

Correspondence.

For the Christian Messenger.

Aurelia.

BY CARL STEINHAMMER.

Have you ever noticed as you have crossed the ferry to Dartmouth on a fine summer day, or as you have looked from some of the wharves into waters of the harbor, certain almost transparent jelly-like bodies floating in the water like submerged bubbles? Sailors call them "sun-fish," "sun-squalls," or "Jelly fish," which is a much better name, although they are not fishes and are not constructed at all like fishes. You may have learned to call them *medusa*. This is their proper name.

You can easily catch one with a dip net or bucket. Out of the water it is a mere mass of jelly; but if you wish to examine it and learn something of its structure and habits, you must put it into a glass bowl of sea water, when it will be in its proper element and quite at home.

You will find it to be a circular disk of a transparent jelly-like substance, quite thick in the centre and becoming gradually thinner towards the circumference. Looking at it from above you will observe in the mass what looks like a cord tied in four open loops, about the centre of the disk. These are the egg-pouches of the animal or ovaries, as they are called.—They are very conspicuous, and appear as you look down upon the animal in the water, like a cross. Now, in the centre of the disk, there is hollowed out of the jelly-like mass a cavity, which, though not to be compared to the stomach of the higher animals—for the jelly-fishes are built upon an entirely different plan—nevertheless performs the same functions. The mouth, so called is immediately below, opening on the underside in the middle of the disk. If you look carefully you will see four very delicate ruffled curtains hanging down from the mouth and prolonged to the edge of the disk. They put one in mind of two human mouths placed at right angles, with the lips very much produced in the shape of thin curtains.

The margin of the body of the animal has eight slight indentations forming as many lobes between them. In each of these depressions there is an eye, eight in all. From the central digestive cavity or stomach there go to each of the lobes and indentations, tubes, 16 in all, branching so extensively as to fill up the disk with a perfect network of ramifications.

A delicate fringe hangs from the margin of the body, floating gracefully on the water, and waving with the animal's motions. Our description of the animal is finished. It has no head. There is neither heart, nor lungs, nor brains, nor muscles. It is a mere mass of jelly, composed of cells, each of which performs the functions of nerves and muscles.

The food is digested in the central cavity, and, mixed with sea-water, circulates through the tubes radiating from it to the margin, where there is a circular tube that connects them all together. This is one of the most simple forms of a digestive and circulatory apparatus.

The medusa looks as it floats in the water like a parasol with a silken fringe. But how does it move, seeing that it has no limbs? By alternately contracting and expanding the disk just as you open and shut a parasol. Watch one as it swims, and you will see it rise and fall with the disk-pulsations.

You have already seen that this animal is constructed on a very strange plan. It is not built like those animals which have a backbone and which Zoologists call Vertebrates, such as mammals, birds, reptiles and fish; neither is its body made up of a series of rings like that of insects, crustaceans, and worms, which belong to the branch of Articulates. Nor is the body like a sack, noted for its compactness, with the organs arranged on the two sides of the body like shell-fish, that belong to the branch of Mollusks, and comprise chambered shells like the nautilus, bivalve shells like the clam, and univalve of which the common conch is an example.

The medusa belongs to a branch of the Animal Kingdom, which is characterized by an entirely different plan from that on which the members of the other branches are constructed. It is that, in which the body is made up of a number of identical parts arranged around a vertical axis.

You have only to glance at a medusa to see that all the parts of the body are arranged radiatingly around a line which passes perpendicularly through the centre of the disk, and that all these parts are identical so that we cannot distinguish one side of the body from the other. It is a radiated animal, and belongs to the

branch of Radiates. There are three classes in this branch, *Echinoderms*, or starfishes, sea urchins and the like; *Acatephs*, to which class the medusa belongs, and *Polyps*, or the common coral-animals.

Now I have a story I want to tell you about this odd little animal, and I have only given you this description of its general appearance and construction, in order to prepare you for my story. It shall be the history of the development of one of these medusa.

The medusa is first an egg, then a pear-shaped body covered by minute fringes, (vibratile cilia), by the action of which it moves freely about.—After a time it fixes itself to the ground by the smaller end. The body becomes longer, a depression takes place at the broader end, which gradually deepens, forming a tubular digestive cavity with a mouth—opening above. Around the upper part of the body a number of arms spring out, surrounding the mouth. In this stage of growth the medusa resembles the common fresh-water hydra so abundant on the weeds floating in stagnant water. As it bears now no resemblance to the adult medusa, it is not to be wondered at that the naturalist who first saw the young at this stage of growth, described it as a distinct animal, and called it *scyphostoma*.

Soon after this crown of arms is formed around the mouth, a constriction takes place in the body just below the crown, which becomes gradually deeper, while, as the animal grows higher, other constrictions form lower down, until the whole structure resembles as Prof. Agassiz says in his "Methods of Study" in the *Atlantic Monthly*, "a pile of saucers," or, as the margins of these disks are scalloped deeply, "a string of lilac-blossoms such as children make for necklaces in the spring, in which the base of one flower is inserted into the upper side of the one next below it."—When the medusa was first seen in this stage of growth it was thought to be an entirely different animal from either the adult medusa or the scyphostoma, and naturalists called it *strobila* from its resemblance to a pine-cone.—But let us watch the strobila a while longer.—The constrictions become deeper until the upper one which bears the wreath is so slightly attached, that it falls off and perishes, and now comes the time for the breaking up of the pile. The constrictions deepen and each disk is freed; but instead of perishing as did the first, it turns over so as to bring the concave side downward, and swims away, a free independent jelly-fish!

It is disk-shaped, with very prominent lobes, and with a deep depression in such lobe, where is an eye.

There are, radiating from the centre to the lobes, eight branching tubes, while eight more go to the depressions between the lobes. In this stage of growth it has been called *Ephyra*. The lobes are gradually obliterated as the animal grows larger, while the tubes become more and more branched. The marginal fringe becomes developed, and, at last, the medusa takes its adult and perfect form.—Such is the story of the development of the common white-jelly-fish of the Coast of Nova Scotia. *Aurelia flavitula*, Prof. Agassiz has called it.

It is first an egg, dropped from the ovaries of the adult medusa, then a free swimming pear-shaped body, then cup-shaped and attached to the ground, with a simple digestive cavity and a wreath of feelers around the mouth, (*scyphostoma*) then a pile of disks, (*strobila*) each disk to be hereafter an independent jelly-fish, at first with very prominent lobes (*Ephyra*) the cycle being closed by the perfect *Aurelia*. A very wonderful thing connected with this history is that the young animal, born from a single egg, breaks up before it becomes adult into a number of distinct individuals. Now this is, I think, a most curious and interesting story.

This strange little jelly-fish is God's handiwork. 'Twas He who planned its whole structure and devised its extraordinary mode of development. Nature is God's handiwork too.—He has laid the plan not only of worlds; but the framework of every animal, even of the most insignificant, existed as an intellectual conception in the mind of the Almighty before it had a material existence. How many there are who think it beneath them to examine or study an insect or a shell! But is that which is the expression of a thought conceived by the Infinite Mind unworthy of our attention? I think not. Moreover, I think that the indifference we shew to the marvellous displays of the skill, and power, and thought, visible in every object about us, is viewed with displeasure by the Great Being above.

This world is a studio full of Divine Art, before which the wonders of the pencil of Raphael and Michael Angelo, or the almost breathing marbles of Canova are mere worthless, miserable imitations. Yet how rarely does the eye rest

intelligently upon them. We pass through the studio perfectly indifferent to them, just as if their existence was entirely meaningless, while we search the floor for coppers! forgetful all the while that these will be taken from us when we leave the studio, and totally unconscious that the intellectual culture derived from the study of the thoughts of God visibly expressed around us, is immeasurably more valuable than the paltry training the mind gets in its search for earthly treasures.

I like the expression of Pierce, "Matter is the language in which God expresses His thoughts," and of Agassiz, "The naturalist is the translator from nature of the thoughts of God." They are noble ideas.

If nature is the expression of a plan conceived by the Almighty, a plan carried out in the minutest details of structure of every natural object, every sun, every plant, every insect, then the laws which we discover from their study are the thoughts of God, and in this way we are enabled to get a glimpse of His modes of thinking.

If the study of the thoughts of Great men, as embodied in their works, ennobles our minds, and if our capacity for thinking is increased by our attempts at grasping their great thoughts, just as the arm is strengthened by severe exercise, what a magnificent mental training is derivable from the study of God's thoughts in Nature!

This is, I hold, a more ennobling view of the study of nature than that of the utilitarian Philosopher who views it as valuable to him in as much, only, as it will enable him the better to minister to his daily bodily wants.

One idea more.—Knowing and loving the God of the Bible, and somewhat, for not at all can we be intimately acquainted with the God of creations, shall we not in the hereafter be the better prepared to enter into more close communion with Him?

Museum of Comparative Geology,
Cambridge, Mass., June 4th, 1863.

For the Christian Messenger.

Faith.

Mr. Editor.—

Dear Sir,—I very much want to urge upon Ministers and others, the study (individually, and together, with Concordance in hand) of what the Bible says of that Faith which it enjoins on all men, and of the place therein assigned to it, in the matter of man's salvation.

Some may say we know all this as we know the letters of the alphabet; that this ought to be so, I admit; seeing that Faith is a first principle, and that it is so very largely and so very clearly treated upon in the Bible. But that it is so understood, I very much doubt and for the following reasons, viz.: That one aware of the fact that Faith is the substance of things hoped for, must as a consequence, desire to possess it, and that too with a degree of strength and sincerity, which, under grace, would place him in possession. That it is possessed in any considerable degree, I doubt, because the influences and effects attributed to it in the Bible, are not apparent, and because these cannot be concealed where faith so exists, concluding as I must, that if Faith as a grain of mustard seed could remove a mountain, not a large amount is requisite to produce effects appreciable by its possessor and discernable by others, and lastly because ignorance of the value of Faith is the only reason I can assign, either for not desiring it, or for desiring it only in its smallest and weakest degrees.

Now to recapitulate.—If we knew the value of Faith, we should sincerely desire the possession of it. If we sincerely desired it, we should possess it. If we possessed it, it would be known by ourselves and others.—If we possess it not, it proves we desire it not. And if we desire it not, it proves that we are ignorant of its value, and if ignorant, we are so without excuse, inasmuch as the Bible is very full and very clear in relation thereto.

Having thus introduced a subject, which upon due attention, will be found to be, more practical, more profitable, more delightful, and more prolific than can be expressed, I would ask, Who will, through the *Messenger* or otherwise, throw light from the Bible thereupon? or upon any one of the following, or other, divisions—or subdivisions, viz.:—Its nature, importance, scope, end, how to be obtained and increased? Where or how often it should be exercised? What (of any value, religiously) can we be, do, or possess without it? What can we be, do, or possess, through or by means of it, under the Gospel dispensation or covenant of Grace?—What are its effects on the mind, in relation to our many and oftentimes pressing earthly interests? and what in relation to our spiritual condition

and interests, and usefulness? Also, particularly what effect on our feelings towards God, and towards man? How would it influence discussion of matters secular or religious? What effect on Preaching, on Prayer—private or social—on exhortation, singing, and how these effects would likely operate on the unconverted, and upon believers, who comparatively have little or no faith, and scarcely know there is such a thing? Also, in what does the riches of Faith consist, and in what sense is faith precious?

And may the spirit of wisdom and a sound mind rest on any who may attempt to enlighten their brethren, and to induce them to travel in the King's highway of holiness, wherein is no venomous beast, no temptation, no sin, no obstruction, no alarm, where the ears of the deaf are unstopped, the lame leap as an hart, and the tongue of the dumb sings for joy, where his rest is glorious. For by Grace are ye saved through Faith. We are not under the law but under Grace—Abraham believed God and it was counted unto him for righteousness. The just by faith shall live.

As many as believed on Him to them gave he power to become the SONS OF GOD.

I am, yours truly,

A. B. C.

New York Chronicle please copy.

For the Christian Messenger.

Obituary Notices.

ANDREW CHUTE.

Died on the 17th ult., near Port Burwell, Canada, in the 73 year of his age. The subject of this notice was the son of Thomas Chute, and was born in Granville, N. S., on the 15th Sept., 1789. At the age of 24, he married Olivia Woodworth, of Cornwallis; by whom he had 8 sons and 4 daughters, all of whom survive him. In 1841, he removed with his family to Canada West, and settled in the township of Bayham, where in the midst of his children and other friends he spent the last years of a long life. He was converted to God at the age of 20, and was baptized into the fellowship of the Baptist Church in Clements. Thus commenced a connection with the Baptist Church, which has been sustained for over fifty years. In 1822, he was chosen to the office of Deacon in the church, which he continued to sustain with but little intermission to the close of life. He was early in life exercised in mind on the subject of preaching the Gospel; but it was not till he had long been a member of the church, that he attempted to teach the Scriptures, then with the approval of his brethren, he frequently went into destitute neighborhoods to preach among the poor the unsearchable riches of Christ. For more than thirty years has he thus in a humble way labored in the ministry; and many times while he has watered others, he has been watered himself.—So long as his health permitted, he was ever found in his place in the House of the Lord; and his voice was heard praying and speaking for Christ, and he was always filled with joy, with seeing sinners converted, and God honored. With the beginning of the present winter, his health began to fail, and his strength gradually gave way, until he became as helpless as a child; but his mind was firm, resting on the rock of ages. Feeling that his end was approaching he summoned his children that he might see them before he closed his eyes in death. We arrived four days before he expired, and found him near his end, but far from fear. Soon after we entered his room, he said that he had been looking over his past life, and had proved the promise "even to hoary hairs will I bear you." He then requested us to sing that popular hymn beginning "O sing to me of heaven, when I am called to die," which he seemed to enjoy very much.—The next day his speech had failed, so that it was with difficulty we understood him. The morning before he died an old christian lady came in to see him, and in conversation alluded to his sufferings, when he replied in those beautiful lines of Watts, "My sufferings are not worth a thought, Dear Lord, compared with thine." In the evening, the sick room was filled with kindred and friends, who had come in to see a Christian die. Not a sound was heard except the labored breathing of the sufferer, and an occasional outburst of sorrow from some one who felt that strong ties were breaking. I went to him to obtain one more token of consciousness and recognition; and repeated that precious promise, "Blessed are the dead." When we asked him if he understood it, he consented, again we asked if it comforted him, his countenance brightened with delight, as he answered, "I shall soon prove it," he then called for my mother, and he turned on her one sweet, loving look, but could not speak; it was the last effort of expiring nature, and in half an hour more the tyrant had done his work, and his victim lay still, but the spirit was released, and sought its kindred in the skies; and he was wiser than all of us. The funeral took place on the 19th, when a large concourse testified their respect by following the remains to their last resting place. A discourse was delivered by the pastor of the church; Elder McConnell, from Tim. iv. 7, and 8, and then we laid him in his low bed until the trumpet shall sound.

"Thus star by star declines
Till all are passed away,
As morning high and higher climbs
To pure and perfect day
Nor sink those stars in empty night
But lose themselves in Heaven's own light."

ALFRED CHUTE.