

least among men of culture, arises from either the lack of enough to do, or from the misfortune of being wrongly placed in their sphere of activity.

Mary Somerville had no morbid sensitiveness; she maintained her whole nature in a tranquil, vigorous, wholesome tone by always having something to do. When more than eighty years old, with a fame that filled the civilized world, she proposed still another great work which would involve the most laborious details of study and research. She says :

I was now unoccupied, and felt the necessity of having something to do, desultory reading being insufficient to interest me; and as I had always considered the section on chemistry the weakest part of the "Connection of Physical Sciences," I resolved to write it anew. My daughters strongly opposed this, saying, "Why not write a new book?" They were right; it would have been lost time. So I followed their advice, though it was a formidable undertaking at my age, considering that the general character of science had greatly changed. By the improved state of the microscope, an invisible creation in the air, the earth, and the water, had been brought within the limits of human vision; the microscopic structure of plants and animals had been minutely studied, and, by synthesis, many substances had been formed of the elementary atoms similar to those produced by nature. Dr. Tyndall's experiments had proved the inconceivable minuteness of the atoms of matter. Mr. Gassiot and Professor Plücher had published their experiments on the stratification of the electric light; and that series of discoveries by scientific men abroad, but chiefly by our own philosophers at home, which had been in progress for a course of years, prepared the way for Bunsen and Kirchhoff's marvellous consummation. Such was the field opened to me; but instead of being discouraged by its magnitude, I seemed to have resumed the perseverance and energy of my youth, and began to write with courage, though I did not think I should live to finish even the sketch which I had made. I was now an old woman, very deaf, and with shaking hands. I wrote regularly every morning from eight till twelve or one o'clock,

before rising. I was not alone, for I had a mountain sparrow, a great pet, which sat, and, indeed, is sitting on my arm as I write these lines.

When eighty-nine years old she says :

I have still the habit of studying in bed from eight in the morning till twelve or one o'clock; but I am solitary, for I have lost my little bird, who was my constant companion for eight years.

No mere lady-lounger of the boudoir was ever fonder of "pets" than this student of the most recondite problems of the universe. She gathered almost an aviary of such "pets" about her, and their life seemed to enter into her own. With Wesley, Swedenborg, and many other large-minded as well as large-hearted men, she believed in a future and compensative life for the brute creation. When about to step into the invisible world she says, with deep pathos as well as philosophy :

I firmly believe that the living principle is never extinguished. Since the atoms of matter are indestructible, as far as we know, it is difficult to believe that the spark which gives to their union life, memory, affection, intelligence, and fidelity, is evanescent. Every atom in the human frame, as well as in that of animals, undergoes a radical change by continual waste and renovation; the abode is changed, not its inhabitant. If animals have no future, the existence of many is most wretched; multitudes are starved, cruelly beaten, and loaded during life; many die under a barbarous vivisection. I cannot believe that any creature was created for uncompensated misery; it would be contrary to the attributes of God's mercy and justice. I am sincerely happy to find that I am not the only believer in the immortality of the lower animals.

It is delightful to trace along minutely so rare, so satisfactory a life, as it tends toward its long-deferred conclusion. When ninety-one years old she resumes her mathematical studies in some new books which had advanced to