

time being, forget the world and consider our state in the spiritual life. If we can only impress this upon our minds in such a way that we shall often meditate upon our exact condition before God, we shall certainly progress in the spiritual life. What does it mean to make progress in a spiritual life? It means to fill the position which God himself has prepared for us here. It means to live for the end of our existence. It means to live a perfect life. It means to practice all the virtues in our power. It means to allow God to take possession of His own image and perfect us in a true growth. In a word, it means all that is good to be accomplished here on earth. This desirable object can be attained through the grace which God so lavishly bestows upon us. But it is very necessary that we intelligently and of our own free will accept this grace. We cannot do this intelligently without making it a work of the understanding, and consequently a subject of thoughtful meditation. A good meditation on any of the truths of our holy religion, or any of the mysteries of faith, be it only of a few minutes duration, in the morning, and a prayerful examination of conscience in the evening, are among the greatest works which, on our part, are to be done to live as good Christians. Next to the reception of the Sacraments and Mass comes meditation. But meditation comes with all these as well as our other duties. Stop and think.—*Catholic Citizen.*

FOR THE YOUNG FOLKS.

VELOCITIES.

CHAPTER II.

HOW CAN THE VELOCITY OF THE ELECTRIC CURRENT BE ASCERTAINED?

In order to illustrate how the velocity of the electric current can be actually measured, we must first introduce the following:—

Whenever a wire is to be magnetized by an electric machine, at the moment it touches the machine a bright spark is seen at the end of the wire. The same spark is seen also at the other end of the wire if touching another appara-

tus. Let us call the first spark the "entrance spark," the other the "exit spark." If a wire, many miles in extent, is put up, and led back to where the beginning of the wire is, both sparks may be seen by the same observer.

Now it is evident that the exit spark appears after the entrance spark just as much later as the time it took the electric current to run from one end of the wire to the other end. But in spite of all efforts made to see whether the exit spark actually appears later, the human eye has not been able to detect the difference. The cause of this is partly owing to the long duration of the impression upon the retina, which leads us to the belief that we see objects much longer than we really do; partly, the immense rapidity with which the exit spark follows the entrance spark. From these two causes, we are tempted to believe both sparks to appear at the same moment.

By an ingenious and excellent means, however, this defect in our eye has been greatly diminished. It is well worth the trouble to read a description of the experiment attentively. The truly remarkable way in which it was tried will please all who read it.

In order to measure the velocity of the electric current, the ends of a very long wire are placed one above the other. If, now, one makes the observation with the naked eye, both sparks will be found to stand in a vertical line, one above the other, as the points of a colon, thus (:).

But he who wishes to measure the velocity of the electric current does not look upon the sparks with the naked eye, but into a small mirror, which, by a clock-work, is made to revolve upon an upright axis with exceedingly great rapidity. Thus he can see both sparks in the mirror. If the apparatus be a good one, it will be observed that the sparks, as seen by the aid of the mirror, do not stand in a vertical line one above another, but obliquely, thus (:).

Whence does this come?

The reason of it is, that after the appearance of the entrance spark it takes a short time before the exit spark appears. During this short time the mirror moves, though but little, and in it