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ART. XXI.—*On the Philosophy of Respiration and the Pneometer.* Thesis defended before the Medical Faculty of the McGill University. By G. S. De Bonald; for the degree of M. D., C. M.

1. The study of the respiratory apparatus has not, to the present day, been the subject of a closer attention than that of the other functions of the animal economy. It has even been placed, as to importance, by some authors, after the Nervous centre, the Circulation, Digestion &c.; and the morbid changes, which it undergoes under the influence of causes which are exclusively peculiar to it, have been oftentimes considered as consecutive symptoms of pathological modifications existing in other organs. Thus, it is said that Dyspnœa, Pneumonia, Pleurisy, Bronchitis, Pulmonary Apoplexy, &c., are frequently the *effects* of an organic affection of the heart, acting as the primary cause. It is also said that Bright's disease, affections of the liver, of the spleen, &c., &c., produce more or less serious alterations of the organs of Respiration; diseases of the encephalon, spinal marrow &c., are likewise called upon to furnish their quantum of disorder to the respiratory system. So that, all diseases, sporadic, idiopathic, epidemic, endemic, nay traumatic, conspire, more or less, against the integrity of the function of Respiration.

Let us try and demonstrate that, as Respiration is the origin of life and health, so it is also of disease and death.

2. Since we make Respiration the foundation of our pathological edifice, we have to consider it, I. In its normal condition or state of integrity with all its accompanying circumstances; II. In its diseased or disordered state with all the modifications which it produces in the economy.

Let us first consider a man, respiring pure air. We have to examine him under three different conditions:

I. He respires enough.
II. He does not respire enough.
III. He does not respire properly.

Before passing to the consideration of the first condition, we will give, in a few words, a description of the mechanism of Respiration. The circular fibres,