

## THOUGHTS ON THE STRUCTURE OF FISHES.

Who would imagine that there would be such creatures as fishes, if he did not see them? Had the philosopher been acquainted only with those creatures which tread upon the ground, and breathe in the same manner that terrestrial animals do, and had it been insinuated to him, that there was a sort of creature in the sea, so formed as to live, move, be healthy and sprightly, and perform every animal function with ease and pleasure, would he not have rejected the notion as a philosophical dream? and, arguing from the effects which an immersion for a considerable season under the water has upon us, would he not pronounce the thing impossible? And yet so it is, that by a peculiar construction of the organs of inspiration at their gills, the air is taken in, while the water is excluded. And as every creature of the brutal kind comes into the world with a sort of clothing, the author of nature has in this respect provided for this part of his great family, and adapted it to their peculiar situation. Some are, as it were, clothed in buff, while dressed in a thick outward skin, and others are covered with a coat of mail. Thus the crab, lobster, oyster, and all the testaceous sort, appear in a massy armour, which, though it is not destined for much motion, yet it secures them, and providence brings them their food. Others have a still lighter and more portable coat—this the scaly sort bear about with them. This, as an upper garment, they seem to have the power of opening and shutting, according to the season, and other circumstances. The roots of these scales are inserted in a fatty substance, which, with an oiliness besmearing the outside, helps to defend them from that cold which many times prevails to an extremity in their native regions.

But to a philosopher who had never seen a fish, it would be a great objection against such existences, that the same sort of eyes would not suit them that other creatures have, as the medium of vision is different, and the refraction of the rays of light peculiar, as passing from a rarer to a denser element. Here he will find, that Providence, always wise, has taken peculiar care. This care is discernible and admirable in the frog, birds, spiders, moles, who have all of them eyes different from us, and from each other, according to their places of residence, and methods of subsistence, and the same provision is worthy our regards in the fish, for their organs are so constructed, as to enable them to correspond to all the convergences and divergences of rays, which the variations and wavings of the watery medium, and the refractions thereof, may occasion. So that we may say as Job, "Ask fishes of the sea shall declare unto thee." "and the voice of the Lord hath wrought this?"

There is a wonder in the motion of the fish, I mean especially the round sort, which, the more it is attended to, appears the more surprising; whether, at one time, I view them shooting forward as an arrow from the string, or, at other times, easily rising to the surface, and, upon every surprise, darting as quick to the bottom; now turning to the right, then to the left, and all this with an agility which the most accomplished person among us cannot imitate. Their progressive motion is owing partly to their shape, but chiefly to the soft, flexible, and elastic muscles of the tail. What we call the fins, though mistaken by some as if concurring to progressive motion more than they do, subserve noble and necessary purposes. If it were not for these little muscular membranes from the breast to right and left, the poor creature would have no steadiness at all, but would reel here and there, and perhaps turn upon its back; but thus furnished, it turns one way or another to provide its food, or avoid impending danger; and while doing so, with what dexterity will it drop one of its fins while the other is employed, as the waterman upon the Thames, when turning his boat to or from shore, will work one oar while the other is idle.

The rise and fall of the fish in the water is still more wonderful. We all know that in every fluid, whether air or water, every body will sink or rise, according to its specific or comparative gravity. Now, I apprehend, that the weight of the fish in its natural state, being greater than so much water, it must necessarily sink, and could not possibly rise any more. To prevent this in the round sort of fish, the wise and kind Creator has implanted an air-bladder in the belly of the creature, which it has a power, by the external muscles, to contract or dilate at pleasure, and so increase its specific gravity to one degree or another, and by this means, to keep what course it pleases, whether high or low. You know many have made the same experiment that Bellini did; they have cut the poor creature open, and taken out this inflated bladder, and the consequence has been, that though it lived many weeks, it sunk to the bottom, and was not able to mount at all. On the whole, who can forbear crying out on this, as on many occasions, "O Lord, how manifold are thy works! in wisdom hast thou made them all." I could not forbear on this occasion, entreating, that a rational and divine wisdom may be equally implanted in my breast, that I may be fitted for every occupation which my sphere in life calls for; and particularly, may I be enabled to stretch

myself in the exercise of a holy desire, and thus ascend upward.

The fecundity of the fish claimed my attention, as God hath hereby so wondrously provided for the inhabitants of both elements. The fruitfulness of many land animals is remarkable; and yet, what is this to the multiplication of that species of creatures which I am now dwelling upon? Here is an instance and emblem of thy liberality, O thou God of Providence! when thou didst pronounce thy benediction on the works of thine hand, thou didst distinguish the fish from the rest, and put an emphasis upon it: and while thou didst give a commission to other creatures to be fruitful and multiply, thou didst direct "the water to bring forth abundantly the moving creature that hath life." And O how great, how energetic, is the influence of this blessing, even to this day! Indeed, in the early ages of the world it was so taken notice of, that it became proverbial in this way to express a peculiar, a more than ordinary increase of people, so that Jacob (Gen. xlviii. 16, Heb. version) prays that Ephraim and Manasseh may multiply like fishes. From such an increase, what provision is made for thousands! Though every year produces a large harvest, yet there is no deficiency—the destruction vast! the multiplication more astonishing—the survivors of the species are abundantly sufficient to recruit, though the fisheries are so many, and carried on with increasing toil, numbers and art.

Richard Pearsall.

## THE PEARL.

HALIFAX, NOVEMBER 25, 1837.

THANKSGIVING DAY.—Although the weather of last Thursday was exceedingly unpropitious to the interesting object for which the day was set apart, yet the general attendance in the several places of divine worship in town, was highly creditable to the piety of the community. Too generally such appointed days are observed only nominally—the outward attitudes of devotion are preserved, but the spirit is not duly impressed with the weight of mercy and obligation resting upon it. We do not indeed flatter ourselves that on the late day of thanksgiving, all who attended the house of prayer, and bended the knee, and uttered the voice of praise and gladness, were true, heartfelt worshippers, but we do believe that a general sense of the goodness of our heavenly Father pervaded all ranks and classes of society. Many there were who entering deeply into the correct sentiment of the Psalmist, "O Lord thou preservest man and beast," were ready to address their fellows in those beautiful words, "O bless our God, ye people, and make the voice of his praise to be heard: which holdeth our soul in life, and suffereth not our feet to be moved." Nor did they confine their ascription of praise to God, for their 'creation and preservation,' the tribute of their gratitude included 'all the blessings of this life.' Of thousands, it is believed, the language of the prophet was applicable: "They joy before thee according to the joy in harvest." We were witnesses of the gratitude which sparkled in the eyes, and beamed from the countenances, and vibrated on the tongues of many of our fellow townsmen, and the manifestation thrilled our bosoms with delight. Nor can we here refrain from testifying to the high pleasure we derived from the appropriate remarks of the different editors of the provincial papers—on other subjects there may be disagreement, but on the duty of thanksgiving there was no dissenting voice. We quote from the *Times*: "Looking back but a short distance of time, when paleness and terror blanched many a cheek, when the rattle of the death-cart wheels sounded through the long hours of the night, and the devastating cholera afflicted this community, we have reason to be thankful for three years in which health has been prevalent, crowned now with a season of agricultural plenty. At such a period of public blessings we should prostrate our hearts before the Almighty giver, and while returning thanks we should remember that communities are visited with severe inflictions for their offences, and endeavour by good resolutions now seriously adopted, to prevent the recurrence of scourges which may yet impend over us."

The sentiment advanced in the latter part of this citation is so in accordance with revealed truth, that it will find a cheerful response in every devout mind. Not less excellent are the observations of the *Novascotian*:—"We have

all much to be thankful for—and we trust that while our hearts overflow with gratitude to our Heavenly Father, we shall not forget our earthly brethren. Let us remember that, in proportion as we have received, we ought to be ready to bestow—that God loveth a cheerful giver—that the poor who are with us always have always a claim upon our sympathy, and that the best thanks we can render to the Deity are to give freely to the destitute. Let the day be indeed one of Thanksgiving—let the rich bless the name of Him who has enabled them to prosper, and the poor thank God that the rich have administered to their necessities and gladdened their heart." Long may these views and impressions exist amongst us.

## NEWS OF THE WEEK.

THE ROMAN CATHOLIC BISHOP OF MONTREAL, has addressed an elaborate pastoral letter to the several churches of his Diocese, on the political agitation which now exists in Lower Canada. It deploras the dissension, which have arisen among the citizens—recommends submission to the Sovereign—and concludes by exposing in a few words the miseries of a violent revolution. The letter has been drawn up by an able hand, for the writer has drawn support from the Apostles, and the fathers of the Church, from His Holiness, from Lamennais, from the National Convention, and from Jean-Jacques-Rousseau.

AT CHAMBLEY the Cure attempted to read the letter of the Bishop of Montreal, when the people left the Chapel in a body, and at the door passed resolutions against the interference of their Bishop with their political matters.

THE NEW YORK ALBION of the 11th inst. contains the account of a street fight between some of the Sons of Liberty and the members of the Doric Club, which happened on the 5th of November. The Montreal Herald represents the members of the Doric Club as completely victorious in the affray, when these triumphant friends of order and of the constitution very orderly and constitutionally entered the Vindicator Office, and commenced the work of demolition, by casting all the printing materials into the street.

AT QUEBEC a patrol has been formed, for the protection of property and preservation of peace.

The Lower Canada papers are very complaisant and genteel in their language on the subject of the present crisis. They belabour each other in regular Shakspearian style. The Vindicator of the 27th of Oct. calls the Patriot, 'traculent TOM DALTON's Patriot,' and concerning the transfer of all the troops from the Upper to the Lower province, says

"— E'en let them come,  
Our proved revenge has stomach for them all."

To this the *Mercury* with ineffable dignity replies—"Bow, wow, wow,—this is valiant barking indeed from the Vindicator, the 'canis ignavus' of the pack of even curs with which he hunts." The *Mercury* of the same date designates Dr. Nelson, chairman of the meeting of the Six Counties, 'the silly dunder-pate renegade.'

ANNUAL MEETING OF THE NEW BRUNSWICK Auxiliary Bible Society was held at St. John on the 11th inst. The speakers were Rev. Mr. Andrew, Mr. J. Tennent, Rev. Stephen Bainford, Rev. Mr. Wilson, Judge Parker, Rev. Mr. Bancroft, and Mr. G. Blatch.

The *Western Stage* has commenced running from John to St. Andrews and Eastport. The journey, it is said, will be performed in ten hours. The mails from the United States, by this conveyance will be brought to John three times in each week.

SYDNEY COUNTY ELECTION.—Mr. Forrestal has been duly returned by a majority of 80. The election closed on Friday.—*Novascotian*.