of G.D.O.s to the Services. The Medical Women's Federation wishes again to express its opinion that the newly qualified women doctors ought to take their share of the burden, and that they would provide a not inconsiderable contribution to the requirement. It is understood that a recommendation on these lines has been made by the Services Committee of the Central Medical War Committee to the Medical Priority Committee. This would involve legislation to render women doctors liable to National Service, but the principle at stake is so important and the immediate need so urgent that the Federation does not feel that this is an insuperable difficulty. It reaffirms the desire of women doctors to share fully all professional liabilities.—I am, etc.,

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President, Medical Women's Federation.
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Gastric Herpes Zoster

SIR,—The case of gastric herpes zoster described by Dr. R. V. Stone (May 8, p. 882) brings to mind a similar case which I attended five months ago. In this case, however, the haematemesis was slight.

The patient, a woman aged 58, had a fall on her left side in November, 1946, bruised her ribs, and developed arthritis of her left shoulder-joint. She was x-rayed early in November, 1947, as she had stiffness and limitation of movement of the left arm. Nothing was found apart from some arthritis of the left shoulder. Ribs and spine were normal. In December, 1947, she developed severe pain in the region of 9th and 10th ribs, radiating towards the epigastrium, associated with nausea and anorexia. A week later she developed a typical herpetic eruption and the following day vomited about 10 oz. of "coffee"-stained fluid.

She was seen by a surgeon, who took her into hospital for investigation as she had lost a considerable amount of weight and was complaining of a burning sensation over the epigastrium which was not relieved by alkalis, etc. She was also considerably dehydrated and looked ill. All investigations during her 21 days in hospital were negative. Barium meal revealed nothing abnormal. Fractional test meal showed complete achlorhydria. X rays of spine and ribs were normal, and urine was normal. The C.S.F. was not examined. A laparotomy was considered, but the patient would not consent to this and accordingly she left hospital in the middle of January, 1948. By this time the rash was fading, though the pain was still severe but intermittent. Her appetite gradually returned, the nausea disappeared, and by the end of February she was completely well apart from some post-herpetic neuralgia. I last saw her at the beginning of April, when she had gained 10 lb. in weight and was entirely free from symptoms.

An interesting point in this case was the fact that the lady's grandchild had had chicken-pox about three weeks before she developed her initial symptoms. I think the similarity between this case and that of Dr. Stone is most interesting.—I am, etc.,

Belfast. P. E. FITZPATRICK.

Nervous Disorders and Malnutrition

SIR,—Dr. H. S. Stannus in his paper "Disorders of the Nervous System Due to Malnutrition" (Feb. 21, p. 342) remarks that "considerable and new interest has been aroused in nutritional disorders of the nervous system as a result of their high incidence among prisoners of war in the Near and Far East." While malnutrition is undoubtedly of great importance in these manifestations, I want to raise another point. On comparing the reports about the health of returned prisoners of war and of inmates of concentration camps one finds that the syndromes were encountered only amongst the P.O.W.s detained in the East. Both groups were on an inadequate diet, and people in the concentration camps were even on starvation diet. Lipscomb¹ states that "clear-cut specific vitamin deficiency syndromes were strikingly absent." Rosencher² writes that in Dachau "avitaminoses were rare and disappeared rapidly." It seems significant that there was a great incidence of malaria, ankylostomiasis, amoebiasis, and other intestinal infections amongst the P.O.W.s in the East. Lipscomb asserts that in Belsen there was neither malaria nor amoebiasis, nor were these diseases common amongst the P.O.W.s detained on the Continent.

The main reason for the appearance of the nervous manifestations supposed to be due to malnutrition and to vitamin deficiencies amongst the P.O.W.s detained in the East can only be that these manifestations were precipitated by the prevalent infectious diseases like malaria, amoebiasis, and hookworm infections. This is in

accordance with modern views, which regard these diseases as pre-disposing factors for deficiency diseases. These infections are known to cause anorexia and gastro-intestinal disturbances, and this may result in a low calorie-intake and contribute to the malnutrition. Simultaneously there will also be poor absorption of the food due to the affection of the gastro-intestinal tract, especially in amoebiasis and ankylostomiasis, which cause loss of mucosal integrity. Lastly, all three diseases are known to cause hepatitis and affection of the liver, which in turn will lead to decreased utilization of the food.

However, there is another consequence of the involvement of the liver to be considered. Experimentally it has been confirmed that disease of the liver can cause brain lesions and damage to the nervous system. This is demonstrated in hepato-lenticular degeneration, where derangement of the liver produces nervous changes and disturbances. The course of the disease is influenced by the diet. Homburger and Kozol³ write that "in the cases where exacerbations were related to periods of inadequate diet, remissions followed periods during which the patients had been taking high caloric diets relatively low in fat."

Interference with the metabolism of the host by invading parasites must also be considered. It is well known that the malaria plasmodium consumes glucose and oxygen. It has been established that (1) suspensions of parasites consume oxygen at a high rate, much higher than does normal blood; and (2) the malaria parasites use glucose—half of the proportion which is destroyed being converted into lactic acid and the other half being incompletely oxidized.⁴ Thus malaria infection might deprive the host of the glucose and oxygen which are needed for the metabolism of the brain, which derives its energy solely by the metabolism of glucose.

I have seen the nervous disorders mainly during the hot season. This may be due to malaria and amoebiasis being prevalent during these seasons, but it may also be possible that during the hot season there is an increased metabolism and this will accentuate any nutritional deficiencies.—I am, etc.,

Chirala, India.

S. J. GROSS.

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- ² *British Medical Journal*, 1946, 2, 953.
- ³ *J. Amer. med. Ass.*, 1946, 130, 6.
- ⁴ Christophers, S. R., *Trans. Faraday Soc.*, 1943, 39, 333.

Scoliosis in School-children

SIR,—In 1942 my attention was drawn to scoliosis in the dorsal region caused by slight shortening of the one leg in a munition worker complaining of backache. There was neither history nor symptoms suggesting previous infantile paralysis or other disease, and she had attended and had various treatments at hospital, but it had never been noticed that the one leg was about half an inch shorter than the other. This naturally caused tilting of the pelvis and a compensatory scoliosis higher up the spine. Her symptoms cleared with the raising of the heel by half an inch, and massage and exercises.

Since then, when examining school-children, I get them to bend down and try to touch their toes with knees stiff, so that when standing behind them, one can easily run one's finger along the spines of the vertebrae and note whether there is any scoliosis present. Occasionally one finds a lumbar curve with the muscles of the convex side slightly more prominent than on the opposite side, as if the bodies of the 2nd, 3rd, and 4th lumbar vertebrae were twisted a little on their vertical axis. If these children are turned round and examined from the front, it can be seen that the opposite shoulder drops and the pelvis is tilted, with one anterior superior spine higher than the other. Measurement of the legs, when lying, shows a difference in length of from 1/4 to 3/4 in. (usually about 1/2 in.), as taken from the anterior superior spine to the internal malleolus. There is generally no difference in the circumference of the thigh or calf, though in one girl the whole side of the body seemed slightly smaller. The girls are normally healthy and complain of no discomfort.

When I first see them they range from 9 to 12 years old, and in each set of new girls in the past 4 years there have been one or two cases; so that in the school at present I know of 6 cases, which works out at 1½ to 2%. In 4 of the 6 girls the left is the shorter leg, the lumbar curve is convex to the left, and the right shoulder is dropped. With back exercises and the raising of the heel by the required amount (about 1/2 in.) much of the deformity disappears in time.

Another form of scoliosis is seen among the older girls, but this occurs higher up the spine, mostly in the lower dorsal region; it is combined with a twist of the bodies of the vertebrae which causes a projection of the posterior curve of the lower ribs on one side when they bend down to touch their toes. It is accompanied by dropping of the shoulder on the opposite side, and the syndrome invariably arises from the bad habit so many young people have of standing on one leg with the other knee bent. This gives a