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Correspondence

Correspondents are asked to be brief.

Wheel Chairs

SIR,—Why in this age of space travel can we not design a reasonably efficient wheel chair? No maker of a perambulator would dare to employ the kind of engineering the disabled have to put up with.

One of my patients who has multiple sclerosis bought an electric wheel chair for £180 and is horrified by its performance. Most of her criticisms apply not only to the make in question but to most British wheel chairs, including the N.H.S. models. The full list is far longer than you could allow me space for, but here are some of the principal points.

(1) The castors should be at the back rather than in front so as to facilitate steering. This is particularly important on electric chairs steered by differential drive-wheel speeds.

(2) Most ordinary armchairs are upholstered and sprung and recline at an ergonomically sound angle. But invalids who have to sit all day long are expected to do so on a piece of plastic slung over a straight-backed steel frame.

(3) Footrests are insufficiently adjustable and make the chair too long for easy manoeuvre; they should slide back rather than swivel.

(4) The electric chair has no brakes at all. The N.H.S. chair has brakes inaccessible to a person pushing it.

(5) Bicycle wheels are all very nice but they take up space unnecessarily and have hubs that stick out 2 in. (5 cm.) and catch every door post. Smaller wheels could be tucked under the chair.

(6) In this age of transistors the electric controls are of the crudest contact type. They invariably stick, causing the chair to go berserk from time to time. The battery leads have undersized pins and plug in from underneath, so that they constantly fall out.

(7) The batteries are mounted behind, adding a foot (30 cm.) to the overall length and making it difficult to pull up the patient from the back. They should be underneath the chair.

I appreciate that a fair amount of development may be needed to produce a better chair. Surely this could be done more easily by the Government than by the half dozen small manufacturers who are at present dabbling in this field. It will also be necessary to make rather less use of standard components where they are utterly unsuited to their purpose. But surely, if we can give the disabled a motorized tricycle costing some £500, we can as an alternative equip them with a really comfortable electric wheel chair for much less than that sum. Perhaps it is time for doctors and engineers to get together with the patients themselves to solve this problem.—I am, etc.,

K. R. HEBER.

Caterham, Surrey.

A Vagal Paradox

SIR,—I am prompted to write this letter at a time when vagotomy is being advocated by some surgeons in the treatment of benign gastric ulcer, for it is often thought that the operation cannot sensibly be used for a disease not associated with a high fasting acid. This, however, is untrue, for vagotomy cures duodenal ulceration in patients without a high acid secretion and cures gastric ulcer in the absence of free hydrochloric acid in the fasting juice and a small response to histamine. This is an important "vagal paradox" which we should recognize.

A woman aged 58 had suffered for many years from recurrent attacks of epigastric pain associated with vomiting of food. She had been investigated repeatedly and no satisfactory diagnosis had been made. For many years repeated barium studies had failed to show either duodenal or gastric ulceration and a diagnosis of chronic duodenal ileus had been made. The symptomatology was typical of pyloric channel disease, the clinical aspects of which were so well described by Butsch[1] more than 30 years ago. In 1961 *x*-ray examination of this patient showed a small ulcer crater apparently exactly on the pylorus. There was no free acid in the fasting juice and the response to histamine was 3·5 mEq/hour. At that time there was no radiological evidence of gastric retention. At operation the duodenum was normal as was the stomach and too the pylorus on external examination. When the pyloroplasty incision was made the small ulcer shown on the *x*-ray film was seen exactly on the posterior wall of the ring. This ulcer from its position and secretory pattern was gastric rather than duodenal and gastric resection seemed to be the correct operation. However, the patient was already a very thin woman who could ill afford to lose more weight. I had not then come to use vagotomy for gastric ulceration but felt that this ulcer on the pyloric ring would be cured by vagal section in spite of the acid findings. A bilateral selective vagotomy was, therefore, added to the pyloroplasty and completeness of nerve section was proved by the electrical stimulation test. This patient has remained entirely symptom-free for the last nine years.

Now we know that pyloric channel disease with its prepyloric and pyloric