

For the EDUCATIONAL REVIEW.]

NATURE STUDY.

The Functions of Living Plants.

LESSON III.

Transpiration.

1. Split a piece of board into two parts nearly equal, and cut out of the middle of the board an aperture which will, when the two parts are placed together again, fit closely around the stem of a woody plant growing in a pot. Cover the top of the pot with this piece of board, and fill in around the stem with wax.
2. Set a glass jar or large wide-mouth bottle over the plant, so that the mouth of the jar or bottle will rest upon the board. Then set the pot in a saucer of water, and place the whole in a warm sunny spot for an hour or two.
3. Find what liquid collects on the inside of the jar or bottle and upon the leaves.
4. Argue from this experiment and from observation that the leaves of growing plants give off water through their surfaces.
5. The process by which plants exhale water from their leaves, is called *transpiration*.

LESSON IV.

On Vegetable Respiration.

1. Put two or three growing leafy shoots into a pickle-bottle containing ordinary air; stand the bottle with its mouth in a saucer of water, and set the whole in darkness—under a paste-board box for example.
2. After a day or two, place the bottle without admitting air, in a vessel of water, and remove the shoots.
3. Raise the bottle out of the water, and push a lighted candle up into it; then quickly remove the candle, and shake lime water through the bottle.
4. Account for the results.
5. Argue that the plant exhales carbon dioxide in the night (*in darkness*), and at the same time probably takes in oxygen from the air.
6. Breathe into lime-water through a tube for a short time. Explain the visible effect upon the lime-water.
7. The absorption of oxygen and giving off of carbon dioxide by the leaves of plants is called *vegetable respiration*. Point out the propriety of the name.
8. It is said that respiration goes on, in all growing plants, in the day-time as well as in the night. Why is it not so easily detected in *green plants* in the light as in the darkness?

JOHN BRITTAIN.

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When and Where was She Born?

One is almost induced to question whether the event ever occurred at all. The Standard Dictionary, the Century Cyclopedia of Names, and the Fourth Reader of the New Brunswick Series gives 1806 as the date of her birth. In Canon Farrar's "With the Poets," it is given as 1801. But we find the correct date—1809—in the Encyclopedia Britannica, Webster's International Dictionary, the "Book of Authors," Meiklejohn's History of English Literature, etc.

Then as to the place of her birth I have not yet obtained positive information. The Encyclopedia Britannica, upon which one may usually rely, says she was born in London; so also says Meiklejohn. But what is one to think in the presence of such precise statements as the following? The Century Cyclopedia tells us that she was born at Coxhoe Hall, Durham; and our new Fourth Reader gives Durham as the place. In Appleton's American Cyclopedia, however, we are told that her birthplace was "Hope End, near Ledbury, Herefordshire? Perhaps our instructive and entertaining friend Cameron, of Yarmouth, can explain these conflicting statements.

But lest some of your readers grow impatient, I must at once answer their enquiry as to who "she" is. Of course others know already, from the date and place, that I am referring to Elizabeth Barrett Browning.

An edition of Mrs. Browning's poems published by A. L. Burt, New York, contains a prefatory note signed with the initials "R. B."—probably Robert Browning. The following is a slightly abbreviated extract:

"In a recent memoir by John H. Ingram, it is observed that 'such essays on her personal history as have appeared, either in England or elsewhere, are replete with mistakes and mis-statements.' But in the 'correct memoir' which he proposes to substitute, there occur not a few passages equally mistaken and misstated."

7. "Elizabeth, the eldest daughter of Edward Moulton Barrett, was born in London on the 4th of March, 1809." Elizabeth was born March 6th, 1806, at Coxhoe Hall, County of Durham, the residence of her father."

The memoir contained in Warne & Company's edition gives the same place and date as above quoted from "R. B.," and adds that "While she was still a little child, the family moved from Coxhoe Hall to a place Mr. Barrett had purchased in Herefordshire, Hope End, near Ledbury."

While upon this subject, let me correct three other birth-dates in the appendix to the Fourth Reader of the N. B. Series. Tennyson's is given as 1810, and the Fifth Royal Reader gives the same, both perhaps following Collier's History of English Literature; it should be 1809. Mrs. Hemans was born in 1793, I believe—not in 1794. Henry Wadsworth (not Wordsworth, as our Reader has it) Longfellow was not born in 1825, but in 1807.

H. C. C.

Frederickton, N. B.

[Teachers would do well to note these changes on the margin of the pages in the readers.—EDITOR.]