Mary Somerville

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THERE have been in every age a few women of genius who have become the successful rivals of man in the paths which they have severally chosen. Three instances are of our time. Mrs. Browning is called a poet even by poets; the artists admit that Rosa Bonheur is a painter; and the mathematicians accord to Mary Somerville a high rank among themselves.

"In pure mathematics," said Humboldt, "Mrs. Somerville is strong." Of no other woman of the age could the remark have been made; and this would probably be true, were the walks of science as marked by the feminine footprint as are those of literature. To read mathematical works is an easy task; the formulae can be learned and their meaning apprehended: to read the most profound of them, with such appreciation that one stands side by side with the great minds who originated them, requires a higher order of intellect; and far–reaching indeed is that which, pondering in the study on a few phenomena known by observation, develops the theory of worlds, traces back for ages their history, and sketches the outline of their future destiny.

Caroline Herschel, the sister of Sir William, was doubtless gifted with much of the Herschel talent, and, under other circumstances, her mind might have turned to original research; but she belonged rather to the last century, and Hanover was not a region favorable to intellectual efforts in her sex. She lived the life of a simple–hearted, truth–loving woman; most worthy of the name she bore, she made notes for her brother, she swept the heavens and found comets for him, she computed and tabulated his observations; it seems never to have occurred to her to be other than the patient, helping sister of a truly great man.

Mrs. Somerville's life has been more individual. She is the daughter of Admiral Fairfax, and was born in Fifeshire, Scotland, December 26, 1780, in the house of her uncle, the father of her present husband.

The home training and the school education of the daughters of Great Britain are very unlike those of their American sisters. The manners and customs of the Old World change so slowly, that one can scarcely assent to a remark made by Sir John Herschel: — "The Englishman sticks to his old ways, but is not cemented to them." The Englishwoman submits to authority from her infancy; belonging to the middle class, she does not expect the higher education of the nobility; a woman, she is not supposed to desire to enter into the studies of her brothers. A governess, generally the daughter of a curate, who prefers this position to that of "companion" to a fine lady, is provided for her in her early years. If the choice be fortunate and the parents watchful, the young girl is thoroughly taught in a few branches of what are commonly considered feminine studies. She learns to read and to speak French; tutors are employed for music and drawing: every young lady above the rank of the tradesman's daughter plays well upon the piano; every one has her portfolio of drawings, in which sketches from Nature can always be found, and frequently the family portraits. The history of the country is considered a study suitable for girls; the Englishman expects that his daughter shall know something of the past, of which he is so justly proud.

But the more solid book–learning given to the girls of New England, even in the public schools, is known only to the daughters of the higher classes, and among them an instance like that of Lady Jane Grey could scarcely now be found. As the girls and boys are never taught in the same schools, no taste is aroused by the example of manly studies. An English girl is astonished to hear that an American girl passes a public examination, like her brothers, and with them competes for prizes; she doubts the truthfulness of some of the representations of life found in

American novels; and so little is the freedom of manners understood, that the American traveller is frequently asked, — "Can it really be as Mrs. Stowe represents in America? Does a young lady really give a party herself?"

The difference that one would expect is found between the women of England or Scotland and the women of New England. The young Englishwoman is tasteful and elegant, mindful of all the proprieties and graces of social life; she speaks slowly and cautiously, and gives her opinions with great modesty. These are not at present the characteristics of the American girl.

Mary Fairfax passed through the usual routine. At fourteen she had read the books to be found in her father's house, including the few works on Navigation which were necessary to him in his profession. She had thus obtained an idea of the world of science, and it was dull to return to worsted–work for amusement. The needle, which has been the fetter of so many women, became, however, in her hand, magnetic, and pointed her to her destiny. She was in the habit of taking her work into her brother's study, and listening to his recitations; the revelations of Geometry were thus opened to her; she listened and worked for a time, until the desire to know more of this region of form and law, of harmony and of relations, became too strong to be resisted; the worsted was thrown aside, and she ventured to ask the tutor to instruct her. The honest man told her that he was no mathematician; he could lend her Euclid, but he could do no more.

The first great step was now taken; Euclid was quickly read; other books were borrowed from other friends; Bonnycastle's and Euler's Algebra were obtained, and she exulted in the use of those mystic symbols, x, y, and z. Her parents looked on with indifference; so that the music were not neglected and the governess reported well of her studies, they felt there was no harm in her amusing herself as she chose. When the days of the governess were over, the young lady "came out" in Edinburgh, and mingled much with the best society. This most picturesque city had long been the resort of the most gifted minds; men of literature and men of science made the charm of its winter life. Never was it more the gathering–place of intellect than in the early part of this century; but there was no room for a woman of genius, and the young girl's friends advised her to conceal her pursuits. Move as quietly, however, and as unobtrusively as she might in the brilliant circle, her genius was not without recognition. There was a word of encouragement from Professor Playfair. "Persevere in your study," said he; "it will be a source of happiness to you when all else fails; for it is the study of truth." She had a champion, too, in the dreaded critic, Jeffrey. "I am told," said a friend, writing to him, "that the ladies of Edinburgh are literary, and that one of them sets up as a blue–stocking and an astronomer." "The lady of whom you speak," replied Jeffrey, "may wear blue stockings, but her petticoats are so long that I have never seen them."

Mrs. Somerville has been twice married. Her first husband, a gentleman of the name of Greig, regarded her pursuits as her parents had, simply with indifference. Dr. Somerville, her present husband, has taken the utmost pains to secure her time for her studies, and has himself relieved her from many household cares.

The simplicity of character which belonged to her in early life was not lost when her reputation became established. The Royal Society, whose doors do not open at every knock, admitted her to membership, and, by their order, her bust was sculptured by Chantrey, and now adorns the hall of the Society in Somerset House. During the sittings for this purpose, a lady, a friend of the sculptor, begged him to introduce her to Mrs. Somerville. Chantrey consented, and made a dinner–party for the purpose. The two ladies were placed side by side at table, and the benevolent artist rejoiced to perceive, from the flow of talk, that they were mutually pleased. The next day, to his astonishment, his friend called on him in a state of great indignation, believing herself the victim of a practical joke. "How could you do so?" said she. "You knew that I did not want to know that Mrs. Somerville; I wanted to know the astronomer: that lady talked of the theatre, the opera, and common things."

The anecdote so often told of Laplace's compliment is literally true. Mrs. Somerville dined with this great geometer in Paris. "I write books," said Laplace, "that no one can read. Only two women have ever read the 'Mecanique Celeste'; both are Scotch women: Mrs. Greig and yourself."

Upon the "Mecanique Celeste" Mrs. Somerville's greatest work is founded. "I simply translated Laplace's work," said she, "from algebra into common language." That is, she did what very few men and no other woman could do. It is of this work of Laplace that Bonaparte said, "I will give to it my first six months of leisure." The student who reads it by the aid of Dr. Bowditch's notes has little idea of the difficulties to be met in the original work. Even Dr. Bowditch himself said, "I never come across one of Laplace's 'Thus it plainly appears,' without feeling sure that I have got hours of hard study before me, to fill up the chasm and show how it plainly appears."

This "translation into common language" was undertaken at the request of Lord Brougham, who desired a mathematical work suited to the "Library of Useful Knowledge." The manuscript was submitted to Sir John Herschel, who expressed himself "delighted with it, — that it was a book for posterity, but quite above the class for which Lord Brougham's course was intended." It was published at once, and became the text−book for the students of Cambridge.

"The Connection of the Physical Sciences" and the "Physical Geography" are the later works of Mrs. Somerville. These volumes have probably been more read in our country than in Europe; for it is a common remark of the scientific writers of Great Britain, that their "readers are found in the United States." They contain vast collections of facts in all branches of Physical Science, connected together by the delicate web of Mrs. Somerville's own thought, showing an amount and variety of learning to be compared only to that of Humboldt.

Provided with an "open sesame" to her heart, in the shape of a letter from her old friend, Lady Herschel, we sought the acquaintance of Mrs. Somerville in the spring of 1858. She was at that time residing in Florence, and, sending the letter and a card to her by the servant, we awaited the reply in the large Florentine parlor, in the fireplace of which a wood−fire blazed, suggestive of English comfort, — a suggestion which in Italy rarely becomes a reality.

There was the usual delay; then a footstep came slowly through the outer room, and a very old man, exceedingly tall, with a red silk handkerchief around his head, entered, and introduced himself as Doctor Somerville. He is proud of his wife; a pardonable weakness in any man, especially so in the husband of Mary Somerville. He began at once to talk of her. "Mrs. Somerville," he said, "was much interested in the Americans, for she claimed a connection with the family of Washington. Washington's half−brother, Lawrence, married Anne Fairfax, who was of the Scotch family of that name. When Mrs. Somerville's father, as Lieutenant Fairfax, was ordered to America, General Washington wrote to him as a family relative, and invited him to his house. Lieutenant Fairfax applied to his commanding officer for leave to accept the invitation, and it was refused; they never met. Much to the regret of the Somervilles, the letter of Washington has been lost. The Fairfaxes of Virginia are of the same family, and occasionally some member of the American branch visits his Scotch cousins."

While Doctor Somerville was talking of these things, Mrs. Somerville came tripping into the room, speaking with the vivacity of a young person. She was seventy−seven years old, but appeared twenty years younger. Her face is pleasing, the forehead low and broad, the eyes blue, — the features so regular, that, as sculptured by Chantrey, in the bust at Somerset House, they convey the idea of a very handsome woman. Neither this bust nor the picture of her, however, gives a correct impression, except in the outline of the head and shoulders. She spoke with a strong Scotch accent, and was slightly affected by deafness.

At this time, Mrs. Somerville was re−writing her "Physical Geography." She said that she worked as well as when she was younger, but was more quickly fatigued; yet, in order to gain time, she had given up her afternoon nap, without apparent injury to her health. Her working hours were in the morning, and she never refused a visitor after noon. For her first work she said she computed a good deal; and here she stepped quickly into an adjoining room, and brought out a mass of manuscript computations made for that work, the mere sight of which would give a headache to most women. The conversation was rather of the familiar and chatty order, and marked by great simplicity. She touched upon the recent discoveries in chemical science, — upon California, its gold and its consequences, some good from which she thought would be found in the improvement of seamanship, — on the

nebulae, more and more of which she thought would be resolved, while yet there might exist irresolvable nebulous matter, such as composed the tails of comets, or the satellites of the planets, which she thought had other uses than as their subordinates. Of Doctor Whewell's attempt to prove that our planet is the only one inhabited she spoke with disapprobation; she said she believed that the other planets might be inhabited by beings of a higher order than ourselves.

On subsequent visits, Mrs. Somerville had much to say of the Americans. She regretted that she so rarely received scientific articles from America; the papers of Lieutenant Maury alone reached her. She spoke of the late Doctor Bowditch with great interest, and said she had had some correspondence with one of his sons; of Professor Pierce as a great mathematician; and she was much interested in the successful photography of the stars by Mr. Whipple. To a traveller, thousands of miles from home, the mere mention of familiar names is cheering.

Mrs. Somerville resides in Florence on account of the health of her husband. A little garden, well–stocked with rosebushes, which she shows with great pride to her visitors, furnishes her with a means of healthy recreation after her severe studies. Her children are a son by Mr. Greig and two daughters by Doctor Somerville. In early life, Mrs. Somerville was a fine musician; the daughters have inherited this talent; and having lived long in Florence, they speak Italian with a perfect accent. "I speak Italian," said Mrs. Somerville; "but no one could ever take me for other than a Scotchwoman."

No one can make the acquaintance of this remarkable woman without increased admiration for her. The ascent of the steep and rugged path of science has not unfitted her for the drawing–room circle; the hours of devotion to close study have not been incompatible with the duties of the wife and the mother; the mind that has turned to rigid demonstration has not thereby lost its faith in the truths which figures will not prove. "I have no doubt," said she, in speaking of the heavenly bodies, "that in another state of existence we shall know more about these things."