

independent of thoracic movement; it may be increased simply by increasing the mean size of the chest, as by inflating the chest to the utmost and limiting the expiratory range. In this way the transference of blood from the cavæ to the aorta is facilitated. It may be further aided by prolonging the inspirations at the expense of the expirations, for by this means the period of quickened pulmonary flow (from diminished intra-pulmonary tension) becomes longer than the period of retarded flow (from increased intra-pulmonary tension). In such athletic exercises as running, when it is desirable to facilitate the pulmonary flow to the utmost, we see these principles in operation: the mean size of the chest is increased—inspirations being full and expirations shallow—and as breathlessness increases the latter become shorter than the former. Directly this modified rhythm occurs we may regard the pulmonary movement as aiding the circulation, but not before. I wish to emphasise the increase in the mean size of the chest which occurs in dyspnoea. It takes place in pathological as well as in physiological breathlessness. I never remember to have seen a case of dyspnoea in which the chest was not expanded (see my "Respiratory Exercises in the Treatment of Disease," p. 91 *et seq.*).

3. Mr. Barnard contends that the expiratory act favours the pulmonary circulation. During the expirations which accompany vigorous exercise the lungs are (using his own words) "squeezed empty like a sponge into the left ventricle." Now, I am not denying that in some cases where it is desirable to aid the pulmonary flow the lungs may be forcibly squeezed in this way, but such occasions must be rare. As I have already pointed out, expirations tend to be incomplete when there is difficulty in the pulmonary circulation. Let anyone run quickly up a hill so as to get greatly out of breath and he will see how imperious is the instinct to keep the lungs well expanded and how very difficult it is to fight against this instinct and forcibly squeeze the lungs by a deep expiration. There is no doubt that blood may in this way be forced out of the lungs into the left ventricle, but on the other hand the output from the right ventricle is diminished by their compression—witness the effect of a forcible expiration on the superficial veins—and does not this more than counterbalance the increased output? Moreover, one does not see the need for squeezing the blood out of the efferent side of the pulmonary circuit; once there the blood has little difficulty in reaching the left heart if the latter be sound, seeing that the blood in the pulmonary veins always flows under a positive pressure.

4. The view that the rhythmic descent of the diaphragm aids the hepatic circulation was put forward some years ago by Mr. Mayo Collier. The difficulty I find in accepting this view is the absence of valves in any of the vessels concerned. Mr. Barnard says the diaphragm in its descent "squeezes the portal vein." Does he mean by this that it more or less completely obliterates this vessel? If it does, then, indeed, the hepatic circulation must be aided in the way suggested, but otherwise would not compression of the liver tend to drive the blood as much one way as the other? And is there any evidence that the portal vein is materially narrowed by the descent of the diaphragm?

5. Mr. Barnard's remarks on the abdominal force-pump action in extensive pericardial effusion solve a difficult problem. Some such action seems to be necessary in order to keep the right auricle and cavæ from collapse. It is somewhat doubtful, however, whether the force-pump comes into action under physiological conditions. In most vigorous exercises there is no need whatever for it, so rapidly is the blood pumped from the muscles into the cavæ. The action of the abdominal muscles in such cases is, moreover, *for the most part continuous* and this tends if anything to impede the return of blood from the lower extremities. I do not understand Mr. Barnard's remark: "During vigorous exertion this sphere of skeletal muscle contracts with *each inspiration*" (my own italics).

Although there are other points which I might refer to I have already, I fear, occupied too much of your space, but I trust the importance to the physician of the subjects dealt with will be considered a sufficient excuse.

I am, Sirs, yours faithfully,

Wimpole-street, W., April 24th, 1899.

HARRY CAMPBELL.

SPERMINUM POEHL.

To the Editors of THE LANCET.

SIRS,—My attention has been called to a circular which has been issued in French by the *Journal Russe de Chimie*

médic. et de l'arm. The circular is an advertisement of Poehl's spermine, a drug to which it attributes universal therapeutic value. It states that all reports on the action of this substance will be considered by a special international committee of clinicians and physiologists, whose names are given. Those representing Great Britain are Dr. Lauder Brunton, Dr. W. H. Dickinson, McHardy, Harrison, Payne, Dr. T. R. Fraser, and myself. The use of my name in this connexion is entirely unauthorised. I know nothing of the drug or of any such committee. I imagine the same must be true of the others whose names are mentioned.—I am, Sirs, yours faithfully.

London, April 23rd, 1899.

W. D. HALLIBURTON.

THE SICK FOREIGNER IN ROME.

To the Editors of THE LANCET.

SIRS,—Will you allow me to draw the attention of the profession to the serious responsibility which attaches to the recommendation of Italy as a health resort or a holiday ground owing to the absence of any proper accommodation for the reception of sick ladies in Rome? Recently called to Rome by the news that one of my daughters had typhoid fever, contracted in Sicily, I went out accompanied by a skilled nurse. I found that my daughter had been moved to a nunnery, carried thither at 10 P.M. by the *Fratres Misericordiae*, and was met by the Mother Superior on introducing the nurse by the emphatic declaration, "Jamais je n'admettrai une infirmière ici." I have no words but kindly and grateful ones in which to acknowledge the gentleness and kindness with which my little girl was treated by the good sisters, and my own nurse was allowed (as a friend) to take charge of the patient at night. But these good ladies expect to nurse "by the grace of God," which going a long way is not sufficient in a case like this when the patient is left entirely all night and moved on to a mattress on the floor to change the bed mattress by one little nun, washed with a sponge used for all purposes, &c. The magnificent clinical hospital which was shown to us five years ago at the congress in Rome is still unopened and there is no prospect of its wards being occupied. Those who desire to lessen their responsibility may do so to some degree by helping forward the establishment of the Anglo-American Nursing Home referred to in a paragraph of the *Times* of last week, of which the treasurer is E. F. Ede, 25, Via Gregorina, Rome.

I am, Sirs, yours faithfully,

JOHN H. GALTON, M.D. Lond.

Norwood, S.E., April 23rd, 1899.

THE SENDING OF PHTHISICAL PATIENTS TO NATAL.

To the Editors of THE LANCET.

SIRS,—There is a growing practice among medical men in this country of recommending consumptive patients to go to Natal and other parts of South Africa and under certain conditions the advice is good, but there have been cases in which that advice has been followed by lamentable consequences. In those cases where the disease is only threatened or has become but slightly developed and there is a reasonable prospect of recovery, provided that the patients have sufficient means of their own for their support let them go to South Africa by all means, but not otherwise.

The facts should be known that as regards Natal (and the same may be said of other parts of South Africa) there is no provision for the treatment of consumptives otherwise than in the hospitals, that the expenses in cases of sickness are greatly in excess of the expenses in this country, and that the private benevolence of the small European community is apt to be overstrained. It is therefore extremely undesirable that invalids in the last stage of consumption should be sent out there to die or to be sent back in a dying condition. I write this letter by desire of the Government of Natal in the hope that by its publication in the columns of THE LANCET medical men in this country may realise the position more clearly.

I have the honour to be, Sirs, your obedient servant,

WALTER PEACE,

Agent-General for Natal.

Natal Government Agency, Victoria-street, S.W.,
April 20th, 1899.