

THOMAS MARTYN AND THE UNIVERSAL CONCHIOLOGIST.

By WILLIAM HEALEY DALL,

Curator, Division of Mollusks.

The career of Thomas Martyn, the artist publisher of the most beautiful iconography of shells ever prepared, the medalist of a pope and four kings, is little known. He has been confused with a distinguished cotemporary botanist of the same name in some bibliographies, and the facts now discoverable about his life, and even his publications, are disappointingly scanty. In Nichols' *Literary Anecdotes* (VIII, p. 432) he is styled "the entomologist, a native of Coventry." In the *Biographical Dictionary of Living Authors* (London, 1815-16) he is described as "an ingenious naturalist in London;" while Dryander, in his catalogue of the library of Sir Joseph Banks (V, p. 347, 1800), has the brief note, "mercator rerum naturalium Londini." The notice in the *Dictionary of National Biography* (XXXVI, p. 321, 1893) more appropriately refers to him as a "natural history draughtsman and pamphleteer," flourishing between 1760 and 1816. No clue to the dates of his birth and death has been found, but it appears to be certain that he was a resident of London from 1781 to 1816, living successively at 26 King street, Covent Garden, 16 and 12 Great Marlborough street, and 62 Great Russell street, Bloomsbury. His name appears on the list of subscribers to the publication of Da Costa's *British Conchology* in 1778. Maton and Rackett, in their *Historical Account of Testaceological Writers* (1804), speak of him as a "dealer," which is also implied by Dryander's note above cited; but if he dealt in anything except his publications these two references are the only traces of it. His name does not appear in a long series of London business and post-office directories of the period which I have consulted. He was evidently a man of education, the language of his text is correct, he knew French, some Latin, and possibly some Greek (there is a Greek subtitle on his frontispiece); he tells us that his work had received the approbation "of many noble and learned

persons, and more particularly of Sir Joseph Banks, "a sanction, too, given in a manner the most flattering." He was allowed to dedicate his *Universal Conchologist* to the King, which meant, in those days, that at least he was a person properly vouched for. We may fancy he was not inimical to the Roman faith, since his first copy, or at least the copy among those presented to dignitaries which was earliest rewarded by a medal, was sent to the Pope Pius VI. That he was a man of alert mind, interested in many things, is indicated by the list of his publications, which begins with a quarto essay on ballooning, having a colored frontispiece representing a supposedly dirigible balloon of the author's design. This is followed by the *Universal Conchologist*; by a pamphlet suggesting a national assessment for the maintenance of disabled soldiers and sailors; by the *English Entomologist*, including illustrations of more than five hundred British beetles; by a work on spiders, based in part on Albin's original drawings purchased at the sale of the Portland collection in 1786,^b plates of plants and lepidopterous insects; an anti-Napoleonic pamphlet; and one entitled *Great Britain's Jubilee Monitor*; the list finally winds up with a new edition of the *Natural System of Colors*, by the late Moses Harris, edited by Martyn in 1811, a quarto publication dedicated to our own Benjamin West, "the British Raphael."^c

All this shows a man of alert and original mind, artistic, scientific, philanthropic, and patriotic. The character of the illustrations which have come down to us show that the artistic faculty of Martyn, as regards the representation of objects of natural history, was something quite out of the ordinary. His presence in that part of the *Dictionary of Living Authors* which was (as indicated by the running date) prepared in 1815, leads to the conclusion that he was then living, and a note in the preface to his pamphlet of 1804 informs us of the existence of a son, who, by the favor of the Duke of York, to whom the pamphlet was dedicated, had been recommended for a commission in the royal army.

The manner of preparing the plates of his iconographies is described by Martyn in the preface to the second issue of his *Conchologist*, in 1789, and is creditable to his ingenuity.

Finding that considerations of expense and discipline made it impracticable to secure the service desired from independent artists, "he

^aBanks, who was on excellent terms with George III, may very possibly have procured the royal consent to the dedication of the *Universal Conchologist* to his majesty.

^bPortland Catalogue, p. 119, No. 2623.

^cThe first edition, published in the author's lifetime, had been dedicated to Sir Joshua Reynolds. Harris, like Martyn, was an entomologist and artist of no mean capacity, and his *British Aurelian* has passed through four editions, the last edited by Westwood so late as 1840. Harris is believed to have died about 1785, and his career may have been instrumental in leading Martyn to undertake his own iconographies.

thought it probable that in the productions of boys, all of whom had received their first rudiments of good taste from the same common preceptor, and who should execute whatever they did under his immediate inspection and control, there would generally be found that uniformity and equality of style, conception, and execution which it would be in vain to require from a variety of independent artists." Impressed with this idea, he now directed his attention to the discovery and instruction of "a number of young persons who, born of good but humble parents, could not from their own means aspire to the cultivation of any liberal art, at the same time that they gave indications of natural talent for drawing and design."

One of this character soon presented himself and made rapid and satisfactory progress, and by the end of a year was sufficiently proficient to serve as a tutor himself, when two more were engaged, and in two years such advances were made that the exhibition of specimen plates excited an admiration the sincerity of which was evinced by orders for copies of the proposed work. At the end of three years from the beginning of the undertaking, seventy copies of the first two volumes (comprising 80 plates) had been completed.

On comparison of the later work with the earlier, however, the latter appeared so inferior that Martyn decided to totally reject the whole of what had been done, and began again, "in that improved style of execution which was ultimately to determine the fate and reputation of the work." Here spoke the artist, and the "dealer," if he existed, totally disappeared with the rejected copies. Finally, the etchings on copper, from which were printed the plates serving as a base for the color work, were taken from outside engravers and made in what he fondly terms his academy, so that the whole work could be prepared in his own establishment.

All this cost money, of course, and Martyn admits having "sunk in it no inconsiderable share of a private competence," but in return he had "the singular gratification of seeing his most sanguine expectations realized by the event," and his publication rendered "as worthy of himself, of his country, and of the learned world as art and his utmost abilities of every kind could effect."

Apart from its product the little academy seems to have been a source of pride to Martyn as furnishing society with an accession of useful members in the persons of his pupils, whose number finally grew to nine, instructed and supervised by Martyn himself, and he winds up his account of it with the declaration that in this little seminary duty toward God and man is earnestly enforced, since the conductor of it "would feel it a nobler boast to have educated one good citizen than any number of artists, however ingenious."

While the essay on a dirigible balloon appears to have been earlier published, the *Universal Conchologist* seems to have been Martyn's

magnum opus, and the one to which his interest was most attached. The planning to prepare a work which should be of a unique excellence was done with this special object in mind, and the subsequent publications on insects, spiders, plants, etc., were incidental to the possession of the facilities which had been provided for the conchologist. For his insects Martyn accepted the system of Linnæus, but in his conchological work he projected a system which should be his own, while preserving a binomial nomenclature. He explains^a that his new classification "will be found to stand on the firm and unalterable basis of truth and nature," his leading idea being to avoid lengthy descriptions by substituting for them figures of such perfection as to convey fully the essential characters of the shells. "Accordingly, the synoptic table," which was to display the scheme of classification devised by the author, "will not appear until sufficient progress shall have been made in the work to prepare the mind of the student for a candid decision on its comparative merits." Meanwhile, to render the work useful from the beginning, "an explanatory table will be given, showing, in different columns * * * the English name and family with an initial letter denoting the genus or division of the family to which the shell belongs, according to the system of the author; thirdly, the Latin name; fourthly, where the shell is found; and lastly, in what cabinet it is preserved."

"The work will commence with the figures of the shells (most of them rare and nondescript) which have been collected by the several officers of the ships under the command of Captains Byron, Wallace, Cook, and others in the different voyages made to the South Seas. The whole of which will be contained in two volumes."

"The author presumes that the method which he has adopted,^b of displaying the figure of each shell in two positions, would generally be preferred * * * as it would have been impossible, from so small a number as the South Sea shells afford, to select proper companions of the same size and genus to be given in the same plate, and that, too, repeatedly. In future volumes^c it is proposed to give at least two different shells of the same genus in each plate."

I have already described the organization by which Martyn intended to carry out his plan, the outcome of which is described by Maton and Rackett (1804) in the following remarks:

"In the year 1784 Martyn, a dealer, began one of the most beautiful and costly conchological works this country has ever seen. * * * But before this ingenious artist had completed his two volumes of

^a All the citations not otherwise explained are from the text of the introduction and preface to the *Universal Conchologist*.

^b In the two volumes above referred to.

^c That is, in those volumes projected to contain the figures "of every known shell," but of which only two were prepared.

South Sea shells he discovered the impossibility of procuring purchasers sufficient to compensate him for his labour and expense—a misfortune generally experienced by private individuals who embark in such extensive and sumptuous undertakings. He therefore did not proceed beyond 160 plates; which, however, as they include all the species then known to the Southern navigators, may be regarded as constituting a complete work, so far as it goes, and it was all that Mr. Martyn had absolutely engaged himself to execute. There is only one species on a plate, but each is exhibited in different aspects, with incomparable elegance, and with great correctness of drawing and coloring."

The reader will perceive from Martyn's account of the manner in which his plates were prepared—and from an intimation in his introduction that the plates were intended to be arranged when the work was completed, according to his new system of classification—that it was practicable for the author to prepare copies to meet the demand, be the same slow or rapid; also, that mere prudence would lead the author to prepare no great number of sets of plates beyond those for which he had received or expected orders.

This probably accounts for the rarity of the work, and it will be recalled that the first "edition," if it may be so termed, the one which was rejected on account of the want of uniformity in its execution, consisted of only seventy copies of the first eighty plates.

By the citations which follow the reader will see that the bibliographers have been unfortunate or careless in their references to this work, and that the dates of publication, the meaning of the word "volume" when used in connection with these plates, and some other statements in regard to them, are ambiguous or involved in more or less doubt. The citations are given in the order of their dates:

Portland Catalogue, 1786 (*circa* April 1).

The Universal Conchologist, exhibiting the Figure of every known shell, accurately drawn and painted after Nature, with a new systematical arrangement, by Thomas Martyn, 1784.

NOTE.—The compiler of the *Portland Catalogue*, who is unknown, makes copious references to the figures in Martyn up to plate 80, or by Martyn's estimate volumes I and II, but he assigns to that work the date of 1784, the date of the *Catalogue* being early in 1786. Dr. Solander, whose manuscript names are thus illustrated by Martyn's figures, without acceptance of Martyn's previously published names, must have obtained the shells and labeled them between the arrival of the expedition late in 1780 and the date of his own death, in May, 1782. The *Catalogue* is largely based on Solander's manuscript description of the *Portland Cabinet*, which must have been chiefly prepared before the appointment of Solander as keeper of the printed books in the British Museum, in 1773. The references to Martyn appear to have been added by the anonymous compiler. In looking over the entries in this *Catalogue* one often finds references to Martini's *Conchylien Cabinet*, with the name misprinted Martyn. These can, however, be at once discriminated from the ref-

erences to the real Martyn by the numbers cited for figures, which are invariably larger than 160.

The latest volume of Martini referred to is III, 1777, although nine volumes of the Cabinet had appeared by 1786.

Dryander. Bibl. Banksiana, II, p. 319, 1796; V, p. 347, 1800.

The Universal Conchologist in english and french. Vol. I, pagg. 27, tab. aeneae color. 40. London, 1784, fol. obl.

NOTE.—Dryander took charge of the Banksian Library in 1782 in succession to Solander. He is generally regarded as a very accurate person, though the above title is far from impeccable. It is somewhat odd, considering the relations mentioned between Banks and Martyn, that the library of the former should contain only the first forty plates of the Universal Conchologist, and leads one to wonder if Solander's loyalty to Linnæus and Martyn's rejection of the Linnean classification of shells had anything to do with it.

Maton and Rackett, Linn. Trans., 1804.

Thomas Martin, Universal Conchologist, London, vol. 1, 1784; vol. 2, 1786, fol., with 160 most elegant plates.

NOTE.—It would appear from the above that Maton and Rackett regarded as a "volume," not the 40 plates so denominated in Martyn's own introduction, but the 80 plates which were bound actually into a volume, as in one I have seen in an apparently contemporaneous binding. They are not alone in this view, and it would follow that, if their citation be correct, plates 1-80 appeared in 1784 and 81-160 in 1786.

Dillwyn, Rec. Shells, vol. I, 1817, p. x.

The Universal Conchologist by Thomas Martyn, London, vol. I, 1784, vol. II, 1786.

Chenu, Bibl. Conch. 1ère Ser. tome II, 1845.

Reprint of the French text of Martyn's Introduction and preface, reproduction of his figures on 56 plates, with a brief "avertissement" by the editor, in which he states that the work was published in London from 1769 to 1784, in four folio volumes. The rarity of this beautiful work and the style of its execution, he says, have placed it among the most remarkable books of the epoch, but its costliness and rarity are such that it would be easy to mention all the libraries which possess it; thus in Paris it is only found complete in that of M. Benjamin Delessert (of which Chenu was then custodian); the two first volumes alone in the public libraries and those of some rich amateurs. A second edition, in quarto, was issued in 1789. "Mr. Gray (J. E.), director of the British Museum, has informed me (Chenu) that a fifth volume of the Universal Conchologist exists, but this volume, unfinished by Martyn, has not been published, and the figured species are not even named, so that it forms merely a collection of plates of no scientific interest."

NOTE.—We shall show that Chenu's first date is erroneous. Whether his statement that volumes 3 and 4 appeared by 1784 has any foundation in fact is doubtful; it is at any rate erroneous. The fifth volume spoken of was doubtless a collection of plates which had been prepared after the issue of volume 4, and were on hand when the decision was made to abandon the publication. Chenu's work is useful, notwithstanding a certain number of misprints, but it would have been still more so

from our standpoint if he had given a careful bibliographic collation of the complete set in the Delessert library.

Englemann, *Bibl. Hist. Nat.*, I, 1846, pp. 182, 462.

(1) Figures of nondescript shells collected in the several voyages to the South Seas. 2 vols., with 80 col. plates. 4°. London, 1764.

(2) *The same*, with 80 original drawings, exquisitely colored. Atlas in folio. London (Bohn). 18£.

(3) The universal conchologist: exhibiting the figure of every known shell, accurately drawn and painted after nature; with a new systematic arrangement (in engl. and french). 4 vols., with 161 plates, comprising 322 figures of shells, colour. by the author. gr. broad in folio. London, 1784.

(4) *The same* (in engl. and french). 2 vols., with 160 colour. pl. of shells in roy. 4°. London (1785 oder), 1789.

(5) Expose succinct de la nature, de l'origine et des progrès d'un établissement particulier, former pour instruire la jeunesse dans l'art d'expliquer et de peindre des sujets d'histoire naturelle (en Anglais et en Franç.). 4°. London, 1789.

NOTE.—The date to No. 1 is obviously incorrect and was perhaps a misprint for 1784. The consensus of the references is that the work appeared both in folio and quarto, which, being merely a matter of paper, is not unlikely to be the case. The date of No. 3 was probably taken from the first title-page of the bound volume, the others being overlooked. No. 4 is bound, as usual, in two volumes; the second corresponds to volumes 3 and 4 of Martyn and appeared not later than 1789, but perhaps in 1786. No. 5 is the preface to this second half of the work and was probably distributed as an advertisement of the whole publication. On the whole, Englemann's citations give the impression of data obtained at second-hand, with a praiseworthy endeavor to get as much as possible, though unable to verify it in detail.

Carpenter, *P. P.*, *Rep. Brit. Assoc. for 1863*, p. 517, 1864.

Thomas Martyn, *Universal Conchologist*, London, 1784.

NOTE.—Carpenter remarks that those who know this work only from Chenu's reprint can form but a poor idea of the exquisite beauty of the original. He notes that it may be consulted at the British Museum, Royal Society, and the Royal College of Surgeons. He cites fifteen northwest American species and gives references to figures in the Conchylien Cabinet, Vols. X and XI, copied from Martyn.

Davies Sherborn, *Index Anim.*, 1902, p. xxxvii.

I. Martyn, *Thos. (zoologist)*, *Univ. Conchologist*. 4 vols. fo. Lond. With tables, &c.

I. 40 pl. and table. 1784 [not 1769 as often quoted.]

II. 40 pl. and table. 1788.

III. 40 pl. and table. 1789.

IV. 40 pls., table, and 2 pls. of medals. 1792 (?).

[I have seen a unique example of this book, dated 1789, which contains 110 of the 160 plates, bound up with the engraved t. v. and the Dedication to the King. It is uncoloured, shows the plates to be highly finished mezzotints, and has a label on the cover which reads: "About 120 plates | of | figures | of | nondescript shells, | collected in

the Different Voyages to the | South Seas | since the year 1764. | By Thomas Martyn. | Price Two Guineas." |]

II. — Short account of a private establishment. 4°. Lond. 1789.

[This is the "Advert." found in his "Univ. Conch." and contains Born's letters and the plates of medals.]

NOTE.—Considering the stupendous undertaking upon which Mr. Sherborn is engaged, of which the *Index Animalium* is only a preliminary instalment, this is doubtless as full an account as could reasonably be expected. We shall show, however, that the dates probably need some revision. The "unique" collection of uncolored plates is perhaps such a gathering as is responsible for Englemann's entry No. 1, elsewhere alluded to.

National Museum, Sectional Library, Div. Moll., 1905.

Figures | of | non-descript shells, | Collected in the different Voyages to the South Seas | since the year 1764. Published by | Thomas Martyn, | And sold at his House, No. 16, Great Marlborough Street, London. | — | Des | Figures des Coquilles | jusqu'à présent Inconnues, recueillies en | Divers Voyages a la Mer du Sud depuis l'année 1764, | et | données au public, par | Thomas Martyn. | Elles se vendent chez lui au No. 16, Great Marlborough Street, Londres. | MDCCLXXXIX. |

Large quarto, colored frontispiece, not numbered, exhibiting *Turritella terebra* Lam., with the legend $A\Phi P\Theta\Delta ITH$; engraved titlepage; engraved dedication to the King (George III); engraved plate of medals, as follows:

I. Obverse, Pivs. Sextvs. Pont. Max. A. VIII; reverse, Sacra. solem. festo. die. S. Pii. V. Augustæ. vindelic. acta. (around the margin); Pius. VI. P. M. presentia | sua. auxit | MDCCLXXXII. |

II. Obverse, Pivs. Sextvs. Pont. Max. An. IX; reverse, Sacrarivm. basil. Vaticanæ. | A. fundamentis. extructivm | An. MDCCLXXXIII. |

III. Obverse, Iosephvs II Avgvstvs; reverse, Cvrandis. militvm. morbis. et. vylneribvs. Academia medico-chirvrgica institvta. Vienæ. MDCCLXXXV.

IV. Obverse, Ferdinandvs IV et Mar. Carolina; reverse, Firmvm imperii fvndamentvm. Neap. CIQIQCCLXXVII.

This plate is supplied with the following legend: Aurea Numismata; | Thomæ Martyn, Londinense a Principibus donata in testimonium | favoris et studii quibus novum magnum ejus de Conchis opus acceperunt. | 1788. |

[NOTE.—The date on medal number IV is probably that of the foundation and not of the donation.]

Second plate of medals:

I. Obverse, Carolvs Caroli fil. Philippi Nep. Avgvstvs; reverse, Acclamatio Avgvsta. Matriti. XVI. Kal. Febrvrias. MDCCLXXXVIII.

II. Obverse, Carolvs III, Rex Catholicvs; reverse, Regnorvm regimine suscepto. Matriti. XVI. Kal. Febrvrias. MDCCLXXXVIII.

The legend to this plate is the same as to the last, except the date, which is 1792.

Two engraved explanatory tables. Bastard title: | The | Universal Conchologist | — | Le | Conchyliogiste Universel. |

P. [2]. Introduction [in English, reproduced in French on opposite page, ending page 23, page 24 blank]; page 25, subtitle, "Preface;" p. 26 the preface begins as before, English and French, continuing to page 35. Page 36 begins with testimonial letter from Baron von Born, dated Aug. 18, 1787, announcing the receipt of the work and the dispatch of the medal; page 38 continues the reprint of letters, that of June 15th, 1788, acknowledging the receipt of volume second of the shells and proof sheets of the English entomologist; on the opposite pages the text is reproduced in French; page 40 is blank; then follow plates 1 to 80, the plates illustrating one species each and headed fig. 1, etc., instead of plate 1, etc. The two views usually given of each shell are not separately numbered or lettered; the work is delicate etching on copper, colored by hand in the most perfect manner. There is no legend to any of the plates.

The total sums up 81 colored plates, two plates of medals, 1 engraved title page and two engraved explanatory tables, with 38 pages of printed text in English and French, plus two blank pages. The collection is in an apparently contemporaneous binding of tree calf in one volume, trimmed to 11 by 12 $\frac{1}{4}$ inches.

I have gone into what may seem to be excessive detail in regard to the plates of medals, because they have an important bearing on the earliest date of issue of this rare work, as will shortly appear.

The copy above described appears to be practically identical with copies in the library of the Academy of Natural Sciences at Philadelphia, and of the Zoological Museum at Berlin, the latter being the subject of a paper by E. von Martens.

I have, unfortunately, had no opportunity for consulting the original of the volumes called III and IV by Martyn, and my knowledge of them is confined to the information I have been able to derive from Chenu's reprint and the literature. However, they are of less importance than volumes I and II. In the absence of an explicit statement from the author as to the date when copies of the first 80 plates were distributed, it becomes necessary to rely upon collateral and circumstantial evidence on this point.

We may begin by pointing out that the first and second forty plates both contain illustrations of shells from the northwest coast of America, chiefly King George's Sound, on the southwest side of Vancouver Island, better known as Nootka Sound. The expedition of Cook, by which these shells were collected, was the first to collect or explore

the fauna on this part of the coast. The expedition arrived in Bantry Bay, August, 1780, on its return, and sailed thence for England; so it is evident that these shells could hardly have come into the hands of Martyn for figuring before the autumn of 1780. This fixes a date anterior to which his plates could not have been made, to say nothing of being published. Owing to the manner in which his plates were made, it is obvious that (admitting that they were bound by the purchaser, as usual) variations might be expected in the number found between one pair of covers; and that the extra plates of medals were engraved and added to the others without reference to the time when the first regular plates might have been issued.

It is admitted on all hands that the first forty plates were issued as early as 1784, and the citations in the Portland Catalogue show that eighty plates were published and in use at the time, April, 1786, when that catalogue was issued; moreover, the bibliography included in it gives only the date 1784 for the whole eighty.

Now, Martyn speaks in his preface (p. 34) of his first four medals and states that an engraving of them stands at the head of his preface (also issued separately as an advertisement), and this plate is dated 1788. He also says (p. 26) that at this time it is upwards of seven years since he commenced the design of the work and that a principal inducement was the number of new species he had purchased of several officers "then lately returned from the Pacific Ocean." The expedition returned in the autumn of 1780; seven years and a half would, if deducted from 1788, bring his purchases into the first half of the year 1781. Three years and a half from the time of beginning, Martyn tells us, "upwards of 70 copies of two volumes (80 plates) were finished." This would bring the date of conclusion to 1784, which agrees with the record.

It is highly improbable that any one would proceed in the expensive duplication of copies without to some extent advertising the project, and, in accordance with a custom not yet wholly extinct, it is evident he did so by sending copies to certain dignitaries—the King, the Pope, and various foreign monarchs. The copies were doubtless, in accordance with common sense, of the best he had, perhaps finished by his own hand.

The testimony of the medals shows that he received a medal for two successive years from Pope Sixtus, which we may assume represented his "volumes" I and II, or the first and second forty plates, which therefore were in existence, respectively, in 1782 and 1783.

After rejecting the bulk of the plates finished by 1784 in order to bring the earlier made ones up to the standard of the later drawings, there is a pause in the sequence of the medals, the next being dated 1785, which would correspond well enough to the time needed to bring the series up to standard.

A year later if we accept Maton and Dillwyn's authority, the second eighty plates was ready. Then, in an endeavor to push the work, stimulate sales and avoid losses, a new preface was written, with a plate showing the medals, and testimonials from Baron Born, the celebrated custodian of the Imperial Museum at Vienna, a new title-page was engraved, the whole sent out together, or the preface and medal plate as a circular together; and last of all, in 1792 the subsequent medals were engraved for the second plate, in what seems to have been a vain attempt to make the sales pay the expenses. Martyn's "Psyche," of which the U. S. National Museum possesses the first two numbers, issued in 1797, though the plates are good, is in a much less ambitious and artistic style of coloring, but even that seems to have died of inanition.

I think there is no reason to suppose that any part of the shell plates of the *Universal Conchologist* were delayed until 1792, the date of the second medal plate, which was probably added to sets in stock as an advertisement.

Maton and Rackett, writing in the lifetime of the author, and Dillwyn, only a few years later than Martyn's last publication, both state that there were two volumes, one issued in 1784 and the other in 1786, in all containing 160 (really 161) plates. The latter date may have been taken from an advance copy, but in default of other evidence must be allowed to stand.

A point to which I wish to urge attention is that Martyn and his bibliographers have not always used the word "volume" in the same sense—the work being, as it appears, issued in two batches of eighty plates each, for the most part, and these batches binding conveniently into two volumes. Where Martyn, as in his prospectus, counted forty plates as a volume and the whole as four, his bibliographers have been prone to regard the work, in accordance with the binding, as composed of two volumes only.

I am not aware of any other copies of the *Universal Conchologist* in America than the one I have described and a similar copy in the library of the Academy of Natural Sciences, Philadelphia, but possibly some of those naturalists in Europe who have access to the libraries of Rome, Vienna, Paris, Madrid, or London may be able to furnish at first hand some additions or corrections to the account I have given above.

Martyn, like most of the early writers, was ambitious to propose a system of his own, which he intended to give in full, with diagnoses, at the close of the work. Owing to the cessation of publication with the 160th plate, this scheme was never developed. In the two explanatory tables to the first eighty plates the place in Martyn's system to which each genus belonged is indicated by a lower-case letter following the trivial name in the first column of the table. In the second eighty

plates, according to Chem's reprint, these indicatory letters are omitted. The plan was given up. The cost of making the work cover all the known species of shells proved prohibitory. The fifth proposed volume, of which Dr. J. E. Gray once possessed some proof plates, was never issued and the system never made public.

The only discussion of Martyn's work as a whole which I have found in the literature is contained in an article by E. von Martens in the *Malakozoologische Blätter* (VII, pp. 141-148, Aug., 1860). This author does not investigate the question of dates or editions and seems not to have grasped the inwardness of the puzzling arrangement of the lettering on the explanatory plates. He comes to the conclusion, since there are no definitions and since Martyn did not accept some of the Linnean genus names, that, therefore, we should reject Martyn's names for genera, while his specific names may stand. This conclusion is obviously not in accordance with present methods of treating nomenclature and can not be accepted. According to our current code of rules for such matters, the names of both categories must stand or fall together.

In the main Martyn accepted the Linnean generic names. A few names proposed by prelinnean authors, especially Rumphius, are preferred to those of the illustrious Swede. Some of the Linnean names are used for different groups from those which they originally covered, and a few names, familiar in prelinnean literature but practically new in a systematic sense, are employed in this work for the first time binomially. The writer took the trouble to arrange the various genera as indicated by the letters above referred to, hoping to get an outline of Martyn's larger grouping, but found the result so unsatisfactory as not to repay the trouble. The only influence the book should have on contemporary nomenclature is connected with a few names for the first time used binomially in its tables. The arrangement of the names in the tables is at the first glance a little puzzling, but a small amount of careful study soon enables one to understand it.^a

The first name used is *Alata* of Klein and other nonbinomial authors (*Strombus* Linneus), and it is applied to *Strombus pacificus* Swainson, the *Alata aratrum* of Martyn, whose specific name, as long ago pointed out by Mörch, will take precedence.

Buccinum Martyn, is a hotch-potch of Linnean whelks and murices, including species of *Chrysodomus*, *Fusus*, *Struthiolaria*, *Latirus*, *Purpura*, *Acanthina*, etc., but a good many of his specific names have been accepted. *Bulla* Martyn, as far as indicated by his first species, equals *Hydatina* (*physis* Linneus), but he would doubtless have included all the Linnean Bullas (= *Bullaria* Rafinesque, 1815).

Clava Martyn as first used contained a *Vertagus* and a *Potamides*. By taking his first species as the type, as I showed in 1892, we are

^a See page 429, *postea*.

enabled to preserve *Cerithium* Bruguière 1789, not Lamarek 1799. The type is *C. asper* Linnaeus (+*rugata* Martyn).

Cypræa Martyn is identical with *Cypræa* Linnaeus plus *Orula* Bruguière. *Patella* Martyn is identical with the Linnean genus as far as his species indicate.

Mitra Martyn is identical with *Mitra* Rumphius, usually cited as of Humphrey or Lamarek. As Martyn was the first to use the name binomially, he should be credited with the genus. His first species is *M. tessellata* Martyn, a name which has been generally accepted.

Martyn's next name is *Limax*, but it is not *Limax* of Linnaeus (1758). The former is very heterogeneous and seems to have been intended to contain all land snails not operculate and a variety of holostomate marine forms, as well as species of *Terebra* and *Cantharidus*.

In the Museum Calonnianum the name *Lituus* was adopted from Martyn in a generic sense and *Lituus brevis* Martyn cited as a species. But I believe that the whole name was *Limax lituus* var. *brevis* and that, owing to peculiarities of engraving explained elsewhere in this paper, the author referred to was misled. The name *Lituus* as a genus is expunged from a copy of the Museum Calonnianum in my possession, in a hand supposed to be that of Humphrey or one of his clerks, and another name substituted. Mr. Davies Sherborn came to the same conclusion, in the Index Animalium, and placed *Lituus* Martyn among the specific names.

Helix Martyn begins with (*Amphibola*) *crenata* Martyn, whose specific name should be retained. The group otherwise comprises species of *Turbo* of the subgenus *Marmorostoma*, and does not contain a single species of the forms ordinarily known as *Helix*.

Trochus Martyn is equivalent to *Trochus* Linnaeus, but *Voluta* Martyn, which follows, contains only species of *Conus* and one coniform *Voluta* in the Linnean sense, while several typical Linnean volutes are referred to *Buccinum* by Martyn.

Cochlea Martyn, contrary to the usage of his nonbinomial fore-runners, is a receptacle for bivalves, like *Venus* and *Cardium*. The only species in volume I is *C. radiata* Martyn, a species of *Meretrix*, which I do not find in the monographs. This being the first binomial use of the name, Geoffroy not coming under that category, it may have to supplant *Meretrix*. In volume II it is used for two species of *Cardium* but in the later volumes *Cardium* is substituted for it, including various *Veneridæ*, *Cardium* (Linnaeus), and *Echinochama*.

Haliotis Martyn agrees with the genus as restricted by Lamarek from the Linnean mob.

Purpura Martyn is the first binomial use of the name, used by the ancients colloquially to indicate the muricoid shells from which the Tyrian purple was derived. In harmony with this tradition it is applied by Martyn to a shell which Linnaeus would have called *Murex*,

and which has been usually known as *Cerostoma foliatum* Martyn, after Carpenter. This is Martyn's only species of *Purpura* in volumes I and II, and hence the type. In 1798 Bolten adopted the same view, and began his list of *Purpuras* with the group of *Murex trunculus*. There seems to be no doubt that, if any of Martyn's names are valid, *Purpura foliata* must typify the group bearing this ancient designation.^a

Schumacher, in 1817, was the last of the early writers to maintain this view; it is probable that the influence of Lamarck's *Animaux sans Vertèbres* was too powerful to be withstood. The shells usually known as *Purpura* will probably take the name of *Thais* Bolten, 1798, as pointed out by Mörch half a century ago.

Martyn's *Mytilus* includes *Modiolaria*, *Mytilus*, and *Modiolus*. This genus was exactly adopted by Bruguière in his plates of the *Encyclopédie Méthodique* in 1797, and part of the figures appear to have been copied from Martyn's plates.

Volumes III and IV are less interesting; *Nerita* of Martyn is identical with *Nerita* Linnaeus. *Tellina* also agrees with the Linnean genus and *Pecten* Martyn is the same as *Pecten* Müller, 1776. In volume III the volutas (which had been included in *Buccinum* in volume II) are transferred to *Voluta*, which here comprises both the cones and volutes. *Purpura* continues to be a muricoid group. All the species of *Spondylus* figured are called *Ostrea*, but no true oyster is figured. *Oliva* is the same as *Oliva* Bruguière, in 1789, though two oliviform cones have been unwisely included.

To sum up: Martyn uses in the Linnean sense the following Linnean genera: *Bulla*, *Patella*, *Trochus*, *Nerita*, *Tellina*.

He uses the following Linnean names, but not, or not wholly, in the Linnean sense: *Buccinum*, *Limax*, *Helix*, *Haliotis*, *Cypræa*, *Voluta*, *Mytilus*, *Cardium*, *Ostrea*.

He adopts from nonbinomial or pre-Linnean authors, and gives a binomial status to:

Alata (Klein, = *Strombus pars* Linnaeus): Type, *A. aratrum* Martyn (sole example). *Purpura* (Fabio Colonna, = *Murex pars* Linnaeus). Type, *P. foliatum* Martyn (sole example).

He proposes for the first time binomially and in a sense wholly new:

Clava Martyn, 1784. Type, *Murex asper* Linnaeus. Adopted by Hwass, 1797. (= *Vertagus* of Authors.) Adopted by Dall, 1892.

Mitra Martyn, 1784. Type, *M. tessellata* Martyn. Adopted by Hwass, 1797, and Lamarck, 1799.

Cochlea Martyn, 1784. Type, *C. radiata* Martyn. Heterogeneous and not accepted by later authors.

Oliva Martyn, 1786. Type, *O. corticata* Martyn. Adopted by Bruguière, 1789; Hwass, 1797; Cuvier, 1798; Lamarck, 1799.

^aSee Proc. Biol. Soc. Wash., XVIII, 1905, p. 189.

Of the above *Mitra* derives from Rumphius, 1705; and *Oliva* probably from *Olea* Argenville, 1757. How he came to apply *Cochlea*, which had always been used for some form of gastropod, to a group of bivalves remains a mystery.

I close this discussion by giving a list of the species figured by Martyn from his Explanatory tables, those of the first 80 plates from our own copy, those of the second eighty from Chenu's reprint, which is unfortunately more or less marred by typographical errors.

These names are not followed by an authority after the specific name, and they are not all due to Martyn. Some of the species are Linnean, and *Cypræa carneola* derives from Rumphius. Moreover, until one is familiar with the tables the arrangement is sometimes puzzling. The columns are narrow, space limited, and the engraver seems to have had an artistic fervor for keeping his masses 'balanced.' Thus, when a number of species of one genus follow one another, in several cases the generic name is not put opposite the first one, but at the middle of the group with dashes or vacancies above and below. Then again the specific names are not ranked to the right of the column uniformly, but part to right and part to left, to give the column balance and avoid ungraceful lines—a true engraver's trick. To one accustomed to regular columns of type in tabular order the arrangement seems at first glance helter-skelter; but in nearly every case the context, or the indicatory letters of the early plates, enable the puzzle to be solved after a little consideration.

There are 190 specific names and eight varietal names (engraved as trinomials quite in modern fashion) on the explanatory tables. Among the one hundred and ninety regular specific names there are seven compound nouns, such as *pellis-erminea* and *crista-galli*; these were not usually at that date hyphenated as we are now accustomed to do. Linnaeus used such names, and they have never been regarded as inconsistent with binominal nomenclature. I have hyphenated these names in the list. There is one case in which the generic name has been accidentally omitted, while the English and French trivial names in the column to the left give no clue, as I have not been able to find either of them in any of the lists of early conchological synonyms.

One of Chenu's entries, number 82, has been so mangled that I can make nothing of it. It was probably *Buccinum vexillum*, the figure representing *Voluta vexillum* of modern authors.

The name *subrubicunda* for a *Tellina* is repeated in the references to plates 156 and 159 in Chenu's reprint. The species are different and probably one of these names should be *rubicunda*. Similar errors can be corrected only by reference to an original copy.

Some one in conversation was disposed to question whether Martyn can be regarded as consistently binomial on account of the presence of the eight trinomials, which are not categorically stated to be varieties. But considering that there is at best no room in the column for even the usual abbreviation of the word "variety," and that the practice in each case is perfectly regular, I think there is no merit in this suggestion. Such authorities as Gmelin, Bolten, Dillwyn, Lamarek, Pfeiffer, Shubert and Wagner, Carpenter, and Stearns have accepted Martyn's names without demur, and, indeed, while looking into the matter I have not anywhere in print found the regularity of his nomenclature questioned except by von Martens.

VOLUMES I AND II.

TABLE I.

Fig.	
1.	<i>Alata aratum.</i>
2.	<i>Buccin(um) prismaticum.</i>
3.	<i>aplustre.</i>
4.	<i>spinosum.</i>
5.	<i>nodosum.</i>
6.	<i>fimbriatum.</i>
7.	<i>striatum.</i>
8.	<i>maculosum.</i>
9.	<i>haustum.</i>
10.	<i>calcar.</i>
11.	<i>Bulla virgata.</i>
12.	<i>Clava rugata.</i>
13.	(<i>Clava</i>) ^a <i>herculea.</i>
14.	<i>Cypræa carneola.</i>
15.	(<i>Cypræa</i>) <i>reticulata.</i>
16.	<i>Patella tramoserica.</i>
17.	(<i>Patella</i>) <i>ænea.</i>
18.	(<i>Patella</i>) <i>calyptra.</i>
19.	<i>Mitra tessellata.</i>
20.	(<i>Mitra</i>) <i>fasciata.</i>
21.	(<i>Mitra</i>) <i>sphærolata.</i>
22.	(<i>Mitra</i>) <i>nerilis.</i>
23.	(<i>Mitra</i>) <i>versicolor.</i>
24.	(<i>Limax</i>) <i>opalus.</i>
25.	<i>Limax fibratus.</i>
26.	(<i>Limax</i>) <i>echinatus.</i>
27.	(<i>Limax</i>) <i>lituus.</i>
28.	(<i>Limax</i>) <i>lituus brevis.</i>
29.	<i>Limax undulatus.</i>
30.	<i>Trochus heliotropium.</i>
31.	<i>inaequalis.</i>

TABLE I—Continued.

Fig.	
32.	<i>Trochus canaliculatus.</i>
33.	<i>annulatus.</i>
34.	<i>costatus.</i>
35.	<i>sulcatus.</i>
36.	<i>punctulatus.</i>
37.	<i>granosus.</i>
38.	<i>bullatus.</i>
39.	(<i>Voluta</i>) <i>cingulum.</i>
40.	<i>Cochlea radiata.</i>

TABLE II.

41.	<i>Buccin(um) striatum.</i>
42.	<i>laciniatum.</i>
43.	<i>liratum.</i>
44.	<i>plicatum.</i>
45.	<i>succinctum.</i>
46.	<i>lima.</i>
47.	<i>saturnum.</i>
48.	<i>linea.</i>
49.	<i>maculatum.</i>
50.	<i>calcar-longum.</i>
51.	<i>nodatum.</i>
52.	<i>arabicum.</i>
53.	<i>vermis.</i>
54.	<i>papulosum.</i>
55.	<i>scutulatum.</i>
56.	(<i>Fusus?</i>) ^b <i>toreuma.</i>
57.	<i>Clava maculata.</i>
58.	(<i>Clava</i>) <i>rubus.</i>
59.	<i>Cypræa aurantium.</i>
60.	(<i>Cypræa</i>) <i>tortilis.</i>

^a Where the Latin name is omitted for any reason, but indicated by the context, the result is here put in parentheses.

^b The shell is a *Fusus*, but the Latin name is omitted. It is called crane or grue in the column for English and French names. *Fusus colus* was named the Great Crane shell by DaCosta in 1775, and I find in his other work, and in the Portland Catalogue, various species of *Fusus* referred to as Crane shells.

VOLUMES I AND II—Continued.

TABLE II—Continued.

- Fig.
 61. *Haliotis iris*.
 62. (*Haliotis*) *pulcherrima*.
 63. (*Haliotis*) *nervosa*.
 64. *Patella persanata*.
 65. (*Patella*) *denticulata*.
 66. *Purpura foliata*.
 67¹. *Limax nucleus*.
 67². (*Limax*) *faba*.
 68¹. *Limax coccinea*.
 68². (*Limax*) *purpurata*.
 69. (*Helix*) *crenata*.

TABLE II—Continued.

- Fig.
 70. (*Helix*) *anguis*.
 71. *Helix staminea*.
 72. (*Helix*) *porphyrites*.
 73. (*Helix*) *smaragdus*.
 74. (*Helix*) *smaragdus minor*.
 75. *Trochus tigris*.
 76. *pulligo*.
 77. *Mytilus cor*.
 78. (*Mytilus*) *canaliculus*.
 79. *Cochlea orum*.
 80. (*Cochlea*) *corbis*.

VOLUMES III AND IV. (CHENU.)

N. B.—There are many misprints in this reprint by Chenu, most of which, however, are obvious. He does not indicate the original division into tables, if any.

TABLE III.

- Pl.
 81. *Buccinum ficus*.
 82. *Verillum broc*. (?)
 83. *Buccinum coronatum*.
 84. *lineatum*.
 85. *tessellatum*.
 86. *nux-odorata*.
 87. *incisum*.
 88. *costatum*.
 89. *scabrum*.
 90. { *turris picta*.
 turris clarata.
 91. { *galea variatum*.
 galea ferrea.
 92. { *ornatum*.
 luteolum.
 93. { *vittatum*.
 varium.
 94. *calatum*.
 95. { *Bulla circulata*.
 villosa.
 96. *Cypræa subfuscata*.
 97. *Clava tessellata*.
 98. { *nigra*.
 fusca.
 99. *Patella scapula*.
 100. *testudinata*.
 101. *morionis-pileus*.
 102. *umbrella*.
 103. { *Mitra rugata*.
 denticulata.
 104. { *staminea*.
 fasciata.

TABLE III—Continued.

- Pl.
 105. { *Mitra limosa*.
 vermiculosa.
 106. *Nerita nux-castanea*.
 107. *acupictus*.
 108. *diversicolor*.
 109. { *pellis-erminea*.
 hebraea.
 110. { *stellatus*.
 fasciatus.
 111. { *Olivæ corticata*.
 striata.
 112. { *interpuncta*.
 fenestrata.
 113. { *Purpura scabra*.
 senticoza.
 114. { *tubulata*.
 ramosa.
 115. *Limax aureus*.
 116. *tiara*.
 117. *lampas*.
 118. *vittatus*.
 119. *scaber*.
 120. *serpens*.
 121. { *spicatus*.
 fusca.
 122. *flammeus*.
 123. *scutulatus*.
 124. *Trochus petrosus*.
 125. { *Voluta fagina*.
 cosmographia.
 126. *reticulata*.
 127. { *undata*.
 interpuncta.

VOLUMES III AND IV—Continued.

TABLE III—Continued.

Pl.	
128.	<i>Voluta ducis-navalis.</i>
129.	{ <i>seutulata.</i>
	{ <i>zonaria.</i>
130.	{ <i>Cardium bicolor.</i>
	{ <i>nerilis.</i>
131.	{ <i>tigrina.</i>
	{ <i>aquosa.</i>
132.	{ <i>crista-galli.</i>
	{ <i>hystrix.</i>
133.	{ <i>implexa.</i>
	{ <i>purpurca.</i>
134.	{ <i>triangularis.</i>
	{ <i>coccinea.</i>
135.	<i>dentrachalis.</i>
136.	{ <i>nimbata.</i>
	{ <i>marmorata.</i>
137.	{ <i>calata.</i>
	{ <i>arborescens.</i>
138.	{ <i>kussa.</i>
	{ <i>palatum.</i>
139.	{ <i>undatum.</i>
	{ <i>funosa.</i>
140.	<i>nebulosa.</i>
141.	<i>castrensis.</i>
142.	{ <i>virgulata.</i>
	{ <i>inscripta.</i>

TABLE III—Continued.

Pl.	
143.	<i>Cardium albida.</i>
144.	<i>riminea.</i>
145.	{ <i>acupicta.</i>
	{ <i>maculosa.</i>
146.	<i>columbina.</i>
147.	<i>striata.</i>
148.	<i>gilra.</i>
149.	<i>violacea.</i>
150.	<i>personata.</i>
151.	{ <i>Mytilus fuscus.</i>
	{ <i>viridis.</i>
152.	{ <i>viridis undata.</i>
	{ <i>fuscus undata.</i>
153.	{ <i>Pecten rubidus.</i>
	{ <i>bombycinus.</i>
154.	<i>Ostrea echinata.</i>
155.	<i>spinosa.</i>
156.	{ <i>Tellina cinuamomea.</i>
	{ <i>subrubicunda.</i>
157.	{ <i>alba.</i>
	{ <i>rosea.</i>
158.	<i>barbata.</i>
159.	{ <i>subrubicunda (?)</i> .
	{ <i>purpura.</i>
160.	{ <i>adumbrata.</i>
	{ <i>rubescens.</i>