Rectal and Vaginal Temperatures

SIR,—The recent interesting correspondence on vaginal and other temperatures in the *Journal* calls for further data. As I have some, I submit the following résumé.

In 1934 I read a paper at the British Association in Aberdeen, dealing with the significance of diurnal variations of vaginal temperature. At that time we could find no previous records. Dr. Havelock Ellis wrote to me about my then current research: "You raise an interesting question about the temperature of the os uteri, which I have never thought about, and I am sorry to say know nothing about. I cannot recall having come across it among the books I have by me."

The making of observations originated with my testing the efficacy of greasy soluble suppositories. At my Mothers' Clinic I had had recorded the daytime temperatures of the cervical region in over 100 normal women and found that they were higher than anticipated. This led me to make a more searching examination of some selected cases, such as women doctors and midwife nurses, who could manipulate a thermometer in their own vaginas with sufficient care. Thereafter I had simultaneous readings made of all the three loci—mouth, rectum, and the cervical end of the vagina. Each set of the three thermometers used to take readings were of identical make, carefully checked in air temperatures, and all were left in place for ten minutes for each reading. Though they were "half-minute" thermometers, I found that the readings were not entirely reliable until each had been in for ten minutes. A number of records were made per woman at 6 a.m., 12 noon, and 10 p.m. An average chart of the kind is shown in Fig. 1 (....=oral, —=rectal, ----=vaginal temperature).

FIG. 1

It will be seen that the general relation of the rectal temperature to that of the vagina is different from what is now currently supposed, and that, though the rectal temperature is higher than the vaginal early in the day before exercise has been taken, it is markedly lower at midday, when the cervical temperature reached its peak. In addition to these, I made very special readings for a few days, in one case, of six sets of three simultaneous readings in each 24 hours, waking the subject by alarm clock, so that the readings were at 2 a.m., 4 a.m., 6 a.m., 12 noon, 6 p.m., and 10 p.m. The burden on the experimental subject was so great that this chart (Fig. 2) is the only one, and

FIG. 2

is of special interest. In it the oral temperature is of course always well below all the others, but both the rectal and vaginal temperatures show curves more complicated than where the readings were three in 24 hours.

Though some charts were shown in Aberdeen in 1934, these original records have never been published, and so have not hitherto been available to those now interesting themselves in the questions of rectal and other temperatures.—I am, etc.,

London, W.1.

MARIE C. STOPES.

Harrison's Grooves

SIR,—Drs. J. Naish and H. R. E. Wallis (March 20, p. 541) deserve congratulations for their lead in debunking the long-entertained ideas about the causation of Harrison's grooves. As a teacher I was always dissatisfied with the aetiological explanation given in the textbooks about Harrison's grooves and was collecting clinical evidence to disprove the "rickety" hypothesis of the grooves when it was a pleasure to come across the article by the above doctors in the *Journal*.

One thing definitely emerges from my observations, and it is that Harrison's grooves are not limited only to the condition of rickets. They appear in a number of heterogeneous conditions which produce debility and muscular asthenia in the child—as in prolonged illness, protracted convalescence after acute diseases, chronic malnutrition, chronic respiratory infections, chronic anoxic conditions, etc. The essential factor in the production of the grooves is muscular weakness. This in turn causes the kyphotic posture in the sitting child and the "pot belly" or protuberant abdomen. I fully agree with Dr. R. Good (April 10, p. 707) that distension of the abdomen is also an important contributing factor, but I do not believe with him that frequent distension of the abdomen after hearty feeding is one of the causative factors. If it were as Dr. Good writes, then the incidence of Harrison's grooves would be much greater, and would be taken as physiological rather than pathological. For, if we remember right, all of us have taken frequent and hearty feeds in our days.

I believe that the laxity of the abdominal musculature and kyphotic sitting posture, with or without enlargement of liver and spleen, are the important causes of abdominal distension. In the kyphotic sitting posture with abdominal distension the lower ribs can be actually seen splaying out with the costal border everted, producing horizontal grooves above on both sides. As days pass by, the ribs become fixed in the new position, thus perpetuating the grooves. In rickets the grooves are particularly common and pathognomonic of the condition because all the causative factors are present.

It will be of interest in this connexion to note that in India in persons of a particular community who often have huge obese abdomens due to affluence, and asthenic musculature due to lack of exercise and sedentary habits, horizontal grooves on the lower part of the costal cage are visible which closely simulate the Harrison's grooves in the child. Thus, I strongly believe that the aetiology of Harrison's grooves lies not in rickets as such but in the lax and asthenic musculature, kyphotic sitting posture, and pot belly or protuberant abdomen.—I am, etc.,

Poona, India.

P. L. DESHMUKH.

Pain in Phantom Limbs

SIR,—I have been much interested in the recent correspondence in the *Journal* on "Pain in Phantom Limbs" and in the various views that have been expressed, for when in charge of amputation cases in the Indian Army from 1944 to 1946 I had the opportunity of observing many patients with phantom pain. With Dr. J. Donaldson Craig's views (May 8, p. 904) I am in almost complete agreement. I would, however, point out that operations on amputation stumps, such as neurectomy or reamputation, do not always fail to relieve phantom pain. In some cases, especially those with obvious stump defects, the result of such operations can be most gratifying.

Like Dr. Craig and others¹ I have found that satisfactory relief of phantom pain (and of stump tenderness) can be obtained in many cases by interruption of the sympathetic chain, though I have found operative sympathectomy to be more satisfactory in most cases than repeated procaine injections. The effect of a procaine injection should of course always be observed first. In a series of 16 cases of post-amputation pain and tenderness I found that interrupting the sympathetic chain produced complete or very satisfactory relief in 9 (56%).

I have found, as has Dr. Craig, that cases that are not benefited by interruption of the sympathetic chain can sometimes be relieved for prolonged periods by repeated procaine injections into nerve trunks, and occasionally even by a single injection. Such a result, however, is not usual, and I agree with Mr. Leon Gillis (June 5, p. 1108) that in the majority of such cases only very temporary relief of pain is produced, even by repeated injections. A method I have sometimes employed with occasional success for lower-limb