

Regarding the statement that "cancer in its various forms is much rarer in the Far East than in America or in Europe" (quoting from the same note), my feeling is that this can hardly be said of China proper, or of the northern half at any rate. I can distinctly recall cases of most, if not all, of the common forms of malignant disease. Those most frequently met are carcinoma of the oesophagus, carcinoma of the penis, epithelioma of the lip (no betel nut chewed in our part), and myosarcoma. Malignant ocular tumours are not rare. I can recall one which had involved the bones of the orbit. It recurred after complete exenteration of the orbit. Cases of carcinoma of the breast are usually in an advanced stage when seen. Benign tumours of long standing and large size are often seen, and not infrequently malignant change has set in. The following is a list of cases reported in the *Chinese Medical Journal* during the last two years. Obviously these are reported because of their rarity, the common forms of malignant disease not being reported individually. They may serve as an index of the occurrence of cancer in China. Sarcoma of the male breast reported from Fukien, South China; sarcoma of the prostate in a man aged 25 years, reported from Hankow, Mid-China; carcinoma of the cervix in pregnancy, collected report of five cases in Peiping, North China, from 1930 to 1933; epibulbar sarcoma, one from West and one from North China. China is a vast country, and the note we are criticizing appears to deal particularly with the Malay States and the Philippine Islands. I have more than once heard it stated, and sometimes by medical men, that cancer does not occur among the Chinese. The fact that they have not seen it, or that their informant has not seen it, does not mean that it is not there. Even those of us who have seen it cannot give an adequate estimate of its prevalence, for we have no means of ascertaining what proportion of the cases fail to present themselves for examination—rather a large proportion, I imagine.

I will borrow an example from the case of appendicitis. It used to be said by many that appendicitis did not exist among the Chinese. An explanation offered by some was that the Chinese live almost entirely upon a vegetarian diet, thus condemning the mixed diet of Western lands. In the last few years appendicitis has appeared among the Chinese, and is increasing year by year. For the year 1933 seventeen hospitals scattered all over China report 522 cases of appendicitis from a total of 208,045 cases of every kind (*Chinese Medical Journal*, 1934, xlviii, 769). We cannot explain the appearance and increase of the condition by a change in Chinese diet: they have not the means to change. In my opinion the disease has been there always, but hidden by a misconception of its basal pathology. The Chinese consider it a "medical" complaint and seek relief by taking native remedies. Now there exist in China, scattered throughout the towns and villages, an ever-increasing number of men and women who have been nurses or students in mission and other Western hospitals. These recognize appendicitis as a "surgical" complaint, and advise that the sufferer should be taken to the hospital for surgical treatment. The disease will continue to increase in statistical returns, for successfully treated cases advertise the surgical nature of the complaint.

Cancer is not such a rapidly fatal condition as wrongly treated appendicitis, and for that reason the sufferers have often appealed to the "foreign doctor" for help as a last resource and in an incurable condition. Even so, how much malignant disease remains hidden from Western eyes it is impossible to say.—I am, etc.,

Wolverhampton, Feb. 1st.

I. LLOYD JOHNSTONE.

Caesarean Section

SIR.—Mr. Bright Banister's article on Caesarean section in the *British Medical Journal* of December 14th, 1935, gives cause for thought, and owing to his great experience his opinion on any obstetrical subject will be received with the greatest respect. A general practitioner, however, may perhaps criticize his treatment of statistics.

In considering 3,846 cases of Caesarean section with a maternal mortality of 6.6 per cent., he states: "This mortality must be compared with the gross maternal mortality following childbirth . . . about 0.45 per cent." Surely the mortality in the two instances must *not* be compared. The Caesarean cases were presumably operated on because of some difficulty—great or small—which made delivery *per vias naturales* abnormally dangerous. The gross maternal mortality is for *all* cases, the vast majority of which are perfectly normal and require no interference, and in which the mortality should be negligible. No comparison of the respective mortalities can be made.

What one requires to know is this: in the 3,846 Caesarean cases with a mortality of 6.6 per cent., what would the maternal mortality have been if delivery had been made *per vias naturales*? This can be assessed only by taking a large series of *similar* cases treated otherwise than by Caesarean section. Mr. Banister states that the mortality in 1,763 Caesarean operations "performed in famous maternity hospitals by experienced and distinguished operators amounts to 5.8 per cent." This figure is surely much too high, and one wonders what proportion of these cases had been "messed about" before entering the hospital.

Caesarean section done after "failed forceps" and "trial labour" resulting in obstruction will always carry a considerable mortality, but, planned in advance and done deliberately under favourable conditions, the mortality should be very small. In the *British Medical Journal* of December 21st, 1935, Schilling records 230 Caesarean operations, with a mortality of *nil*. In my own extremely limited personal experience I have found the operation to be one of the easiest in abdominal surgery—very much easier and safer than the average appendicectomy done after the first forty-eight hours of the illness.—I am, etc.,

January 17th.

M.D.CAMB.

Fire-walking

SIR.—My old and valued friend Sir Leonard Hill, in his letter dated January 19th (*Journal*, p. 185), offers a calming, and cooling, view of the subject of fire-walking. Sir Leonard informs us that the observed phenomena of painlessness and absence of blistering or other tissue-reactions in certain individuals when walking over red-hot stones or red-hot embers are neither unusual nor abnormal. Sir Leonard himself, he tells us, can press the ball of his thumb, hardened by gardening, for a second or longer against a thick glowing stick of charcoal without pain; moreover, he can similarly press his heel on the burning surface for more than five seconds before feeling any sensation of pain. Incidentally, from personal observation of Sir Leonard, I have been able to verify that he does not habitually walk barefooted in the streets of London, so that we can exclude the hypothesis of insensitiveness due to daily training or habituation. The logical conclusion from his letter seems to be that the phenomena of fire-walking are entirely physiological, and that the absence of tissue-reactions and of pain on pressure by his thumb and heel on a stick of red-hot charcoal does not differ,

save in degree, from similar analgesia and absence of erythema or blistering, as observed in fire-walkers, who step or dance upon burning embers or red-hot stones. The weight of the walker's body during walking, however, increases the intensity of contact with the skin of the sole, making it more than a mere momentary touch. This weight must be borne somewhere, and in this instance there is no other supporting surface save that of the subjacent hot stones or embers. Sir Leonard himself points this out, and emphasizes the fact that during the Kuda Bux experiments the two English amateur fire-walkers, who courageously acted as controls and unfortunately burned the soles of their feet in so doing, "were heavy men, hesitant in their walk," whereas "Kuda Bux was of light weight and walked confidently."

According to Sir Leonard, painless dancing through a blazing fire while the dancer is wet with sweat, or the practice of lifting up burning embers and placing them into the axillae, wet with sweat, or into the wet mouth, are to be regarded as natural and physiological phenomena. I hope, therefore, that at some convenient early date Sir Leonard will see his way personally to demonstrate all these phenomena to a few of us clinicians. He will, of course, select his own method for inducing the necessary degree of sweating of the soles and axillae, whether by dancing on the hot embers, or perhaps, less drastically, by the hypodermic administration of pilocarpine, which latter will have the additional advantage of inducing salivation. He can then proceed to the most convincing part of his demonstration by placing red-hot embers in his axillae and mouth, since he feels confident of being able to do so without causing pain or tissue necrosis. But I beseech him not to submit himself to the further physiological ordeal of "plunging his arm, protected by its natural moisture, in and out of molten lead." My regard and admiration for Sir Leonard are so sincere (the word warm would be inadequate in such circumstances) that I hope he will not consider me presumptuous if I bring with me to this demonstration some ordinary remedies for the alleviation of pain and for the treatment of burns, in case by any mischance they may be required.

As an additional attraction to this séance Dr. Anthony G. Palin might be induced, in confirmation of his letter of January 14th, to give us a demonstration of walking barefooted on red-hot stones arranged according to his own plan

so that the apposition of foot to stone may approximate to "point-contact" on the theory that the heat from the smooth hot stones will be rapidly conducted to and distributed among the internal structures of the foot without greatly heating the skin, where the area available for heat-conduction approaches to point-contact, so that the total quantity of heat transmitted is quite small, being specially small when the contact is only for a few seconds.

But I seem to have a recollection that there exists an instrument for point-contact, known as a thermocautery, which fulfils these requirements, but produces results quite different from those described by Dr. Palin.

Last week, through the kindness of Admiral Mark Kerr, I received an excerpt from the *Balkan Herald*, January, 1936, of an article entitled "Women who Dance on Fire," written by Mr. Wilhelm A. Baumfeld, a member of the staff of *La Bulgarie*, describing an astonishing village custom in Bulgaria. A brief quotation must suffice:

"They were old women with wrinkled faces. They danced before the hut, eyes half closed, to the music of the pipes. Their muscles grew taut, their whole bodies trembled, and from time to time they uttered shrill cries. Then they ceased to dance. Exhausted, they waited a few moments, still standing, and then ran into the forest to some secret spring, where they were sprinkled with holy water. We went back to the village. In the meantime a brazier had been brought out and placed before the church doors. It was about a metre in diameter, with great tree-trunks, piled on one another, burning. The smoke mounted upwards and long tongues of

flame shot up. For some hours the wood burned, until the brazier was a mass of clear burning embers. Then, while the onlookers formed a circle around it, the holy images were brought out once more. The music recommenced, exciting and moving. It was now a frantic dance. The dance of the nestinarki. The radiant heat of the brazier could be felt. The frantic beating of the drums and the wail of the bagpipes tore at our nerves. Suddenly the crowd divided; the nestinarki were coming. Holding one another firmly by the hand, they seemed to be consumed by some internal pain. With rapid steps one of the women began to dance around the brazier. One more step and she was in. She danced, barefoot, on the reddened embers, following the music of the bagpipes. She crossed the brazier, turned and recrossed, without a check. Three times she entered the brazier, each time dancing there for two full minutes. But two minutes are 120 seconds, and her feet were bare! We looked on astonished. A miracle of the twentieth century? We looked at the woman's feet. They showed not the slightest trace of burning. She felt no pain. 'St. Constantine was in me,' she said, 'I had to dance.'"

I submit that the foregoing observations further corroborate my view that the phenomena of fire-walking are associated with powerful auto-suggestion in an emotional atmosphere of religious ecstasy. The mechanism of their production remains imperfectly understood, and they offer a field for further clinical investigation.—I am, etc.,

London, S.W.1, Jan. 28th.

J. PURVES-STEWART.

SIR,—Differences of opinion regarding the immunity of fire-walkers from injury will always exist so long as the investigations are confined to visual observations. If, however, the temperature attained by the feet of the performer were measured the question could then be definitely settled, and this could be done in the following way:

A thermocouple is made by taking a thin disk of copper about 1 cm. in diameter and soldering to it a long thin wire of copper and a similar wire of eureka. The disk is then placed on the heel or any part of the foot which comes into contact with the hot surface, and the wires fastened securely to the leg so that the disk is held tightly against the skin. The free ends of the wire are taken to a sensitive galvanometer near which a cold junction is formed. Before use the scale of the galvanometer may be calibrated to read temperatures by subjecting the thermocouple to different temperatures measured by an accurate thermometer and noting the corresponding deflections.

If properly arranged this device would not impede the movements of the fire-walker, and the maximum temperature attained by the skin of his foot could be accurately noted. If any observer should have an opportunity of testing fire-walkers by this method definite data would be procured which would remove the question from the realm of conjecture.

In the case of Kuda Bux I was unable, for several reasons, to apply this test directly, but, as shown in my communication to *Nature* for September 28th, 1935, an indirect test with a thermocouple showed conclusively that his feet did not attain a temperature sufficiently high to cause blistering. So far as could be seen, his feet had not been previously prepared, nor was the skin hardened as in one accustomed to walking with bare feet. He traversed the fire very quickly, each foot resting twice on the surface during the passage, and his success was due to this speed and the skilful way in which he avoided sinking deeply into the fire, with the result that the temperature of the skin of his feet did not reach the danger point. As a fire-walking feat it was much inferior to those of the hard-skinned performers of Fiji, Ceylon, and other places, but was a clever and courageous display.

As to Kuda Bux being able to see with the end of his nose, I asked him if he could perform the feat if I held down his eyelids with my fingers instead of covering them with dough. He said he could not. On asking why, he replied: "Because then there would be two person-