilatus.** (*Equal-sided Mytilus.*) Oblong-oval, sub-compressed; sides broad, equal; hinge-line straight; beaks obtuse, central; surface smooth, with remote, ill-defined lines of growth.

16. **M. Affinis.** (*Allied Mytilus.*) Obliquely elongated; sides parallel, straight; anterior margin reflected; arcuated; surface smooth, without teeth.

17. **M. Antiquorum.** (*Ancient Mytilus.*) Oblong-ovate, gibbose; beaks obtuse; hinge, with three or four, slight teeth; surface smooth.

18. **M. Pectinatus.** (*Pectinated Mytilus.*) Rather quadrangular, slightly arcuated; oblong, gibbose; beaks produced; surface with deep, regular striæ; two, obtuse angles emanating from base of valves.

19. **Pinna Ampla.** (*Spacious Pinna.*) Triangular, compressed; posterior side straight; base curved; surface, with widish, longitudinal, undulating striæ; posterior side not striated; shell thin.

20. **Perna Alæformis.** (*Wing-shaped Perna.*) Triangular, with wing-like appearance; ventricose; anterior lobe compressed; posterior lobe minute; back parallel, disc convex; beaks produced; surface rough, imbricated.

21. **Modiola Latissima.** (*Very Broad Modiola.*) Transversely elongated; compressed; anterior side curved, produced; posterior side small, ill-defined; beaks short, obtuse; surface almost smooth, with a few, irregular lines of growth.

22, 23. **M. Bipartita.** (*Two-parted Modiola.*) Transversely elongated; gibbose, smooth; anterior side obtuse; posterior lobe irregular; beak sub-carinated; front waved.

24, 25. **M. Williamsoni.** (*Williamson's Modiola.*) Transversely elongated, narrow, compressed; anterior side short; posterior side elongated; umbones depressed, blunt; surface, with wrinkled lines of growth.

26. **M. Sublævis.** (*Half-smooth Mytilus.*) Oblong, triangular, arcuated; beaks acute; disc carinated; front straight; hinge-line parallel; surface, with strongish lines of growth.

27. **M. Lyellii.** (*Lyell's Mytilus.*) Oblong-ovate; flattened; narrowed above, expanded below; beaks sharp, beneath which valves inflated.

PLATE LXXII.

- 1, 2. *Modiola Lineata*. (*Lineated Modiola*.) Elongated, ventricose, arcuated; beaks obtuse; margins arched, parallel; surface, with fine striæ, crossed by remote lines of growth.
3. *M. Bella*. (*Neat Modiola*.) Ovate, convex; beaks obtuse; edges parallel; surface smooth, with fine, distant striæ.
4. *Plagiostoma Elongatum*. (*Elongated Plagiostoma*.) V. PLATE LXVI., Fig. 4.
- 5, 6. *M. Gibbosa*. (*Gibbous Modiola*.) Transversely elongated; reniform, gibbose; back broad, arcuated; posterior lobe well defined, inflated; surface smooth.
7. *M. Elegans*. (*Elegant Modiola*.) Oblong, gibbose; convex; lower margin dentated, with transverse sulci; posterior side inflated, with a few, transverse furrows; beaks curved, with fine, undulating striæ; interior often pearly.
8. *M. Hillana*. (*Hill's Modiola*.) Elongated ovate; posterior side narrow; posterior lobe obscure; front concave; back carinated; surface, with concentric striæ.
- 9, 10. *M. Bipartita*. (*Two-parted Modiola*.) V. PLATE LXXI., Figs. 22, 23.
- 11, 12. *M. Producta*. (*Produced Modiola*.) Elongated, inflated, arcuated; beaks obtuse; side under hinge-line produced; surface smooth; lines of growth slightly defined.
- 13, 14. *M. Aspera*. (*Rough Modiola*.) Ovate, transversely elongated; posterior side acute, gibbose; posterior lobe obscure, small, pointed; surface, with many, transverse, rough striæ.
- 15, 16. *M. Subtruncata*. (*Sub-truncated Modiola*.) Sub-quadrangular; hinge-line lengthened, straight, oblique; surface smooth.
17. *M. Aldami*. (*Aldam's Modiola*.) Elongated; anterior side narrow; posterior side large, rounded; hinge-line straight, lengthened; umbones small, obtuse; surface, with many, fine striæ.
18. *M. Flexuosa*. (*Flexuous Modiola*.) Elongated; anterior side narrow, short; beaks obtuse; base straight, with flexure below it; surface smooth, with remote, shallow lines of growth; sides below beaks flexuous on edge.
- 19, 20. *M. Curtata*. (*Cut-off Modiola*.) Oblong; beaks small, flat; anterior side short, rounded; posterior side large, with extremity truncated; surface smooth, with some faint lines of growth.
- 21, 22. *M. Subcarinata*. (*Sub-carinated Modiola*.) Transversely oblong; front arcuated; anterior side keel-shaped; posterior lobe convex, obtuse; surface smooth, with well-defined lines of growth.
23. *M. Reversa*. (*Reverse Modiola*.) Transversely elongated, compressed; anterior side narrow, short; umbones obtuse; posterior side expanded; surface, with narrow, regular, concentric ridges, reflected on surface.
- 24, 25. *M. Robertsoni*. (*Robertson's Modiola*.) Elongated, inflated; beaks sub-central, obtuse, rounded; hinge-line short; surface smooth, with remote, shallow lines of growth.
26. *M. Pulchra*. (*Beautiful Modiola*.) Transversely elongated; beaks rounded; anterior side rounded, short; posterior side expanded, truncated; surface smooth, shining, with a series of fine striæ; lines of growth remote, distinct; basal line straight.
27. *M. Moorei*. (*Moore's Modiola*.) Transverse, sub-reniform, inflated, smooth; base oblique; anterior side narrow; posterior side wide, sub-truncate; surface, with many, concentric lines of growth and fine intermediate striæ. Length, $\frac{1}{2}$ in.; breadth greater.
28. *M. Minima*. (*Smallest Modiola*.) Sub-triangularly ovate; sides rounded; posterior lobe small, distinct; front nearly straight; beaks small; surface smooth.
29. *M. Minuta*. (*Minute Modiola*.) Transversely oblong-ovate, smooth; beaks small, produced, pointed; anterior side short, acute; hinge-line long, straight. Length, $\frac{1}{2}$ in.; breadth greater.
- 30, 31. *M. Cuneata*. (*Wedge-shaped Modiola*.) Elongated, convex; beaks obtuse; hinge-line straight; base concave; seam of valves waved.
- 32, 33. *M. Reniformis*. (*Kidney-shaped Modiola*.) Transversely oblong; sub-reniform; anterior lobe expanded, pointed; posterior lobe small; surface smooth; centre of front indented.
34. *M. Inclusa*. (*Inclosed Modiola*.) Ovate; beaks produced; gently curved above and below; surface smooth.
35. *M. Æqualis*. (*Equal Modiola*.) Transversely oblong, convex, smooth; anterior lobe ill-defined; front parallel.
36. *M. Imbricata*. (*Imbricated Modiola*.) Oval, elongated; front concave; anterior lobe forming slightly elevated ridge; beak angular; surface, with imbricated ridges.
37. *M. Lævis*. (*Smooth Modiola*.) Sub-triangular, convex; posterior and lower margin straight; posterior side produced, united by a short curve; beaks small; surface smooth, with faint lines of growth.
38. *M. Undulata*. (*Waved Modiola*.) Transversely elongated, oblique; beaks large, obtuse; hinge-line curved, with wing-shaped expansion, with double flexure beneath; anterior side oblique from beaks; base, with a curve towards centre.
39. *M. Squamifera*. (*Scaly Modiola*.) Transversely elongated, narrow; beaks obtuse; hinge-line lengthened, straight, with abrupt flexure beneath; anterior side short; posterior side elongated; surface, with broad, laminated lines of growth.
40. *M. Pallida*. (*Pale Modiola*.) Oblong, gibbose; inferior margin straight; posterior side inflated; beaks obtuse; surface smooth, glossy.
41. *M. Depressa*. (*Depressed Modiola*.) Ovate, depressed; margin even, regularly curved; beaks rounded; surface smooth, shining, pearly within.
42. *M. Lingualis*. (*Tongue-shaped Modiola*.) Elongated, transversely tongue-shaped; anterior side narrow, short; hinge-line straight, lengthened; beaks depressed; basal line curved; surface smooth, with delicate lines of growth.
43. *M. Elongata*. (*Elongated Modiola*.) Elongated, arcuated, gibbose; margins parallel; sub-carinated; surface smooth, with shallow, faint lines of growth.
- 44, 45. *Lithophagus Antiquus*. (*Ancient Lithophagus*.) Cylindrical; beaks blunt; surface smooth, with a few transverse striæ towards umbones.

PLATE LXXII.*

1. *Modiola Plicata*. (*Plicated Modiola*.) Transversely elongated; anterior side separated by a ridge, with striæ above; beak, with strong, oblique plications; rest of shell smooth, with a few, irregular lines of growth; back straight; anterior side truncated, posterior one obtuse.

2. *M. Bipartita*. (*Two-parted Modiola*.) V. PLATE LXXI., Figs. 22, 23.

3. *Triaxus Latus*. (*Broad Triaxus*.)

4, 5. *Chama Squamosa*. (*Scaly Chama*.) Sub-globose, attached by right valve, being larger than left; surface, with many, transverse, imbricated laminae; posterior portion of right valve with obsolete ribs; left valve convex; inner surface smooth.

6. *M. Scalprum*. (*Bill-shaped Modiola*.) Transversely lengthened, curved; beaks blunt; hinge-line elongated, bent; shell abruptly curved; surface, with many, shallow lines of growth.

7. *M. Recta*. (*Straight Modiola*.) Transversely lengthened; straight; beaks ill-defined; back straight; anterior side very short; posterior side lengthened; back, with oblique ribs and retroverted wrinkles; rest of surface smoothish, with shallow lines of growth.

8. *M. Antiqua*. (*Ancient Modiola*.) Obliquely ovate, convex, smooth, with a few, faint, concentric wrinkles; anterior lobe indistinct; beaks small. Length, $\frac{3}{8}$ in.; breadth, $\frac{3}{4}$ in.

9. *Trigonia Pennata*. (*Winged Trigonia*.) Obliquely oblong, arcuated; anterior side arched, with ten to twelve, elevated, curved, striated ribs, with smooth, intercostal spaces; posterior side flattened, concave, divided into two lobes by longitudinal sulcus, with a series of tuberculated ribs; beaks sub-acute, bent; basal line cleft.

10, 11. *Caprina Lonsdalii*. (*Lonsdal's Caprina*.) Inequivalve, larger one in form of elongated cone, flattened, curved twice round; smaller one, with oblique, conical nubo; surface squamose.

12. *Trigonellites Antiquatus*. (*Antiquated Trigonellites*.) Transversely oblong-ovate; anterior side short, rounded; posterior side long, rounded, with deep sulcus behind the beaks to the margin; beneath this a shallow sulcus; back arcuated, with many, transverse sulci; rest of shell, with concentric, narrow sulci, crossed by radiations.

13. *T. Elongata*. (*Elongated Trigonia*.) Elongated, sub-triangular, oblique, gibbose; beaks reflected; anterior side arcuated, with transverse, smooth ribs; posterior side separated by longitudinal, curved sulcus and crenulated rib, and two, extra, distant ribs; intercostal spaces, with wide-set, curved striæ, crossed by waved, transverse striæ.

14. *T. Duplicata*. (*Two-plaited Trigonia*.) Transversely oblong; compressed; anterior side large, with small arcuated ridges; with strong, tuberculated rib separating it from posterior side; posterior side, with oblique, transverse sulci; beaks large, prominent; basal margin crenated.

15. *T. Striata*. (*Striated Trigonia*.) Elongated, sub-triangular, inflated; posterior side, with large, crenated, transverse ribs; anterior side, with many, waved striæ, divided by longitudinal sulcus; basal line waved; beaks acute; beneath them longitudinal, lanceolate lunule.

16. *T. Politus*. (*Polished Trigonellites*.) Transversely elongated; anterior side short; beaks obtuse; posterior side lengthened, with wide, longitudinal sulcus; margin cleft; surface smooth, with minute, shallow lines of growth; back straight; base curved.

17. *M. Semisulcata*. (*Semi-furrowed Modiola*.) Transversely ovate, convex, sub-bilobate; beaks prominent; surface, with transverse, concentric sulci. Length, 1 in.; breadth, 2 in.

18. *Unio Humatus*. (*Buried Unio*.) Oblong-ovate, inflated; umbones large, produced, inflected; anterior side rounded; posterior side sub-acute; hinge-line parallel; basal margin arcuated; surface, with concentric wrinkles.

19. *Alasmodon Vetustus*. (*Ancient Alasmodon*.) Transversely elongated, compressed; umbones obtuse, depressed; anterior side short, sub-acute; posterior side long, broad; hinge and basal lines arcuated; surface, with broadish, concentric wrinkles.

PLATE LXXIII.

1. *Unio Heyii*. (*Hey's Unio*.) Sub-triangular, inflated; posterior side, with oblique sub-truncation; beak slight; hinge-line arcuated; basal line arcuated; umbones prominent, obtuse; surface, with many, concentric wrinkles; with longitudinal, shallow groove from umbones.

2. *U. Blaydsii*. (*Blayds' Unio*.) Obliquely sub-triangular, inflated; umbones prominent, remote; hinge-line straight; anterior side suddenly rounded; posterior side acuminate, with oblique truncation. Length, $\frac{5}{8}$ in.; breadth, $\frac{7}{8}$ in.

3. *U. Dawsoni*. (*Dawson's Unio*.) Orbicular; umbones central, large, remote; surface smooth, with a few, faint, concentric wrinkles.

4. *U. Amygdala*. (*Almond Unio*.) Inflated; anterior side rounded; posterior side acuminate, with acute termination; umbones obtuse, remote; basal line arcuated; surface, with many, acute wrinkles.

5. *U. Rhindii*. (*Rhind's Unio*.) Sub-acute; basal line arcuated, produced; umbones sub-central, produced, close; hinge-line curved; surface, with transverse, shallow wrinkles.

6. *U. Embletoni*. (*Embleton's Unio*.) Sub-triangular; anterior side short, rounded; umbones obtuse; beaks inflected, sharp; hinge-line arcuated; beak sub-truncated, short; surface, with transverse wrinkles.

7. *U. Nanus*. (*Little-vessel Unio*.) Smooth; posterior side elongated, obliquely sub-truncate; sub-acute above; anterior side rounded; umbones produced, rounded; hinge-line arcuated.

8. *U. Nucleus*. (*Kernel Unio*.) Inflated, transversely ovate; umbones sub-acute, remote; hinge-line straight; anterior side acute; posterior side elongated, acuminate; basal line arcuated; surface, with shallow wrinkles.

9. *U. Similis*. (*Similar Unio*.) Compressed; anterior side rounded; umbones hardly produced, contiguous; posterior side parallel, obliquely truncate; hinge-line straight; basal line arcuated; surface, with transverse wrinkles.

10, 11. *U. Smithii*. (*Smith's Unio*.) Sub-triangular; umbones sub-central, prominent, rounded; anterior side rounded; posterior side sub-acute; surface, with transverse, irregular wrinkles.

12. *U. Sub-triangularis*. (*Sub-triangular Unio*.) Sub-triangular, inflated; umbones prominent, remote; hinge-line parallel; basal line undulated; surface smooth, with slight elevation towards umbones.

13. *U. Dubius*. (*Doubtful Unio*.) Sub-ovate; both sides rounded; umbones produced, rounded; hinge and basal lines arcuated; surface, with concentric wrinkles.

14, 15. *U. Rugosus*. (*Rugged Unio*.) Sub-triangular, ventricose; umbones prominent, remote; anterior side rounded; ligament produced; surface, with unequal, concentric wrinkles. Length, $2\frac{3}{8}$ in.; breadth, $3\frac{1}{2}$ in.; thickness, $2\frac{1}{4}$ in.

16, 17. *U. Turgidus*. (*Turgid Unio*.) Inflated; umbones prominent; anterior side short, sub-truncate; posterior side parallel, truncated below; hinge-line parallel; basal line, with small flexure; surface, with strongish wrinkles. Thickness, $\frac{7}{8}$ in.; breadth, $1\frac{3}{8}$ in.

18. *U. Aldamii*. (*Aldam's Unio*.) Sub-compressed, flexuose, sub-triangular; umbones sub-central, obtuse; hinge-line arcuated; anterior side, with flexure below; posterior side rounded, with shallow sulcus from umbones; basal line flexuose. Length, $1\frac{5}{8}$ in.; breadth, $2\frac{1}{8}$ in.; thickness, 1 in.

19. *U. Pyramidalus*. (*Pyramidal Unio*.) Sub-triangular, cuneiform, pyramidal; umbones large, obtuse; anterior side short; posterior side elongated; base acute, flexuose; surface, with shallow wrinkles.

20. *U. Agrestis*. (*Rustic Unio*.) Sub-compressed; transversely elongated; anterior side rounded; posterior side lengthened, sub-acute; umbones obtuse, remote; on posterior side a longitudinal, oblique, shallow groove, below which is a flexure; surface, with coarse, transverse wrinkles. Thickness, $\frac{3}{4}$ in.

21. *U. Transversus*. (*Transverse Unio*.) Transversely elongated; umbones blunt, obliquely rounded; anterior side short, rounded; posterior side long, truncate; hinge-line straight; basal line, with slight flexure; surface smooth.

22. *U. Subrotundus*. (*Sub-rotund Unio*.) Sub-rotund; umbones sub-central, produced, blunt, remote; hinge-line arcuated; surface, with acute, concentric wrinkles.

23, 24. *U. Gerardi*. (*Gerard's Unio*.) Transversely ovate, inflated; umbones produced, rounded, contiguous; posterior side short, truncated; anterior side long, sub-truncated; hinge-line parallel; external surface, with a few, concentric wrinkles.

25. *U. Exoletus*. (*Worn Unio*.) Transversely elongated; surface smooth; umbones blunt; anterior side round; posterior side acuminate, sub-acute; hinge-line arcuated; basal line parallel.

26. *U. Lateralis*. (*Broad Unio*.) Transversely elongated, sub-quadrate, cuneiform; sides unequal; umbones produced, with acute beaks. Length, $\frac{1}{2}$ in.; breadth, $1\frac{1}{2}$ in.

27. *U. Bipennis*. (*Two-winged Unio*.) Transversely elongated, hatchet-shaped; sides unequal; umbones produced, remote; hinge and basal lines parallel; anterior side short, rounded; posterior side elongated, sub-truncate from hinge-line; surface smoothish, with a few, transverse grooves.

28, 29. *U. Sulcatus*. (*Furrowed Unio*.) Sub-triangular, compressed; umbones prominent, close, reflected, sub-acute; surface smooth, with concentric sulci; posterior side arcuated; anterior side rounded; basal line parallel. Length, $1\frac{1}{2}$ in.; thickness, $\frac{1}{2}$ in.

30. *U. Levedensis*. (*Coarse Unio*.) Sub-triangular, cuneiform; umbones rounded; anterior side short; posterior side long, acuminate, truncated; basal margin straight; surface, with transverse wrinkles.

31. *U. Senex*. (*Old Unio*.) Transversely elongated, sub-compressed; umbones obtuse, remote; anterior side short; posterior side long, sub-truncated; hinge-line arcuated; with deepish, transverse sulcus; basal margin, with slight hollow; surface, with transverse wrinkles, and a few, longitudinal sulci. Length, $\frac{3}{8}$ in.

32, 33. *U. Polmontensis*. (*Polmont Unio*.) Oblong; umbones central, arcuate, remote; hinge-line straight; surface smooth, with a few, transverse sulci.

PLATE LXXIV.

1. **Unio Aduncus.** (*Crooked Unio.*) Cuneiform, inflated, thick; umbones rounded; anterior slope long, straight, sub-truncated, concave.
- 2, 3. **U. Walterii.** (*Walter's Unio.*) Compressed, square; anterior slope rounded; posterior slope eared; surface smooth, with a few, transverse wrinkles; with central, longitudinal depression.
4. **Cardinia Concinna.** (*Neat Cardinia.*) Transversely oblong-ovate; beaks small, pointed, close; hinge-line curved; anterior side short, narrowed; posterior rounded; surface smooth, with transverse, sharp wrinkles; cardinal teeth small; lateral tooth large, long; back and base curved; muscular impressions deep.
5. **Pullastra Peregrina.** (*Marsh Pullastra.*) Ovate; beaks obtuse, remote; hinge-line oblique; anterior side short; extremities rounded; basal line arcuated; surface smooth, with a few, well-marked furrows.
6. **U. Subtruncatus.** (*Sub-truncated Unio.*) Ovate, compressed; edges of valves obtuse; posterior side cuneiform; beaks small, remote.
7. **U. Martini.** (*Martin's Unio.*) Convex; beaks produced, central; posterior side large, rounded; anterior side acute; surface smooth.
8. **C. Crassissima.** (*Very Thick Cardinia.*) Ovate, very thick; beaks incurved, acute; hinge-line arcuated, with triangular, cardinal tooth and broad, long, lateral tooth in each valve; anterior side short, rounded; beak convex; base straight; surface, with transverse lines of growth; muscular impressions deep.
9. **C. Abducta.** (*Distant Cardinia.*) Sub-trigonal, inflated; beaks small, close; lunule cordate; surface smooth, with a few, faint, transverse lines of growth.
10. **U. Solandri.** (*Solander's Unio.*) Transversely oblong-ovate, compressed, thin; hinge-line straight; umbones rugose, minute, close; anterior slope sub-truncated; basal line hollow; surface smooth, with indistinct, transverse, pearly undulations. Thickness, $\frac{3}{8}$ in.
11. **U. Compressus.** (*Compressed Unio.*) Ovate, compressed; umbones central, produced; hinge-line arcuated.
12. **U. Antiquus.** (*Ancient Unio.*) Elongated, transversely ovate; beaks produced, sub-compressed; posterior side short, rounded; anterior side elongated, sub-acute; hinge-line straight; surface smooth.
13. **U. Acutus.** (*Acute Unio.*) Transversely elongated; anterior side short, rounded; posterior side elongated, acuminate, rounded; hinge-line straight; beaks incurved, close; surface smooth, with a few, concentric wrinkles.
14. **U. Porrectus.** (*Extended Unio.*) Sub-compressed, elongated; anterior side elongated, sub-truncated, pointed; hinge-line straight; surface convex, smooth.
- 15, 17. **U. Subconstrictus.** (*Sub-constricted Unio.*) Oblong-ovate; beaks sub-central, incurved, close; posterior side lengthened; anterior side rounded; hinge-line sub-triangular, with sub-constriction from beaks to margin; basal line arcuated; surface smooth, with some concentric striae.
16. **U. Mantelli.** (*Mantell's Unio.*) Oblong-ovate, compressed; dorsal and basal margins parallel, straight; posterior side short; beaks produced; surface smooth.
18. **C. Crassiuscula.** (*Thickened Cardinia.*) Elliptical, sub-compressed; valves thick; beaks depressed, with fine, incurved points; hinge-line undulous, thickened; muscular impressions deep; pallial impressions well-defined; back and base arcuated; surface smooth, with a few, remote lines of growth.
19. **C. Hybrida.** (*Mongrel Cardinia.*) Cuneiform, sub-triangular; hinge-line curved; beaks close; lunule elongated, lanceolate, deeply impressed; anterior side concave below beaks; posterior side arcuated from beaks to base; surface smooth, with transverse, deep striae.
20. **C. Listeri.** (*Lister's Cardinia.*) Cardiform, cuneiform, thick; beaks recurved, acute, central; lunule deep, but small; back rounded; base, with flexure; surface, with sub-imbricated ridges.
21. **U. Cordiformis.** (*Heart-shaped Unio.*) Heart-shaped; posterior side rounded; anterior side pointed; beaks rounded, large, produced.

PLATE LXXV.

1. **Trigonia Angulata.** (*Angular Trigonia.*) Transversely sub-triangular, elongated; convex; anterior side sub-arcuated; surface, with transverse, curved ribs, changing into series of nodules; posterior side produced, divided from anterior by curved, crenated rib; crossed by transverse striæ; upper edge concave.

2, 3. **T. Imbricata.** (*Imbricated Trigonia.*) Triangular, compressed; anterior side, with five or six, transverse, imbricated ribs; posterior side obliquely truncated, with transverse, flattened ribs.

4. **T. Costata.** (*Ribbed Trigonia.*) Trigonal; posterior side ventricose, with transverse, smooth ribs; anterior side large, divided from flattened anterior by elevated, crenated rib from beak to margin; intercostal spaces, with several, longitudinal, crenated striæ; beaks central, sub-acute.

5. **T. Quadrata.** (*Squarish Trigonia.*) Sub-quadrangular, compressed; anterior side short, rounded; posterior side broad, truncated; beaks obtuse; upper line straight; basal line arcuated; surface, with concentric ribs, bent at centre, where is a line of large tubercles.

6. **Trigonellites Latus.** (*Broad Trigonellites.*) Sub-triangular; anterior side, concave below beaks; posterior straight, with longitudinal sulcus from beaks to side; basal line arcuated; surface smooth, with concentric lines of growth; beaks acute; porous inside.

7. **T. Alæformis.** (*Wing-shaped Trigonia.*) Sub-triangular, wing-shaped; anterior side arcuated, with many transverse, tuberculous ribs; posterior side lengthened into acuminate, sub-truncated beak, with broad, curved ridge; beyond the ridge a flat space, crossed by flat, oblique ribs; beaks acute, incurved.

8. **T. Spinosa.** (*Spinous Trigonia.*) Obliquely ovate, compressed; beaks obtuse; anterior side large, separated from posterior by oblique ridge from beaks to margin, with many, spinous ribs on each side, producing crenulated margin.

9. **T. Spectabilis.** (*Notable Trigonia.*) Sub-ovate, sub-trigonal, convex; with obtuse, central elevation from beaks to base; beaks obtuse; near them three or four, smooth, concentric ribs; surface smooth, with seven or eight, semi-circular rows of large, blunt tubercles; edges straight, nodulous; base rounded.

10. **T. Nodosa.** (*Nodulous Trigonia.*) Obovate; beaks obtuse, central; surface smooth, with indistinct rows of large knobs; anterior side rounded; posterior side straight from beak for two-thirds of length of valve; anterior side arcuated; base rounded.

11. **T. Clavellata.** (*Club-shaped Trigonia.*) Sub-triangular, elongated, curved; anterior side straight, with three, longitudinal rows of small tubercles; posterior side arcuated, with from twelve to fourteen series of rounded tubercles; surface roughish; beaks small, curved.

12. **T. Pustulata.** (*Pustulous Trigonia.*) Sub-triangular, gibbose; anterior side rounded; posterior side sub-truncated; back concave, base arcuated; beaks obtuse, incurved; surface, with concentric sulci; anterior portion with series of oval pustules.

13. **T. Gibbosa.** (*Gibbous Trigonia.*) Sub-triangular, obliquely elongated, gibbose; anterior side straight; posterior side produced, sub-truncated, with longitudinal sulcus; beaks narrow, incurved, close; basal line arcuated; back concave; surface smooth, with transverse lines of growth.

14, 15. **T. Cuspidata.** (*Pointed Trigonia.*) Sub-triangular, compressed; anterior side rounded; posterior side truncated; surface, with about seven, concentric ribs; beaks acute; back rounded; basal line arcuated; shell thin.

16, 17. **T. Pullus.** (*Bug Trigonia.*) Sub-triangular, inflated; anterior side rounded; posterior side truncated; beaks obtuse; anterior portion, with many, transverse ribs, separated from other side by longitudinal, crenated rib; lunette large, striated.

PLATE LXXVI.

- 1, 2. *Nucula Variabilis*. (*Variable Nucula*.) Transversely ovate, elongated; compressed; sides unequal; surface smooth; lunette small.
- 3, 4. *N. Antiquata*. (*Antiquated Nucula*.) Triangular, inflated, antiquated; beaks incurved, close; lunette cordiform; surface longitudinally striated; margin crenulated.
5. *N. Elongata*. (*Elongated Nucula*.)
- 6, 7. *N. Undulata*. (*Waved Nucula*.) Globular, oblique; posterior side produced, narrow, acute; surface concentrically waved.
- 8, 9, 10. *N. Lineata*. (*Lineated Nucula*.) Elliptical; beaks central, small; anterior side rounded; posterior side truncated; surface, with transverse striae.
- 11, 12. *N. Inflata*. (*Inflated Nucula*.) Globular; posterior side small, produced; compressed, pointed; surface smooth.
- 13, 14. *N. Apiculata*. (*Bee-like Nucula*.) Sub-orbicular, convex; anterior side rounded; posterior side concave above; surface smooth.
- 15, 16. *N. Impressa*. (*Impressed Nucula*.) Transversely ovate, compressed; sides unequal; margin curved, except at lunette; lunette impressed, convex, elongated; surface smooth.
17. *N. Ovata*. (*Ovate Nucula*.) Ovate; anterior side short, truncated; posterior side elongated, rounded; beaks obtuse; surface smooth.
- 18, 19. *N. Mucronata*. (*Mucronated Nucula*.) Sub-rhomboidal; ventricose; anteriorly mucronated; surface, with concentric sulci.
20. *N. Lachrima*. (*Tear Nucula*.) Ovate, ventricose; anterior side produced, pointed, convex; posterior side rounded; surface smooth. (A variety.)
21. *Trigonia Dædalea*. (*Handsome Trigonia*.) Oblong-oval, trigonal; with tuberculated ridge dividing valves; with double flexure beneath centre of posterior side; beaks small, pointed; anterior side, with many, large tubercles.
22. *N. Lævis*. (*Smooth Nucula*.) Oval, transversely elongated, smooth, ventricose; beaks large, acute. Length, $\frac{3}{4}$ in.; breadth, $\frac{1}{2}$ in.
- 23, 24, 25. *N. Lachrima*. (*Tear Nucula*.) V. Fig. 20.
26. *N. Subrecurva*. (*Sub-recurved Nucula*.) Transversely oblong-ovate; anterior side acute; posterior side rounded; beaks obtuse; surface smooth.
27. *N. Complanata*. (*Flattened Nucula*.) Transversely elongated; anterior side rounded; posterior side concave above, sub-truncated below; surface smooth.
- 28, 29, 48. *N. Similis*. (*Similar Nucula*.) Transversely obovate, compressed; posterior side straight; lunette oblong, sunk, concave; surface, with longitudinal striae; edge crenulated.
30. *N. Dubia*. (*Dubious Nucula*.) Transversely oblong-ovate; extremities pointed; beaks obtuse, central; base rounded; surface smooth.
- 31, 32. *N. Angulata*. (*Angled Nucula*.) Rhomboidal; front rounded; sides equal, angular; convex near beaks; surface, with concentric sulci.
33. *N. Ovals*. (*Oval Nucula*.) Transversely ovate, smooth, convex; beaks sub-acute. Length, $\frac{3}{4}$ in.; breadth, $\frac{1}{2}$ in.
34. *N. Axiniformis*. (*Canopy-formed Nucula*.) Transversely elongated; anterior side ending in acute point; dorsal line straight; basal line straight; posterior side sub-acute; beaks obtuse; surface smooth.
- 35, 36. *N. Amygdaloides*. (*Almond-shaped Nucula*.) Transversely elliptical, compressed; sides equal; surface, with many, transverse sulci.
37. *N. Ovum*. (*Egg-shaped Nucula*.) Transversely obovate, inflated, smooth; anteriorly pointed; posterior side rounded.
38. *N. Claviformis*. (*Club-shaped Nucula*.) Transversely elongated; ventricose; anterior side rounded; produced, attenuated; with two ridges from beaks; surface, with concentric ridges.
39. *N. Palmæ*. (*Palm Nucula*.) Transversely elongated, cylindrical; rounded and equal ends; gibbose, beaks central; surface smooth, shining, with lines of growth.
40. *N. Elliptica*. (*Elliptical Nucula*.) Elliptical; ends rounded; anterior side short; beaks large; surface smooth.
41. *T. Affinis*. (*Allied Trigonia*.) Transversely ovate; anterior side smooth, with flattened ridges; posterior side produced, sub-truncated, beaked; basal line straight; beaks obtuse.
42. *T. Incurva*. (*Incurved Trigonia*.) Transversely elliptical; convex; posteriorly flattened; surface tuberculate.
43. *N. Trigona*. (*Triangular Nucula*.) Triangular, compressed; sides equal; lunette concave; surface smooth; hinge-pit short; edge crenulated.
44. *N. Bivirgata*. (*Double-streaked Nucula*.) Obliquely sub-triangular, convex; back curved; posterior side concave; base arcuated; beaks obtuse, close; surface, with two sets of linear sulci; lunette broad; two transverse bands near base.
45. *T. Eccentrica*. (*Eccentric Trigonia*.) Transversely sub-triangular, convex; anterior side short; posterior side elongated, truncated; beaks obtuse, close; surface, with transverse, shallow sulci, crossed by shallow ones.
- 46, 47. *N. Pisum*. (*Pea Nucula*.) Sub-orbicular, convex; beaks obtuse, close; sides rounded; surface smooth.
49. *N. Obtusa*. (*Obtuse Nucula*.) Transversely ovate, convex, smooth; lunette prominent, elongated; beaks obtuse.
50. *N. Lævigata*. (*Smooth Nucula*.) Transversely elliptical, convex; posterior side truncated; lunette impressed, convex, oblong; surface smooth; edge entire; pit in hinge.
51. *N. Deltoidea*. (*Deltoidal Nucula*.) Triangular, ventricose; anterior side short, rounded; posterior side truncated, pointed; smooth, sometimes striated.
52. *N. Lanceolata*. (*Lance-shaped Nucula*.) Transversely lanceolate, ovate; sides equal; beaks produced; surface smooth; hinge, with deltoidal, concave space; margin entire; shell strong.
53. *N. Minima*. (*Small Nucula*.) Transversely ovate, gibbose; lunette straight, elongated; surface transversely striated; edge entire; hinge-pit minute.
54. *N. Pectinata*. (*Toothed Nucula*.) Transversely elliptical, convex; posterior side truncated; lunette flat, cordiform; surface, with many, small sulci, crossed by transverse striae.
55. *N. Cobboldi*. (*Cobbold's Nucula*.) Transversely obovate, convex; posterior side short, with many, zigzag sulci; margin entire.
- 56, 57. *N. Accipiens*. (*Admitted Nucula*.) Transversely elongated, oblong-oval, compressed; anterior side rounded; posterior side truncated; beaks central; surface, with fine, concentric striae.
58. *N. Acuta*. (*Acute Nucula*.) Transversely oblong, convex; anterior side rounded; posterior side acuminate; beaks acute, sub-central; surface, with fine, concentric striae.
59. *N. Æqualis*. (*Equal Nucula*.) Transversely sub-ovate, convex; anterior side short, rounded; posterior side truncated; surface, with many, concentric ridges.
- 60, 61. *N. Striata*. (*Striated Nucula*.) Transversely elliptical; anterior side short, pointed; posterior side rounded, acute above; hinge-line straight; surface, with fine, concentric striae.
62. *N. Plicata*. (*Plicated Nucula*.) Obliquely ovate, compressed; beaks prominent; surface smooth, shining, with concentric striae.
- 63, 64. *N. Compressa*. (*Compressed Nucula*.) Sub-ovate, smooth, compressed; anterior side short, contracted, pointed; posterior side large, rounded; base arcuated; without lunette.
65. *N. Radlata*. (*Rayed Nucula*.) Transversely elongated; anterior side rounded; posterior side acute, truncated; flattened space, with filiform striae; beaks well defined.
- 66, 67. *N. Pygmæa*. (*Pigmy Nucula*.) Sub-triangular; anterior side pointed; posterior side rounded; base arcuated; beaks obtuse; surface smooth.
- 68, 69. *N. Longirostra*. (*Long-billed Nucula*.) Claviform, elongated, convex; anterior side rounded; posterior side lengthened, with acute end; beaks short, incurved.
70. *N. Attenuata*. (*Attenuated Nucula*.) Transversely elongated, arcuated, ventricose; anterior side short, truncated; posterior side attenuated; hinge-area wide, concave; beaks produced, incurved; surface, with delicate, transverse striae; base arcuated.
71. *N. Lævirostra*. (*Smooth-beaked Nucula*.) Oblong-ovate, club-shaped; anterior side short, rounded; posterior side lengthened, obtuse; beaks obtuse; surface, with concentric striae.
72. *N. Cuneata*. (*Wedge-shaped Nucula*.) Transversely elongated; cuneiform; beaks obtuse; hinge-line straight; surface, with remote striae and concentric lines of growth.
73. *N. Latissima*. (*Very broad Nucula*.) Oblong-ovate; extremities equally rounded, with produced angle above.
74. *N. Brevisrostra*. (*Short-beaked Nucula*.) Ovate; anterior side short, attenuated; posterior side large, rounded; beak short; surface, with concentric striae.
75. *N. Nuda*. (*Bare Nucula*.) Transversely elongated; anterior side short; posterior side elongated; beaks obtuse; surface smooth.
- 76, 77. *N. Wetherelli*. (*Wetherell's Nucula*.) Orbicular, gibbose, smooth; beaks small, central; hinge-line triangular; margin crenulated.
- 78, 79. *N. Globosa*. (*Tumid Nucula*.) Transversely ovate, ventricose; anterior side short; posterior longer, rounded; beaks obtuse, incurved; surface, with shallow lines of growth.
- 80, 81. *N. Luciniformis*. (*Lucina-formed Nucula*.) Obliquely ovate, inflated, smooth; anterior side rounded; posterior side truncated, with narrow striae; base arcuated.
- 82, 83. *N. Bowerbankii*. (*Bowerbank's Nucula*.) Sub-elliptical, convex; anterior side truncated, with flat lunette; posterior side rounded; surface smooth, striated internally; edge toothed.
- 84, 85. *N. Oblongoidea*. (*Oblong Nucula*.) Transversely ovate, lanceolate, inequilateral; anterior side rounded; posterior side acuminate; lunule lanceolate; surface smooth.
- 86, 87. *N. Semistriata*. (*Half-striated Nucula*.) Transversely ovate, inequilateral; anterior side rounded, smooth; posterior side acuminate, with transverse striae; shell thin.
- 88, 89. *N. Trigonula*. (*Trigonal Nucula*.) Ovate, deltoidal, tumid; beaks prominent; lunule imbedded; surface smooth; internal margin crenulated.

PLATE LXXVII.

1. *Pectunculus Brevirostris*. (*Short-beaked Pectunculus*.) Orbicular, oblique, inequilateral, convex; hinge-line triangular; teeth few; beaks short, obtuse, approximating; surface, with flat, longitudinal ribs, crossed by concentric striæ.
- 2, 3, 4. *P. Minimus*. (*Least Pectunculus*.) Orbicular, convex, equilateral; hinge-line straight, with about five teeth; beaks prominent; surface smooth.
5. *P. Pilosus*. (*Hairy Pectunculus*.) Orbicular, convex; beaks large, rounded, close; hinge-area large, with triangular lines; teeth many; surface, with fine striæ, crossed by remote lines of growth.
- 6, 7, 8. *P. Oblongus*. (*Oblong Pectunculus*.) Transversely ovate, inequilateral, convex; sides truncate; surface smooth.
9. *P. Obliquus*. (*Oblique Pectunculus*.) Sub-ovate, compressed; beaks small, close; ligament-area triangular; teeth of hinge many; surface, with many, longitudinal striæ, crossed by many, concentric ones; with small marginal crenulations; shell thin.
10. *P. Sublævis*. (*Half-smooth Pectunculus*.) Orbicular, equilateral, convex; beaks short, close, rounded; surface, with many, obtuse ribs; sides smooth; inner edge crenulated.
11. *P. Umbonatus*. (*Large-beaked Pectunculus*.) Orbicular, equilateral, gibbose; beaks large, prominent; hinge-area large; teeth many; surface, with fine, longitudinal striæ, and obscure, concentric ribs; inner edge with large crenulations.
12. *Arca Carinata*. (*Keel'd Arca*.) Convex, parallelipedal; anterior side flattened, truncate; posterior side rounded; surface longitudinally ribbed.
13. *P. Delectus*. (*Delectable Pectunculus*.) Orbicular, compressed; hinge, with about fourteen teeth; surface, with about twenty-five, sharp ribs and a few, concentric striæ; margin crenulated within.
14. *P. Plumsteadensis*. (*Plumstead Pectunculus*.) Sub-orbicular; one side straight; beaks produced; hinge straight, with many teeth; surface, with faint, longitudinal sulci, with minute, concentric striæ; margin internally crenated.
15. *A. Tumida*. (*Tumid Arca*.) Gibbose, transversely elongated; anterior side acute; marginal sinus short, deep; umbones remote; surface, with obsolete ribs.
16. *A. Branderi*. (*Brander's Arca*.) Transversely elongated, gibbose; beaks remote; hinge-line straight; with obtuse ridge from beak; space between beaks, with three or four impressed striæ; surface finely decussated; teeth many; external edge entire.
17. *A. Appendiculata*. (*Appendaged Arca*.) Transversely elongated, rhombic, gibbose; beaks distant, incurved; with two, oblong appendages on hinge-area; surface decussated; longitudinal ridges furcated; internal margin toothed.
18. *A. Cancellata*. (*Cancellated Arca*.) Transversely elongated; beaks produced, close; anterior side defined by keel; marginal sinus short, deep; surface, with longitudinal and transverse striæ, cancellated.
19. *A. Duplicata*. (*Two-plaited Arca*.) Convex-ovate, transversely elongated, with double, longitudinal ribs, furcated in centro; margin toothed; marginal sinus obscure; beaks close.
20. *P. Decussatus*. (*Decussated Pectunculus*.) Sub-orbicular; sides straight; compressed; hinge, with from twenty-five to thirty teeth; beaks small, obtuse; surface, with many, longitudinal striæ; margin thick, entire.
21. *Cucullæa Contracta*. (*Contracted Cucullæa*.) Sub-quadrangular, inflated; beaks large, obtuse; base straight; surface smooth.
22. *C. Rudis*. (*Rough Cucullæa*.) Convex, transversely oblong; beaks incurved, close; surface rough, longitudinally ribbed; anterior lobe ill-defined; disc striated.
23. *P. Scleris*. (*Ladder Pectunculus*.) Obovate; beaks prominent; hinge-line short, with triangular pit in centre; centre of surface, with strong ribs; internal margin finely crenulated.
24. *A. Depressa*. (*Depressed Arca*.) Compressed, transversely elongated; sides rounded; surface, with distant, crenulated striæ, decussated by lines of growth; marginal sinus obscure.
25. *C. Oblonga*. (*Oblong Cucullæa*.) Gibbose, transversely oblong; anterior side cuneiform; beaks incurved; hinge-area rhomboidal, with from nine to twelve parallel lozenges; surface, with many, longitudinal striæ.
26. *A. Rotundata*. (*Rounded Arca*.) Transverse; beaks small, close; anterior side narrow; surface, with fine, longitudinal striæ, and a few, concentric lines of growth.
27. *A. Eastnori*. (*Eastnor's Arca*.) Thick, transversely ovate, convex; beaks short, central; hinge-line rectilinear; teeth small, upright, many. Length, $\frac{1}{2}$ in.; breadth, 1 in.
28. *A. Papillosa*. (*Pimpled Arca*.) Transversely elongated; beaks produced, incurved, remote; hinge-line long, straight, with many, small teeth; posterior side truncated; basal and hinge-lines parallel; surface, with many, papillose ribs, and a few transverse lines of growth.
29. *A. Pulchra*. (*Splendid Arca*.) Elongated, transversely ovate, depressed; anterior side impressed, truncated; beaks close; surface, with close, uniform striæ.
30. *A. Quadrifurcata*. (*Four-furrowed Arca*.) Convex; anterior side truncated, defined by a keel, with four, deep sulci; margin, with large sinus; surface, with longitudinal striæ, crossed by lines of growth.
- 31, 32. *A. Costata*. (*Ribbed Arca*.) Transversely oblong-ovate; anterior side short, acute; posterior side sub-truncated; beaks small; surface, with three or four ribs, with many, faint, concentric wrinkles.
33. *A. Subacuta*. (*Sub-acute Arca*.) Gibbose, transversely oblong; surface, with longitudinal striæ; marginal plaits rounded, deep; teeth sharp, many.
34. *A. Elongata*. (*Elongated Arca*.) Transversely elongated; beaks obtuse; posterior side sub-truncated; hinge-line and base parallel; surface, with longitudinal striæ, crossed by remote lines of growth.
35. *A. Dubia*. (*Doubtful Arca*.)
36. *A. Æmula*. (*Emulating Arca*.) Transversely elongated; beaks large, obtuse, close; disc hollowed; surface, with longitudinal striæ, crossed by transverse lines of growth.
- 37, 38. *C. Minuta*. (*Minute Cucullæa*.) Convex, ovate, elongated; ridge dividing anterior lobe making angle on margin; anterior side truncated; beaks close; surface, with longitudinal striæ.
39. *C. Crassatina*. (*Thickened Cucullæa*.) Gibbose, transversely ovate; anterior side angular; surface, with flattened, longitudinal ridges, decussated by lines of growth; interior margin crenated.
40. *C. Fibrosa*. (*Fibrous Cucullæa*.) Gibbose, ovate; anterior margin straight, prominent; surface, with many, longitudinal striæ, crossed by lines of growth.
41. *C. Carinata*. (*Keel'd Cucullæa*.) Cuneiform; anterior side pointed, with ridge from beaks to margins; surface smooth.

PLATE LXXVIII.

1, 2. **Cucullæa Glabra.** (*Smooth Cucullæa.*) Rhomboidal, ventricose; anterior angle obtuse; hinge-area, with four sulci; beaks incurved; surface, with longitudinal striæ, deessated by many lines of growth; hinge-line, with fine striæ; teeth striated.

3. **C. Oviformis.** (*Egg-shaped Cucullæa.*) Transversely oviform; hinge-line curved; anterior side rounded; posterior side narrowed; base and back areuated; surface smooth.

4. **C. Ovata.** (*Ovate Cucullæa.*) Transversely ovate, convex; interior laminæ longitudinal; sides rounded. Length, $1\frac{1}{8}$ in.; breadth, $1\frac{1}{2}$ in.

5. **C. Pectinata.** (*Pectinated Cucullæa.*) Transversely elongated; beaks obtuse; anterior side rounded; back and base curved; surface, with many striæ, crossed by remote lines of growth.

6. **C. Triangularis.** (*Triangular Cucullæa.*) Sub-triangular, cuneiform; anterior side straight; beaks pointed; surface smooth, with a few, remote lines of growth.

7. **C. Costellata.** (*Small-ribbed Cucullæa.*) Gibbose, transversely oblong; anterior lobe wing-shaped, ribbed, with intermediate striæ and earinated division separating it from disc; posterior side rounded, ribbed; beaks distant, sharp; surface, with longitudinal striæ, deessated by lines of growth.

8, 9. **C. Antiqua.** (*Ancient Cucullæa.*) Transversely ovate, smooth, convex; internal lamina longitudinal; umbones obtuse. Length, $\frac{3}{8}$ to $\frac{1}{2}$ in.; breadth, $\frac{1}{2}$ to $\frac{3}{4}$ in.

10. **C. Formosa.** (*Handsome Cucullæa.*)

11, 12. **Pachymya Gigas.** (*Giant Pachymya.*) Gibbose, ponderous; anterior side small, rounded; posterior side truncated; ridge in both valves from umbones to margin; umbones obtuse; surface smooth, with imbricated laminæ near basal margin.

13. **C. Reticulata.** (*Reticulated Cucullæa.*) Transversely elongated; inflated; anterior side large, rounded; posterior side truncate; beaks large, obtuse; surface, with longitudinal striæ, crossed by transverse ridges, producing reticulated appearance.

14, 16. **C. Cancellata.** (*Cancellated Cucullæa.*) V. PLATE LXXVII., Fig. 18.

15. **C. Cawdori.** (*Cawdor's Cucullæa.*) Transversely oval, convex, smooth; anterior side rounded, posterior side truncate; umbones acute, central, whence rounded ridge to posterior angle, with oblique laminæ within.

17. **C. Cylindrica.** (*Cylindrical Cucullæa.*) Transversely elongated, cylindrical, ventricose; beaks prominent, close; posterior side, with ridge from beaks to margin; surface, with many, concentric ridges.

18. **C. Concinna.** (*Neat Cucullæa.*) Transversely elongated, inflated; beaks large; anterior side rounded, faintly ribbed; posterior side truncate, flattened, with ridge from beak to margin, and longitudinal striæ; base curved.

19. **C. Elongata.** (*Elongated Cucullæa.*) Elongated, sub-cylindrical; anterior side pointed; posterior side short; beaks small, incurved; surface, with fine, longitudinal striæ.

20. **C. Imperialis.** (*Imperial Cucullæa.*) Transversely lengthened, inflated; anterior side short; beaks large, prominent, incurved, close; upper portion of surface, with wide-set striæ, crossed by concentric lines of growth; basal line straight, with hollow near centre.

PLATE LXXIX.

1. **Axinus Rotundatus.** (*Rounded Axinus.*) Orbicular; umbones central, acute, remote; surface smooth. Length, $\frac{3}{8}$ in.; breadth, $\frac{1}{2}$ in.

2, 3. **A. Minimus.** (*Least Axinus.*) Orbicular, transverse; beaks central, large, produced; hinge-line straight; surface smooth. Width, $\frac{1}{4}$ in.

4. **A. Latus.** (*Broad Axinus.*) Transversely elongated; beaks blunt; anterior side short, rounded; basal line slightly curved; surface smooth.

5, 6, 7. **A. Obscurus.** (*Obscure Axinus.*) Sub-triangular, transverse; beaks obtuse, central; posterior side cuneiform, attenuated below to obtuse point; base curved; surface smooth. Fig. 7, young state.

8. **A. Dubius.** (*Doubtful Axinus.*) Transversely elongated; curved; anterior side short, narrowed; basal line arcuated.

9. **A. Undatus.** (*Waved Axinus.*) Sub-triangular, smooth, inflated; umbones small, obtuse; sides equal; posterior side acute, with triangular flexure from centre of valve to basal margin. Length, $\frac{3}{8}$ in.; breadth, $\frac{1}{2}$ in.

10, 11. **A. Pusillus.** (*Slender Axinus.*) Triangular, smooth; beaks prominent, central. Length and breadth, $\frac{1}{3}$ in.

12. **A. Parvus.** (*Small Axinus.*) Smooth, sub-triangular, inflated; umbones prominent, inflated, close; posterior side acute, elongated. Length, $\frac{1}{4}$ in.; breadth, $\frac{3}{8}$ in.

13, 14. **Megalodon Cucullatus.** (*Hooded Megalodon.*) Oblong, smooth, convex, thick, ponderous; beaks pointed, incurved; with deep pit for anterior muscle, close to thick plate for hinge-teeth.

15. **Isocardia Tumida.** (*Tumid Isocardia.*) Cordiform, inflated, elongated; beaks tumid, involute; surface, with transverse lines of growth, crossed by longitudinal sulci.

16. **I. Rhomboidalis.** (*Rhomboidal Isocardia.*) Rhomboidal; anterior side depressed; smooth; posterior side, with many, concentric sulci; basal line triangular.

17. **A. Angulatus.** (*Angular Axinus.*) Sub-triangular, convex, oblique; anterior side short, curved; posterior side cuneiform, with ridge from beaks, producing angle on both sides; surface flat, with a few lines of growth; lunette ovate, curved.

18, 19. **I. Rostrata.** (*Beaked Isocardia.*) Ventricose, deltoidal; anterior side produced, acute; posterior side depressed, rounded; beaks short.

20, 21. **Hippopodium Ponderosum.** (*Ponderous Hippopodium.*) Gibbose, rugged, ponderous; anterior lobe angular, acute; posterior lobe smaller, forming boundary of cordiform pit, which is deep and extends to hinge-tooth, with well-marked lines of growth; in shape like horse's foot.

22, 23. **I. Sulcata.** (*Furrowed Isocardia.*) Orbicular; beaks remote, incurved, with cordiform impression beneath; surface pearly, with many, longitudinal sulci.

24, 25. **I. Angulata.** (*Angulated Isocardia.*) Sub-triangular; beaks obtuse, large; surface smooth; base curved, acute at both ends.

26, 27. **I. Tener.** (*Tender Isocardia.*) Obovate; anteriorly sub-truncated; beaks produced; surface smooth; anterior side circumscribed with slight ridge; shell thin.

28, 29. **I. Concentrica.** (*Concentric Isocardia.*) Oval, cordiform, transversely elongated; beaks projecting, incurved; surface smooth, with many, transverse sulci; shell thin.

30, 31. **Cardiomorpha Oblonga.** (*Oblong Cardiomorpha.*) Oblong, sub-compressed, very short; beaks incurved; posterior side large; hinge-line straight; surface smooth.

PLATE LXXX.

1. **Cardium Gentianum.** (*Gent's Cardium.*) Cordiform; valves equal, compressed, longitudinally sub-carinated; beaks incurved; surface, with many, longitudinal, tuberculated ribs.

2, 3. **Isocardia Minima.** (*Very small Isocardia.*) Sub-deltoidal, globose; anterior side truncated; posterior side flattened, cordiform.

4. **I. Striata.** (*Striated Isocardia.*) Rectangular, inflated; anterior side rounded; surface, with curvilinear striæ.

5. **I. Cor.** (*Heart Isocardia.*) Cordiform, inflated; with strong, transverse wrinkles; beaks curved, acute.

6. **I. Axiniformis.** (*Axinus-formed Isocardia.*) Transversely elongated, cuneiform; beaks short, involute; surface glabrous, with many, concentric striæ.

7. **I. Abrupta.** (*Abrupt Isocardia.*) Triangular, inflated; anterior side straight; beaks produced; surface, with oblique striæ; anterior side with longitudinal striæ; front, with five or six, longitudinal ridges.

8, 9. **Pholadomya Margaritacea.** (*Pearly Pholadomya.*) Transversely ovate; anterior side produced, with longitudinal keel and several ridges; beaks prominent, incurved.

10. **Sphæra Corrugata.** (*Corrugated Sphæra.*) Gibbose, ponderous; surface, with coarse corrugations; rugæ, transverse, obtuse.

11. **I. Triangularis.** (*Triangular Isocardia.*) Triangular, smooth, inflated; beaks small, inflected; surface, with strong, concentric lines of growth and fine, longitudinal striæ; basal line arcuated.

12. **I. Similis.** (*Similar Isocardia.*) Ventricose, transversely oblong; centre of disc flattened; anterior side small; base straight; surface, with transverse undulations.

13, 14. **Opis Similis.** (*Similar Opis.*) Gibbose, rhomboidal; anterior side, separated by serrated keel; lunette cordiform, flat; beaks involute; surface transversely ribbed.

15, 16. **Opis Lunulata.** (*Luniform Opis.*) Rhomboidal, inflated, separated by projecting keel; beaks involute, produced; posterior side rounded, with incurved margin, confining deep lunette; beaks involute; anterior side, with series of steps; right valve, with two teeth, some in left; surface, with transverse ribs; base acute.

17. **I. Nitida.** (*Shining Isocardia.*) Cordiform; beaks involute; surface smooth, shining.

PLATE LXXXI.

- 1, 2. **Cypricardia Cymbæformis.** (*Boat-formed Cypricardia.*) Transversely oblong; beaks small, incurved; anterior side cordiform; posterior side, contracted to a point; valves deep, carinated; beaks short, incurved.
3. **C. Rhombea.** (*Rhomboidal Cypricardia.*) Rhomboidal; anterior side short, rounded; posterior side large, truncated, with keel from beak to extreme angle of base; back convex; beaks obtuse.
4. **C. Undata.** (*Waved Cypricardia.*) Transversely elongated, convex; surface, with deep, wide undulations; beaks short; lunette cordiform; front concave. Length, $\frac{1}{2}$ in.; breadth, 1 in.
- 5, 6. **C. Amygdalina.** (*Almond-shaped Cypricardia.*) Transversely oblong-ovate, smooth; valves deep, obtusely carinated; anterior side short, cordiform, obtuse; posterior side acute; beaks short, obtuse. Length, 1 in.; breadth, $1\frac{1}{4}$ in.
7. **C. Deltoidea.** (*Deltoidal Cypricardia.*) Ovate, rhomboidal, compressed; anterior side rounded; posterior side truncated, with ridge from beaks to base; beaks obtuse; base rounded; surface smooth.
8. **Cardiomorpha Oblonga.** (*Oblong Cardiomorpha.*) Oblong, sub-compressed, very short; beaks incurved; posterior side large; hinge-line straight; surface smooth.
9. **C. Solenoides.** (*Solen-formed Cypricardia.*) Transversely elongated, compressed; beaks obtuse; anterior side short, rounded; posterior side sub-truncated, with produced point; lunette large, deep. Length, $\frac{3}{4}$ in.; breadth, $1\frac{1}{8}$ in.
10. **C. Glabrata.** (*Very Smooth Cypricardia.*) Transversely rhomboidal; anterior side short, straight; posterior side, with oblique keel from beak to margin; surface glossy, with transverse sulci; basal line straight.
11. **C. Pectenifera.** (*Pectinated Cypricardia.*) Transversely sub-quadrangular, with keel from beak to base; surface, with longitudinal sulci and three or four, erect lamellæ, pectinated upon lower sides; anterior side smooth, truncated.
12. **C. Retusa.** (*Blunted Cypricardia.*) Cordiform, smooth, sub-depressed; beaks long, large, sub-acute; anterior side pointed; posterior side long. Length, $\frac{1}{2}$ in.; breadth, 1 in.
13. **C. Tricostata.** (*Three-ribbed Cypricardia.*) Transversely elongated, inflated; hinge-line lengthened, straight; anterior side short, rounded; posterior side, with strong, diagonal ridge from beak to margin; above this two other ridges, one parallel, close to hinge-line; surface, with concentric striæ.
14. **C. Impressa.** (*Impressed Cypricardia.*) Transversely oblong-ovate, inflated, smooth; hinge-line long, straight; anterior side truncated; posterior side obtusely pointed; base concave; beaks blunted; with slight flexure towards base. Length, $\frac{7}{8}$ in.; breadth, $1\frac{3}{8}$ in.
15. **Edmondia Unioniformis.** (*Unio-formed Edmondia.*) Transverse, ovate, gibbose; anterior side short, rounded; beaks obtuse, incurved, approximate; base arcuated; surface of posterior side, with transverse wrinkles.
16. **Cardium Porulosum.** (*Porous Cardium.*) Orbicular; right side slightly truncated; surface, with many, longitudinal sulci; with a series of erect, sub-acute, approximating spines on intervening spaces; margin denticulated; hinge-line straight.
17. **C. Aculeatum.** (*Prickly Cardium.*) Elongated, oblique; anteriorly short; surface, with many, longitudinal, triangular ribs, with a series of sharp, curved spines; sulci, with transverse striæ.
18. **C. Globosum.** (*Globular Cardium.*) Orbicular, inflated; surface smooth, with many, fine, concentric striæ; posterior side flattened below beaks.
19. **C. Proboscideum.** (*Produced Cardium.*) Gibbose, sub-orbicular; anterior side parallel; surface, with about twenty, longitudinal ribs, each with many, channelled, conical spines, with two series of smaller ones between each.
20. **C. Parkinsoni.** (*Parkinson's Cardium.*) Gibbose, oblique; posterior side somewhat parallel; with thirty-eight to forty, longitudinal ribs, with transverse elevations on each.
21. **C. Striatum.** (*Striated Cardium.*) Sub-orbicular, convex; beaks prominent; surface, with many, longitudinal, divergent striæ. Length, $1\frac{7}{8}$ in.; breadth, $1\frac{5}{8}$ in.
22. **C. Plumstedense.** (*Plumsted Cardium.*) Sub-cordate, smooth; anterior side, with longitudinal sulci; serrations on edge of shell acute, with transverse, irregular lines of growth.
23. **C. Echinatum.** (*Spined Cardium.*) Convex, orbicular; with about eighteen, irregular ribs, with a row of many, inflected spines; intervening sulci, with transverse striæ.
24. **C. Acutangulum.** (*Acute-angled Cardium.*) Sub-triangular; anterior side rounded; posterior side flattened; oblique truncated, with ridge from beak, ending in an acute angle on margin; surface smooth.
- 25, 26. **C. Truncatum.** (*Truncated Cardium.*) Gibbose, transversely ovate, smooth; posterior side obliquely truncated, with longitudinal striæ; beaks small.
27. **C. Striatulum.** (*Small-striated Cardium.*) Convex, orbicular; posterior side, with longitudinal striæ, ending in dentated margin; surface concentrically striated.

PLATE LXXXII.

1. *Cardium Gibberulum*. (*Inflated Cardium*.) Sub-triangular, inflated; anteriorly rounded; posteriorly sub-truncated; surface smooth, crossed by remote, equidistant lines of growth.
2. *C. Turgidum*. (*Swollen Cardium*.) Gibbose, obovate, smooth; anterior side truncated, with twenty to thirty, longitudinal sulci and fine striæ; margins bluntly dentated.
3. *C. Hillanum*. (*Hill's Cardium*.) Circular; gibbose; with longitudinal sulci; surface, with many, concentric striæ.
- 4, 16. *C. Edule*. (*Edible Cardium*.) Gibbose; with twenty-four to twenty-six, rounded, longitudinal ribs, crossed by transverse scale-like protuberances, separated by very narrow sulci.
5. *C. Incertum*. (*Doubtful Cardium*.) Transverse; anterior side short, rounded; posterior side large, rounded, concave above; beaks protruding; surface smooth.
- 6, 7. *C. Nitens*. (*Shining Cardium*.) Round; anterior side produced; smooth, shining; surface, with faint, punctated lines of growth; with longitudinal striæ near the base.
8. *C. Angustatum*. (*Narrowed Cardium*.) Transversely elongated; thin, depressed; anterior side truncated; posterior side rounded; surface, with twenty-seven, longitudinal ribs; margin dentated.
9. *C. Semi-striatum*. (*Semi-striated Cardium*.) Elongated; sub-triangular; inflated; anterior side short, curved; posterior side concave; surface, with lower portion of valves longitudinally striated; base arcuated.
10. *Pleurorhynchus Longipennis*. (*Long-winged Pleurorhynchus*.) Transversely elongated; hinge-line straight; body deltoidal, with fine, radiating striæ, crossed by irregular, thin lines of growth; centre of valves with prominent, keel-shaped projection; with rings of smooth, long, wing-shaped processes; posterior side, with a few, faint, transverse ribs at its point. Length, $\frac{3}{8}$ in.; breadth, 1 in.
11. *P. Armatus*. (*Armed Pleurorhynchus*.) Anteriorly gibbose; sub-truncate, oblique; posterior side, with elongated, slender, acute wing; surface, with longitudinal, divergent sulci and ribs.
12. *C. Semiglabratum*. (*Half-smooth Cardium*.) Transversely ovate; oblique; posterior side smooth, produced below; anterior side with longitudinal, divergent striæ.
13. *C. Edulinum*. (*Small, Edible Cardium*.) Thick, orbicular, convex, oblique; anterior side truncated; posterior side produced; surface, with eighteen, rugose, longitudinal ribs.
- 14, 15. *P. Hibernicus*. (*Irish Pleurorhynchus*.) Deltoidal; anterior side produced; posterior side truncated, in form of horse-hoof; bounded by large ridge, encompassing margin with a produced wing; beaks small, flat, incurved; surface, with many, longitudinal ridges; margins locked together with sharp, serrated crenulations.
17. *P. Minax*. (*Menacing Pleurorhynchus*.) Deltoidal, transversely elongated; anteriorly gibbose; posterior side conically elongated; beaks anterior; surface, with many, longitudinal ribs.
- 18, 19. *P. Trigonalis*. (*Trigonal Pleurorhynchus*.) Elongated, horse-hoof shaped; anteriorly gibbose, with short, smooth wing; hinge-line straight; posterior side elongated, cuneiform; surface, with many, flat longitudinal ribs.
20. *C. Citrinoideum*. (*Citron-like Cardium*.) Oblong-ovate; beaks large; hinge-line straight; sides rounded; base arcuated; surface smooth, shining.
21. *C. Semigranulatum*. (*Semi-granulated Cardium*.) Gibbose, transverse, sub-triangular; smooth, slender; posterior side straight, with longitudinal sulci and large granulations; surface, with longitudinal striæ; intervening ridges, with many, small, globose granules; margin minutely dentated.
- 22, 23. *C. Dissimile*. (*Dissimilar Cardium*.) Gibbose, transversely obovate; smooth; shell thick; posterior side bounded by small rib and longitudinally striated; front straight.
- 24, 25. *P. Aliformis*. (*Wing-shaped Pleurorhynchus*.) Sub-triangular; anterior side convex, cordiform, with carinated, marginal wing; posterior side cuneiform; beaks incurved; surface, with many, strong, longitudinal ribs.
26. *C. Lobatum*. (*Lobed Cardium*.) Circular, oblique; anterior side short, with central flexure; surface smooth, with a few, remote, indistinct lines of growth.
27. *C. Cognatum*. (*Kindred Cardium*.) Circular; beaks central, produced, large; sides alike; surface smooth, with a few, remote lines of growth.
28. *C. Lævigatum*. (*Smooth Cardium*.) Elongated, sub-oval; oblique, sub-compressed; surface, with many, flat, longitudinal ribs; posterior side without ribs; internal margin crenulated.
29. *C. Elongatum*. (*Elongated Cardium*.) Elongated, oval, oblique, inflated; with many, flat ribs and narrow sulci, crossed by very faint lines of growth; internal margin crenulated.
30. *C. Greenlandicum*. (*Greenland Cardium*.) Elongated; beaks central; anteriorly curved; posteriorly concave; surface, with many, longitudinal ribs and narrow sulci, crossed by narrow, flat laminae.
31. *Cardiola Fibrosa*. (*Fibrous Cardiola*.) Cordiform; beaks acuminate, elongated; incurved; upper portion of surface smooth, with a few, concentric sulci; lower portion with longitudinal striæ, decussated by many, transverse striæ.
32. *C. Interrupta*. (*Interrupted Cardiola*.) Cordiform, sub-compressed; beaks central, short; surface, with many concentric sulci and many longitudinal ones.

PLATE LXXXIII.

1. *Pullastra Virginea*. (*Virgin Pullastra*.) Oblong-ovate, sub-compressed; smooth, shining; with wide-set, concentric striae; lunule lanceolate; margins smooth.
2. *P. Peregrina*. (*Marsh Pullastra*.) V. PLATE LXXIV., Fig. 5.
- 3, 4. *P. Parallela*. (*Parallel Pullastra*.) Transversely ovate, with sub-parallel sides; beaks small, pointed; lunette lanceolate, deep; surface, with delicate, concentric sulci.
5. *P. Oblita*. (*Forgotten Pullastra*.) Transversely oblong-ovate; anterior side rounded; posterior side acuminate; beaks obtuse; surface, with regular lines of growth.
6. *P. Decussata*. (*Decussated Pullastra*.) Transverse, inequilateral, sub-rhomboidal; anterior side truncated; surface, with longitudinal and transverse striae, producing beautiful decussation; beaks obtuse, with lanceolate lunule.
7. *P. Lævis*. (*Smooth Pullastra*.) Transversely elongated, convex, smooth, plain; beaks minute; posterior side large, sub-truncated. Length, $\frac{3}{4}$ in.; breadth, $1\frac{1}{4}$ in.
8. *P. Complinata*. (*Smooth Pullastra*.) Transversely elongated, compressed, smooth; anterior side rounded, short; beaks obtuse. Length, $\frac{3}{4}$ in.; breadth, $1\frac{1}{2}$ in.
9. *Venus Elliptica*. (*Elliptical Venus*.) Elliptical, compressed; posterior side narrowed; anterior side rounded; surface, with broad, concentric sulci.
10. *V. Antiqua*. (*Ancient Venus*.) Transversely oblong-ovate; convex; anterior side rounded; posterior side truncated; beaks almost undeveloped; surface, with regular, concentric striae.
11. *P. Recondita*. (*Hidden Pullastra*.) Transversely ovate; extremities rounded; with central ridge from beak to margin; surface, with many, concentric sulci; beaks small.
12. *P. Elliptica*. (*Elliptical Pullastra*.) Ovate, compressed; beaks hardly protruding; surface smooth, with wide-set, concentric striae.
13. *P. Irus*. (*Stone Pullastra*.) Transversely sub-ovate; surface, with concentric, membranaceous ridges, reflected upwards; interstices, with longitudinal striae.
14. *V. Ovata*. (*Ovate Venus*.) Sub-triangular, oblique, sub-compressed; beaks central, inflexed; sides equal; surface, with strong, longitudinal ribs, crossed by transverse striae.
15. *V. Fasciata*. (*Banded Venus*.) Sub-triangular, sub-compressed; beaks central, acute; lunette shallow, ovate; with longitudinal striae; cartilage side flat, with lanceolate depression; surface, with flat, reflected ribs.
16. *Psammobia Rigida*. (*Rigid Psammobia*.) Transversely elongated; anterior side attenuated; posterior side truncated; beaks obtuse; base straight; surface, with ten to twelve, transverse ribs, and three divergent ribs from beaks towards base.
17. *Anomia Semistriata*. (*Semi-striated Anomia*.) V. PLATE LVI., Fig. 23.
18. *Avicula Decepta*. (*Deceptive Avicula*.) Obliquely transverse; hinge-line straight; auricles undefined; umbones obsolete; surface, with transverse wrinkles.
- 19, 20. *A. Media*. (*Medium Avicula*.) Ovate, compressed; auricles large, unequal; hinge-line lengthened, parallel; surface smooth.
- 21, 22. *Megalodon Carinatus*. (*Keeled Megalodon*.) Transversely elongated, oblique; sub-lobate anteriorly; surface diagonally carinated and elevated; beaks recurved; lunule deep; surface, with oblique lines of growth.
23. *Venericardia Planicosta*. (*Flat-ribbed Venericardia*.) Cordiform, smoothish; with about twenty, flat, curved, longitudinal ribs and narrow sulci; with a few, large, crenulations on posterior margin; beaks incurved; shell very thick, heavy; hinge powerful.
24. *V. Scalaris*. (*Ladder Venericardia*.) Elongated, straight, sub-triangular, compressed; beaks obtuse, central; cardinal teeth long, thin; surface, with about twenty, straight ribs, crossed by concentric striae; internal margin denticulated.
25. *V. Tenuicosta*. (*Thin-ribbed Venericardia*.) Orbicular or quadrangular, convex, cordiform; surface, with many, longitudinal ribs, crossed by strong striae; lunette oblong, hollow; internal margin crenulated.
26. *V. Oblonga*. (*Oblong Venericardia*.) Transversely oblong, sub-quadrangular, gibbous; sides unequal; surface, with eleven to thirteen, tuberculated, distant ribs; internal margin with large crenulations.
27. *V. Orbicularis*. (*Orbicular Venericardia*.) Orbicular, convex; surface, with sixteen, crenulated, longitudinal ribs; intervening sulci with concentric striae; hinge small.
28. *Cyrena Cycladiformis*. (*Cyclas-formed Cyrena*.) Ovate; anterior side rounded; posterior side acuminate; surface smooth.
29. *V. Chamæformis*. (*Chama-formed Venericardia*.) Oblong, convex; acuminate towards beaks; beaks curved, produced, with about twenty, flat, straight ribs, crossed by fine, concentric striae; internal margin denticulated.
- 30, 31. *V. Globosa*. (*Globular Venericardia*.) Globular; beaks large, obtuse; surface, with fifteen to twenty, carinated, curved ribs, the carinae having compressed tubercles; inner margin denticulated.
32. *V. Acuticosta*. (*Sharp-ribbed Venericardia*.) Transversely oblong, gibbose; beaks large, obtuse; lunette obsolete; surface, with about twenty, curved, carinated ribs; internal margins denticulated.
33. *V. Senilis*. (*Aged Venericardia*.) Obliquely cordiform, convex; hinge strong; surface, with sixteen to eighteen, sub-imbricated ribs; lunette obsolete; shell thick; internal margin crenulated.
34. *V. Deltoidea*. (*Deltoidal Venericardia*.) Deltoidal, oblique; hinge strong; surface, with about twenty, carinated, longitudinal ribs; lunette small, obsolete; internal margin crenulated.
- 35, 36. *Myoconcha Crassa*. (*Thick Myoconcha*.) Elongated, convex; curved and pointed at beaks; surface smooth, with a few, concentric lines of growth; shell thick, valves shallow.

PLATE LXXXIV.

1. *Venus Turgida*. (*Swollen Venus*.) Orbicular, gibbose; hinge strong; beaks large, rounded; surface, with many, concentric ridges; with a series of crenulations inside; margin thickened; shell thick.
- 2, 3. *V. Submersa*. (*Bulged Venus*.) Orbicular, tumid; beaks approximate; lunette obscure; posterior side truncated; surface smooth.
4. *Cytherea Incrassata*. (*Thickened Cytherea*.) Orbicular, oblique, sub-compressed, smooth; with shallow lines of growth; lunette large, ill-defined; internal margin entire.
5. *V. Rugosa*. (*Rough Venus*.) Sub-triangularly sub-cordiform; convex; lunette oblong, cordiform; beaks turned to one side; surface, with rough, concentric ridges; margin blunt; crenated internally.
6. *V. Gibbosa*. (*Inflated Venus*.) Orbicular, gibbous; hinge-area strong, broad; anterior side truncated; lunette large, short; surface, with distant, concentric lines of growth; inner edge with fine crenulations.
7. *C. Rotundata*. (*Rounded Cytherea*.) Orbicular, gibbose; surface, with many, deep, concentric striæ.
8. *V. Sublævis*. (*Half-smooth Venus*.) Elliptical, compressed; beaks pointed; lunette ill-defined; surface smooth, with a few, shallow lines of growth.
9. *V. Immersa*. (*Immersed Venus*.) Transversely elliptical, compressed; beaks acute; lunette sunk; back and base curved; posterior side narrowed; surface smooth, with remote lines of growth.
10. *V. Gallina*. (*Hen Venus*.) Sub-triangularly sub-cordiform; convex; beaks approximate; lunette oblong, with longitudinal striæ; surface, with many, rounded, concentric ribs; internal margin finely crenated.
- 11, 12. *C. Rugosa*. (*Rough Cytherea*.) Sub-triangular, acuminate towards beaks; posterior extremity pointed; valves convex near beaks; surface, with many, concentric sulci.
13. *C. Dolobra*. (*Axe-shaped Cytherea*.) Sub-triangular; convex; beaks produced; lunette narrow; posterior side straightish; surface smooth, with a few, remote lines of growth.
- 14, 15. *V. Tenera*. (*Tender Venus*.) Lenticular, transverse; beaks acute; surface, with fine, concentric striæ; lunette lanceolate.
16. *V. Ovalis*. (*Oval Venus*.) Transversely oval, convex; beaks well-defined; lunette obscure, prominent, smooth; surface, with many, concentric striæ.
17. *V. Varicosa*. (*Warted Venus*.) Sub-globose; beaks large, produced, incurved; surface, with shallow, concentric sulci and two, longitudinal, varicose ridges within each valve.
18. *C. Chione*. (*Chione's Cytherea*.) Obliquely ovate, convex; beaks small, incurved; lunette cordiform; surface smooth, shining, with a few, concentric lines of growth; margin thick, rounded; pallial impression within broad, transverse sinus.
19. *C. Convexa*. (*Convex Cytherea*.) Sub-triangular; beaks central; sides abruptly sloping; base straight; surface, with shallow, concentric sulci.
20. *C. Parva*. (*Small Cytherea*.) Transversely obovate, convex; beaks obtuse; surface smooth, with remote, shallow lines of growth; lunette narrow.
21. *C. Elegans*. (*Elegant Cytherea*.) Obovate, convex; beaks obtuse; lunette oval; surface glossy, with concentric sulci.
- 22, 23. *C. Tenuistriata*. (*Thin-striated Cytherea*.) Sub-triangular, gibbose, smooth; anterior side concave; beaks prominent; lunette broadish, pointed; surface, with many, concentric striæ.
- 24, 25. *V. Faba*. (*Bean Venus*.) Transversely obovate; sub-compressed; beaks short; lunette deep, lanceolate; surface, with many, concentric striæ and lines of growth.
26. *C. Truncata*. (*Truncated Cytherea*.) Sub-quadrate; posterior side large, truncated; back arcuated; base straight; lunette lanceolate, obscure; surface, with strong lines of growth.
27. *C. Plana*. (*Plain Cytherea*.) Elongated, sub-depressed; anterior side concave under beaks, rounded below; posterior side arcuated; surface smooth; lunette lanceolate.
28. *C. Lineolata*. (*Lineated Cytherea*.) Transversely ovate, sub-cordate, ventricose; anterior side smooth; the rest with zig-zag striæ; beaks prominent; internal margin entire; shell very thick.
29. *C. Subrotunda*. (*Half-round Cytherea*.) Lenticular, orbicular, compressed; lunette narrow, lanceolate; beaks obtuse; surface smooth.
30. *C. Caperata*. (*Wrinkled Cytherea*.) Orbicular, compressed, lenticular; lunette cordiform; surface, with many, rounded, concentric ridges and wide intervening sulci.

PLATE LXXXV.

1. **Cyprina Cuneata.** (*Wedge-shaped Cyprina.*) Transversely elongated, euneiform; posterior side lengthened, acuminate; beaks prominent, curved; lunette cordiform, hollow; back convex; base straight; surface, with shallow lines of growth; valves deep; shell thin.
2. **C. Triangularis.** (*Triangular Cyprina.*) Triangular, elongated; beaks central; sides equal, posterior one sub-truncate; surface smooth, with shallow lines of growth.
3. **C. Transversa.** (*Transverse Cyprina.*) Transversely ovate, gibbose; beaks obtuse, incurved; posterior side elongated; back areolated, forming an angle with basal line; with an elevation from beaks to margin; surface smooth, with shallow lines of growth.
4. **Artemis Sinuata.** (*Sinuata Artemis.*) Lentiform, gibbose; surface, with many, filiform, concentric striæ on disc, and sub-lamellated on sides; posterior side, with longitudinal sulcus; lunette cordiform, with fine, concentric striæ.
5. **A. Lentiformis.** (*Lentil-shaped Artemis.*) Orbicular, compressed; anterior side angulated; surface, with many, imbricated, concentric ridges.
6. **A. Exoleta.** (*Worn Artemis.*) Orbicular, lentiform, convex; anterior side, with faint, longitudinal sulcus; surface, with many, concentric, filiform striæ; lunette cordiform, with longitudinal striæ.
7. **C. Equalis.** (*Equal Cyprina.*) Sub-orbicular, convex; beaks obtuse, incurved; hinge strong; surface, with many concentric striæ and a few lines of growth; shell very thick.
8. **C. Planata.** (*Plain Cyprina.*) Orbicular, sub-cordiform, gibbose; beaks obtuse; with a sulcus from beaks to margin on posterior side; surface, with shallow lines of growth.
9. **A. Parva.** (*Small Artemis.*) Orbicular; surface smooth, with a few, distinct lines of growth. Diameter, $\frac{1}{4}$ in.
10. **C. Angulata.** (*Angulated Cyprina.*) Transversely ovate; beaks short, obtuse, incurved; anterior side, with longitudinal ridge, slightly truncated; surface smooth.

PLATE LXXXVI.

1. *Cyrena Obovata*. (*Egg-ovate Cyrena*.) Obovate, gibbose; anterior side obtuse; beaks large; surface, with strongish lines of growth.
2. *C. Deperdita*. (*Lost Cyrena*.) Transversely oval, gibbose, umbonate; anterior side angulated; surface, with elevated lines of growth; hinge, with three, bifid, cardinal and two lateral teeth.
3. *C. Cuneiformis*. (*Wedge-shaped Cyrena*.) Transversely cuneiform; anterior side angulated; surface, with many, fine lines of growth.
4. *Cytherea Nitidula*. (*Shining Cytherea*.) Ovately rounded, tumid, smooth, shining; surface, with faint, transverse striæ; lunule cordiform; hinge, with three teeth.
5. *C. Trigonula*. (*Trigonal Cyrena*.) Ovately trigonal, sub-equilateral, thick; with sub-imbricated, transverse lines of growth; with three, cardinal teeth in each valve; lateral teeth serrated; umbones obtuse; margin plain.
6. *Cyclas Angulata*. (*Angular Cyclas*.) Sub-triangular, beaks prominent; anterior side rounded; posterior side truncated; surface smooth, with shallow lines of growth.
7. *C. Major*. (*Greater Cyclas*.) Sub-rotund, convex; beaks central, produced; basal line undulous; surface smooth.
- 8, 9. *C. Gibbosa*. (*Gibbous Cyclas*.) Transversely ovate; beaks central, large, produced; anterior side rounded; posterior side truncated, acute below; surface smooth.
10. *Piscidium Amnicum*. (*Favourite Piscidium*.) Obliquely oval; beaks tumid, produced; surface, with many, concentric, striated sulci.
11. *P. Pusillum*. (*Weak Piscidium*.) Ovate, orbicular, sub-compressed; beaks prominent, obtuse; sides flattened; surface, with fine, concentric striæ.
12. *C. Elongata*. (*Elongated Cyclas*.) Transversely elongated; beaks central; posterior side obliquely truncated; dorsal and basal lines straight, parallel; surface smooth, with three or four lines of growth.
13. *C. Subquadrata*. (*Half-square Cyclas*.) Transversely elongated; an oblong square; sides straight; beaks central, small; back and base straight, parallel; surface, with concentric sulci.
14. *C. Media*. (*Middle Cyclas*.) Depressed, thick, transversely obovate; anterior side small; surface smooth; both valves with one tooth under beaks.
15. *Cytherea Tellinaria*. (*Tellina-like Cytherea*.) Transversely ovate, trigonal, smooth, sub-striated, sinuated; lunule large, ovately oblong; hinge, with three cardinal teeth.
16. *C. Parva*. (*Small Cyclas*.) Sub-orbicular, oblique; posterior side narrowed below; surface smooth.
17. *Cyprina Morrisii*. (*Morris's Cyprina*.) Sub-orbicular, gibbose; beaks obtuse, incurved; surface, with shallow, concentric lines of growth; back straight; base arcuated.
18. *C. Rostrata*. (*Beaked Cyprina*.) Obliquely triangular; beaks large, produced, incurved; side beneath beaks concave, hollow; dorsal line nearly straight; posterior side lengthened, with a ridge from beaks to margin; basal line arcuated; surface smooth.
19. *C. Pusilla*. (*Slender Cytherea*.) Small, orbicular, sub-transverse; with many, transverse striæ; umbones small, recurved; without lunule; hinge, with two teeth in one valve and three in the other.
20. *C. Cornea*. (*Horny Cyclas*.) Sub-globose, ventricose; beaks obtuse, with very fine, concentric striæ.
21. *C. Sulcataria*. (*Furrowed Cytherea*.) Ovate, tumid, inequilateral; with transverse sulci; umbones small; lunule large, ovate; hinge, with three teeth; posterior one of left valve bifid; that of right valve lamellose.
22. *C. Transversa*. (*Transverse Cytherea*.) Transversely elongated, oblong-ovate, gibbose; surface smooth, with concentric lines of growth; beaks incurved; lunette elongated, narrow.
23. *C. Trigonula*. (*Trigonal Cytherea*.) Trigonal, sub-equilateral, smooth, transversely sub-striated; umbones small, acuminate; lunule cordiform, deep; hinge, with three teeth.
24. *C. Obliqua*. (*Oblique Cytherea*.) Ovate, oblique, tumid, sub-quadrate, inequilateral; umbones recurved; lunule large, cordiform; with many, transverse striæ; hinge, with three teeth, posterior one bifid.
25. *C. Erycinoides*. (*Erycina-like Cytherea*.) Transversely ovate, sub-depressed; with many, transverse sulci; lunule small, smooth; hinge, with three teeth, posterior one bifid.
26. *C. Rivicola*. (*River Cyclas*.) Transversely ovate, gibbose; beaks central; sides rounded; surface, with strong, concentric striæ.
27. *P. Henslowiana*. (*Henslow's Piscidium*.) Obliquely oval, inflated; beaks tumid, produced, tuberculated; surface, with well-defined, concentric grooves.
28. *C. Membranacea*. (*Membranaceous Cyclas*.) Depressed, thin, transversely ovate; anterior side small; posterior side pointed.
29. *C. Vulgaris*. (*Common Cyprina*.) Sub-orbicular, gibbose; beaks large; surface, with many, concentric striæ; dorsal and basal lines arcuated.
30. *C. Pulehra*. (*Beautiful Cyrena*.) Sub-orbicular, convex; posterior side truncated; surface smooth; hinge, with one, sharp-edged and two, bifid teeth; shell thin, slender.
31. *C. Rustica*. (*Rude Cyprina*.) Sub-orbicular, transverse, gibbose; beaks obtuse; anterior side narrowed; dorsal line straight; base arcuated; surface smooth, with strongly marked lines of growth.

PLATE LXXXVII.

1. *Astarte Borealis*. (*Northern Astarte*.) Depressed, sub-orbicular, equilateral; beaks small, pointed; lunette elongated, acute, deep; surface, with fine lines of growth; margin entire.
- 2, 3, 4. *A. Pumila*. (*Dwarf Astarte*.) Obliquely ovate, convex; anterior side produced, obtuse; posterior side small, with semi-circular edge; surface, with many, concentric ridges; edge, crenulated within.
- 5, 6. *A. Impolita*. (*Unpolished Astarte*.) Obovate, convex, cuneiform; angular at beaks; lunette in lanceolate groove; surface, with many, transverse grooves.
7. *A. Bipartita*. (*Double-parted Astarte*.) Globose, obcordate; beaks acute; lunette large, concave, smooth; surface, with six to eight, large, transverse ribs; internal edge crenulated.
8. *A. Nitida*. (*Shining Astarte*.) Depressed, transversely obovate; beaks pointed; lunette lanceolate; surface plain; edge crenulated.
9. *A. Triangulata*. (*Triangular Astarte*.) Triangular; beaks produced; posterior side curved; basal line straight; surface, with rude, transverse ribs and sulci.
- 10, 42. *A. Lurida*. (*Pale Astarte*.) Convex, transversely oblong, depressed; surface, with many, transverse ribs; margin internally crenulated; lunette elliptical.
11. *A. Lævis*. (*Smooth Astarte*.) Sub-orbicular, convex, elongated; beaks acute; surface smooth.
12. *A. Elegans*. (*Elegant Astarte*.) Convex, transversely oblong; disc depressed; surface, with many, transverse ribs; lunette cordate; margin internally crenulated.
13. *A. Extensa*. (*Extended Astarte*.) Sub-trigonal, elongated; beaks obtuse; surface smooth, with ridge from beak to base; with three or four, concentric sulci.
14. *A. Gairensis*. (*Gairloch Astarte*.) Transversely ovate, sub-compressed; beaks small, pointed; lunette lanceolate, deep; surface, with many, broad, concentric ribs; external margin broad, plain.
15. *A. Oblonga*. (*Oblong Astarte*.) Convex, transversely oblong; beaks small; lunette cordiform, pointed, concave; surface, with large, transverse ribs; internal edge crenated.
16. *A. Multicostata*. (*Many-ribbed Astarte*.) Sub-orbicular, compressed; beaks prominent; lunette lanceolate; surface, with many, concentric ribs.
- 17, 18. *A. Scotica*. (*Scottish Astarte*.) Sub-cordiform, sub-compressed; umbones central; lunette cordiform; surface, with many, parallel, transverse ribs.
19. *A. Obliquata*. (*Somewhat Oblique Astarte*.) Obovate, transverse, depressed; surface, with many, concentric striae, crossing a few ribs or lines of growth; internal margin crenulated; shell slender.
20. *Venus Imbricata*. (*Imbricated Venus*.) Cordiform, orbicular, convex; lunette elongated, flat; hinge-line arcuated; internal edge crenulated; surface, with nine to eleven, imbricated ribs.
21. *A. Obovata*. (*Obovate Astarte*.) Convex, obovate; anterior margin sub-truncated; lunette impressed; surface corrugated, with transverse ribs; interior margin crenated.
22. *A. Excavata*. (*Excavated Astarte*.) Convex, obovate; anterior side truncated; beaks ill-defined; lunette hemispherical, excavated; with deep sulcus enclosing cartilage; edges sharp; margin dentated; surface, with transverse ribs; teeth striate.
24. *A. Formosa*. (*Handsome Astarte*.) Sub-triangular, compressed; edges thickened; beaks obtuse; lunette elongated, concave; surface, with about ten, transverse, reflected ribs.
25. *A. Minima*. (*Least Astarte*.) Sub-orbicular; beaks obtuse, central; sides equal; surface, with strong, concentric ribs.
26. *A. Carinata*. (*Keeled Astarte*.) Sub-triangular; sides straight; with ridge from beak to margin; surface, with concentric ribs and sulci.
- 27, 28. *A. Orbicularis*. (*Orbicular Astarte*.) Lenticular; hinge-line ending in angle; surface, with many, concentric, reflected lamellae; edge smooth.
29. *A. Trigonalis*. (*Trigonal Astarte*.) Triangularly cordiform, compressed; beaks acute; anterior side smooth; posterior edge concave near beaks; surface flattened; disc, with many, transverse sulci.
30. *A. Rugata*. (*Wrinkled Astarte*.) Obovate, gibbose; anterior side sub-truncated; lunette obovate, concave; with a few ribs near beaks; edge crenated internally.
31. *A. Cuneata*. (*Wedge-shaped Astarte*.) Gibbose, cordiform; back broad, flattened; lunette cordiform; margin entire within.
- 32, 33. *A. Multistriata*. (*Many-striated Astarte*.) Sub-triangular, convex, cuneiform; surface, with many, concentric ribs; intervening spaces, with longitudinal striae; lunette large, broad.
34. *A. Ovata*. (*Ovate Astarte*.) Obovate; beaks obtuse; lunette lanceolate, narrow; surface, with concentric wrinkles.
- 35, 36. *A. Rotunda*. (*Rounded Astarte*.) Lenticular, inflated; lunette elongated, deep; surface, with small, concentric sulci; posterior surface plaited; internal edge crenulated; shell very thick.
37. *A. Lineata*. (*Lineated Astarte*.) Obovate, lenticular, depressed; anterior side truncated; lunette lanceolate; surface, with about thirty, concentric, transverse ribs; intervening sulci, with many, minute striae; shell thin; margin entire.
38. *A. Concinna*. (*Neat Astarte*.) Oblong-ovate, convex; beaks oblique; lunette elongated, deeply sunk; surface, with many, concentric sulci.
39. *A. Aliena*. (*Alienated Astarte*.) Sub-orbicular, elongated; beaks central, acute; surface, with transverse sulci.
40. *A. Striata*. (*Striated Astarte*.) Lenticular; beaks small, approximating; lunette ovate, flat; surface, with many, transverse striae; margins obtuse; shell thick.
41. *A. Sulcata*. (*Furrowed Astarte*.) Sub-orbicular, compressed; beaks prominent, central; lunette lanceolate, shallow; surface, with a series of flat, concentric ribs; internal margin crenulated.

PLATE LXXXVIII.

1, 2. *Pullastra Peregrina*. (*Marsh Pullastra*.) V. PLATE LXXIV., Fig. 5.

3, 4. *Cardinia Cuneata*. (*Wedge-shaped Cardinia*.) Sub-triangular, cuneiform; beaks acute, with deep, cordiform lunule beneath; anterior side short, rounded; surface, with many, equidistant, transverse sulci.

5, 6. *Unio Modiolaris*. (*Modiola-shaped Unio*.) Transversely elongated, convex; anterior side short, narrow; beaks obtuse; hinge-line straight; back straight; base curved; surface smooth.

7. *U. Littoralis*. (*Shore Unio*.) Oblong-ovate, inflated; anterior side very short; beaks obtuse; back arcuated; basal line concave; surface, with faint, shallow lines of growth.

8. *U. Pictorum*. (*Painter's Unio*.) V. PLATE LXXIV.*, Figs. 1, 2.

9, 10. *U. Uriei*. (*Ure's Unio*.) Transversely elongated, convex; hinge-line straight; beaks depressed; anterior side short; back and basal lines straight, parallel; surface, with rough, transverse undulations.

11, 12. *C. Ovalis*. (*Oval Cardinia*.) Elliptical, transverse; beaks obtuse, approximate; lunule small, narrow; anterior side rounded; back and basal lines arcuated; external surface, with irregular, concentric lines of growth.

13, 14. *C. Scutula*. (*Scuttle-shaped Cardinia*.) Transversely elongated, compressed; beaks obtuse, approximate; hinge-line curved; lunule long, narrow; anterior side short, rounded; back and base arcuated; surface smooth, with equidistant lines of growth.

15. *U. Centralis*. (*Central-beaked Unio*.) Oval; anterior side short; beaks obtuse, central; basal line arcuated.

16. *U. Robustus*. (*Strong Unio*.) Sub-conic, convex; beaks central, obtuse; anterior side large, rounded; basal line convex; surface, with strong lines of growth.

17. *U. Dolobratus*. (*Squared Unio*.) Sub-quadrate, flat; anterior side very short; hinge-line curved; base oblique; surface uneven.

18, 19. *C. Lanceolata*. (*Spear-shaped Cardinia*.) Lanceolate, thick, transverse; anterior side short, rounded; hinge-line straight; beaks obtuse; lunule small, narrow; back and basal line arcuated; external surface, with concentric lines of growth.

20. *C. Attenuata*. (*Attenuated Cardinia*.) Cuneiform, transverse; posterior side elongated, attenuated; beaks acute; lunule small, deep; basal line arcuated.

21, 22. *U. Phaseolus*. (*Phaseolus Unio*.) Transversely elongated; anterior side short, pointed; beaks obtuse; back straight; base concave in centre.

23. *U. Aquilinus*. (*Eagle's-beak Unio*.) Transversely oblong-ovate; beaks minute; anterior side short, with small, terminal projection; hinge-line curved; back and base convex; surface, with transverse ridges.

24. *U. Discrepans*. (*Discrepant Unio*.) Transversely oblong-ovate, inflated; beaks obtuse; hinge-line curved; posterior side elongated, sub-truncated; back and basal line arcuated.

25, 27. *U. Austiceii*. (*Austice's Unio*.) Transversely elongated, sub-quadrate, convex; hinge-line curved; beaks obtuse, rounded, approximate; anterior side truncated, short; beaks curved; basal line straight; surface, with concentric wrinkles and very faint, longitudinal striæ.

26. *U. Parallelus*. (*Parallel Unio*.) Transversely elongated, sub-quadrate, flattened; beaks terminal; posterior side, back, and basal line straight, parallel; surface, with well-marked, concentric lines of growth.

PLATE LXXXIX.

- 1, 2, 3. *Lucina Goodhallii*. (*Goodhall's Lucina*.) Sub-glebose; anterior side concave, rounded posteriorly; lunette broad, flat; with a broad and a narrow groove on each side; surface smooth.
4. *Corbis Uniformis*. (*Uniform Corbis*.) Oval; contracted at both ends; beaks central; surface smooth, with indistinct lines of growth.
5. *L. Despecta*. (*Despised Lucina*.) Orbicular; beaks large, obtuse; anterior side small; surface smooth, with remote lines of growth.
- 6, 7. *Donax Trunculus*. (*Little Stock Donax*.) Transversely oblong, compressed; beaks small; anterior side straight above; surface smooth, with fine, longitudinal striæ; internal margin crenulated.
8. *L. Sculpta*. (*Engraven Lucina*.) Sub-trigonal, transversely elongated; anterior side short, straight; back straight; posterior side truncated; with a ridge from beaks to basal margin; surface, with transverse, curved ridges posteriorly, abruptly angulated from ridge.
- 9, 10. *L. Crassa*. (*Thick Lucina*.) Circular, convex; beaks minute; superior margin obtuse; lunette linear; surface, with concentric laminæ; valves thick.
- 11, 12. *L. Orbicularis*. (*Orbicular Lucina*.) Orbicular, elongated, convex; beaks small, central, remote; sides equal; surface, with many, longitudinal, furcated striæ, and a few, distant lines of growth.
13. *L. Plsum*. (*Pea Lucina*.) Orbicular; beaks obtuse; surface, with about fifteen, concentric ridges.
14. *L. Lirata*. (*Ridged Lucina*.) Sub-orbicular; anterior side short; line from apex slightly bent; with longitudinal sulcus close to side line; surface, with many, concentric sulci, abruptly turned up at both ends.
15. *L. Portlandica*. (*Portland Lucina*.) Orbicular, compressed; beaks central, small; sides equal; surface, with fine, concentric striæ.
16. *L. Mitis*. (*Gentle Lucina*.) Circular, convex; lunette oval, deep; surface, with many, longitudinal striæ, crossed by regular laminæ; cardinal teeth obscure; inside rough.
17. *L. Globosa*. (*Globular Lucina*.) Globular; with long, flattened space posteriorly; beaks sub-acute; base arcuated; surface smooth, with shallow lines of growth, waved near posterior margin.
18. *L. Rotundata*. (*Rounded Lucina*.) Orbicular, convex; beaks small, central, obtuse, inflated; surface, with concentric striæ.
19. *L. Radula*. (*Rasp Lucina*.) Circular, convex; lunette lanceolate, flat; surface, with many, concentric, sharp laminæ; anterior side angular; shell thickish.
20. *L. Laminata*. (*Laminated Lucina*.) Transversely ovate, compressed, oblique; anterior side short; beaks obtuse; surface, with transverse, imbricated ridges.
21. *L. Du Noyerl*. (*Du Noyer's Lucina*.) Orbicular, oblique, compressed; beaks protruding beyond hinge-line; surface, with concentric, filiform striæ.
- 22, 23. *L. Flexuosa*. (*Flexuous Lucina*.) Transversely sub-globular; with sulcus or flexure from back to margin; surface smooth; shell thin.
24. *L. Undata*. (*Waved Lucina*.) Orbicular, convex, flexuous; beaks prominent, inflated; surface, with many, irregular, concentric striæ.
25. *L. Divaricata*. (*Divergent Lucina*.) Circular, gibbose; surface, with two sets of arcuated, convergent striæ, crossed by three or four, deep lines of growth; inside dull, granulated; shell thick.
26. *Tellina Tenuis*. (*Thin Tellina*.) Transversely ovate, compressed, very thin, fragile; beaks small, central; surface, with fine, concentric striæ.
27. *T. Branderi*. (*Brander's Tellina*.) Sub-orbicular, transverse, compressed; anterior margin, with small sinus; beaks central, produced.
28. *C. Ovalis*. (*Oval Corbis*.) Transversely oblong-oval; beaks large, prominent, incurved; surface smooth, with concentric lines of growth.
29. *T. Striata*. (*Partly-striated Tellina*.) Transversely elongated; convex; anterior side short, pointed, with elevation on smooth surface; with a few, longitudinal striæ; posterior side rounded.
30. *T. Inæqualis*. (*Unequal Tellina*.) Oval, convex, smooth; anterior side obtuse, with fine striæ from beak; posterior side longer, rounded; beaks central.
31. *T. Donacina*. (*Donax Tellina*.) Transversely oblong-ovate, thin, compressed; beaks small; one side sub-truncated; opposite side rounded; surface, with concentric striæ.
32. *C. Lævls*. (*Smooth Corbis*.) Gibbose, transversely oval; posterior extremity, with transverse imbrications; margin entire.
33. *L. Gigantea*. (*Gigantic Lucina*.) Broad, smooth, sometimes sub-striated and internally punctated; hinge toothless; umbones large. Length, $3\frac{1}{2}$ in.; breadth, $3\frac{3}{4}$ in.
34. *T. Fabula*. (*False Tellina*.) Transversely elongated, compressed, flexuous, thin; posterior side narrowed, truncated; beaks minute, central; left valve, with fine, diagonal striæ; right valve plain, with remote, concentric striæ.
- 35, 36. *T. Splendens*. (*Splendid Tellina*.) Transversely ovate, convex; beaks central, small; posterior side pointed; surface polished.
37. *T. Obliqua*. (*Oblique Tellina*.) Sub-orbicular, oblique; beaks central; with small angle near centre of valve of anterior side; posterior side, with slight ridge; surface smooth.
38. *T. Filosa*. (*Threaded Tellina*.) Sub-triangular; anterior side truncated, with ridge and sulcus from beak to base; posterior side rounded; surface, with many, acute, thread-like striæ.
39. *Arcopagia Crassa*. (*Thick Arcopagia*.) Transversely sub-ovate, oblique, twisted, inequivalve; beaks short, obtuse, sub-central; surface, with strong, concentric striæ and irregular lines of growth; with sulcus from beaks to margin.
40. *T. Ovata*. (*Ovate Tellina*.) Transversely ovate; anterior side, with sulcus; posterior side rounded; surface smooth, with well-marked lines of growth; beaks small.
41. *T. Calcarea*. (*Chalky Tellina*.) Transversely ovate, compressed, thin; beaks small, central; surface, with many, concentric striæ; anterior side narrowed.
42. *T. Ambigua*. (*Ambiguous Tellina*.) Transversely oblong-oval, convex; valves unequal; right valve thick, curved, more convex; with one tooth; sides rounded; beaks obtuse, small; surface sulcated.
43. *T. Ampliata*. (*Enlarged Tellina*.) Sub-orbicular; beaks central; surface, with many lines of growth; anterior side straight, with gentle ridge; posterior side rounded.
44. *Psammobia Ferroënsis*. (*Ferro Psammobia*.) Transversely elongated, compressed; anterior side truncated, with ridge from beaks to base; surface, with strong, transverse striæ, angular on truncations.
45. *P. Gracilis*. (*Slender Psammobia*.) Transversely elongated, cylindrical; anterior side truncated, with acute point below; surface, with many, transverse striæ, angular on truncations.
46. *T. Subrotundus*. (*Half-rounded Tellina*.) Orbicular, deep, thick; surface, with many, concentric striæ; sub-plicated on anterior side; hinge with two teeth in one valve and one in the other, and one lateral tooth.
47. *P. Solida*. (*Solid Psammobia*.) Transversely elongated, compressed, twisted; anterior side truncated, with ridge from beaks to margin; surface smooth.
48. *P. Rigida*. (*Rigid Psammobia*.) Transversely elongated; anterior side attenuated; posterior side truncated; beaks obtuse; base straight; surface, with ten to twelve, transverse ribs and sulci, and three divergent ribs from beaks to base.
49. *P. Tellinoides*. (*Tellina-like Psammobia*.) Oblong-ovate; anterior side rounded, with a few, longitudinal striæ; rest of shell smooth; beaks central.
50. *P. Scopula*. (*Scopula's Psammobia*.) Transversely oblong, reniform; beaks central; sides equally rounded; anterior side striated; rest of surface smooth.
51. *T. Donacialis*. (*Donax-like Tellina*.) Obliquely ovate, sub-trigonal, inequilateral, smooth, thin; anterior side short, rounded; inflexed, sub-angulated.
52. *P. Lævigata*. (*Smooth Psammobia*.) Transversely elongated; obliquely truncated anteriorly; beaks small, sub-central; surface smooth.
53. *P. Florida*. (*Florid Psammobia*.) Transversely oblong-oval; beaks central; sides equally rounded; surface, with concentric and longitudinal striæ.
54. *P. Vespertina*. (*Bat's-wing Psammobia*.) Transversely oblong-ovate; sides rounded; beaks small, central; surface, with fine, concentric striæ.
55. *T. Solidula*. (*Thick Tellina*.) Sub-orbicular, strong, thick, convex; anterior side arcuated, with longitudinal sulcus, angulated below; beaks central, straight; surface smooth, with a few, transverse wrinkles.

PLATE XC.

- 1, 2, 3. *Petricola Inflata*. (*Inflated Petricola*.) Sub-triangular, gibboso, cordiform; beaks produced, approximate; posterior side obliquely truncated; surface smooth, with an obscure ridge on posterior side from beaks to margin, and shallow lines of growth.
- 4, 5. *P. Laminosa*. (*Laminated Petricola*.) Ovate, gibboso, anterior side short, rounded; beaks obtuse, approximate; with one, cleft tooth in left valve and two, small ones in the other; surface, with laminated, concentric ribs. Fig. 5 a variety.
- 6, 7. *P. Lævis*. (*Smooth Petricola*.) Obovate, sub-compressed; beaks produced, approximate; anterior side short, rounded; surface smooth, with irregular lines of growth.
8. *Sanguinolaria Lirata*. (*Ridged Sanguinolaria*.) Transversely elongated, convex; posteriorly sub-truncated, ridged; surface smooth, with filiform striæ, parallel to margin.
9. *S. Hollowayii*. (*Holloway's Sanguinolaria*.) Transversely elongated; beaks minute; posterior side short; surface smooth, with shortish lines of growth; with sulcus from beak on anterior side to margin; shell thin.
- 10, 21. *Potomomya Gregaria*. (*Gregarious Potomomya*.) Sub-triangular; anterior side of right valve produced, truncated; posterior side, with remote tooth and slight sulcus within anterior edge; beaks depressed, obtuse; surface smooth.
11. *S. Attenuata*. (*Attenuated Sanguinolaria*.) Transversely elongated; attenuated posteriorly; rounded at ends; surface smooth; without diagonal ridge.
12. *S. Angustata*. (*Narrowed Sanguinolaria*.) Transversely elongated, compressed; posterior side smooth, with diagonal ridge from beak to margin; hinge-line straight; surface, with sulci parallel to margin.
13. *S. Tumida*. (*Tumid Sanguinolaria*.) Transversely elongated; diagonally gibboso; hinge-line straight; surface imbricated.
14. *S. Maxima*. (*Large Sanguinolaria*.) Transversely elongated, sub-quadrate; beaks near short, square, anterior side; hinge and basal lines parallel; surface, with many, concentric sulci and striæ.
15. *S. Vetusta*. (*Ancient Sanguinolaria*.) Oblong-ovate; anteriorly short, narrowed; with strong, concentric lines of growth.
16. *S. Arcuata*. (*Arcuated Sanguinolaria*.) Transversely elongated; anterior side short, attenuated; hinge-line arcuated; surface smooth.
17. *Saxicava Rugosa*. (*Rugged Saxicava*.) Transversely oblong-ovate; beaks small, obtuse; posterior side sub-truncated; surface, with rugged, concentric wrinkles.
18. *S. Elliptica*. (*Elliptical Sanguinolaria*.) Elliptical, equilateral; hinge-line straight; sides rounded; beaks obtuse; surface, with concentric striæ.
19. *S. Plicata*. (*Plaited Sanguinolaria*.) Transversely elongated, compressed; posteriorly sub-truncated; beaks near anterior side, with faint ridge to margin; hinge-line straight, with oblique sulcus below; surface, with many, transverse plaits parallel to margin.
20. *S. Compressa*. (*Compressed Sanguinolaria*.) Transversely oblong-ovate, compressed; anterior side, with rounded truncation; surface smoothish; with several, obscure rays from beaks to margins; posterior side truncated; shell thin.
22. *Crassatella Plicata*. (*Plaited Crassatella*.) Oblong-ovate; anterior side, defined by oblique, obtuse ridge; surface, with many, transverse plaits; margin crenated internally.
- 23, 24, 25. *Pandora Margaritacea*. (*Pearly Pandora*.) Transversely oblong, arcuated; one valve flat, the other convex; beaks near rounded, anterior side; surface smooth, pearly.
- 26, 27. *Agina Purpura*. (*Purple Agina*.) Transversely oval; posterior side truncated; beaks prominent; surface, with transverse striæ. Length, $\frac{1}{8}$ in.; breadth, $\frac{1}{2}$ in.
28. *S. Elegans*. (*Elegant Sanguinolaria*.) Elliptical; posterior side sub-truncated; hinge-line straight; beaks obtuse; surface, with many, transverse sulci from anterior side, ending where diagonal sides pass from beak to margin.
29. *S. Gibbosa*. (*Gibbous Sanguinolaria*.) Transversely elongated, gibboso, smooth; sides gaping, rounded; beaks obtuse; surface smooth.
30. *Anatina Undulata*. (*Waved Anatina*.) Transversely elongated; thin, convex; sub-truncated posteriorly; surface, with transverse undulations; pearly within.
31. *C. Sulcata*. (*Furrowed Crassatella*.) Ovate, transversely elongated; anterior side produced, truncated; surface, with transverse ribs and deep sulci; beaks pointed; internal edge crenated.
32. *Montacuta Glabra*. (*Smooth Montacuta*.) Elliptical, convex, smooth, thin; posterior side sub-truncated; with one broad, primary tooth in each valve; with a central hiatus.
33. *S. Transversa*. (*Transverse Sanguinolaria*.) Transversely elongated, compressed, short; beaks near, rounded, short anterior side; posterior side truncated, with diagonal ridge from beaks to margins; hinge-line straight; surface, with concentric sulci, becoming angular, when passing over ridge.
- 34, 35. *Tellimya Suborbicularis*. (*Sub-orbicular Tellimya*.) Sub-orbicular, convex, thin; beaks central, inflected; sides equal, rounded; basal margin straight, with one tooth in valve under beak, locking into double, incurved one in the other; with laminated tooth behind umbo in each valve.
36. *C. Compressa*. (*Compressed Crassatella*.) Sub-triangular; anterior side short, rounded; posterior side truncated; with diagonal ridge, ending in acute angle; surface, with many, transverse sulci.
37. *Sphenia Swainsoni*. (*Swainson's Sphenia*.) Transversely oblong-oval, cuneiform; anteriorly rounded, short; posteriorly truncated; with horizontal, inflected, concave tooth; surface smooth.
38. *S. Parvula*. (*Small Sanguinolaria*.) Transversely oblong-oval, compressed, smooth; with a few lines of growth; posterior side sub-truncated; beaks central, obtuse. Length, $\frac{1}{2}$ in.; breadth, $\frac{1}{2}$ in.
- 39, 40. *Potomomya Plana*. (*Plain Potomomya*.) Ovate, depressed, equilateral; anterior side elongated, slightly truncated; front rounded; beaks depressed, obtuse; surface smooth, polished internally.
41. *S. Sulcata*. (*Furrowed Sanguinolaria*.) Transversely elongated; anteriorly short, narrowed; beaks obtuse; hinge-line curved, hollow; surface transversely furrowed; with a few, longitudinal striæ.
42. *Corbula Cardioides*. (*Cardium-like Corbula*.) Transversely ovate, inflated; anterior side large, rounded; beaks large, produced, incurved; surface smooth, with regular lines of growth.
43. *S. Oblonga*. (*Oblong Sanguinolaria*.) Transversely sub-quadrate; beaks rounded, close to short, anterior side; hinge and basal lines parallel; surface, with concentric sulci and striæ.
- 44, 45. *S. Binghami*. (*Bingham's Sphenia*.) Transversely oblong-ovate; posterior side truncated; beaks prominent; surface smooth.

PLATE XCI.

- 1, 2, 3. *Corbula Gallica*. (*Maple-like Corbula*.) Transversely ovate; larger valve turgid; umbones, with transverse striæ; beaks smooth; smaller valve, with longitudinal rays.
4. *C. Curtansata*. (*Shortened Corbula*.) Transverse; anterior side large, rounded; beaks central; surface smooth, with well-marked lines of growth; basal line triangular.
5. *C. Depressa*. (*Depressed Corbula*.) Sub-orbicular; beaks central, produced; anteriorly finely rounded; basal line arcuated; surface, with concentric ridges and a few lines of growth.
- 6, 7. *C. Longirostrum*. (*Long-beaked Corbula*.) Transversely ovate; with thin, concentric striæ; beak long in front; umbones minute.
- 8, 9. *C. Umbonella*. (*Little Shield Corbula*.) Transversely ovate, thick, globose; beaks short in front; umbones large, recurved, prominent; surface, with scalariform striæ.
10. *C. Hennahli*. (*Hennah's Corbula*.) Transversely elongated, ovate; short beak posteriorly; convex; valves unequal; posterior side truncate; surface smooth.
11. *Venus Elliptica*. (*Elliptical Venus*.) V. PLATE LXXXIII., Fig. 9.
12. *C. Ficus*. (*Fig Corbula*.) Orbicular; with posterior side projecting into beak; surface, with strong, transverse striæ; beaks obtuse.
- 13, 14. *C. Cuspidata*. (*Pointed Corbula*.) Tumid, transversely oblong, sub-equilateral; anterior side pointed, carinated; lower margin of left valve expanded, inflated; disc rugged. Length, $\frac{1}{2}$ in.; breadth, $\frac{3}{8}$ in.
15. *C. Striata*. (*Striated Corbula*.) Transversely oval; beak short; surface, with many, fine, transverse striæ.
- 16, 17, 18. *C. Revoluta*. (*Revolved Corbula*.) Tumid, transversely oblong; anterior side produced, truncated, with keel to beak; margin of lower valve prominent, inflected; beaks unequal; transversely sulcated; larger valve, enveloping edge of smaller, and revolving inwards.
19. *C. Globosa*. (*Globular Corbula*.) Globular, smooth; anterior side of larger valve produced into a lip, obtuse in front; posterior side round; beaks equal.
20. *C. Pisum*. (*Pea-shaped Corbula*.) Sub-globular; anterior side truncated; margin of one valve produced; beaks unequal; surface, with concentric sulci.
- 21, 22. *C. Striatula*. (*Minutely-striated Corbula*.) Ovate, ventricose; valves equal; minutely striated; beak long, straight, doubly channelled internally.
- 23, 24. *C. Elegans*. (*Elegant Corbula*.) Sub-globular; with concentric sulci; posterior side produced, smooth, truncated; left valve sub-triangular, smooth; beak of sulcated valve curved.
25. *C. Obscura*. (*Obscure Corbula*.) Gibbose, ovate, smooth; posterior side flattened.
- 26, 27, 28. *C. Costata*. (*Ribbed Corbula*.) Transversely oblong, tumid; anterior side narrowed, produced, pointed, truncate; surface, with a few, transverse sulci.
29. *C. Nitida*. (*Shining Corbula*.) Gibbose, ovate, sub-trigonal, equilateral; anterior side truncated, smooth, shining; valves equal; beak produced, inflated.
30. *C. Complanata*. (*Flattened Corbula*.) Depressed, transversely ovate, elongated; anterior side small, sub-truncate, defined by obtuse ridge; posterior portion of right valve depressed, thickened; surface, with seven or eight, transverse sulci; left valve convex, enveloping the right.
31. *C. Rotundata*. (*Rounded Corbula*.) Gibbose, ovate, sides equal; posterior side truncate; beaks produced; with concentric sulci.
- 32, 33. *C. Truncata*. (*Truncated Corbula*.) Transversely oblong-ovate; beaks large, central; posterior side produced, truncated, pointed; surface, with transverse striæ.
34. *C. Alata*. (*Winged Corbula*.) Sub-orbicular, convex; anteriorly rounded; posteriorly contracted, truncated; surface smooth; beaks incurved.
- 35.
36. *C. Punctum*. (*Punctured Corbula*.) Triangular, convex, oblique; beaks produced; sides straight; surface, with longitudinal and transverse striæ, apparently punctures.
37. *Amphidesma Securiforme*. (*Hatchet-shaped Amphidesma*.) Transversely oblong-ovate; beaks obtuse, central, narrowed and rounded at both ends; surface smooth, with remote lines of growth.
- 37*. *Mactra Angulata*. (*Angulated Mactra*.) Triangular, convex; posterior side, defined by a ridge; beaks small, central, approximating; surface smooth.
38. *C. Gigantea*. (*Gigantic Corbula*.) Gibbose, transversely oblong; anterior side produced, recurved; posterior side, with short spines; surface, concentrically sulcated near beaks.
39. *A. Deltoide*. (*Deltoideal Amphidesma*.) Orbicular, inflated; anteriorly rounded; posteriorly truncate; with well-defined, diagonal ridge from beak to margin.
40. *A. Portlockii*. (*Portlock's Amphidesma*.) Sub-orbicular; posteriorly truncated, with inflection of margin below truncation; beaks central, obtuse; surface, apparently once with concentric striæ.
41. *A. Axiniforme*. (*Axe-shaped Amphidesma*.) Triangular; beaks central; posteriorly truncated; surface smooth.
42. *M. Striata*. (*Striated Mactra*.) Sub-triangular, convex; sides equal; beaks central; lateral teeth prominent; surface, with strong, concentric striæ.
43. *M. Subtruncata*. (*Sub-truncated Mactra*.) Sub-triangular, inequilateral, strong, convex; posteriorly acuminate, flattened; surface, with transverse striæ.
- 44, 45. *A. Carbonarium*. (*Oval Amphidesma*.) Orbicular, convex; anteriorly rounded; posteriorly truncated, squarish; beaks prominent, inflected, remote.
46. *A. Album*. (*White Amphidesma*.) Transversely ovate, sub-triangular, rounded at both ends; beaks sub-central; surface smooth.
47. *A. Prismaticum*. (*Prismatic Amphidesma*.) Transversely oblong-ovate, compressed, thin, fragile; posteriorly acuminate, with slight sub-truncation; surface, with minute, concentric striæ.
48. *A. Tenuistriatum*. (*Thin-striated Amphidesma*.) Transversely elongated, sub-ovate, flat; posteriorly sub-truncate; beaks central, obtuse; surface, with many, concentric striæ.
49. *A. Recurvum*. (*Recurved Amphidesma*.) Transversely oblong-oval; beaks large, produced, sub-central; surface smooth, with shallow lines of growth.
50. *M. Glauca*. (*Grey Mactra*.) Sub-triangular, convex, thin; beaks central, obtuse, inflected; anteriorly wrinkled; surface, with concentric striæ.
51. *M. Depressa*. (*Depressed Mactra*.) Thin, trigonal, depressed; umbones prominent; cardinal teeth simple; lunule depressed, plain.
52. *M. Deaurata*. (*Gilded Mactra*.) Oblong-oval, inequilateral, flat; beaks obtuse, incurved; posteriorly sub-truncate; surface smooth.
- 53, 57, 58. *M. Solida*. (*Strong Mactra*.) Sub-triangular, strong; sides equal; surface smooth, with a few, concentric wrinkles.
54. *M. Stultorum*. (*Foolish Mactra*.) Sub-triangular, thin, convex; beaks central, prominent, inflected; sides equal; surface, with fine, concentric striæ.
55. *M. Truncata*. (*Truncated Mactra*.) Triangular, convex, strong, thick; sides equal, straight; surface smooth, with a few lines of growth.
56. *M. Arcuata*. (*Arcuated Mactra*.) Ovate; sides arched; hinge narrow; lateral teeth striated; surface smooth, with a few lines of growth.

PLATE XCII.

- 1, 2. **Thetis Major.** (*Large Thetis.*) Orbicular, convex; beaks produced, central, incurved, approximate; posteriorly angular; surface smooth.
- 3, 4, 5. **T. Minor.** (*Small Thetis.*) Gibbose; beaks pointed, approximate, incurved; margin plain; posteriorly rounded.
- 6, 7. **Lutraria Carinifera.** (*Keeled Lutraria.*) Transversely oval, convex; surface, with longitudinal striæ; posteriorly truncated, smooth, defined by obtuse keel.
- 8, 9. **L. Striata.** (*Striated Lutraria.*) Transversely oval, compressed; posterior side small, pointed, gaping; beaks prominent; surface, with many, concentric striæ.
10. **L. Gibbosa.** (*Gibbous Lutraria.*) Transversely elongated, gibbous; sides rounded; beaks depressed; surface smooth, with strong, concentric lines of growth; posteriorly a few, remote radiations.
11. **Mya Læviuscula.** (*Smooth Mya.*) Transversely oblong, squarish; with depression from beaks to base in centre of valves; beaks prominent; sides rounded; surface smooth, with a few, transverse wrinkles.
12. **L. Decurtata.** (*Divided Lutraria.*) Transversely oblong, elongated; beaks obtuse, incurved; sides rounded; surface, with strong, transverse sulci below beaks; disc, divided by strong line of growth.
13. **M. Mandibula.** (*Saw Mya.*) Transversely elongated, gibbous; disc flattened; anteriorly square, gaping; aperture oblong; surface, with about twenty-five, transverse undulations; beaks pointed, incurved.
14. **L. Elliptica.** (*Elliptical Lutraria.*) Transversely oblong-ovate, compressed; longer side, with shallow groove from beak to basal line, crossed by striæ-like lines; surface, with fine, concentric striæ and a few wrinkles.
15. **L. Primæva.** (*Primæval Lutraria.*) Transversely elongated, squarish, twisted; beaks tumid; posteriorly flattened above, curved below; back and basal lines parallel; surface, with concentric striæ and faint lines of growth.
16. **L. Rotundata.** (*Rounded Lutraria.*) Transversely ovate; beaks obtuse, incurved; sides narrowed; surface, with strong lines of growth.
17. **L. Donaciniformis.** (*Donax-shaped Lutraria.*) Transversely oblong-ovate, convex; with ridge from obtuse beaks to base; surface smooth, with strong lines of growth; basal line straight.
18. **M. Dilata.** (*Dilated Mya.*) Transversely elongated, twisted; posteriorly dilated, truncated, acute; beaks sub-central, recurved; basal line straight.
19. **L. Compressa.** (*Compressed Lutraria.*) Transversely sub-ovate; beaks obtuse; posteriorly acuminate; surface, with transverse, striæ-like wrinkles; pallial impression large.
20. **M. Æquata.** (*Equal Mya.*) Transversely oblong-ovate; beaks central, obtuse; sides rounded; surface smooth.
21. **M. Phasiolina.** (*Little Pheasant Mya.*) Elliptical; sides equally rounded; beaks obtuse; surface smooth.
22. **M. Rotundata.** (*Rounded Mya.*) Transversely oblong, convex; beaks obtuse; posteriorly rounded; surface, with transverse wrinkles.
23. **M. Arenaria.** (*Sand Mya.*) Transversely ovate; anteriorly pointed; surface, with concentric sub-striæ and undulations.
- 24, 25. **M. Ovalis.** (*Oval Mya.*) Transversely ovate; posteriorly pointed; surface, with concentric striæ and well-marked lines of growth.
- 26, 27, 28, 29. **M. Angustata.** (*Narrowed Mya.*) Transversely elongated; valves unequal; shell thin, antiquated, compressed; sides obtuse, gaping; base of right valve concave; beaks small.
30. **Potomomya Subangulata.** (*Sub-angulated Potomomya.*) Transversely oblong-ovate, compressed, equilateral; anteriorly angulated, acuminate, gaping; front emarginate; cardinal tooth large; surface smooth.
31. **P. Plana.** (*Plain Potomomya.*) Ovate, depressed, equilateral; anteriorly elongated, gaping, truncated; front rounded; beaks depressed, obtuse; surface smooth, polished internally.
32. **Lysianassa Anguilifera.** (*Angled Lysianassa.*) Transversely elongated, gibbous; anterior side broad, gaping; surface, with obtuse, angularly-bent ridges; beaks produced, obtuse.
33. **L. Literata.** (*Lettered Lysianassa.*) Transversely elongated, sub-equilateral, convex; surface smooth, with obtuse, angularly-bent ridges; shell thin.
34. **L. V Scripta.** (*Letter V Lysianassa.*) Transversely elongated, sub-equilateral, convex, smooth, with obtuse, angularly-bent ridges; angles of ridges acute.

PLATE XCIII.

1. **Mya Truncata.** (*Truncated Mya.*) Sub-ovate; posteriorly truncate, gaping; hinge-line straight; basal line parallel to back; surface, with many, concentric wrinkles.

2, 3. **Thracia Oblata.** (*Brought-up Thracia.*) Transversely oval, compressed; sides obtuse, bent; beaks prominent; surface small; with small keel near posterior side; pallial impression, with deep sinus.

4. **M. Lata.** (*Broad Mya.*) Ovate, compressed; anteriorly acuminate, truncate, with arcuated margin, gaping; beaks produced, acute; surface smooth, with a few undulations; tooth large.

5. **T. Depressa.** (*Depressed Thracia.*) Obovate, compressed, gaping; anteriorly short; hinge-line straight, depressed; ligament external, short; beaks prominent, incurved; surface smooth, with many, wavy lines of growth; shell thin.

6. **M. Calciformis.** (*Shoe-shaped Mya.*) Transversely lengthened, short, rounded at both ends; posteriorly narrowed; with slight inflection towards centre at base; surface smooth.

7, 8, 9. **T. Dubia.** (*Dubious Thracia.*) Transversely ovate; beaks approximate; with flexure from beaks to base; surface smooth.

10. **Solemya Primæva.** (*Primæval Solemya.*) Transversely oblong-oval, compressed, rounded; beaks depressed; surface, with widish, radiating striæ.

11, 12. **Panopæa Rotundata.** (*Rounded Panopæa.*) Orbicular, gibbose; beaks obtuse, central, approximate; anteriorly rounded; posterior side, with curved ridge from beak to margin, above which obliquely truncate; basal line arcuated.

13. **P. Gibbosa.** (*Gibbous Panopæa.*) Gibbose, transversely elongated; anteriorly wide, recurved, truncate, gaping; beaks incurved, pointed.

14, 15. **P. Intermedia.** (*Intermediate Panopæa.*) Ovate, depressed, inequilateral, thin, longitudinally ribbed; hinge, with one, cardinal tooth close to pit of hinge.

16. **P. Elongata.** (*Elongated Panopæa.*) Transversely elongated; beaks sub-central, obtuse; ends rounded; with oblique ridge from beak to margin posteriorly; cardinal margin straight; surface, with concentric wrinkles.

17, 18, 19. **P. Norwegica.** (*Norwegian Panopæa.*) Transversely oblong, compressed, thick; posteriorly truncate above, rounded below; with two longitudinal sulci from beak to margins, dividing valve into three parts; back and basal lines parallel; surface, with concentric wrinkles; muscular impressions deep; pallial impressions large.

20. **Solemya Ovalis.** (*Oval Solemya.*)

21. **Næara Dispar.** (*Differing Næara.*) Transversely and acutely oval, thin, biangulated in front, acuminate into beak-like elongation; right valve, with concentric sulci; left valve smooth.

22. **P. Oblata.** (*Raised Panopæa.*) Sub-triangular, gibbose, gaping; anteriorly attenuated; beaks prominent, incurved; surface, with transverse sulci.

PLATE XCIV.

1, 2. **Pholas Cylindrica.** (*Cylindrical Pholas.*) Transversely elongated, compressed, cylindrical; posterior side muricated, pointed, with small sinus in edge; beaks concealed by a reflection of edges of back; surface, with transverse striæ; with many, longitudinal elevations, with flat spines.

3, 4, 5. **P. Compressa.** (*Compressed Pholas.*) Transversely obovate, compressed; sides equally rounded; gaping at each end; with longitudinal ridge and corresponding sulcus along middle of valves; surface, with many, concentric ridges, decussated by eight or ten, longitudinal ridges anteriorly; the whole, with minute, longitudinal striæ.

6, 7. **Panopæa Ovalis.** (*Oval Panopæa.*) Transversely oval, convex; beaks near anterior side; posteriorly rounded, gaping; surface smooth.

8, 19, 20. **P. Crispata.** (*Crisped Pholas.*) Transversely sub-oval; anteriorly acuminate, reflected; with longitudinal sulcus from behind reflection to margin; posteriorly nearly plain, or with a few, concentric wrinkles; anteriorly, with many, undulating wrinkles and longitudinal grooves; with large, curved tooth internally.

9. **Solen Parisiensis.** (*Parisian Solen.*) Transversely oblong-ovate, with medial sub-sinus; surface, with longitudinal, imbricated striæ; hinge, with one tooth in one valve, and two in the other.

10. **P. Plicata.** (*Plaited Panopæa.*) Transversely oblong, cylindrical, ventricose; anteriorly truncate, gaping; posteriorly short, narrowed; beaks obtuse; surface, with concentric, shallow ridges.

11, 12. **P. Dactylus.** (*Date Pholas.*) Transversely elongated; umbonal region reflected, with series of cells externally, and with two, concentrically striated valves; with a long, spatuliform, accessorial valve posteriorly; surface anteriorly, with waved ribs, decussated by longitudinal striæ; posteriorly smooth, with shallow lines of growth.

13. **S. Legumen.** (*Pea-pod Solen.*) Transversely elongated, compressed, thin; hinge, with two, erect, recurved, cardinal teeth in one valve, and one erect, thin tooth in the other; surface smooth; rounded at both sides.

14. **S. Siliqua.** (*Pod Solen.*) Transversely elongated, straight, sub-cylindrical, inequilateral; hinge, with single, thin, compressed tooth in one valve and elongated, lateral laminae, and with two teeth in the other; lower area transversely striated, with distant lines of growth; surface smooth.

15. **S. Pelagicus.** (*Sea Solen.*) Transversely elongated, straight, lanceet-shaped, rounded at both ends; with small beak at broader end; with keel-like ridge from beak to posterior margin.

16. **S. Affinis.** (*Allied Solen.*) Transversely elongated, arcuated, thin, compressed; gaping at both sides; hinge near one side; surface smooth.

17. **S. Ensis.** (*Sabre Solen.*) Transversely elongated; arcuated and truncate at both ends; hinge, with simple, cardinal tooth in one valve, with two in the other, which has a strong, recurved, cleft tooth; with striæ like **S. Siliqua**.

18. **S. Vaginalis.** (*Vagina-like Solen.*) Linear, straight; end of margin oblique; hinge, with one triangular tooth.

21. **P. Constricta.** (*Constricted Pholas.*) Transversely elongated; anteriorly short, rounded, truncate; posteriorly constricted, acuminate; with sulcus from internal region to base; surface, with longitudinal ribs.

22. **P. Recondita.** (*Recondite Pholas.*) Transversely ovate; rounded at both sides; with oblique, longitudinal sulcus; with transverse striæ.

23, 24. **P. Candida.** (*White Pholas.*) Transversely elongated; pointed anteriorly; umbonal region, covered by elongated, accessory plate; surface, with wide-set, longitudinal and transverse striæ.

25. **P. Prisca.** (*Ancient Pholas.*) Oblong-oval; anteriorly short, rounded, with deep, angular sinus in edge; posteriorly lengthened, truncate; beaks covered by cordiform, accessory valve; with longitudinal band in centre of each valve.

PLATE XCV.

1. **Pholas Gigantea.** (*Gigantic Pholas.*) Transversely elongated, cylindrieal; anteriorly short, rounded; posteriorly elongated, angular below; surfaee, with radiating sulei and ribs; margin erenated.
2. **Pholadomya Nana.** (*Dwarf Pholadomya.*) Transversely elongated; posteriorly straight; beaks large, obtuse; anteriorly rounded; surface, with coneentric lines of growth, and a few, radiating sulci towards base in eentre of valves; basal line straight.
3. **P. Obsoleta.** (*Obsolete Pholadomya.*) Transversely elongated; beaks obtuse; posteriorly short, narrowed; surfaee, with eoneentrie sulei and four, radiating sulei from beaks to basal line.
4. **P. Ambigua.** (*Ambiguous Pholadomya.*) Transversely elongated, gibbose, rceurved; gaping anteriorly; surfaee, with several, divergent sulei.
5. **P. Compressa.** (*Compressed Pholadomya.*) Transversely elongated, eordiform, eompressed; beaks large, prominent, approximating; surfaee, with six, large, radiating ribs.
6. **P. Obtusa.** (*Obtuse Pholadomya.*) Gibbose, transversely obovate, recurved; anteriorly obtuse, plain, with seven to ten, longitudinal, tubereulated ridges.
7. **P. Cuneata.** (*Wedge-shaped Pholadomya.*) Transversely obovate, cordiform, gibbose; anteriorly produced; posteriorly very short, with longitudinal keel and several narrow ridges, eoncentrically undulated.
8. **P. Producta.** (*Produced Pholadomya.*) Gibbose, transversely oblong; surface, with six or seven, longitudinal ridges; anteriorly produeed, plain; beaks prominent.
9. **P. Lirata.** (*Ridged Pholadomya.*) Gibbose, transversely oblong; posteriorly eonvex, with large ridge and two or three, tubereulated ridges; surface, with nine or ten, tubereulated ridges.
10. **P. Deltoidea.** (*Lurking Pholadomya.*) Gibbose, obtusely triangular, with eight or nine, longitudinal, tubereulated ridges; anteriorly pointed; beaks prominent.
11. **P. Phillipsii.** (*Phillips's Pholadomya.*) Transversely oval, inflated; beaks produeed, incurved; posteriorly short, with long, longitudinal ribs from beaks to basal line, producing scalloped aspect; anterior to these, two radiating sulei; anteriorly rounded, eontraeted below.
12. **P. Simplex.** (*Simple Pholadomya.*) Obliquely oblong-ovate; with ridge from beak to base; surfaee smooth, with eoneentrie lines of growth, forming aeute angle on ridge; beaks produeed.

PLATE XCVI.

1. *Pholadomya Acuticosta*. (*Acute-ribbed Pholadomya*.) Transversely oblong-oval; beaks obtuse, incurved; anteriorly short, with four or five, keel-shaped, longitudinal ribs; posteriorly narrowed; basal line straight.

2. *P. Fidicula*. (*Harp Pholadomya*.) Transversely elongated, gibbose, recurved; surface, with many, longitudinal ridges; anteriorly smooth, compressed.

3. *P. Obliquata*. (*Oblique Pholadomya*.) Transversely elongated; posteriorly short; beaks incurved; anteriorly large, dilated, compressed towards margin; surface, with concentric grooves and flat ribs.

4. *P. Ovalis*. (*Oval Pholadomya*.) Transversely elongated, elliptical, straight, convex; front and back equally eurved; sides rounded, gaping; with one suleus posteriorly; surface, with about nine, longitudinal ridges.

5. *P. Decussata*. (*Decussated Pholadomya*.) Cordiform, with broad, centrally elevated area, bounded by an obtuse keel posteriorly; beaks incurved; surface, with longitudinal ribs, decussated by transverse ones.

6. *P. Murchisoni*. (*Murchison's Pholadomya*.) Oval; beaks large; posteriorly short, with six or seven, obtusely round, longitudinal ribs, crossed by strong, undulating sulci.

7. *P. Æqualis*. (*Equal Pholadomya*.) Transversely oval; equally rounded at both ends, straight; beaks obtuse, incurved, approximate; with six to eight, equal, divergent ribs from beaks to margin; basal line eurved.

8. *P. Angustata*. (*Narrow Pholadomya*.) Transversely elongated, gibbose; anteriorly compressed; surface, with about twelve, acute ribs, decussated by many, transverse striæ; shell thin.

9, 10, 11, 12. *Fistulana Ampullaria*. (*Ample Fistulana*.) Sheath sandy, bottle-shaped, continuous; aperture internally bicarinated; shell ovate, gaping; hiatus oval, with sinuosities.

13. *Teredo Navalis*. (*Ship Teredo*.) Valves triangular, auriform behind, hemispherieal when elosed, with eurved tooth on margin of umbonal region; surface of valves striated; each with triangular projection in front, with flat, eurved tooth; tube flexuous.

14, 15. *Teredina Personata*. (*Masque Teredina*.) Valves transversely striated posteriorly; anteriorly smooth, with a few lines of growth; accessory plate pentangular, smooth.

16, 17, 18. *T. Amphisbæna*. (*Blind-worm Teredo*.) Valves unknown; tube lengthened, tapering, tortuous, smooth, composed of short segments with sharp edges, and concave, imbricated surfaces.

19. *Amphisbæna Articulata*. (*Articulated Amphisbæna*.) See No. 16.

20, 21. *Gastrochæna Pholadia*. (*Pholas-like Gastrochæna*.) Transversely sub-ovate, cuneiform; broadly gaping anteriorly; beaks prominent, obtuse; hinge, with obscure, laminar, transverse tooth in both valves.

22, 23, 24. *G. Contorta*. (*Contorted Gastrochæna*.) Sheath claviform, bent almost at a right angle; aperture divided by two, opposite ridges; valves ovate, elongated; surface, with fine striæ.

25, 26, 27, 28. *T. Discrepans*. (*Discrepant Teredina*.) See No. 14.

29, 30. *G. Tortuosa*. (*Tortuous Gastrochæna*.) Length four times depth of both valves; obliquely lanceolate, twisted; hinge-line straight; surface smooth.

31, 32, 33, 34. *Teredo Antenautæ*. Valves, with transverse striæ, those on anterior side, many, zig-zag, dentated, smooth, with dorsal, posterior, accessory valves testaceous.

35, 36, 37. *Clavagella Coronata*. (*Crowned Clavagella*.) Tube straight, elongated, claviform, crowned with about eight, antler-like tubes; included valves oblong, sulcated, with strong lines of growth, gaping; beaks acute, large; pearlaceous internally.

PLATE XCVII.

1, 2, 3. *Pollicipes Sulcatus*. (*Furrowed Pollicipes*.) Valves, with longitudinal striæ; terminal valve, Fig. 2, elongated, rhomboidal; posterior valves, Figs. 1 and 2, acuminate, broad, lanceolate, carinated; both with sharp, longitudinal striæ.

4, 5, 6. *P. Unguis*. (*Claw Pollicipes*.) Valves very curved, broad, smooth.

7, 8, 9. *P. Rigidus*. (*Rigid Pollicipes*.) Posterior valves, with thin, transverse, prominent elevations; lateral valves elongated.

10, 11. *P. Radiatus*. (*Radiated Pollicipes*.) Valves cuneiform, flat, with sharp, elevated rays diverging from their apices.

12. *P. Cornucopia*. (*Horn of Plenty Pollicipes*.)

13, 14, 15, 16, 17, 18. *P. Maximus*. (*Large Pollicipes*.) Terminal valves plain, rhomboidal, sometimes with central ridge and lines of growth; posterior valve lanceolate, elongated, arcuated; posterior valve, Figs. 13 and 18, terminal; valve 17, anterior valve.

19, 20, 21, 22, 23, 24. *P. Lævis*. (*Smooth Pollicipes*.) Lateral valves rhomboidal, smooth, thin, flat.

25, 26, 27, 28, 29, 30, 31, 32, 33, 34. *P. Reflexus*. (*Reflected Pollicipes*.) Posterior valve lanceolate, straight or recurved; lateral valves flat, smooth.

35, 36. *P. Antiquus*. (*Ancient Pollicipes*.) Posterior valves long, curved, narrow, with transverse striæ; lateral valve oblique, sub-quadrate; striæ triangular.

37, 38, 39, 40, 41, 42, 43, 44, 45, 46. *P. Minutus*. (*Minute Pollicipes*.) Posterior valves elongated, straight; lateral valves triangular, with wavy striæ.

47, 48. *Coronula Diadema*. (*Crown-shaped Coronula*.) Compressed, with six, prominent, longitudinally-ribbed valves, alternating with as many transversely striated ones.

49. *Balanus Tessellatus*. (*Chequered Balanus*.) Obliquely conical, thin, with six, smooth valves; interstices finely tessellated; aperture oval.

50. *B. Balanoides*. (*Acorn Balanus*.) Sub-conic, sub-depressed, smooth; aperture wide; operculum, with two, anterior valves, with transverse striæ; posterior valves smooth.

51. *B. Spongosus*. (*Sponge Balanus*.) Ovate, with six, angulated compartments; three anterior divisions broad; surface wrinkled, and with many, spiniform processes; operculum four-valved, anterior pair, with strong, deep ridges, crossed by longitudinal striæ; internal margins serrated; posterior pair long, sharp-pointed, arcuated; base of shell cup-shaped.

52, 53, 54, 55, 56. *B. Crassus*. (*Thick Balanus*.) Oblique, thick, with six, smooth, obscurely-ribbed valves; aperture triangular.

57. *B. Rugosus*. (*Rough Balanus*.) Sub-conic, with six compartments; posterior ones broadest, crossed by deep divisions, formed by lines of growth, sometimes wrinkled or striated longitudinally; aperture large; inner margin transversely ridged.

58. *B. Punctatus*. (*Punctured Balanus*.) Sub-conic, with indistinct compartments; with many, longitudinal ribs and several, transverse lines of growth; aperture wide; operculum punctured.

59. *Adna Sulcata*. (*Furrowed Adna*.) Sub-conic; with many, longitudinal, plain ribs; aperture wide.

60. *B. Tintinnabulum*. (*Little Bell Balanus*.) Obtusely sub-conic, with three, raised compartments, longitudinally striate, and three depressed ones, transversely striate; aperture wide.

61. *Clitia Verruca*. (*Wart-like Clitia*.) Depressed; compartments strongly ribbed diagonally, finely striated transversely; margin of base serrated; aperture, closed by operculum.

62. *B. Costatus*. (*Ribbed Balanus*.) Sub-conic, depressed; circular at base; with seventeen to nineteen, equidistant, smooth ribs, extending beyond basal margin; aperture small, sub-ovate.

63. *B. Communis*. (*Common Balanus*.) Strong, rugged, conic; compartments unequal, with many, longitudinal, squamous ribs; interstices transversely wrinkled; aperture contracted.

64. *Agnostus Pisciformis*. (*Fish-shaped Agnostus*.)

65. *Acidaspis Brightii*. (*Bright's Acidaspis*.)

66. *A. Tuberculatus*. (*Tuberculated Agnostus*.)

PLATE XCVIII.

- 1, 2. *Serpula Triserrata*. (*Three-serrated Serpula*.) Tube attached, thick, triangular, with three, thin, serrated keels upon its upper angle.
3. *Vermilia Vermicularis*. (*Worm-like Vermilia*.) Tube cylindrical, transversely wrinkled, enlarging, smaller end terminating in fine point.
4. *V. Triquetra*. (*Triangular Vermilia*.) Tube strong, wrinkled, twisted, contorted; sometimes straight or flexuous, carinated; base spreading, triangular.
5. *V. Minuta*. (*Minute Vermilia*.) Tube smooth, semi-lunar; aperture sub-triangular, increasing from a sharp point; minute.
6. *S. Obtusa*. (*Obtuse Serpula*.) Obtusely quadrangular, smooth; with obtuse, thick keel on flattened back; edges of margin produced, bilobate, thickened; base expanded.
7. *S. Carinella*. (*Small-keeled Serpula*.) Cylindrical, adherent, tortuous, tapering towards apex; with small, longitudinal keel, disappearing towards aperture.
8. *S. Plexus*. (*Woven Serpula*.) Cylindrical, smooth, curved, interwoven into masses; tube diminishing.
- 9, 10. *S. Tenuis*. (*Thin Serpula*.) Cylindrical, with minute keel on back and a few, acute rings; shell thin; occurs in groups.
11. *S. Rustica*. (*Rude Serpula*.) Tube quadrangular; angles obtuse, becoming curved and interrupted as tube increases, eventually taking the shape of nodules, surrounding cylindrical tube.
- 11.* *S. Vermes*. (*Worm Serpula*.) Tube, increasing with age, and with deepish keel on transversely wrinkled surface.
12. *S. Tetragona*. (*Tetragonal Serpula*.) Tube very long, narrow, unattached; four-sided; flat externally, with prominent angles; aperture round.
13. *S. Deplexa*. (*Winding Serpula*.) Tube cylindrical, smooth, winding in different directions.
14. *S. Filiformis*. (*Thread-shaped Serpula*.) Tube smooth, cylindrical; slightly curved, consisting of masses side by side; sometimes in branched masses.
15. *V. Pentangulata*. (*Five-sided Vermilia*.) Tube five-sided, smooth; keel acute; aperture small, circular.
16. *V. Sulcata*. (*Furrowed Vermilia*.) Tube elevated; back and sides compressed; with thick, longitudinal keel along centre of back, with narrow sulcus on each side; surface irregular, with strong lines of growth.
17. *S. Tuba*. (*Tubular Serpula*.) Tubes simple, generally solitary; diameter uniform; shell thin.
18. *S. Variabilis*. (*Variable Serpula*.) Tube cylindrical, rough, with irregular suture on one or more sides; considerably attached to extraneous bodies; in young state attached portion triangular.
19. *V. Tricuspidata*. (*Three-pointed Vermilia*.) Smooth, glossy, diaphanous, sub-triangular, contorted; base spreading, tapering to a fine point; back, with elevated, sharp ridge, finely serrated; aperture large, orbicular, with tooth-like termination of keel over it.
- 20, 21, 35. *S. Runcinata*. (*Saw-like Serpula*.) Sub-triangular, tortuous; with three, strongly serrated, longitudinal keels on back; aperture rounded; base expanded.
22. *S. Socialis*. (*Associated Serpula*.) Tube long, thin, smooth, thread-like, straight, loose or bent all ways, massed together in bundles two or four inches long; single tubes equally thick throughout; fasciculi of different dimensions.
23. *S. Articulata*. (*Articulated Serpula*.) Tube quadrangular, with rings, each with four, oval tubercles; angles rounded; aperture circular.
- 24, 25. *V. Crassa*. (*Thick Vermilia*.) Tube acutely conical; externally triangular, rounded within; edges waved, two attached to extraneous matter.
26. *S. Compressa*. (*Compressed Serpula*.) Lanceolate, compressed, diminishing, smooth; slightly tortuous; part of tube free.
27. *Cylogyra Granulata*. (*Grained Cylogyra*.) Discoidal, thick; surface, with rows of prominent grains; aperture circular, with lip fringed with protuberant grains. Diameter, $\frac{1}{2}$ in.
28. *S. Tricarinata*. (*Three-keeled Serpula*.) Aperture reflected, surface smooth, with three, thick keels; aperture circular, with two, thickened lobes at base; edge thin.
- 29, 49. *Spirorbis Carinatus*. (*Keel'd Spirorbis*.) Exterior volution angulated, with dorsal keel; interior volutions concealed; umbilicated; aperture orbicular.
30. *V. Macropus*. (*Macropus Vermilia*.) Tube thick, waved, increasing, triquetrous; front sulcated; aperture minute, round, elevated by a thick mass of testaceous matter.
- 31, 45. *V. Ampullacea*. (*Bottle-shaped Vermilia*.) Tube thick, irregular, angulated, with orbicular enlargement near circular aperture, with notched keel on back.
32. *S. Lacerata*. (*Lacerated Serpula*.) Tube curved, circular, roughish; aperture round, with slight scar; shell thick.
33. *S. Heptagona*. (*Seven-sided Serpula*.) Tube tapering, with seven, rounded, longitudinal keels; aperture heptagonal.
34. *S. Contracta*. (*Contracted Serpula*.) Tube circular, decreasing, abruptly contracted at smaller end.
36. *S. Fluctuata*. (*Fluctuating Serpula*.) Circular; surface smooth, with five, undulating, wire-like, low keels; surface of attachment small.
37. *S. Squamosa*. (*Scaly Serpula*.) Compressed; rapidly increasing in width; surface, with keel along back and with scales.
38. *S. Extensa*. (*Swollen Serpula*.) Cylindrical, tumid, smooth; aperture circular.
39. *Serpulites Longissimus*. (*Very Long Serpulites*.) Lengthened; diameter almost uniform; compressed, smooth, tortuous; composed of thin laminae of shell and much animal matter.
40. *S. Antiquata*. (*Antiquated Serpula*.) Cylindrical, decreasing; surface uneven, with transverse, irregular rings; part adherent, by expansion of tube; margin of aperture obtuse.
41. *S. Plana*. (*Flat Serpula*.) Convoluted, depressed; surface smooth; aperture circular.
42. *S. Triangulata*. (*Triangular Serpula*.) Rounded, smooth, triangular on back; central angle elevated into keel; surface, with circular lines of growth; adherent.
43. *S. Capitata*. (*Headed Serpula*.) Tube circular, smooth, variously bent, with irregular rings; with a large termination in form of a head.
44. *S. Minutus*. (*Minute Spirorbis*.) Sinistral; inner volutions concealed; surface smooth. Diameter, less than $\frac{1}{10}$ in.
46. *S. Intestinalis*. (*Intestinal Serpula*.) Outer portion of tube straight, lower portion twisted; surface roughish, with waved keel on back; aperture round; shell strong.
47. *S. Vortex*. (*Vortex Serpula*.)
48. *S. Nautiloides*. (*Nautilus-like Spirorbis*.) With three or four, lateral volutions; rounded about, with transverse wrinkles; central volution forming an umbilicus; base flat, expanded; aperture sub-triangular.
50. *Cornuoides Major*. (*Greater Cornuoides*.) Smooth, with three, cylindrical volutions, exterior one abruptly increasing, prolonged into lengthened, cylindrical, straight tube; aperture orbicular. Diameter, $\frac{1}{2}$ in.
51. *S. Corrugatus*. (*Wrinkled Spirorbis*.) Strong; last and second volutions only visible; deeply umbilicated; aperture orbicular. Diameter, $\frac{1}{2}$ in.
52. *S. Granulatus*. (*Grained Spirorbis*.) Sub-depressed, with volutions deeply grooved, spirally and transversely wrinkled; umbilicated; aperture orbicular, with annular margin. Diameter, $\frac{1}{2}$ in.
53. *S. Sinistrorsus*. (*Sinistral Spirorbis*.) Sub-depressed; with two or three, sub-cylindrical, sinistral volutions; wrinkled; lateral; aperture sub-triangular. Diameter, $\frac{1}{2}$ in.
54. *V. Concava*. (*Concave Vermilia*.) Discoidal, involute, concave on flattened side; surface smooth, even; last volution only slightly attached.
55. *V. Ovata*. (*Ovate Vermilia*.) Discoidal, involute, ovate, more concave below than above.
56. *S. Heterostrophus*. (*Reversed Spirorbis*.) With two or three, reversed volutions, and three, lateral, spiral ridges, crossed by strong wrinkles; base flat, spreading; aperture orbicular. Diameter, $\frac{1}{2}$ in.
57. *V. Umbonata*. (*Shield Vermilia*.) Discoidal, involute, umbonated above, concave below; smaller volution lost in umbo.
58. *Dentalium Septangulare*. (*Seven-angled Dentalium*.) Smooth, shining, tapering to a pervers point; with seven, strong, longitudinal, smooth ribs.
59. *D. Decussatum*. (*Decussated Dentalium*.) Surface, with about twenty, longitudinal striae and several, obscure, intervening ones, with many, distinct lines of growth; aperture elliptical.
60. *D. Strangulatum*. (*Strangled Dentalium*.) Cylindrical; scarcely tapering; smooth; with compressed, narrow space near base.
61. *D. Aneeps*. (*Obscure Dentalium*.) Arcuated; with longitudinal ribs for one-third of length from apex; one rib on each side prominent, sharp; lower part smooth; aperture round.
62. *D. Nitens*. (*Shining Dentalium*.) Almost straight; tapering towards smaller end; aperture at point circular; aperture expanded; surface even, shining.
63. *D. Ellipticum*. (*Elliptical Dentalium*.) Straight, abruptly tapering, compressed; surface uneven, with rough lines of growth; aperture circular, with external edge elliptical.
64. *D. Entale*. (*Entalis Dentalium*.) Slender, smooth, glossy, arcuated, tapering to small, pervers point, with a few, transverse wrinkles.
65. *D. Medium*. (*Middle-sized Dentalium*.) Tapering, trumpet-shaped internally; aperture circular, wide; lip sharp; surface, with transverse striae or conspicuous lines of growth; shell thin.
66. *Serpula*. See 75.
67. *D. Tentaculites*.
68. *D. Giganteum*. (*Gigantic Dentalium*.) Arcuated, smooth; with several, strong sulci at narrowed, apical end; with narrow line more than half the length from the base; surface smooth.
69. *D. Striatum*. (*Striated Dentalium*.) Surface, with ten or eleven, regular, longitudinal, acute, prominent striae, producing triangular appearance; between larger striae one to four, minute, intervening ones, with many lines of growth; aperture circular. Length, 2 in.
- 70, 76. *D. Inerassatum*. (*Thickened Dentalium*.) Tapered, curved, swelling near circular aperture, with sharp lip; surface smooth.
71. *D. Cylindricum*. (*Cylindrical Dentalium*.) Straight, scarcely tapering, cylindrical, smooth; aperture circular.
72. *D. Planum*. (*Plain Dentalium*.) Tapering, curving; surface smooth; aperture circular, with thickened lip, sharp at edge; small end acute. Length, 1 in.
73. *D. Costatum*. (*Ribbed Dentalium*.) Surface, with twelve to fifteen, close-set ribs, crossed by obscure lines of growth; aperture circular.
74. *D. Acuminatum*. (*Pointed Dentalium*.) Arcuated, smooth; surface, with waved lines of growth; aperture of smaller end smooth, acute at edge.
75. *S. Vertebralis*. (*Vertebral Serpula*.) Tube quadrangular, with obtuse, longitudinal tubercles in rings, four on each ring.