

Now, as six of carbon in becoming carbonic acid, produce twenty-two grains, the above 40.253 grains will produce 147.594 grains, which as 100 cubic inches of carbonic acid weigh $47\frac{1}{4}$ grains, will measure 312.368 cubic inches, or $180\frac{1}{2}$ cubic feet. Now, as the disturbing causes, particularly ventilation, are so various in various apartments, it would be impossible to make any serviceable calculation on the precise amount of carbonic acid which would remain in a room of a given size, after any number of hours; but the following comparison may be of service. Physiologists have determined that a healthy individual produces in the twenty-four hours 38.304 (Davy) cubic inches of carbonic acid by the function of respiration, or, according to Allen and Pepys, 38.232 inches, the mean of which results is 38.268; hence 312.368 cubic inches, as produced by the stove in twenty-four hours, divided by 38.268 gives a result of 8.15; or, in other words, an individual who burns this stove in his apartment, is placed in circumstances, as regards the production of carbonic acid, as though he had eight companions. As regarded the physiological influence of such an atmosphere, Mr. Everitt offered no opinion, but referred to Dr. Christison's celebrated work upon poisons, pp. 744 to 754 inclusive, for a summary of the results of poisoning by carbonic acid gas.

Deductions from the above Experiments.

First. The fuel used in these machines differs from common charcoal only in its being perfectly charred, having no portion of the wood undecomposed, hence differing in no essential particular from *well burnt* charcoal.

Second. All the air which passes through the furnace, after uniform combustion has been established, is entirely deprived of its oxygen, which is replaced by the same bulk of carbonic acid.

Third. That in a stove of the above-named dimensions 5 lbs. 7-10ths of pure carbon are consumed in the twenty-four hours, producing $180\frac{1}{2}$ cubic feet of carbonic acid, which is as much as eight men produce by respiration in the same period.

Fourth. That the implied fact in the following statement by the patentees, that by the use of their prepared fuel nothing deleterious is given off, is not correct:—"To guard against accidents from the neglect or mistake of servants using *common charcoal*, a pipe will be attached to apparatus for bed-rooms."

Opinions on these Deductions.

First. The quantity of heat given off by the combustion of any weight of the "prepared fuel" is precisely the same as that given off by a similar quantity of ordinary well burnt charcoal.

Second. That if only a part of what Chris-

tison has detailed respecting the injurious nature of carbonic acid be correct, then in *no* case should these furnaces be used, unless there is provision made for carrying out of the apartment all the products of combustion. Mr. Everitt offered no opinion as to the economy of the stove as a heating agent.

In conclusion Mr. Everitt said it was due to the patentees to state, that as soon as they became acquainted with the positive results he had arrived at, they at once expressed their determination to attach to every stove they might in future make, an apparatus by means of which the products of combustion would be entirely carried from the apartment.

The thanks of the Society were unanimously voted to Mr. Everitt for his interesting lecture, by a very numerous audience.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Tuesday, April 10th, 1838.

Dr. BRIGHT, President.

ON INCREASED THICKNESS OF THE PARIETES OF ONE OF THE VENTRICLES OF THE HEART, WITH DIMINUTION OF ITS CAVITY.

By GEORGE BUDD, M.B., F.R.S., Physician to the Seamen's Hospital Ship, *Dreadnought*.—Communicated by Mr. PERRY.

AFTER observing that unnatural thickness of the parietes of one of the ventricles of the heart, first noticed by M. Bertin in 1811, and called by him "concentric hypertrophy," is generally acknowledged, by pathologists, as a diseased condition, the author proceeds to explain the opposite opinion of M. Cruveilhier, who holds that the obliteration of the cavity, and the proportionably increased thickness of the parietes, are only results of the mode of death. "The hearts of all those," says M. Cruveilhier, "whom I have had an opportunity of examining, who died by the executioner, have presented the double phenomenon in the highest degree, the parietes of the ventricles were in contact at all points." The dissent of so respectable an authority from the received opinion, together with the corroborating observations of Mr. Jackson, who found the same condition in those who had died of cholera, induced the author to compare the results of his own experience with the records of authors, with the view of determining whether it must be considered a disease, or whether it is merely a passing condition of the ventricle. The author relates four cases which have come under his own observation, in which, on dissection, the state called concentric hypertrophy was found, yet no obstacle to the circulation existed in the valvular apparatus of the heart. Of the

fifteen cases which he finds recorded by other writers, the author observes, that four were of this kind; that six offered considerable obstruction to the circulation, from thickening and cartilaginous induration of the valves; and that the remaining five presented evident signs of congenital malformation of the heart. After a careful examination of these several groups of cases, the author comes to the following conclusions:—

First,—That there was no permanent diminution of the cavity during life, in the cases recorded of concentric hypertrophy of one of the ventricles, unconnected with valvular disease. Secondly,—That in the six cases complicated with extensive valvular disease, the diminution of the cavity cannot be explained by the hypothesis of an obstacle behind it, and in some of these cases the existence of an obstacle before it, renders it highly probable that this diminution was merely a passing condition of the ventricle; and as the appearances of concentric hypertrophy were not more marked in these cases than in those of the former category, and as the symptoms of obstacle to the circulation, observed in these cases, were such as would result from the diseased valves alone, we cannot admit the existence of concentric hypertrophy in the cases we are now considering. Thirdly,—That concentric hypertrophy of a ventricle, with obstruction at its discharging orifice, and an extraordinary passage for the blood, occasionally exists as a congenital malformation, and generally on the right side. Fourthly,—That hypertrophy of the heart, to whatever extent it exists, when it is exempt from dilatation of the cavities, and from disease of the valves, does not produce any of the symptoms of an obstacle to the circulation through the heart.

After a few words by Drs. Bright, Burne, and Mr. Macilwain, the Society adjourned.

nity will not be allowed to escape. The following hints may be of some use in giving the inquiry an uniform direction:—

The inquiry into the effect of diet may be divided into three heads:—(1.) The chemical analysis of different kinds of food. (2.) The determination of the actual quantity of food, solid and liquid, consumed. This is easily done in public institutions by counting the number of persons on the diet-list, and setting down the weight of each kind of food consumed daily. The quantities consumed weekly, divided by the daily average number of persons, is the weekly dietary; the total quantity consumed, divided by the sum of the number of persons dieted every day, is the daily dietary. The following is a tabular example from the books of the Small-Pox Hospital in 1784:—

DIETARIES.

THE Earl of Winchelsea has given notice in the House of Lords, that after the recess he shall bring forward a motion to effect some improvements in the New Poor-Law, giving, in the first instance, to the guardians a power to regulate the dietary without the control of the Commissioners.

Before any further steps are taken the subject must be investigated by men accustomed to the accurate methods of science. Vague statements are of little avail; such observers as Mr. Mott create error; the elements of weight, and time, and number, must be applied before what Count Rumford called a *science of nutrition* can exist. No body of men can conduct inquiries in this department of practical physiology with such a probability of success as medical practitioners, and we do hope this opportunity of conferring a boon on the commu-

DATE.	Officers and Servants.	Weight in Pounds Avordupois, and 10ths of a Pound.					Beer.
		Meat.	Bread.	Butter.	Cheese.	Pints.	
1784:	Days.	82.6	60.6	8.6	2.	144	
November 11-17	63	72.1	60.6	9.0	2.	144	
18-24	63	75.1	60.6	8.8	2.	144	
25, December 1	63	78.8	60.0	9.0	2.	144	
2-8	63	78.4	60.6	8.8	2.	144	
9-15	63	76.0	60.6	9.0	2.	144	
16-22	63	73.8	60.6	8.8	2.	144	
23-29	63						
TOTAL.....	441	536.8	424.2	62.0	14.	1008	

This is the total amount of food cooked for nine persons in seven weeks = 49 days, multiplied by 9 = 441 persons dieted 1 day, or 1 person dieted 441 days. Hence it may be deduced, that each person had 8.5 lb. of meat, 6.7 lb. of bread, 0.98 lb. of butter, 2 lb. of cheese, weekly, and 19½ oz. of meat, 15½ oz. of bread, 2¼ oz. of butter, ½ oz. of cheese