

PHILIP HENRY GOSSE.

PHILIP HENRY GOSSE was known in his day as an enthusiastic student of some forms of natural history; he was the author of a great number of popular volumes on this subject, and amongst his other claims to notice is described as the inventor of the marine aquarium. Though making no pretensions to be a leader of men, he rendered real service to his generation, and was both a man of science and a man of God.

His life has lately been charmingly written by his son Mr. Edmund Gosse,¹ whose endeavour has been to depict his father as he was, without glossing over any of his opinions or peculiarities.

The Gosses seem to be a somewhat old family. Tradition says they came from France about the time of the Second Charles, and certainly they were engaged in cloth manufacture at Ringwood, Hants, for very many years.

But it was at Poole, on the Dorsetshire coast, that the future naturalist spent most of his childhood. He was born at Worcester, on the 6th of April, 1810, and after a short sojourning at Coventry and at Leicester, where his father practised his profession as a miniature painter, the family came at length to reside at the little Dorset port.

Philip was only four years of age when the instinct of the naturalist was first stirred within him. He was alone in the field, when, lo! from the tall wheat a great white bird arose; and this, he was certain afterwards, was the stork, or else the large white heron, both, even then, very rare. And in the following winter the delighted little boy noticed a robin singing cheerily from a chimney near. The pictures of animals in Encyclopædias—the old *Perthensis* and *Pantologia*—attracted him, and he and another were never weary of studying and afterwards copying some of them. Further, his aunt Bell, with a cousin, pursued natural history, and when the little lad found a specimen appearing to him to be rare or beautiful, he took it to her, confident that she would tell him something about its history.

Little Philip found some sea anemones about the quays, and again it was aunt Bell who taught him their title, *Actinia*, and suggested he should put them into sea-water. He did so, but it was too troublesome to replenish the jug with sea-water for them, and they had to be given up.

Those jugs standing in the window of the Gosses' kitchen, were his first marine aquaria, though neither Philip nor his aunt had any conception of the interest he was one day to awaken in such things.

Aunt Bell, we may say in parenthesis, was in her way a remarkable woman. She was the fourth child of Philip's grandfather and devoted to science. Her husband, Thomas Bell, was a surgeon, and their son, also named Thomas, and

eighteen years older than Philip Gosse, became a notable zoologist, and a Fellow of the Royal Society.

Philip's mother, Hannah Gosse, did not approve her son's fondness for animals so warmly. One day Philip and his brother caught some wonderful treasures; nothing less than lizards were they, green and beautiful—Philip afterwards inclined to believe they were the real *Lacerta viridis*—but the mother was quite frightened, thinking they were poisonous, and the "nasty things" had to be killed. Though she did not appreciate lizards yet she was a good mother. Her days were not easy. Her husband was frequently absent engaged in his profession of miniature painting, and during his long journeys the responsibility of the household devolved on her. The family income was small; and the husband's earnings were narrow and precarious. Yet the mother managed to rear the family of three boys and a daughter in a thoroughly respectable manner. She had a perfect dread of debt—a very good fear to cherish—and seldom was it that the rent was not discharged on the appointed day. In order to accomplish this desirable end, industry, frugality, and constant ingenuity were required.

Here, then, we obtain a very good picture of Mrs. Gosse's character. She was energetic and practical, but her sympathies were narrow. The father was much the opposite; he was the poor artist, the impecunious miniature painter, to some extent cultivated and learned, leading a nomadic sort of existence, but a man of pure and pious life. His great weakness was incessant scribbling. Unhappily for his family, if not for the public, his writings, dialogues, stories—and even philosophical treatises in prose and verse—were not purchased by the publisher. Not a line of Mr. Thomas Gosse was ever issued to a waiting world.

Though not herself well educated, Mrs. Gosse was aware of the value of learning, and her son's aptitude caused her to make sacrifices that he should obtain something of it. She managed to secure his admission to the Blandford School for a short time, and he always appreciated highly the education he received there; it was the sole bit of classical education he ever had.

When about fifteen, a post as junior clerk was obtained for him, in the Poole counting house of George Garland and Sons, Newfoundland merchants, at £20 per annum. Here he had a pleasant time with some amount of leisure. He had access to an old bookcase containing some new, but more old, volumes, and he read with great eagerness. By-and-by he found fresh impulse in the sympathy of a young companion who had also been at Blandford School, and also subsequently found a place in a counting house.

They dabbled together in science, messed their dress with chemicals, touched music, but the main thing was still zoology. They copied pictures of animals continually, and this, with

¹ Published by Kegan Paul, Trench, Trübner & Co., Ltd.

reading about their characteristics, gave the lads a good knowledge of natural history.

So life went on until about the end of 1826, when the Garlands found a junior was no longer needed, and Philip was out of a berth. But in the following spring, a post was offered him at Carbonear, Newfoundland. The offer was accepted, and in April 1827, young Gosse boarded the brig which was to take him to Newfoundland.

His childhood was over. He was now a youth of seventeen, bound for a life among strangers and in a strange land. But in these early days we have seen something of the promise of his manhood. Like some other distinguished men he came from a thrifty, wholesome, middle-class home of straitened means. Once again in his life we read the truth that it is not always those who have abundance of advantages to whom belongs the race. He had far more. He had ability and rectitude, and energy to use his ability, and he rose high before his life's close.

An incident that reveals something of his character occurred on the voyage out. He obeyed the last injunction of his mother, namely, to read the Bible every day. A shipmate advised him "to get rid of that sort of thing, as that wouldn't do for Newfoundland." But never was he affected by such considerations. "His conscience," writes his biographer, "was a law to him, and a law that he was prepared to obey in face of an army of ridicule drawn up in line of battle." He had "an inflexible determination to do what was right, and in particular what he had promised to carry out, however unpleasant the performance might prove to be. This was a personal characteristic with him, and one which will be found to have coloured his whole career. In an age which has mainly valued and cultivated breadth of religious feeling, he was almost physiologically predisposed to depth, even at the risk of narrowness."

In Newfoundland Gosse remained for about eight years. Then he went to Canada, where he took a small farm; three years later, in 1838, he journeyed to Alabama. All the time he was in America he pursued his natural history studies, and read a great deal.

The year 1832, remarkable in the history of Britain, was remarkable also in Gosse's career. In that year "he commenced," says his son, "that serious and decisive devotion to scientific natural history which henceforward was his central occupation."

In that year too, as at a much later date he described it himself, he "definitely and solemnly yielded himself to God." The illness of his sister Elizabeth appears to have deeply affected him, and prepared him for this decision. In some account which he wrote of this experience, he says: "I cannot say that I was born again as yet; but a work was commenced which was preparatory to, and which culminated in, regeneration. I came at once to God, with much confidence, as a hearer of prayer, and He graciously honoured my faith, imperfect as it was."

It was five years since he had left the old home, and he now claimed from his employers the fulfilment of their promise that he should be

allowed to revisit it. Happily he found his sister better, and the very first morning that he was at home he rose at four and went forth to capture insects!

After his return to Newfoundland he joined the Methodists, and formed the acquaintance of a Mr. and Mrs. Jacques, with whom he continued friends for over forty years. It was chiefly owing to them that he adopted a view which we think not only narrow, but dishonouring to God, namely, "that it was proper to exclude from his companionship all those whose opinions on religious matters did not coincide with his own." This was the result of "intense conscientiousness and a conviction that his duty lay in such isolation;" nevertheless, we agree with his son as to the baneful effects on his usefulness and sympathy.

His lonely farm life in Canada seems to have intensified his isolation. He certainly fared badly there from a pecuniary point of view; and when he left after three years, he was twenty-eight years of age, and had not that number of pounds! But his naturalist journals at this period shew the great power of close observation which distinguished him among naturalists of his day.

After selling his farm, Gosse went south; Jacques drove him in a waggon to Burlington. Shortly afterwards we find him at Philadelphia, where was an old friend of his, and where he first experienced the sympathy and assistance of scientific men. One of the Philadelphian *savants* suggested that he should journey to Alabama, and gave him introduction to a planter at Claiborne. This resulted in his engagement as a schoolmaster. His pupils proved to be decent boys, though a majority handled "the long rifle with much more ease and dexterity than the goosequill." But they came to like their naturalist schoolmaster very much, and helped him in his collecting. For Philip Gosse was of course still the entomologist. He formed also an ornithological collection; and his dexterity as an artist of insects rose to its height. Trained in the miniature painters' school, he adapted their procedure to the portrayal of these small animals, and was not surpassed in the exactness of his pictures. But he did not stay long in these parts; slavery he found more horrible than he had supposed, and it had a good deal to do with his departure. From various causes, in which the climate and his straitened resources had place, he fell into a gloomy and depressed condition. He thought that God was chastising him for "sinning against light." And soon he became really ill.

Early in 1839, having apparently left his post through failing health, he returned to England. So impecunious was he that on his arrival at Liverpool he was obliged to sell his skins and furs, and at a poor price. He also sold his collection of insects.

And now, after eleven or twelve years in the New World, England was again his home, but he was without a profession.

His sky grew gradually even darker. At length he offered a manuscript of "The Canadian

Naturalist," which he had previously prepared, to the well known publisher of zoological works, Mr. Van Voorst. The day came when the reply was to be made, and "the proud and starving author presented himself in Paternoster Row." He felt hopeless, and in the depths of dejection. The publisher slowly began—

"I like your book; I shall be pleased to publish it; I will give you one hundred guineas for it."

So violent was the reaction that the young author utterly broke down and sobbed hysterically. Mr. Van Voorst hastened to supply him with refreshment, ministering to needs which pride could no longer conceal!

So Philip Gosse began to have an aim and an occupation in life. But he had still to struggle. Curiously he did not take readily to his literary work; further he was reserved and timid. He tried flower-drawing and teaching, and actually took a small school at Hackney, which was not very successful. For two years he passed through a period of poverty with heroic patience; but he still continued to record natural history facts, while his powers of observation were still in constant training. Still, also, he continued a local preacher and class leader among the Methodists, and a book of his "Skeleton Sermons" is in existence in manuscript.

There came at length a crisis in his religious experience. Early in 1843 he severed himself from the Wesleyans and joined the Plymouth Brethren. Mr. Edmund Gosse professes himself unable to deal competently with this religious phase, and contents himself with printing an account of it by his father in an appendix. We also shall not attempt to deal with it, merely saying that in the forefront of the account, Philip Gosse writes that the Holy Spirit had unfolded to him "the hope of the personal Advent of the Lord Jesus." He seems to have been led to this step by perusing a book on the Prophetic Scriptures, written by Matthew Habershon, the father of two of his pupils.

In the spring of this same year, 1843, other literary work, dealing with zoology, was offered him. His school dwindled, and at the end of the year he had but eight pupils. But his literary work increased, and as it took him much to the British Museum, the distance thither from Hackney being great, he moved to Kentish Town, and invited his parents to join him.

Gosse now made several valued friends, but of that group of naturalists one only survives, Mr. J. O. Westwood, the Hope Professor of Zoology at Oxford. As work after work came from Gosse's pen, his style became eloquent and free. He now undertook a journey to Jamaica for the purpose of insect collecting, having made an arrangement with an agent to sell the collections acquired. Eighteen months were passed in that island, months crammed full of scientific work, and he returned to London in August, 1846. Almost continuous literary toil marked the next two years.

In November 1848 he was married to Miss Emily Bowes, who was a member of the Plymouth Brethren society at Hackney. But one child was

born of the marriage, Mr. Edmund Gosse, the well-known poet and critic, author of the biography to which we are indebted for these facts. His days were now passed in much seclusion. His ideal was to live in "an even temperature of domestic solitude, absorbed in intellectual work, buried in silence."

On the 11th of June, 1849, Gosse first examined independently a *rotifer* microscopically, and this opened up a very important branch of his work. He became absorbingly devoted to that beautiful instrument the microscope. In this study he was stimulated by the preparation of his "Text-Book of Zoology for Schools." In 1850 he was chosen an associate of the Linnæan Society. A few months previously he had been elected member of the Microscopical Society.

In the first five years after his return from Jamaica, Gosse finished thirteen separate works. He had laboured incessantly, his life had been very monotonous, his holiday substantially none. His health could not bear the strain, and early in 1852 we find him, for the benefit of his health, on the lovely shores of Devon, at St. Marychurch; and of course collecting and discovering.

Nowadays, the idea of the marine aquarium is familiar and commonplace. But forty years since it was unknown. When Gosse was studying *Rotifera* in 1850, he noticed that when certain water weeds were permitted to grow in the vessels where his little captives were kept, they would live and multiply. Towards the end of the next year he thought of applying this knowledge to preserving animals in water taken from the sea. If, he thought, he could induce seaweed to live in vessels of sea water, it might exhale oxygen and absorb carbon, and so preserve the water fit for supporting the life of animals.

The idea was quite matured before he migrated to Devonshire, and on his return to London he kept a marine aquarium fresh and healthy for over a couple of months. About the same time Mr. Robert Warrington had been experimenting with a fresh-water aquarium, and the two gentlemen corresponded. Soon after this Gosse stocked a tank in the Zoological Gardens, and afterwards seven tanks, visiting the seaside for the purpose of obtaining specimens. He sent specimens also to the Crystal Palace and to other places. Before very long he had written that gossipy and popular book "The Aquarium," which sold "like wildfire," and "was the most successful" of his "literary adventures." Though the coloured pictures were very costly, the profit amounted, in time, to over nine hundred pounds. Before this, in the July of 1853, Charles Kingsley had written to him, and the correspondence then commenced ripened into intimate friendship. It appears to have been the publication of Gosse's book, "The Devonshire Coast," which was brilliantly successful, which led to that first letter, at which one is not surprised, knowing how fond Kingsley was of Devonshire.

Gosse's fame was now firmly established, and was extended by the frequent lectures which he gave. In June 1856, he was elected a Fellow of the Royal Society; but, alas! in that same year a heavy shadow cast its gloom over his household.

His wife fell ill of cancer. The relationship between them had each year become more tender and sympathetic. Gosse lost his shyness and his isolation, and became a most genial man. His wife was blessed with a mind that was cheerful, and even gay, and happily she was able to distinguish—what perhaps every Christian does not—between misanthropy and piety. She had schooled herself to take interest in topics which had been distasteful, and had become part of her husband's intellectual life. But the gloom was now to deepen over them, and they were to be separated by the great Divider.

Before her death she had engaged in tract-writing, in which she was singularly successful. Forty-one tracts altogether were issued from her pen, and after her decease they were collected in a volume.

The death of his wife was a terrible blow to Gosse; and though he lived to regain happiness, he never quite recovered his energy. He published a memorial which showed how morbid was his mind, and how unstrung his nerves. Two works published in 1857, the year of her death, might, too, have been left alone "so far as his scientific credit was concerned." The second of these is the well-known "Omphalos: An Attempt to untie the Geological Knot." This book was not well received, even by the orthodox whom he had expected to rally to him, while the scientific world looked upon it with scorn.

In September of this year he settled at St. Marychurch, and there for thirty years he resided, and for many of them in great retirement. In 1860 he married again. His work as a professional author may be said to have ceased in January, 1865, when two works, "Land and Sea" and "A Year at the Shore," were issued in book form. At length, when in his seventy-eighth year, heart disease manifested itself, his vitality declined; and he passed away in sleep very early on the morning of the 23rd August, 1888.

"That most pious and most learned naturalist," Charles Kingsley calls him in "Glaucus." In some aspects of his religious life he reminds us of Faraday; if he rendered no such distinguished service to science as did that humble-minded man, he yet gave a great impulse to studies which have borne abundant fruit over a wide area.

Of the deeper thoughts of the man, and his devout spirit, we get many glimpses. In the year 1878 he wrote a confession of faith in a letter in which these words occur:

"The whole of my theology rests on, and centres in, the Resurrection of Christ. That Jesus was raised from the dead is an historical fact, the evidence for which is in my judgment impregnable. I ask no more than this; everything else follows inevitably. A suffering, dying Christ, and yet an ever reigning Christ, was the great theme of the Old Testament; and Jesus did, on numerous occasions, during His life, predict His own death and resurrection, in order 'That the Scripture might be fulfilled, that thus it must be.'"

There is much more than this in the "Confession," which, however, need not be quoted. "His code was the Bible," says his son, "and the Bible only, without any modern modification

whatever; without allowance for any difference between the old world and the new, without any distinction of value in parts, without the smallest concession to the critical spirit upon any point; an absolute, uncompromising, unquestioning reliance on the Hebrew and Greek texts as inspired by the mouth of God and uncorrupted by the hand of man. The Bible, however, is full of dark sayings, and needs, as he admitted, an interpreter. But my father did not doubt his own competence to interpret. He had some reason to hold this view. His knowledge of the Bible can hardly have been excelled."

Substantially he seems to have known the Bible by heart. Partly, no doubt, this was "because his mind had an unusual power of verbal retention;" but also "because, for nearly sixty years, whatever other occupations might have been in hand, no day passed in which he did not read and meditate upon some portion of it."

Possibly owing to his self-contained mental habits, he did not for some years outwardly join any visible Church. He had, as he put it, "lost confidence in the Plymouth Brethren" soon, and for thirty years before his death he was not connected with any Christian community. But at St. Marychurch he gathered around him a circle of friends, to whom he acted as a minister.

As an artist of zoology he takes very high rank. As a naturalist he helped forward the study of living things, especially the lower types. Before his day natural history was far too largely a science of defunct forms, but he lived to see the study of animated nature become a very important branch of scientific enquiry. His mind had not a wide range; he observed minutely and closely, and there seems to us some connection between this and the position he took up in things religious. But he was one who did unmistakably good work in his day and generation, and his name is written in the scientific annals of his time.

F. M. H.

Things New and Old.

GOD who is liberal in all His other gifts, shows us by the wise economy of His Providence how circumspect we ought to be in the management of our time, for He never gives us two moments together."—*Fénelon*.

SURE ANCHORAGE.—"Our hope, heavenly and earthly, is poorly anchored, if the cable parts upon the strain. I believe in God who can change evil into good; and I am confident that what befalls us is always ultimately for the best."—*Sir Walter Scott's Journal*.

FOUND FAR FROM HOME.—The remarkable case of the conversion of a German workman, at Bâle, in Switzerland, described in the SUNDAY AT HOME for March, under the title "A Marvellous Escape," is often paralleled in the point of spiritual life being found in places and at times unexpected and unlikely. In the French journal, *Le Réveil d'Israel*, an account is given of a Russian, who, like that German, had become an atheist, and was a Nihilist, as the other was a Communist; and both became Christians when far from