

## OXYGEN.—Continued.

Heads.	Notes on which to enlarge.	Questions.
Where found in great abundance.	Found in the greatest abundance in tropical and warm climates, where the glowing rays of the sun shine on a luxuriant vegetation. Clay and flint contain a vast amount of oxygen, the latter nearly fifty per cent.	Where found in most abundance? What two substances contain it in abundance? Which of the two contains the largest amount?

First, work into their minds the notes of one head, before proceeding to those of another, by question and answer. Having gone over all the heads and their notes, question them promiscuously on them. Repeated questioning on what is stated in the second column, prepares them well for enlarging on any point, or word.

To show how to enlarge on any, the two following may be deemed sufficient: First, on the term *oxygen*; second, on its wonderful transition from one condition, state, or element, to another.

10. The term oxygen was first named dephlogisticated air; afterwards empyreal air, and, by Lavoisier, oxygen gas, a term sufficiently expressive of the chemical facts then known, but totally incapable of expansion. Oxygen means, from its etymology, the *acid former*; but it did not occur to him that acid might come to light in whose composition oxygen did not even enter; and it appears from experiments that *oxygen* is not the *universal* supporter of combustion. Hence the difficulty of forming a system of chemical nomenclature sufficiently expansive for discoveries. I may mention further that oxygen is now found to exist in *three* conditions. One, ordinary oxygen, which we respire from the atmosphere; the other two kinds are *two forms of ozone* (or oxygen in heightened forms), bearing the same relation to each other as the two forms of electricity possess. When ozone is in excess in the air, diseases of the lungs and influenza prevail; when deficient, fevers are said to be prevalent. It is stated that in cholera ozone is entirely absent from the air.—Question well before proceeding to the next thing to be dwelt on.”

20. *Passing of oxygen from one state or condition to another.*—“Many are the marvels which exist and are going on in the world around us and in ourselves. Suppose an *atom* of oxygen which has remained *fixed* in a rock for a thousand ages may have been set free a year or two ago, and yet if the history of its progress could be traced, it would fill a volume.—Its first condition is that of a particle freely floating in the air. Coming in contact with an atom of hydrogen to form an atom of water, it descends to the earth, as a minute integral portion of a drop of rain. It is taken up, we will suppose, by the radicle of such a grass as the common meadow grass, and the atom of water being decomposed, it becomes fixed in minute portion of albumen (a nutritive compound of animal food), within the leaf of the grass. By and by this grass is cropped by a cow grazing in the pasture, and the albumen being soon changed to caseine (a nourishing substance found in milk), it comes forth as a constituent of milk. It is quickly found in the human stomach, undergoing the process of digestion, and being received into the blood circulates there; and, perhaps, again escapes to be the victim of respiration, being drawn into the lungs by a passer-by. Being conveyed over the body with the blood of the arteries, after passing through his heart, it is quickly found uniting with the debris (rubbish,) of the muscular fibres which have been longest in action; and returning in the venous blood to the lung, united with a portion of carbon, is thrown out as a part of the expired air, in the shape of carbonic acid,—to pass through other endless rounds of change.—Such is a slight specimen of the unceasing changes which the particles composing organic nature undergo.”

But pass not your little lectures as is generally done,—doing nothing to ascertain how far you have succeeded in your object. If you do, be sure little of what you may have said will be retained. For it generally happens that when pupils know that they have not to pass through the *test of questioning*, they pay but small attention to the instructions of the teacher. We would say, let

every part of teaching be accompanied with *test questions*; and put more value on your instruction than to let but as little as possible enter one ear to go out at the other.

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Inspector of Schools.

(To be continued.)

## School days of Eminent Men in Great-Britain.

BY JOHN TIMES, F. S. A.

CXLVI.

(Continued from our last.)

## THE DUKE OF WELLINGTON'S SCHOOLS.

Arthur Wellesley, the illustrious soldier-statesman, was born at Dangan Castle, (1) at Trim, about twenty miles from Dublin, in 1769, the year which ushered also Napoleon Bonaparte and Cuvier into the world. The castle has been nearly destroyed by a conflagration; but the chamber in which the Duke was born is pointed out to this day. Adjoining the castle is the humble church of Laracor, of which village Swift was vicar; a tall thick wreck of a wall is all that remains of the Dean's vicarage-house. At a little distance, on the fair-green of the town, is a Corinthian column in memory of Wellington's fame, and surmounted by a statue of the hero. The present parsonage at Trim was a favourite residence of Maria Edgeworth. The town is sad and dreary to look at in its state of crumbling decay; yet, while it can bring remembrance of Swift and Miss Edgeworth, and while men can say of it, “here Wellington was born,” it will continue as noted as one of the greatest landmarks in the world.

The Earl and Countess of Mornington, young Arthur's parents, placed him early at a school at Trim: he must then have been a very little boy, for one of his schoolfellows relates that when Crossbie, afterwards Sir Edward, of balloon notoriety, had climbed to the top of “the Yellow Steeple,” and had thrown down his will, disposing of his game-cocks and other boyish valuables, in case he should be killed in coming down,—little Arthur Wellesley began to shed tears when he found that nothing had been left him.

When about ten years old, Arthur was placed under the tuition of the Rev. William Gower, at Chelsea. His health was indifferent, but improved as he grew up. Occasional illness produced an indolent and careless manner, and often a degree of heaviness. Unlike boys of his age, Arthur was rarely seen to play, but generally came lagging out of the school-room into the play-ground: in the centre of it was a large walnut-tree, against which he used to lounge and lean, observing his schoolfellows playing around him. If any boy played unfairly, Arthur quickly gave intelligence to those engaged in the game: on the delinquent being turned out, it was generally wished that he, Arthur, should supply his place, but nothing could induce him to do so; when beset by a party of five or six, he would fight with the utmost courage and determination, until he freed himself from their grasp; he would then retire again to his tree, and look about him as quiet, dejected, and observant, as he had been before. This anecdote was communicated to the *British and Foreign Review*, in 1840, by one of Arthur's schoolfellows at Chelsea.

The Duke and his brother, the Marquis Wellesley, passed much of their boyhood at Brynkinalt, in North Wales. On one occasion they met a playfellow, David Evans, and his sister, returning from school, when Arthur commenced a game at marbles with the boy, while his sister walked on. Presently, her brother called her to his assistance, as Arthur, he said, had stolen his marbles, which he refused to give up. The girl insisted, and then came the struggle. Arthur was about twelve years old, and his brother older; the girl about ten, and her brother two years younger: the battle now began between the girl and Arthur, who soon dropped his colours, handed over the marbles, and beat a hasty retreat,

(1) It is also stated that the Duke first saw the light in the town residence of his parents, Mornington House, in the centre of the eastern side of Upper Merrion Street, Dublin. The proof of Dangan Castle being the Duke's birthplace is, however, more circumstantial. The most notable point in the question is the indifference with which it was treated by the person most immediately concerned. The Duke kept his birthday on the 18th of June.