

Dr. Phipson, F.C.S., has suggested that the atmosphere which surrounded the earth during the earliest ages of its existence was devoid of oxygen, and contained only nitrogen charged, by volcanic action, with carbon dioxide and water vapour. In such an atmosphere plant life began, and during successive ages oxygen gradually accumulated in the air as a consequence of the vital processes of vegetable life, till at length animal life was possible.

If Dr. Phipson's theory is in accordance with fact, the earliest plants must have been dependent for oxygen on their own power to decompose the carbon dioxide of the air; and he has proved that a plant of our own times (*Convolvulus arvensis*) can grow in an atmosphere devoid of oxygen. Dr. Phipson cultivated a convolvulus (or bindweed) under a glass tube filled with nitrogen and carbon dioxide, and standing over water which was constantly charged with carbon dioxide, and in which were dissolved various salts to nourish the plant. The specimen lived for over three months, and attained the same height and died at the same time as two other plants of the same species, grown in the same water but in the open air, as "witnesses."

The tube in which the plant grew contained, at the end of the experiment, precisely the same quantity of nitrogen as was at first introduced, and, in addition, a greater volume of oxygen than is found mixed with the same quantity of nitrogen in the ordinary atmosphere.

Notes on Art.

THE NATIONAL GALLERY (Continued).

PERUGINO.

What a relief it is to turn from the exhibition we considered last week, of the New English Art Club at the Dudley Gallery, to our own National Collection, and with what pleasure we may study the work of Perugino, perhaps the most simple and lovable of the great Italian artists of the fifteenth century. All we are told of his life in the official catalogue is that Pietro Vannucci, commonly called Il Perugino from having been made a citizen of Perugia, was born at Castello della Pieve in 1446. He probably studied in Florence under Fivrenzo de Lorenzo. About 1480, he was called to Rome by Pope Sixtus IV., and was employed, with other artists, on fresco paintings for the Sistine Chapel. Among his numerous pupils and imitators were Raphael, Lo Spagna, and Manni. He died in 1523, at the advanced age of seventy-seven years.

Let us stand before Perugino's greatest work in our National Collection (No. 288), a triptych, the centre of which is the Virgin adoring the Infant Christ, the side pictures being respectively the Archangel Michael and the Archangel Raphael, with Tobias and his fish.

You will feel at once how exquisite, how touching is the simple unworldliness of the picture; it is all filled with tender atmosphere, the sky is heaven's own blue. Why cannot our modern artists paint blue? Perugino's blue has gold behind it, gleaming through and softening everything, even the Archangel Michael's dark bronze-like wings, and the glistening scales on the fish of Tobias, and the little river that winds away among

the distant hills. Study every little detail and you will find them all lovingly perfected; no words can describe the beauty of this wonderful, though entirely simple picture—it must be studied long and loved.

There are two other pictures in the gallery (No. 181) *The Virgin and Infant Christ with St. John*, in tempera, and (No. 1,075) *The Virgin and Child, with St. Jerome and St. Francis*. These are characteristic but less important than the triptych.

The influence of the teaching of Perugino was very evident in the earlier works of his great pupil Raphael, who, however, later in life lost the saintly simplicity of his master's work. It is the colour of Perugino that I want to insist upon; the beauty and the healthfulness of it; nothing could be more soothing to tired minds than pure colour, for, as Ruskin says: "I know no law more severely without exception than this of the connection of pure colour with profound and noble thought. . . . All men completely organized and justly tempered enjoy colour; it is meant for the perpetual comfort and delight of the human heart; it is richly bestowed on the highest works of creation, and the eminent sign and seal of perfection in them, being associated with life in the human body, with light in the sky, with purity and hardness in the earth—death, night, and pollution of all kinds being colourless."

Look at the red and golden-blue of Perugino, and, in view of the great loss which science has so recently sustained, let us remember that not the least memorable words of Tyndall was his reference to the fact that what is mortal of us will fade, "like a streak of morning cloud, into the infinite azure of the past."

FLORENCE M. ROBERTS-AUSTEN.

A Book of the Week.

KEY - NOTES.

Renan says that "Genius is the editor of the thoughts of the people." We might paraphrase the aphorism over this little volume, and say that Mr. George Egerton is the "editor of the thoughts that tingle and throb in the brains of modern women"; but that few writers have the genius to express in language that is throughout delicate, but that is never, for a moment, "sex-shy." Charlotte Bronte had great power of expressing and feeling passion as can be seen in Jane Eyre's immortal answer to Rochester when he feverishly asks her if she loves him:—"To the inmost fibre of my nature, Sir!"

George Meredith also has this power, and it has been said of him that he must have been a woman in some previous state of existence, or else he would never have possessed such a marvellous faculty for penetrating the inmost recesses of a woman's thoughts and motives. We strongly suspect that George Egerton is a pseudonym for a woman-writer; but if this is not the case, then Mr. George Egerton, like Mr. Meredith, must, some time or other, have existed upon this planet as a woman, and felt a woman's petulance, shame, agony, and passion.

"Key-notes," by George Egerton. (London: Elkin, Matthews & John Lane, Vigo Street. Price 3s. 6d. net.)

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