

abundantly proved that a pasteurizing temperature much lower than 145° F. will be sufficient to ensure an entire freedom from tubercle bacilli. I am wondering how Dr. Macfadyen can excuse the presence of abortus organisms in certified milk.

Over a long series of investigations in the United Dairies laboratories 70 per cent. of herd samples of certified milk contained the abortus organisms of undulant fever. Of the same samples 63 per cent. contained the haemolytic streptococci of mastitis. I do not think anyone will suggest that the ordinary acid- and gas-forming organisms which are all included under the heading of *B. coli* are in any way comparable in their deleterious effects to these two organisms, *B. abortus* and the *Streptococcus haemolyticus*. The emphasis placed by certified milk producers on the gross bacterial plate count is not significant, since milk which has been pasteurized is entirely free from potential pathogenic organisms. A suggestion made in Dr. Macfadyen's letter that pasteurization is difficult to control is entirely unwarranted. The phosphatase test gives a complete control of the efficiency of pasteurization.

Dr. Macfadyen ends his letter by saying that "if a compulsory scheme were put into operation there would undoubtedly be a false sense of security." What alternative would he suggest? The only one I can see is that a standard of purity would be required that made it a penal offence to sell milk containing the bacillus of tubercle, *B. abortus*, and perhaps the mastitis streptococcus. Does Dr. Macfadyen demand a freedom to sell milk infected with these germs without penalty? Surely not. The United Dairies consistently apply a test of the bacterial content of pasteurized milk—namely, a plate count of milk samples, two days after bottling, taken from unsold supplies returned from the rounds. Two days is generally the longest period of storage of milk in homes. The results are convincing, and abundantly prove the efficiency of pasteurization. There is no question but that pasteurization is the only process which will ensure a supply of safe milk for public consumption.—I am, etc.,

London, S.W.16, Jan. 26.

JAMES KIRKLAND.

### Recovery in the Spinal Cord

SIR,—In the dissecting room and at surgical operations students are taught to preserve the nerves but to ignore the small blood vessels; this teaching, however, must not be generalized to the central nervous system. Mott's experiment (quoted in my paper in this issue) demonstrates the dependence of cord function upon the blood supply, and therefore a meticulous conservation of the small vessels is of primary importance in all operations upon the central nervous system.

The report of Dr. J. Purdon Martin's paper in the *Journal* of December 18 (p. 1242) includes in the consideration of requirements for recovery: (a) "interference with its circulation," (b) "scarring," and (c) subsequent "nutrition of the cord"; these are, however, subordinated to (a) severe cord damage, (b) glial overgrowth, and (c) provision of nutrient substances, respectively. The relation of the unfavourable prognosis of local syphilitic lesions and of intercurrent or chronic infections to vascular defect also is not made clear. Recovery of function in the cord is primarily dependent upon the restoration of blood supply to ischaemic areas.—I am, etc.,

Northfield, Birmingham,  
Jan. 29.

F. A. PICKWORTH,  
Director, Joint Board of Research  
for Mental Disease.

### Acute Appendicitis

SIR,—May I draw your attention to a point made in Dr. A. M. Spencer's interesting article (*Journal*, January 29, p. 227) on the aetiology of acute appendicitis? I refer to a sentence in the paragraph headed "National Distribution," which states that "in the villages of India and China the disease is unknown." This statement is an important, though perhaps not essential, link in his argument, and therefore deserves some comment. I believe that it has found its place in contemporary literature partly, at any rate, as the result of a paper by Weischer of Tsingtao, and I have seen this source many times referred to and copied.

I do not know anything about India, but it is true that appendicitis is not a common emergency in Chinese practice. It does not, however, follow that because cases of acute appendicitis are not often brought into hospitals, which are nearly always situated in towns, it does not exist in the villages. The large majority of Chinese peasants who come to hospital do so for economic reasons—they cannot do their work. In the mind of the Chinese peasant very few, if any, diseases are acute and require immediate intervention; the local resources must first be exhausted, and by that time the patient has either recovered or died.

The incidence of acute appendicitis in a well-established hospital increases slowly with a local realization of its gravity. Students who go home to their villages tell stories of patients with histories which are unmistakable, and needle marks in the right iliac fossa are common enough. This is the result of "needling", universally used to produce counter-irritation. I have more than once opened an abdomen to remove an appendix and found the caecum adherent to the anterior abdominal wall at the site of an old needle scar. Further, the incidence of appendicitis among a large student community eating Chinese food is, I think, about the same as that among the foreigners eating foreign food. Similarly, it was commonly said that tabes dorsalis and epidemic encephalitis did not occur in China. When the late Dr. Andrew Woods, neurologist to the Pekin Union Medical College, went out into the country to look for it he found a considerable number of cases.

The incidence of disease in China and other village communities is undoubtedly difficult to estimate, but there exists enough evidence to show that negative propositions such as the one to which I refer are based on inexact information, though they may or may not be partially true.—I am, etc.,

H. W. S. WRIGHT,

Late Associate Professor of Surgery,  
Cheeloo University, Tsinanfu.  
London, W.1, Jan. 28.

### Correct Footwear

SIR,—I should like to endorse Dr. Dorothy E. Mason's contentions regarding the requirements of the normal female foot (*Journal*, January 22, p. 203). In my student days Mr. E. K. Martin was able satisfactorily to demonstrate that "heels" were quite unnecessary. And ultimately a well-known London firm of shoemakers has been able to show that a "heel-less footprint shoe" need be neither spatulate, ungulate, nor rectangular, needing only to fit like a glove round the instep and heel and to leave the toes room to exercise. (An objection to heel-less shoes is commonly based on experience of the bedroom slipper—a sloppy object.) Elegant materials and craftsmanship can undoubtedly do much to mask any unorthodoxy. By taking weight off the toes and distributing it

naturally, even long hours of walking are devoid of discomfort; and, having no height of heel to step over, it becomes possible to catch the departing bus without having to prance or scuttle. In a small boat, where the need for security of foothold is already generally recognized, no one would dream of wearing heels. Really good shoes are always expensive, but these I have mentioned are considerably cheaper than are bespoke shoes; they are also better fitting, probably because it is impossible to persuade even a good bespoke shoemaker completely to abandon the type of twisted last to which he is accustomed.—I am, etc.,

London, W.1, Jan. 26. ALISON MACBETH, M.B.Lond.

SIR,—The recent correspondence about correct footwear seems to me to be an attack on shoe manufacturers rather than a considered survey of the situation. In the first place people who have never worn shoes can develop valgus deformity of the toes and even bunions. I have in my possession several prints of the feet of African natives which prove this. Secondly, shoe manufacturers now but rarely make shoes with an extremely pointed toe. When I was collecting material from a shoe factory for a lecture two years ago I was able to find only one model the inner border of which deviated sufficiently from the straight to be of use for demonstration purposes.

Raising the height of the heel and putting a relatively rigid sole on the shoe has resulted in a lack of exercise of the toes, and this has been responsible for a great deal of the valgus deformity which is blamed on the shape of the inner border of the shoe. Many people in England wear shoes that are too short for them. This is the chief factor in the causation of deformed feet. Shoes should be made in a sufficient variety of widths to enable everybody to be fitted with footwear of the correct length. This is an expensive and difficult thing to do; it is achieved in America, but American shoes are appreciably more expensive to manufacture and to retail than are our own.—I am, etc.,

Street, Somerset, Jan. 27. J. NEWMAN HEALES,

SIR,—I have followed with much interest the correspondence on correct footwear, and was especially interested in Dr. Dorothy Mason's letter in the *Journal* of January 22 (p. 203). I have been of the opinion for some time that the heel of a shoe is useless and a cause of much foot trouble. The heel originated as a *point d'appui* for the stirrup when riding. The only use that I can see for it is to provide a thicker part to reduce the wear at the point where most of the weight is taken by the shoe when walking. Now the heel, by displacing the centre of gravity of the body forward, causes a compensatory lordosis which the wearer retains during all his or her (especially her) periods of standing and walking. This cannot be anything but bad, and is in addition to the local damage to the foot. I have worn shoes without heels for about three years, and can testify to their very great comfort. I walk in them without fatigue, and am conscious while wearing them that the foot is working as a whole. Since taking to them my feet have developed such a flexibility that I can pick up a pencil with my toes with ease. These shoes are supplied by Messrs. Charles Baber, Ltd., 304, Regent Street, London, W.1, but they are unfortunately rather more expensive than ordinary shoes. Throughout the correspondence I have seen no allusion to the old type of open sandal; these are also to be had from Messrs. Baber, and are beautifully made. I have a pair, and during last summer I practically lived in them. They can be worn with or without socks,

and are delightful without. These seem to me to be the ideal footwear for the warmer weather, since there is nothing to constrict the feet and they have all the benefit of fresh air. Fresh air is inimical to the growth of fungi, which are a cause of much discomfort, sensory to the sufferer, and olfactory to others. Some might say that sandals fail to give support; but normal structures need no artificial support, and most feet would derive great benefit from the exercise that sandals would permit. Another objection is that they might cause the arches to fall, but has not the conception of flat-foot changed during recent years, and do not our orthopaedists tell us that the trouble with so many feet is that they will not flatten? Satisfactory sandals are also made by Messrs. Clark of Street, Somerset, at a very reasonable price; these can be obtained almost everywhere. There can be little objection to the wearing of sandals in these days when transport is easy and when the streets and roads are so clean and well kept. The subject of correct footwear is one of national importance, and in the drive for physical fitness the Ministry of Health should turn its attention to the correct shoeing of the population. A nation with bad feet cannot be A1.—I am, etc.,

Dartford, Kent, Jan. 23. F. OLIVER WALKER.

### Hydrotherapy for Rheumatoid Arthritis

SIR,—The report of the Health-Resorts Conference at Bath contains extraordinary statements to which strong exception should be made. One speaker stated that "it was his considered opinion that no case of rheumatoid arthritis was suitable for a course of hydrological treatment so long as the slightest sign of activity still persisted." This is like waiting until a fire is well under way before sounding the alarm. To another speaker is accredited the statement that "no case of true rheumatoid arthritis in any active phase should ever be treated by hydrotherapy." Unless strongly contradicted these statements will destroy the last hope for thousands of patients. May I point out the treatment pursued at Halcyon Hot Springs, which has been the Mecca for rheumatics for fifty years.

Stretcher cases in the acute stage of rheumatism are immediately put into the pool, where they remain for twenty minutes. This is repeated from two to four times daily. Patients suffering from sciatica and other forms of neuritis may go in from eight to twelve times in the twenty-four hours. One speaker at the conference recommended "a depth of water of about 2½ feet and a temperature of between 90° and 100° F." The pools at Halcyon are 5 ft. deep, and large enough for swimming and exercise, which is insisted upon from the beginning. The temperature of the men's pool is 106°–108° F., and the women's pool is 102° F. These are the temperatures which have been found by experience to be the most effective.

All forms of rheumatism receive the same treatment. For, after all, rheumatoid arthritis is the severe form—the last stage—of the general disease. Every attack of rheumatism, however mild, is treated as a potential case of rheumatoid arthritis, and treated as such from the beginning. Exercise is necessary to maintain the joints in normal physiological activity. A strong indisposition to take exercise is a feature of rheumatoid arthritis which is the cause of endless trouble. Without exercise favourable results are impossible. Patients do better with a physician of the military type who manhandles his patients rather than the fawning type which hears and heeds every whim and fancy. Exercise is firmly insisted upon, and the direful result of neglect is clearly pointed out. We accept no excuses. Daily exercise is directed to stretch altered fibrous tissues and accustom them to movement.