Lycett J. Notes on the distribution of the fossil conchology of the oolitic formations in the vicinity of Minchinhampton, Gloucestershire.// The annals and magazine of natural history, including zoology, botany and geology, 1848.- Ser. 2, vol. 2, №10.- p. 248-259, 2 figs. <10.1848>

Joliaf

how a narrow strap-formed apparatus is to work out a circular hole. But having this powerful siliceous organ at hand, certainly capable of penetrating calcareous substances, it would be unlike the direct and simple operations of nature were another one provided. It is more likely that some mode of application is effected by which the ordinary prehensile tongue of the Gasteropod is turned into a rasping or drilling instrument. The wearing down of the anterior spines appears favourable to this opinion.

EXPLANATION OF PLATE VIII.

Fig. 1. A portion of the epidermis from the anterior cushion-like swelling of the mantle of *Saxicava rugosa*, seen in the compressor, exhibiting large crystalline bodies.
— 2. Some of the crystalline bodies from the same after having been six hours in nitric acid.
— 3. The foot and mantle of a small foreign *Patella* found dried up in an excavation, showing the arrangement of the crystalline bodies.
— 4. A group of the same crystalline bodies more highly magnified.
— 5. Four of the same bodies exhibiting radiating fractures caused by the action of the compressor.
— 6. A portion of the convex surface of the foot of *Teredo norvegica*, as seen in the compressor, exhibiting crystalline bodies.
— 7. A group of the same bodies more highly magnified.

XXVI.—*Notes on the distribution of the Fossil Conchology of the Oolitic Formations in the vicinity of Minchinhampton, Gloucestershire.* By John Lycett, Esq.*

The following remarks have been written chiefly with a view to illustrate the contents of the author's cabinet, premising that the objects in question constitute materials fitted rather for private study than for public demonstration. The bones of gigantic Saurian reptiles, of fishes, the shells of great Cephalopods, are appreciated even by the uninstructed spectator. They speak to his senses of a creation distinct from that which he sees around him, and he is prepared to hear of further wonders when the voice of comparative anatomy tells him of their organization and consequent habits. None of these fall within the scope of my remarks; they are absent: we know that they existed contemporaneously with the deposition of these rocks and their included fossils: Stonesfield in this country, Pappenheim and Solenhofen in Germany assure us of this. Speaking with the caution which the subject demands, it may be asserted that the conditions of sea-bottom in our neighbourhood, though varying considerably during the time which was required for an accumulation of 400 feet in vertical thickness of solid rock, and the creation and ex-

* Read before the Cotteswold Naturalists' Club, August 8, 1848.

tinction of many forms of molluscous animals, at no time constituted the estuary of a great river. We search in vain for the relics of air-breathing animals and plants periodically carried down and spread over its floor. The only vegetable remains are fragments of wood which may have floated on the ocean wave to whatever quarter the winds and currents directed them.

With the great Saurians the case was different; whether denizens of the land, of rivers, or of estuary waters, their remains were entombed in the fine mud which fluviatile waters deposit so copiously.

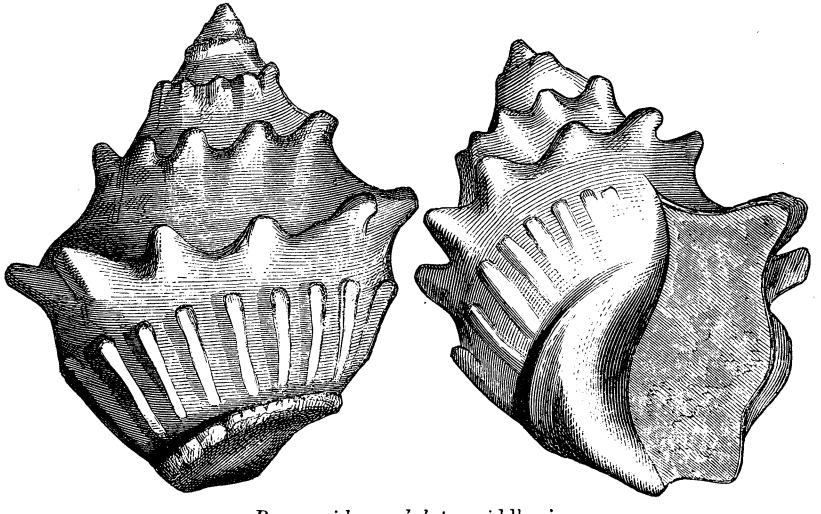
We should not expect, nor do we find, a large number of marine shells associated with such deposits; their paucity is perfectly compatible with what we know of brackish waters of the recent period, and the small number of marine species which they furnish. Precluded then from displaying this description of fossil treasures, we revert to the less striking remains of molluscous animals, and these from their number, their association, their separation into distinct groups and other circumstances repeated at different periods, acquire an interest distinct from that which would attach to them as mere examples of fossil conchology. To illustrate therefore this portion of the subject the present memoir is chiefly directed, interspersed with notices of such remarkable or characteristic forms as have hitherto been imperfectly described, or which impart to these assemblages their prominent and distinguishing features.

Commencing with the upper portion of the Great Oolite in our vicinity, we find several beds of hard limestone and bands of marly clay, containing a series of shells representing in diminished numbers the inhabitants of the lower and richer fossiliferous beds of the formation. Several which do not occur in the lower group I will notice; these are the little *Cardium Beaumonti* (Archiac), very abundant, *Pholadomya nana* (Phillips), *Chemnitzia*, new species, *Bulla Hildesiensis* (Rœmer), *Bulla suprajurensis* (Rœmer), *Cardium pes-bovis* (Archiac), *Cardilla grandis* (new species). The other forms which commonly occur are *Lucina lyrata* (Phillips), *Lucina rotundata* (Rœmer), *Ceromya semistriata* (new species), *Ceromya excentrica* (*Isocardia*, Rœmer). We have been fortunate enough to succeed in clearing the hinges of the two latter species, and have thus ascertained that they have nothing in common with *Isocardia*, but belong to the new genus *Ceromya* of Agassiz. *Isocardia concentrica* must likewise be placed in the same genus.

Quitting these beds and descending through sandstones nearly destitute of organic remains, we arrive at the shelly oolite locally termed *planking*, or upper beds of the Great Oolite building stone, a marine deposit distinguished by the great profusion of its fossil

conchology and their good state of preservation. Here at one locality we find a large assemblage of a genus which seems to be characteristic of this formation and especially of this vicinity; I allude to the new genus *Purpuroidea* (see the figures), of which the generic characters are as follow:—

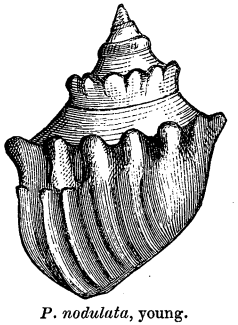
Shell turreted, ventricose, aperture large, apex of the spire pointed. Spire consisting of several whorls usually convex, and having about their middle part a circle of tubercles or blunt spines. Columella smooth, rounded, and curved inwards at its



Purpuroidea nodulata, middle size.

base. Notch wide, but not deep nor recurved. Outer lip thin, slightly sinuated, and forming an acute angle posteriorly at its junction with the body whorl. The casts of the interior are smooth, or exhibit but faint indications of the tubercles, and none of the ribs or striæ which distinguish the perfect shells. The axial umbilicus is usually very conspicuous and the basal notch not distinguishable. They would certainly be taken for *Naticæ* by persons not conversant with the outer form, and even appear to have been figured as such by Rœmer under the title of *Natica subnodosa* from the oolite of Hanover. One of the species has twice been imperfectly figured in English works; first in Young and Bird's 'Geology of the Yorkshire Coast' as *Murex nodulatus*; the figure is merely a rude sketch of a bad specimen, but characteristic; subsequently a figure representing little more than a cast was given in the 'Mineral Conchology' as *Murex tuberosus*. The varieties of form and markings which two of the species exhibit are worthy of notice: the most abundant shell, *P. rugosa*,

when young and the size of a nut, has tubercles in lieu of spines; the transverse ribs are well-defined; but the longitudinal elevations which give the species a rugose aspect are absent, the basal notch is nearly obsolete, and the columella is nearly straight. The *P. nodulata* has still greater varieties; when full-grown it has two encircling rows of tubercles on the body-whorl, from the lower and smaller of which proceed oblique longitudinal ribs which terminate in a transverse elevated basal belt. The young shell is nearly smooth; the smaller circle of tubercles is scarcely distinguishable; the ribs are absent, as is likewise the basal belt. Occasionally in full-grown specimens the smaller circle of tubercles degenerates into an encircling rib. The spire is of various degrees of elevation, in fact scarcely any two specimens are exactly alike; a considerable number are therefore desirable for its full elucidation. The



P. nodulata, young.

third species, *P. glabrata*, is rare; it equals the others in magnitude. It is seldom that we can trace the limits of a species over any particular area; here however we are enabled to do so with tolerable accuracy. These shells are grouped together in the blocks of stone by hundreds, occupying a vertical thickness of 5 or 6 feet, and spread over an area 50 yards wide and 100 long. It is to be regretted that this prolific space will ere long be entirely removed, and the *Purpuroidea* in its perfect state will probably be only a matter of tradition as far as this vicinity is concerned. These conditions have produced upon our mind the impression that here we perhaps behold the birth-place or original seat from whence the diffusion of the genus took place. Repeated observations have shown that specimens occur in every other quarry in the neighbourhood, but so rarely, that the total number noticed probably has not exceeded twenty in the course of the last six years. Higher in the series they are met with in several beds of compact homogeneous limestone, but much more sparingly than in the planking, and from the hard structure of the rock can only be separated in the form of the *Natica*-like casts.

The *Patellæ*, which occur abundantly in our shelly oolite, like their recent congeners, vary so considerably as sometimes to puzzle even persons who have been accustomed to their peculiarities. The most common species, *P. rugosa*, when obtained south of the vale of Brimscomb, fully deserves its name, but north of the vale it loses much of the rugose aspect caused by the lines of growth, the longitudinal striæ are faintly marked, and the shell is altogether extremely thin. In a very young state

the form is a longer oval and much less elevated, the apex being slightly turned to the right side, constituting the *Patella ancilloides* of the 'Mineral Conchology,' which species should therefore be expunged. *Patella Aubentonensis* (Archiac) occasionally loses its striæ altogether, and this change is not confined to any particular size or form of shell. *Patella nana* in advanced age is spread out more horizontally towards its borders, and forms a concave conical and ovate shell. The fine encircling striæ then altogether disappear; the minute figure in the 'Mineral Conchology' refers to the shell in its young state.

The genus *Nerinea* is represented by upwards of fourteen species, of which five are abundant; they seem to occupy in the oolitic rocks the place of the *Cerithia* of the older tertiary strata, and are decidedly the predominating univalve of their period. Our most common species are destitute of the tubercles or striæ by which these shells are usually ornamented; four only of the species appear to have been figured or described. One fact in connexion with the extinct carnivorous trachelipods should be noticed. The recent genera of that class are furnished with a tubular boring apparatus, by means of which they drill round holes in the bivalves and prey upon their juices. As none of the oolitic bivalves have such perforations, we may conclude that the extinct carnivorous genera of that period were differently constituted.

Of the *Naticæ* we number fourteen species, seven of which are new; although the species are thus numerous, one only, *N. Michelini* (Archiac), is at all common.

The family of the winged shells, or *Strombidæ*, are represented by upwards of eleven species belonging to the same genus; the greater number of these likewise occur even to the base of the formation. We have separated them from the *Rostellarias* and *Pteroceras* under the generic term *Rostrotrema*; they are distinguished from the true *Rostellarias* by the absence of an upper or posterior siphon upon the spire, the outer lip not extending beyond the body-whorl or but slightly upon the penultimate, and there is no corresponding thickening upon the inner lip to form a channel. It is true that one or two recent species of *Rostellaria* have no posterior siphon upon the spire, but in such instances the siphon is present and coiled round upon the upper part of the wing. From *Strombus* it is sufficiently distinguished by the absence of the sinus on the outer lip. We venture to suggest that the *Strombidæ* require a re-arrangement, the digitations of the outer lip not being of sufficient importance to found upon them generic distinctions; they are of too variable a character, and in some instances depend very much upon the age of the specimen.

Another generic form, as yet found in no other part of England, is a conical turbinated univalve, called by me *Trochotoma*; five species occur, but only one is common. Its distinguishing generic feature is a transverse fissure upon the body-whorl, which approaches the outer lip, but does not reach it. This alone is sufficient to distinguish it from *Pleurotomaria*, from which also the base materially differs, its deep concavity resembling an umbilicus and giving to the aperture a semilunar figure.

The outer lip is thick, the whorls usually angular and concentrically striated. They occur throughout all the lower fossiliferous beds. Perhaps I may be excused for briefly alluding to the name given to this shell, although the matter is of a somewhat personal nature. In the autumn of 1841, finding that this form was entirely unknown, I forwarded a specimen to Prof. Sedgwick as a new genus, and mentioned that I proposed to call it *Trochotoma*: about the same time a gentleman who then collected largely from our Great Oolite and distributed its fossils widely always affixed to it the name which I had proposed to give it, so that the appellation became current wherever a collection of our fossils existed six years ago. Within two years afterwards Professor Ansted figured one of the species in his work on Geology under the same name. Knowing these facts, my surprise may be imagined, when lately turning to a new work on Natural History by Pictet, published at Geneva, I found that he had described this genus under a new name, saying that this is the *Trochotoma* of M. Deslongchamp, and referring to a paper by that gentleman on the Great Oolite of Normandy, published in the 7th volume of the 'Transactions' of the Linnæan Society of Normandy in 1842. In that memoir are figured and described five species, of which three are found in this vicinity. It would therefore appear that M. Deslongchamp must have read his paper to the Society in 1841, and nearly simultaneously with myself must have imagined the same new word as a designation for a certain new form. The paper in question is even now so little known in this country that I was compelled to resort to the British Museum to see a copy of it. Probably another coincidence exactly similar to this is not upon record.

It is proposed to restore the forgotten term *Cylindrites* used by Llwhyd as a generic name for a form which requires to be distinguished, and which appears to be very characteristic both of this rock and the Inferior Oolite. We possess six species, three of which have been figured, two as *Actæon* in the 'Mineral Conchology,' and one as *Conus* by Archiac; the generic characters are as follows:—Form cylindrical. Spire small, acute, sometimes not rising above the body-whorl but always exposed; whorls several, usually flat, sulcated at their junctions. Aperture

elongated, narrow, almost linear. Columella with two folds at its base, which is slightly turned outwards at that part; base of the aperture entire, outer lip thin. All the species are distinct from those of the Inferior Oolite.

Before quitting this assemblage of shells, another form which has occasioned me much perplexity must be noticed. It is called by Rœmer *Placuna jurensis*, but is clearly distinct from that genus, of which it does not possess the cardinal teeth, nor has it the hole or appendage of *Anomia*. The following are the grounds upon which it is deemed proper to erect it into a distinct genus.

Generic Character.—Shell very thin, irregular, either convex or flat, posterior border rounded, anterior border more straight; apex little elevated, but always distinct and placed near to the middle of the anterior border. Fine longitudinal closely arranged waved striæ radiate from the apex on every side; the under surface is smooth with a large central impression.

These shells were frequently (perhaps always) attached to bivalves, more especially to *Trigoniæ*, not by the external surface but from the under side; the knobs and striæ proper to those shells causing the elevations upon the attached shell. From these circumstances it would appear that the soft parts of the parasite must have adhered to the *Trigonia* prior to the secretion of the thin shelly plate, and that the shelly matter was deposited during such adhesion. On the death of the parasite the thin plate separated, as there was no shelly adhesion between it and the *Trigonia*, and they are never found attached to the latter. With the scanty knowledge we possess of this form, it would be unwise to speculate upon its affinities unless with great reserve and circumspection. The mode in which the markings of the *Trigoniæ* are transferred to this shell renders it very difficult to imagine that it could have been a bivalve. We look as it were upon an impression at the back of the paper, the parts in relief having been stamped through it, but disguised by the finely striated surface at the back of the attached shell. It was sedentary, and if univalve may have belonged to those forms of the *Patelloidea* in which the shell is partially enveloped in the soft parts of the animal, examples of which are found in *Fissurella, Haliotis, Sigaretus* and *Stomatia*. We would however wish it to be understood that these hints are thrown out chiefly to engage the attention of others, as we are by no means satisfied with the result of our own observations.

The estuary waters which entombed the varied remains at Stonesfield spread out partially a thin stratum of their muddy deposit to this neighbourhood, without carrying with it any of the forms for which that locality is so famous. Our Stonesfield slate has a few marine shells, among which are *Ammonites coronatus*

(Orbigny), *A. Lalandeanus* (Orbigny), *Mya margaritifera* (Young), *Ceromya V. scripta* (*Cardita*, Buckman), *Cardium*, new species, *Anatina undulata* (*Sanguinolaria*, Phillips), *Mya dilata* (Phillips). As regards this neighbourhood, it may be stated as a general rule, that where the lower beds of Great Oolite are shelly, they repose immediately upon Fuller's earth; in the other condition the base is Stonesfield slate; probably the fine mud of the latter deposit was carried out to great depths almost beneath the region of shells. Our Fuller's earth is very imperfectly exposed, nor have any considerable number of species been obtained from it. The little *Ostrea acuminata* is found in great masses, which nearly compose the beds where it occurs. Not a single shell has been found peculiar to these beds.

The Inferior Oolite in the division of its beds does not differ materially from the description given by Mr. Buckman in his 'Geology of Cheltenham,' except towards the lower portion, which is strikingly dissimilar. It is not our intention to do more than allude to these conditions; a careful survey along the outer escarpment of the Cotteswolds would be required to enable us to understand the changes of mineral character, fossil contents, and perhaps thinning-out which certain beds must undergo in their short course between Painswick and Crickley Hill. Many doubts have been expressed by persons both in the metropolis and provinces as to the geological position of the rock from whence our Great Oolite fossils are derived; these doubts would seem to have arisen from a resemblance which portions of our rock and its fossils bear to a certain bed of the Inferior Oolite near Cheltenham.

Of the geological position of the rocks in our neighbourhood no person who has examined them can entertain any doubt; our sections, both natural and artificial, are numerous and of a decided character, affording what can rarely be seen elsewhere in one view, a complete escarpment from the Great Oolite to the Lias inclusive. The shells of the upper rag-stone agree closely with those from the Cheltenham sections. The cream-coloured marls and marly rock called "Fimbria bed," have however disclosed a remarkable suite of shells which must not be passed over in silence. The general aspect of these fossils, as contrasted with those of the upper and lower rag-stones, is striking. The association of genera strongly reminds us of the Great Oolite. The genus *Nerinea*, which is very rarely seen in the rag-stones, again reappears in vast profusion, to such an extent indeed that in some localities almost every fragment of marly rock discloses sections of this extinct form. Accompanying these are several species of small *Cerithia*, together with an equal variety of the genus *Chemnitzia*, comprising some of the most slender

spiral univalves which it is possible to imagine. The *Rostrotremæ*, though rare, are likewise represented by five species. We seem in fact to have a repetition of the circumstances under which the mollusca of the Great Oolite lived and multiplied. In a former paper we alluded to an almost entire absence of the Cephalopoda which distinguishes our Great Oolite, and it would appear that this feature likewise extends to the same formation throughout France. Thus Archiac does not mention a single species in the district which he has illustrated, and Deslongchamp is equally silent in describing the Normandic fossils. The "Fimbria bed," in striking contrast to the other portions of the Inferior Oolite, is distinguished by a similar paucity of Cephalopoda; hitherto only a single specimen of Ammonite has been placed in our cabinet, and we have searched in vain for a Nautilus or Belemnite. There are several *Terebratulæ*, of which the *T. fimbria* is the most abundant; the varieties of figure and markings which this shell undergoes in its stages of growth become interesting when placed beside a similar series of the recent *T. Australis*, which it very nearly resembles in every circumstance. Of the fossil species but few will be found to have attained the characters of old age, and these latter are rarely equal in size to those which died on attaining middle life, a fact of which some striking examples may be cited in certain recent shells. As the *T. Australis*, unlike the Brachiopoda generally, is found in water only knee-deep near Sidney, we may be allowed to consider it probable that the *Terebratulæ* and other shells of the Fimbria bed were likewise denizens of a shallow sea; such a condition would assist in explaining the absence of Cephalopoda and the general resemblance to the association of Great Oolite shells. As a last resemblance a general dwarfing of species may be noticed, some examples of which will subsequently be given. This general resemblance however extends but in a very limited degree to specific identity: thus, of the seven *Nerineæ*, one only is common to both; the *Cerithia* are altogether different, as are likewise the *Chemnitzias* and *Cylindrites*. Our collection from the Fimbria bed contains—

59 Univalves and Radiaria, of which	22 are Great Oolite species.
72 Bivalves, of which	29 are Great Oolite species.
131	51

Thus only about 38 per cent. of the whole are common to both formations. On passing downward through the freestones these shells rapidly disappear, and on arriving at the lower rag-stones another and very dissimilar suite predominate; the profusion of *Nerineæ* has entirely vanished, and equally in vain might we look for a *Cerithium* or a *Rostrotrema*, and we very rarely meet with a

Chemnitzia; the bivalves are again of full dimensions, and the Cephalopoda reappear in full force and of large size, but being difficult to extract entire, are rarely seen in the cabinets of collectors. But to form an idea of their numbers, the lowest bed in the escarpment at Frocester Hill should be visited; it is a perfect storehouse of this class of remains. Nor is this abundance confined to one locality; wherever the brown ochrey beds are exposed in the escarpments of our valleys, or on the outer line of the Cotteswolds, a single square yard of rock exposed is usually sufficient to produce fragments of Ammonites and Belemnites; and it would appear that a similar profusion of those forms distinguishes the lower beds of Inferior Oolite throughout the whole of its course in Somerset and Dorset. That they should entirely cease between Painswick Hill and Crickley Hill, to be replaced by other and totally different beds of rock and fossil contents, is one of the most interesting geological problems which the Cotteswolds offer to the scientific inquirer. A very remarkable Brachiopod marks the base of the formation in our district; *Terebratula bidens* occurs in the lower rag-stone, and more especially in a few inches of marly rock, sometimes called Gingerbread rock, which immediately underlies it. *Terebratula acuta* and *T. tridens* accompany it much more sparingly; the latter possibly may be only a variety of the first: the separation of species among the Brachiopoda must be regarded as merely provisional until the state of our knowledge respecting them shall be more advanced. The brown sands beneath are entirely barren of organic relics, and gradually and insensibly merge into the Upper Lias.

The general diminutive appearance which the Great Oolite shells present when compared with those of the other oolitic rocks cannot fail to be noticed. In species which have a considerable vertical range this fact is rendered particularly striking: thus, but for a perfect identity of markings, *Trigonia costata* reduced to the size of a bean, and sometimes even of a pea, would scarcely be regarded as the representative of the large Inferior Oolite shell: higher in the Oolites it again attains its pristine dimensions. *Astarte excavata* too, without the aid of a large series for comparison, would not be recognised; the shell becomes small, depressed, and the costæ rendered almost obsolete. *Modiola plicata*, which reappears in the upper beds of Great Oolite, nearly loses its plicæ, and acquires a compressed angular form. The changes of size which *Lucina lyrata* undergoes is still more remarkable. In the lower rag-stone it is of full dimensions; in the Nerinea bed or Fimbria bed it is reduced to one-fourth its former bulk; in the upper rag-stone it is again large; in the shelly beds of the Great Oolite it is rare, but is again reduced to the dimensions

of the Fimbria bed; lastly, in the upper beds of the Great Oolite it is again abundant and of its standard bulk.

Next as to the gregarious habits of certain species:—Bussage, a small hamlet north of the vale of Brimscomb, produces in its shelly Great Oolite a large assemblage of an undescribed species of *Terebratula* somewhat resembling *T. globata*, but very rarely having both valves in juxtaposition, and seldom found in any other locality. In the limestone beds of the upper fossiliferous series, one locality has produced a dense assemblage of a fine bivalve which seems to belong to the new genus *Cardilla* of Deshayes, although generally in these beds it is rare. The compact structure of the rock renders it nearly impossible to disengage them in a perfect state, but the fine striæ of the shell are well preserved, and the character of the species evident; its sudden advance in size when compared with the small fossil shell upon which the genus was founded is remarkable, and justifies the specific appellation of *grandis*.

The association of species at the locality in question is curious: the whiteness of the Cardilla limestone displays every testaceous fragment in strong relief, and enables us to discover that the *Cardilla* is the only bivalve, and that it is accompanied by a *Purpuroidea*, and more sparingly by three large *Naticæ*, all of which probably constituted checks upon its superabundance. *Monotis radiata* occurs by myriads immediately beneath the planking beds on Minchinhampton Common, and the gregarious habits of *Perna mytiloides* may often be shown in a small hand specimen of rock. *Cardium Beaumonti*, Archiac, is found only in the upper beds, where, in abundance, they rival the *Perna mytiloides* of the lower series. In spots where the rock becomes a barren sandstone far away from all detritus of shells, and probably deposited at greater depths, a cluster of *Pholadomya concentrica* or *P. Murchisoniæ* sometimes appears; nor are any shells of the genus *Pholadomya* ever found in the shelly beds of the Great Oolite; they are likewise absent in the Fimbria bed of the Inferior Oolite, and it may be safely predicted, that they never will be found in the shelly roe-stone of the vicinity of Cheltenham; these beds were evidently deposited in a shallow sea, and portions of them even possess a littoral character. The little knowledge we possess of the habits of the recent *Pholadomya candida* is in exact accordance with this fact. At one locality the upper beds have produced a dense colony of *Terebratula media* to the exclusion of all other shells. *Lucina lyrata, Pholadomya truncata, P. nana, Ceromya excentrica* and *Ceromya semistriata* are likewise never found isolated.

The changes of external characters produced by growth alone form another interesting subject for study, and have occasionally become a source of error and confusion. Two examples will sufficiently illustrate this. The large and elegant new species of *Lima* (*L. varians*) has a surface when young covered with beautifully large waved striæ; a good series will show the gradual disappearance of these until a mere remnant is seen on the anterior border; the figure becomes more gibbose and elongated, and finally is devoid of all markings, except the concentric lines of growth. It is found in the shelly Great Oolite and Fimbria bed of the Inferior Oolite. *Macrodon Hirsonensis* is another example. Phillips, in his 'Geology of Yorkshire,' gives two shells the name of *Cucullæa elongata*, one of which, t. 11. f. 43, is our species in its young state, with regular longitudinal striæ. A broken specimen with striæ more irregular, but still in its young state, is the *Cucullæa rudis* of the 'Mineral Conchology,' t. 447. Another variety of figure, more advanced in age, is the *Arca elongata* of Goldfuss, t. 123. f. 9. *Cucullæa Hirsonensis*, Archiac, t. 27. f. 5, is a half-grown specimen with the longitudinal striæ obliterated. The genus is described in Mr. Buckman's 'Geology of Cheltenham,' but the species there figured seems to be distinct from the one in question. Our species is abundant in the planking beds, but more rare in the Fimbria and Freestone beds of the Inferior Oolite. To pursue the subject further would involve descriptions of individual species useful only in a monograph devoted to the purpose. Here these remarks may fitly conclude with the expression of a hope that the large number of our Great Oolite shells new to science may ere long be given to the public*, and that the fossil fauna of the Cotteswolds generally may by the instrumentality of this Club acquire a "local habitation and a name." Probably no district in England contains an equal number of fossil treasures which have not as yet been transferred to the plate of the engraver.

XXVII.—*Notices of British Fungi.* By the Rev. M. J. Berkeley, M.A., F.L.S., and C. E. Broome, Esq.

[Continued from vol. xiii. p. 360.]

[With a Plate.]

*323. *Agaricus platyphyllus*, P. This species, which was noticed before, occurred on old stumps in Leigh Wood near Bristol, August 1848. The base of the stem was furnished with

* Perhaps by means of the Palæontographical Society.