

BOYS AND GIRLS

Sea Shells That Build Nests.

(By Dr. Carpenter Preston.)

If it be thought surprising, as it must be to any one who considers the matter, that birds with no better appliances than their beaks, as they do not use their claws for the purpose, are capable of performing the delicate work necessary in constructing some of the more wonderful masterpieces of bird architecture, and that mammals, reptiles, insects, and even crustacea and fish build burrows and nests, what must be thought of sea shells that do the same thing? At first sight an ordinary snuff-box, if life and power of opening and shutting its lid were granted it, might seem as well equipped for constructing the peculiar and beautiful nest of the Lima Hians or excavating in solid gneiss or granite the burrows of the pholas, as those bivalves themselves. How is it done? Ah! that secret belongs to them, and they have never divulged it to mortal man. It is a prize puzzle, and lucky the conchologist who solves it and can prove that he has done so; he will make his reputation. The Lima is a beautiful shell. It is oval oblique, and opens anteriorly. The edge of the mantle is fringed with long trailing processes of a reddish-golden color, that float behind it like the tresses of a mermaid as it swims through the water. Swim? Certainly it can swim, or better, perhaps, fly through the water, using the two valves forming the shell exactly as some butterflies of the extensive genus *Pamphila*, popularly called "skippers," from the short jerky character of their flight, use their wings. When resting upon the sea bottom, the Lima opens wide the valves of its shell, as these butterflies do when basking in the sun, but when disturbed flaps its light shells and darts away. As they settle quietly on the bottom again they anchor themselves securely,' says Professor Kingsley, describing them, 'by means of their provisional byssus, which they seem to fix with much care and attention, previously exploring every part of the surface with their extraordinary leach-like foot. The byssus, it may be remarked, is a most remarkable provision of nature, a silky bundle of fibres, from which the historian Gibbon said the old Romans wove a costly fabric. This tuft of long filaments is formed by a gland in what is called the foot of the mollusk, and issuing from between the valves of the shell and fastened to rocks, etc., serves to anchor this animal in its place. How the filaments are fastened has, I believe, never been explained. The nest of this intelligent pecten is formed of coralline shells and sand cemented together. The pholas, besides the ability it shows of working its way into solid rock, has other interesting properties. It is very good to eat for one thing, being esteemed a great delicacy in some parts of the British Isles, either cooked or uncooked. English people call them Piddocks, and the Piddock fishery is of no small account in their eyes. But that which gives them the greatest lustre in the eyes of the naturalist is their luminosity. Many mollusks have more or less phosphorescence, but none so to speak can hold a candle to the pholas, either dead or alive. They shine in the dark with a bluish white light with such intensity that one immersed in milk has served for a sort of lamp, lighting up the faces of those about it; and of such permanence that one kept in honey remained luminous for over a year. Indeed, an eminent naturalist, speaking of eating this mollusk, says: 'Those who eat the pholas would appear in the dark as if they were swallowing phosphorus; a fisher-

man dining on this delicacy appeared to be giving them an exhibition of fire eating on a small scale.' The perforations produced in stone by this mollusk have given important testimony of the sinking and upheaval of the earth during the present geological period. 'Pozzuolo,' says the author of 'The Ocean World,' 'in Italy, touches on Solfaterre on the Lake Avernus, and is not far from Vesuvius, and in the bay is that monument of other days erroneously called the Temple of Serapis. It was probably a thermal establishment, established for its mineral waters, although the world has now agreed to call it a temple. However that may be, the building has been nearly levelled by the hand of time, aided considerably, no doubt, by the hand of man, and the ruins now consist of three magnificent columns, about forty feet high. But the curious and important fact is that these columns at about ten feet above the surface, are riddled with holes and full of cavities bored deeply into the marble, occupying a space of about

'You are better, of course, as usual?' she asked, bending to look at her friend, with affectionate irony in her smile. 'I see you have been having a headache; but no doubt it has been in some way an advantage to you, if only as needed discipline.'

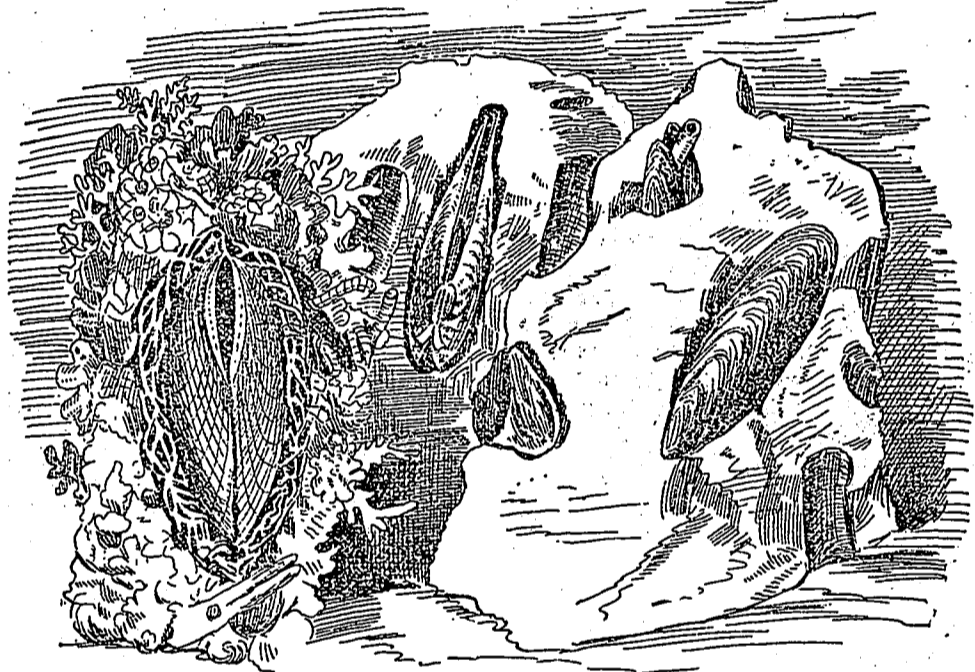
Miss Montague's answering laugh brought sudden sunshine.

'I see you are suffering some disciplinary measure—your face shows it. Why are you carrying that large book? and why are you disquieted? Sit down right here and tell me all about it. Are you cold?'

'No,' replied Mrs. Chester, obeying the direction, 'I am not cold, I am only out of heart. Amy, I think I am ready to resign my position in the Missionary Society, and let some one else take it—some one who can make it more successful.'

'What has happened to trouble you. I am sorry for you to feel like that.'

'I have been doing a little private detective work during the last few weeks in one way and another, and I want to have you see the



'Lima Hians,'
in its Coral Nest.

'Pholas,'
in its Burrow.

'Lithodomus,'
in its nest in Solid Granite.

SEA SHELLS THAT BUILD NESTS.

three feet on each column. The cause of these perforations is not doubtful. In some of the cavities the shell of the operator is still found, and it is settled among naturalists that it belongs to a species of pholas. To enable the stone-boring mollusks, which live only in the sea, to excavate this marble the temple and columns must have been immersed at least twenty or thirty feet under water. It is only under such conditions the borers could have labored at their ease in the marble columns. But since these perforations are now visible ten feet above the surface, it is evident, that after having been a long time immersed under water, the columns have been elevated to their present position. The temple, restored to its primitive elevation, carries with it, engraved in the marble, ineffaceable proofs of its immersion.—'Popular Science News.'

result. I have found the reason why some of our sisters do not attend the meetings, and I am willing for you to say whether there is not cause for discouragement. I want to go through this roll with you,' and she opened her book, 'and account for the members of our society as far as I can.'

'In the first place, Amy Montague, there are four hundred and twenty women in Unity Church.'

'What an army.'

'And less than two hundred of them have given their names as caring to engage in foreign missionary work. That is bad enough to begin with. Well, now, we'll call the names over:—Mrs. Brace—she has moved away. Mrs. Loring—her health is delicate; still, she attends the historical lectures this winter. Mrs. Bennett can't come to the meetings because the chairs are uncomfortable, she says. Miss Marsh attends occasionally. Mrs. Lee doesn't come, because she is afraid of being called upon to pray. Miss Montague makes up for Mrs. Lee by attending the throne of grace in our behalf, since she cannot attend the meetings. Mrs. Collins has a house full of company this winter. Mrs. Morris never fails—bless her! Miss Craig has attended two meetings this year. Mrs. Ware is getting ready to go to Europe. Miss Romeyne is taking painting lessons, and cannot spare time to come. Mrs. Hobbs ain't interested; she has "got tir-

A Study in Proportion.

By MRS. CAROLINE ATWATER MASON.
(Missionary Leaflet.)

'Why, how good of you to come and see me this dull day!'

The speaker, Miss Montague, was an invalid, sitting alone by her fireside on a certain December afternoon. Her visitor, Mrs. Chester, a woman of commanding figure and noble face, had entered unannounced, as a familiar friend.'