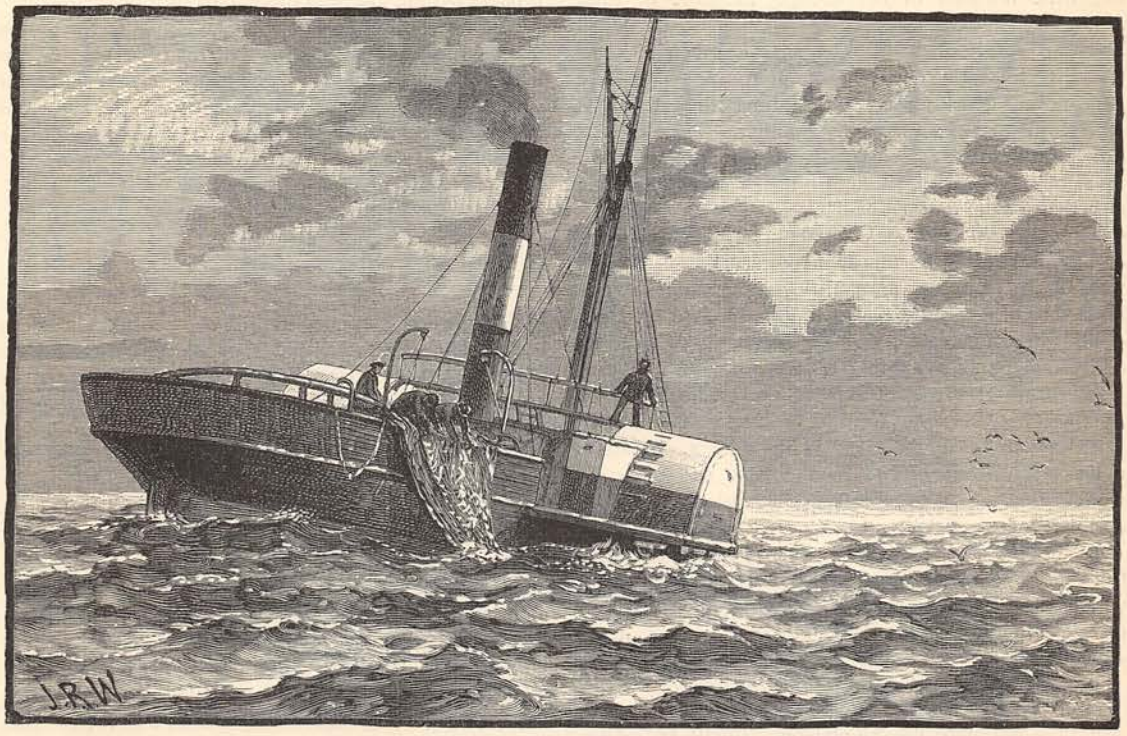
THE CRUISE OF THE "SPINDRIFT."



HAULING IN THE DREDGE.

RESERVED FOR FURTHER EXAMINATION.

VICTOR HUGO, in his book, "The Toilers of the Sea," gives us an account of a struggle with a "Devil Fish" in a dark cavern by the sea-shore: an account which has caused the flesh of many a reader to creep, for none can deny Victor Hugo's power to paint the terrible. When Gilliatt feels his arm seized by the slimy tentacle of the monster—a tentacle "supple as leather, strong as steel, cold as night"—and is being drawn towards that form whose "most horrible characteristic is its softness; a glutinous mass endowed with a malignant will; no blood, no bones, no flesh; a skin with nothing inside," it makes one hope that the great Frenchman was drawing on his imagination for his facts. Yet he was by no means far away from matter-of-fact when he described the monster which had almost ended the days of Gilliatt.

The story was forcibly recalled by dredging up two small cuttle-fish, during a cruise of the tug-boat *Spindrift*, on a biological expedition down Liverpool Bay recently.

There is a "Marine Biology Committee," under the direction of Professor Herdman, of University College, Liverpool, which is making many valuable contributions to our knowledge of the fauna of the surrounding waters, assisted by the generosity of some of Liverpool's merchant-princes, who kindly lend their steamers for dredging purposes.

The results of such expeditions appear in the daily papers, but they generally present a formidable array of Latin names of no earthly interest to any one but a book-worm, while under all this ponderous terminology there is yet more of true poetry and historical romance than in all the stories ever published.

The two cuttle-fish brought up in this expedition

were illustrative of this. They were not over an inch and a half long, and appeared in the Latin list as *Sepiola atlantica*, but they were the most interesting little animals in the dredge, in spite of their name.

These soft-bodied little bags of skin, with their changing hues, like the dying dolphin, were suggestive of wondrous stories, for they are interwoven with the world's history in a surprising manner. Their form is doubtless familiar to everybody, for they appear in all museums, in nearly all picture-books of marine life, and on many of our sea-beaches.

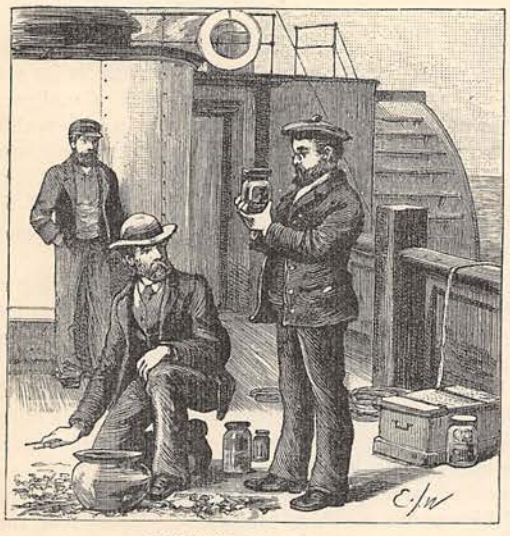
The *Sepiola atlantica* is a fair picture in miniature of all his family, the family to which Victor Hugo's "Devil Fish" belongs: a little bag of skin with a large pair of fins on it, a pair of great goggle eyes, out of all proportion to its size, seemingly in the middle of its body, and a number of tentacles, or feet, projecting from this bag of skin, at the end opposite to the fins.

Taking it for all in all, it is the oddest, quaintest, most elfish form of life in the sea, and it is no wonder that it has been interwoven with the folk-lore and mythology of the world.

Its habits are as curious as its appearance, and the more one knows concerning it the greater is the wonder. It has the power of changing colour like the chameleon, and assuming the hue of the stones amid which it lives—

> "As the rock looks, they take a different stain—
> Dappled with gray, or blanch the livid vein,"

and thus not only escape danger, but lie in safety, awaiting their finny prey.



EXAMINING THE SPECIMENS.

When this little cuttle is born, and makes his first appearance on life's stage, he acts in the most precocious manner, for as soon as he issues from the mass of strange-looking "cuttle-fish eggs" he takes a cruise on his own account, then, when tired, he blows a hole in the sand with his syphon, settles down into the hole, and surveys his new quarters with his great staring black eyes, with the utmost coolness, as though he had often been born and gone through the same process before, and was quite used to it.

Another curious thing about the family is the power possessed by a great many of them of ejecting an inky fluid when they are terrified. Professor Owen says that this serves as a means of defence, and the poets have long been of the same opinion, for one sings—

> "A pitchy ink peculiar glands supply,
> Whose shade the sharpest beam of light defy;
> Pursued he bids the sable fountains flow,
> And wrapt in clouds, eludes the impending foe;
> The fish retreats unseen, while self-born night
> With pious shade befriends her parent's flight."

When we placed our little prisoners in the aquarium aboard the *Spindrift*, and they ejected their sepian clouds, as they darted off in terror, it seemed as though poetry and science shook hands, and claimed before us all the kinship which, without a doubt, exists between these two, recalling that beautiful phrase of Walt Whitman's, in which he calls poetry the "tuft and herbage of science."

The tentacles of the cuttle are seen to be armed with a great number of delicate suckers, tiny, cup-shaped, bloodless discs, each one of which is capable of acting as a cupping-glass. As one examines these with a strong magnifying-glass, the experience of Gilliatt in the shadowy cave comes over one with a fresh horror; when one recalls the size to which some members of this family attain, and then thinks of these suckers, some of them as large as saucers, being fastened on a man's flesh and "about to drink his blood," it fills one with a creepy horror, and also with a feeling of thankfulness that such monsters are not common on our coast.

This great cuttle family includes the octopus, the squid, and the calamary, and, although they are without teeth or horns, scaly armour, or poisoned sting, yet are they the best-armed creatures in the sea, and it is but natural that their ghostly, changeful, horrid form should have given rise to much of the world's wonder-lore.

The first appearance of the family seems to date back to the time of the *Lias* formation, when the *Plesiosaurus*, with teeth like a crocodile, a neck like a snake, body and tail like a quadruped, and paddles like a turtle, shared the command of the world of waters with the giant *Ichthyosaurus*, whose cannibalistic habits and massive eye-holes are plainly written of in the stone books of geology.

Amid these storied forms of the long ago, we find the *Belemnite* and the true cuttle-fish, remote ancestors of the tiny forms, with Latin names, which came to our nets during the last cruise of the *Spindrift*.

The hard, calcareous centre of the *Belemnite*, looking like a piece of wax, or some ancient boring tool, was weathered out from the Lias rocks, where it had lain for the countless years that have elapsed since the *Ammonite* and the *Belemnite* sailed the seas together; and an ignorant people, compelled to find a

reason for what the science of their day had no name for, called these curious things "thunderbolts," and administered them to the sick in draughts and powders as certain remedies for various diseases, for which, no doubt, they were quite as effectual as many of our modern doses, *if the patient had faith.*

It was only in recent years, on a geologist finding the sepia bag of a long-departed squid which had been preserved through the ages, that the mystery of the "thunderbolt" was explained and the figure sketched, with its own ink, of the ancient *Cephalopod.*

Although the cuttle family (from "cuddle," to hug) has only become known to us scientifically of late years, yet it has been familiar to the people around the Mediterranean Sea for thousands of years. Dr. Schliemann dug up from the ruins of Mycenæ a gold coin bearing the unmistakable figure of an octopus, and on the graven stones of the temple of Bayr-el-Bahree, near Thebes, which was recently excavated, there is the figure of a squid, with its strange sack of a body, goggle eyes, and outspread tentacles.

The temple on which this was carved was built 1700 B.C., and is now 500 miles from the Delta of the Nile.

The story of the monster Scylla, one of the guardians of the narrow strait between Italy and Sicily, which terrified Ulysses and his men, was founded on the early ideas of the cuttle family, as was also the story of Hercules and the Lernean Hydra.

The eight mortal heads and the one immortal head of the Hydra, correspond exactly with the eight tentacles and the strong horny beak of the octopus.

All who have read the story will remember how, as fast as Hercules cut off the heads, they grew again, until he applied fire to the sundered parts, and then managed to cut off the immortal head and bury it under a stone. The octopus, like many other low forms of life, has the power to reproduce lost parts, just as a lobster can grow a new claw, or the star-fish a new ray.

Thus, again, we find a basis of fact for ancient fable, and when we recall Hercules and Gilliatt, the voyage of Ulysses, and the cruise of the *Spindrift*, we see how fact and fable, science and mythology, all become mingled, and how from a small stratum of fact there grows a fairy-like romance, and the quaint old English story of the "Three Black Crows" is brought before us once more.

Aristotle, who wrote about 320 B.C., knew more of the *Cephalopods* than any of his successors, immediate or remote, even down to this nineteenth century. It is indeed startling to us, who pride ourselves on the advanced scientific culture of this age, to find, on turning the leaves of ancient history, in the works of men long, long since dead, how much of biological lore was known to its writers.

Ever since the days of Homer—perhaps even earlier than that—and the chroniclers of Hercules, the poor cuttles have been maligned. It seems as if men could never be relied on when they talked about fish, even unto this day, though perhaps there is some excuse here, as the cuttle is scarcely a fish, being able to perambulate on dry land at a pinch, still he has been as much slandered as though he had been thoroughly piscine.

The *Kraken* of the Norse legends was a cuttle-fish, and an excellent illustration of the manner in which fish grow in size. One good and veracious chronicler tells us that there was a kraken, not a particularly

EMPTYING THE DREDGE.

large one, that measured about a mile and a half across! The Bishop of Midaros was said to have mistaken a sleeping kraken for an island, and built an altar on its back, and performed mass. The quaint twelfth century writer, who narrates this story in perfect good faith, said that the kraken waited respectfully until the ceremony was concluded, then sank beneath the waves.

Coming to much later days, we find a French writer, named Denys de Montfort, in his Natural History, picturing a great goggle-eyed cuttle-fish throwing its arms over the masts of a ship; it has one tentacle over each of the three masts, one round the bow, one round the stern, and is tearing the ship to pieces and "knocking the sailors about like gooseberries."

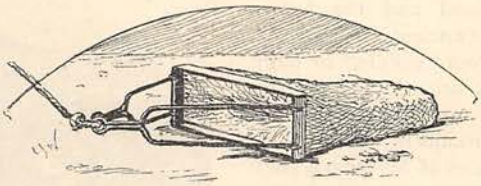
The same veracious naturalist states that an English victory was turned to defeat by the providential (*sic*) interference of the same family. He states that six men-of-war ships, captured from the French by Admiral Rodney, were attacked on the passage home by the cuttle-fish and totally destroyed, thus showing that, even if Englishmen were victorious in battle, yet the powers above were on the side of the French!

It seems almost a pity to spoil so good a story by adding that the writer died in the galleys, where he had been sent for forgery, but such is commonly reported concerning him.

Looking at the curious little cuttle-fish that came up

in our dredge, these old stories came rushing over them, covering their uncanny forms with a mystic halo, and suggesting how much of romance there is in science, and how "cold" science is interwoven with the world's mythology and folk-lore, impressing anew the fact that all the old stories of goblin and geni, of fairy palace and haunted castle, are as nothing compared to the stories revealed to us in this day by the microscope, the telescope, and the dredge.

The day is coming on apace, let us hope, when our young people will find their wonder-lore not in yellow-covered novels, but in sky and rock, on mountain-side and sea-shore, and in such treasures as were garnered during the cruise of the *Spindrift*.



THE DREDGE.

THE GARDEN IN "THE MERRIE MONTH."

WITH the return once again of the "merrie month of May," we may consider ourselves as fairly embarked in the summer gardening campaign. And yet these deceitful east winds and occasionally lingering frosts make us doubly careful in beginning to expose our entire gardening stock very early in the month to all the fanciful and fitful changes of our English climate. In our greenhouse, however, one of our floral exhibitions ought to be now in its prime. We refer to our pelargoniums, or fancy geraniums, and it is to their general culture, as also to the attention that has to be paid to our strawberry-bed, that we shall mainly address ourselves this month. And the brilliancy and great variety of their colour it is which give us a double interest in the cultivation of these fancy geraniums. And these, of course, can be either raised from seed or propagated by cuttings. Seed sown, say, towards the end of February will under ordinarily favourable circumstances not flower before August or September. The seed sown should have been gathered ripe and dry in the autumn, and stored away in its pod and in some dry place until brought out for use. Sow in wide shallow pans or pots, and be most careful to have an ample drainage in the way of crocks and pieces of tile. As for the soil, it should consist, say, of loam from well-decayed turf, leaf-mould, and sand in about equal proportions. Have all three ingredients thoroughly mixed and the whole somewhat pressed into your seed-pan, sowing your seeds on the surface of the soil, and covering them over lightly only, with similar soil. All the better if you can place your seed-pan in a warm frame, or in the absence of such a convenience, these young seedlings can be raised in the greenhouse. In this case, however, a little additional warmth and protection can be gained for them by placing your pan, if possible, inside another one and having a coating of moss placed all round its edge. Your young pelargoniums, when of a sufficient size to admit of being handled, should be potted singly into sixty-sized pots, or if you prefer it, pot them three at a time in forty-eights. As the summer advances, a further shifting will, of course, be necessary. Now these seedling pelargoniums sown, as we have said, about February, and that only begin blooming, therefore, in the very wane of the summer, can hardly be said to have had a thoroughly fair chance of showing the full merit of their flowering, so that it is well, say about the middle of August, at the time, in fact, when we take cuttings of our other plants, to take off and strike in the ordinary way the best and healthiest of the tops of these young seedlings. Strike them in a soil of sandy loam, either in your greenhouse or a spent cucumber-bed, or even in a warm and well-sheltered part of your open border, that is, if the season be a good and favourable one. May and June are, as we have said, the months in which our fancy geranium show should be at its best, but in the spring months of the year these pelargoniums, as also our cinerarias, seem terribly liable to be troubled with a visitation of the green fly, in which case a good fumigation and afterwards a syringing should be given them.

Nor can there be a better month of the year than May in which to say something of our strawberry culture, as we are, of course, just now watching their progress with considerable care. And, perhaps, we cannot do better than give at the outset a few directions as to their more immediate mode of treatment at the present time, which is too often a very turning-point for success or for failure in our strawberry-garden. Let us say at once that leaving a strawberry-bed to take care of itself during the month of May will certainly involve failure. By the middle of the month, and perhaps earlier, the runners, if allowed to extend them-