And the thistly grain
The moral we draw
Is simple and plain
And cogent and brilliant
And lucid and clear--
A weed is a flower
Dropped out of its sphere.

—SELECTED.

Correspondence

NATURE AS SEEN UNDER THE MICROSCOPE.

F. B. L., '91.

The microscope is not a new invention, but in its simplest form, as a magnifying glass, it was known at a very remote period.

The compound microscope, the progenitor, if we may so speak, of our modern instruments, was not invented till about the end of the sixteenth century. Imperfect as it was it revealed a world which was before invisible, and at once lead to an increased interest in the natural sciences; the workings of nature were unfolded to man as never before, and it is surprising, considering the defects of the instrument, how many and important were the discoveries of those early microscopists, and how accurate their observations, for it is a noted fact that in the majority of their researches the more perfect instrument of to-day has but verified their work. But they only opened the way; they turned the initial pages of a book that future generations were to further unfold. They stood, as Newton said of himself, "But on the beach and pointed out the vast ocean of knowledge that stretched away beyond."

The modern and more perfect microscope, invented about sixty-five years ago (for the instruments of to-day are but improvements in workmanship, not in design), gave to scientists an increased power for investigation; they dipped deeper into the book of nature, and with each succeeding year unfolded new beauties and new wonders. Natural science was fanned into a living glow and made rapid advancement, but even to-day we seem to be merely launching on a sea, the vastness of which the greatest minds seem lost in contemplating.

To show what has been done and at the same time to indicate a field of instructive and entertaining inquiry, we will enumerate a few of the prominent sciences that have been aided very materially by the use of the microscope, and in fact without its aid could not have attained to the position which they now occupy.

One of the first sciences that opened its secrets to the magnifying glass was Botany. Many of its forms could be easily studied with very simple instruments, and the structure of the different parts of the plant, as the leaf, stem, root, and appendages of these, the cell and its contents, and the various changes in the growth of the plant were easily seen and described. With our better instruments, reproduction in many of its varying forms and the growth and formation of microscopic plants, have been investigated and made plain, and the movements and changes of the protoplasm, that invisible organic matter, through which life seems to wore, have been carefully examined. But why multiply examples? We cannot open a work on Botany to-day that is not full of illustrations and explanations that depend directly on the microscope for their elucidation. Vegetation is teeming with sights and problems that are passed unnoticed by the ordinary observer, but under the microscope arrest our attention and demand an investigation from the inquiring mind.

Zoology has been no less dependant upon the microscope in many of the branches of the science. In stagnant water, in the ocean, and to a greater or less extent in all water that has been exposed to the air, animal life abounds, varying in size from those, which to be seen require to be magnified 4000 diameters, to those that are just visible to the naked eye. But though they are so small they have been classified by the microscopist, and their parts explained, with almost as great precision as many higher organisms. Insects also under the microscope from the arrangement and symmetry of their organization impart an hitherto unfelt interest, and raises in us a reverence for that Being who so wonderfully adapts the most insignificant of creatures to their needs, and puts such thought into the work of nature that the mind of man seems lost in attempting to unravel it.

In all branches of Biology the microscope is ever in demand, searching directly or indirectly for that which gives organization to the inorganic, puts growth and animation into the inanimate, covers the landscape with a