level if pace accelerated, and note nature of distress produced.

(a) Compare amount of effort possible without distress;
(b) Before and after food;
(c) On warm and on cold day, and note nature of distress produced.

(c) Can to respond to effort be the ultimate test of its efficiency. The inefficient kidney, for example, in its advanced stages produces symptoms forming a definite clinical picture. One must suppose that these changes are the expression the reader is to be more than preliminary. The samples of alveolar air were collected by the Haldane-Priestley method, and the analysis was made with Haldane's gas analysis apparatus, less delicate methods, such as that of Freiden, proving useless. The technique is as

Finally each case is considered in detail by a special committee, whose duty it is to classify and tabulate the findings, and to see that all cases are utilised for special investigations. If this committee finds that a case taken by one member of staff has some benefit may be derived from this privilege, each member of staff is at liberty to consult any of his colleagues at any stage in the case; in order that the utmost benefit may be derived from this privilege, each member of staff makes himself specially familiar with the literature of one particular branch of clinical medicine—cardiology, neurology, and so on. The necessary chemical, bacteriological, histological, and radiological investigations are carried out by the special departments, and with each specimen of alveolar air that is removed, the date upon which each patient's air was collected is marked thereon. The alveolar air was collected by the Haldane-Priestley method, and the analysis was made with Haldane's gas analysis apparatus, less delicate methods, such as that of Freiden, proving useless. The technique is as

The Response to Effort.

In addition to other symptoms of disease, failure of health is frequently indicated by a limitation, in one or other of the capacity for effort while in good health.

Goldsmith, who complained of breathlessness on climbing a hill or a stair, while he felt no distress on going to work; and at the beginning of each month two full copies of each case are made and filed, one for the use of any member who is interested in any particular case, and the other for permanent preservation in a fireproof safe.

The purpose of the present communication is to draw attention to a new method of investigating the secretary activity of the alimentary tract in health and disease. By taking samples of the alveolar air at intervals after a meal, the writer was able to demonstrate that the tension of carbon dioxide undergoes certain definite changes in response to the amount of air pored out (a) by the stomach, (b) by lower portions of the alimentary tract. In later work, in conjunction with Dr. T. Izod Bennett,2 it was shown that in normal individuals of varying type the curve of alveolar CO2 tension so obtained corresponded closely with the curve of secretion of gastric HCl. The variations in CO2 tension may be explained in the following way: when acid is removed from the blood during gastric secretion the reaction of the blood tends to shift to the alkaline side. This shifting is prevented by retention of the volatile acid, CO2, the tension of which rises in the blood, and hence in the alveolar air. Later, when the alkaline intestinal and pancreatic secretions are poured out, the tension of the blood tends to shift to the acid side, and hence acid in the form of CO2 must be eliminated. This is brought about by a lowering of the CO2 tension in the blood, and of its pressures therefore.

This method has now been applied to a number of pathological cases, examples of which are given. The figure shows three curves obtained (a) from a normal individual, (b) from a case of pyloric carcinoma, and (c) from a patient with pyloric ulcer, respectively. In the curve marked normal it will be seen that, after a meal, the tension rose 4.5 mm., returning to its previous value in 1 hours, then fell 2 mm., and to a previous value in 1 hours, then fell 2 mm., and finally each case is considered in detail by a special committee, whose duty it is to classify and tabulate the findings, and to see that all cases are utilised for special investigations. If this committee finds that a case taken by one member of staff has some benefit may be derived from this privilege, each member of staff makes himself specially familiar with the literature of one particular branch of clinical medicine—cardiology, neurology, and so on. The necessary chemical, bacteriological, histological, and radiological investigations are carried out by the special departments, and with each specimen of alveolar air that is removed, the date upon which each patient's air was collected is marked thereon. The alveolar air was collected by the Haldane-Priestley method, and the analysis was made with Haldane's gas analysis apparatus, less delicate methods, such as that of Freiden, proving useless. The technique is as

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The above curves provide examples of the very definite pictures yielded by this method in various pathological conditions. The following advantages distinguish it from other methods in use:

1. The analysis of alveolar air does not cause the subject any discomfort whatever, hence it can be employed even in patients in whom nervousness, or some other general condition, forbids the passage of stomach tubes of any type. The insertion and retention of the stomach tube in the fractional test-meal produces in some few persons considerable discomfort, with nausea, retching, and salivation. It is difficult to believe that gastric digestion follows its usual course under these conditions; hence in such persons the test-meal must give misleading results. In the method described in this paper, on the other hand, the patient, if not informed, would not even know that his digestive system was under examination.

2. The method gives an index of the total amount of acid or alkali being secreted from the blood by the gastric or other digestive glands, and hence is independent of neutralising factors such as mucus and regurgitation which affect ordinary gastric analyses.

3. It gives a measure of secretory activity below the pylorus as well as that of the stomach.

4. The form of test-meal is immaterial provided that a fixed standard be selected, allowing comparisons with the curve shown by normal persons after the same meal.

A paper is in preparation in conjunction with Dr. Bennett dealing with a large number of pathological cases in which the results obtained by this method will be shown to be parallel with those obtained by the fractional method of gastric analysis.

**Clinical Notes**

**MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.**

**A CASE OF MALIGNANT PUSTULE WITH MULTIPLE LESIONS.**

**By R. T. Grant, M.B., Ch.B. Glasg., Senior Assistant Physician, City of Glasgow Fever Hospital, Rutherglen.**

The following case is somewhat similar to one reported by Dr. W. T. G. Davidson in 'The Lancet' of Jan. 19th, 1918 (p. 104), and is of interest in that it repeats several of the unusual features described by him.

K. E., a butcher, skinned on Jan. 22nd a bullock, which the following day was found to have died of anthrax. On hearing of this K. E. had his shirt and underclothes disinfected in disinfectant. He did not, however, have his outer clothes disinfected. On the 30th a small pimple appeared on the back of his right hand...