patients with bony secondaries visible on x-ray were excluded.

Mr. M. Keynes (8 April, p. 109) objects to the statement that the production of gastrin by pancreatic tumours cannot be called "ectopic." It is agreed that the non-argyrophil $\alpha_1$ cells, or $\delta$ cells are identical in appearance with gastrin-producing cells of the fundus of the stomach, but have $\delta$ cells been proved to secrete gastrin under normal circumstances?

I am fully in sympathy with Mr. Keynes's difficulty with nomenclature, particularly with the use of the term "ectopic," but no really appropriate adjective has yet been suggested; "para-endocrine" seems preferable to "ectopic." The term "Cushing's syndrome" is often employed—for example, by Dr. Azzopardi—to describe the consequences of production of corticotrophin by tumours, but its use in this context is inaccurate as it manifestly is not the syndrome described by Harvey Cushing. The presence of "ectopic" production of corticotrophin by tumours is usually suspected initially by the presence of hypokalaemic alkalosis, which is very uncommon in classical Cushing's syndrome.[10] Again, the majority of cancer patients with corticotrophin production, particularly when due to oat-cell carcinoma of the bronchus, rarely live long enough to develop the physical features typical of classical Cushing's syndrome. The hormonal syndromes are best classified in terms of the hormones they secrete, rather than by eponymous diseases they resemble to a greater or lesser extent.—I am, etc.,

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## Cytomegalovirus Oesophagitis

SIR,—Although the protean clinical manifestations of cytomegalovirus in the adult are now well recognized[1] we should like to draw attention to severe ulcerative oesophagitis occurring as a presenting feature.

A 35-year-old fitter was admitted in a cachectic state with a month's history of progressive difficulty and pain on swallowing. A diagnosis of Hodgkin's disease had been established 10 years earlier on cervical lymph node biopsy and subsequently he had received treatment with radiotherapy, steroids, and cytotoxic agents. On examination he was pale, jaundiced, wasted, and febrile. There was no oral moniliasis. He had bilateral pleural effusions and gross leg oedema. The liver and spleen were not palpable.

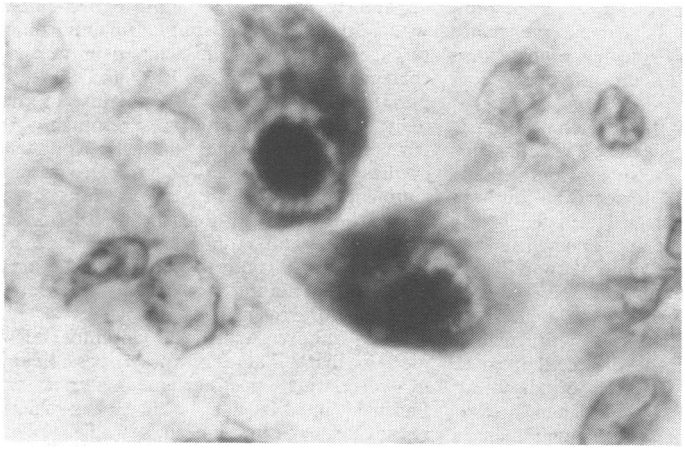

FIG.— Cytomegalic cells in the floor of the oesophageal ulcer (x 1,500).

There were crops of petechiae and subcutaneous nodules over the whole of the trunk. A barium swallow showed gross irregularity of the oesophageal mucosa with three prominent ulcer craters and numerous other tiny ulcerations. The appearances were considered to be highly suspicious of monilial oesophagitis, but there was no improvement with nystatin. His condition continued to deteriorate and he died three weeks later.

The main findings at necropsy included those due to invasive Hodgkin's disease and those attributable to disseminated cytomegalovirus infection. The distal third of the oesophagus and the fundus of the stomach showed confluent elevated white plaques up to 3 cm diameter. Microscopically, the epithelium was denuded and there was a non-specific mononuclear infiltrate in the lamina propria. Large numbers of degenerative cytomegalic cells were present (Fig).

In seriously debilitated patients such as those with advanced malignant disease or those on immunosuppressive therapy opportunistic infection with cytomegalovirus is not uncommon and organs such as lungs, adrenals, spleen, pancreas, and kidneys are frequently involved.[2] Lesions of the gastrointestinal tract, excluding the liver, are rare, and it is often difficult to define the specific role of the cytomegalovirus in their production.

Levine, Warner, and Johnson[3] have described patients with cytomegalic inclusions in ulcers of jejunum, ileum, and colon, and a similar lesion in the anus and rectum has been reported in a woman dying from primary cytomegalovirus infection.[4] Previous comment has been made of oesophagitis in cytomegalovirus infection[2] and it seems likely that the gross ulcerative change in the oesophagus of our patient was due primarily to cytomegalovirus infection. It is possible that other forms of apparently non-specific ulceration of the gastrointestinal tract in debilitated patients might be related to cytomegalovirus infection.—We are, etc.,

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## Tropical Splenomegaly, Sickle-cell Trait, and P. falciparum Infection

SIR,—The diagnosis of tropical splenomegaly (T.S.S.) is not as straightforward as Dr. Marianne Janosi (4 March, p. 628) implies. She points out a number of features, but there are recent series with a number of anomalies by her criteria. For instance, the size of the spleen may be very variable, and macroglobulinaemia has not been a constant finding. In the series of Stuiver *et al.*[1] there are 7 out of 29 cases with spleens palpable less than 10 cm below the left costal margin including some with only 2 or 3 cm splenomegaly. Although Lowenthal *et al.*[2] found only two cases of 19 in Zambia with normal IgM, a normal IgM was reported in four of eight cases from Uganda by Ziegler *et al.*[3]

Our patient was small. He weighed 45 lb (20·5 kg) and was 46 in (117 cm) tall. Consequently, his spleen, palpable 7·5 cm below the left costal margin, was proportionally large for his age. We excluded HbS-$\beta$ thalassaemia, as HbA was the major component, and HbA2 and HbF in the propositus and his two siblings were normal.

Dr. Janosi draws attention to some of the difficulties in diagnosing T.S.S. It is usually stated that T.S.S. is a diagnosis by exclusion.[4,5] Sagoe[5] suggested more rigid criteria for diagnosis. If Dr. Janosi and her colleagues also recognize a series of positive diagnostic features, may be invite her to report them.—We are, etc.,

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## Duodenal Ulcer and Gastric Cancer

SIR,—Eight male cases of gastric cancer in men have been found in this average size practice since 1961. Four of these had a long-standing history of duodenal ulceration. All smoked heavily and developed chronic bronchitis and emphysema. Three were seamen. In none of them was gastric cancer

suspected until a few months before death when increased pain necessitated surgery.

All these patients had severe anaemia (Hb 55-60%) at diagnosis. All had a long-standing history of duodenal ulcer and were then found to have gastric cancer. It seems, therefore, that such cases need very careful examination if they come to operation for a duodenal ulcer. Tragically, all were late diagnoses chiefly because dyspeptic symptoms were wrongly interpreted in the 16-12 months before laparotomy.

It is said that duodenal ulcer and gastric cancer only rarely coexist,[1] and a report from the Birmingham Regional Cancer Registry and the United Birmingham Hospitals stated that no association was found between cancer and peptic ulcer.[2]—I am, etc.,

M. MACLEOD

Wallasey, Ches

1 *World Medicine: Review of the Year*. 20 February 1968.
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### Multiple Crashes on Motor Ways

SIR,—I would certainly endorse the remarks made by Dr. J. A. Frais (1 April, p. 49) regarding blood sugar levels in road traffic accident victims.

On several occasions, particularly in the last twelve months, we have had brought in to this department lorry drivers who, for no apparent reason, have crashed across the central reservation of the nearby motorway. Many of them have started driving in the early morning with a minimal breakfast, if any at all. We have made a point of carrying out blood sugar estimations and found them to be extremely low in many cases, to the extent that now we are instituting a system of checking blood sugar levels on every driver who has been involved in a road traffic accident.

I am in the process of doing a survey of 6,000 road traffic victims and one of the questions in the fairly lengthy survey is designed to establish the relationship between the time of the accident and their last meal.—I am, etc.,

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### Monitoring Heparin Infusions

SIR,—One is grateful to Dr. Judith M. Chessells and others for their work showing 5% dextrose to be a suitable vehicle for heparin infusions (8 April, p. 81). The situation was difficult, with dextrose allegedly unsuitable and the infusion of a litre of normal saline a day often contraindicated.

However, in their final paragraph they imply that all heparin infusions should be monitored by partial thromboplastin times with kaolin. On the one hand this would mean a great deal of extra work for haematology departments. On the other hand even on their own evidence laboratory control hardly seems necessary. The dose required varied only between 28,000 and 40,000 units per 24 hours; and there was no evidence of increasing sensitivity to heparin, so presumably the dose remained constant in each patient. Hence the practice of giving a set regimen of 30,000-40,000 units per day seems quite reasonable, and the theoretical risk of haemorrhage seems not to materialize. In any case under the circumstances any bleeding ought to be instantly detected and effective treatment instituted at once. Compare this situation with that of outpatient oral anticoagulant therapy.—I am, etc.,

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### Need for Continued Oral Therapy in Diabetes

SIR,—Drs. A. M. Tomkins and Arnold Bloom say (11 March, p. 649): "there is now an onus on clinicians not to use this form of therapy (tolbutamide or phenformin) unless it can be shown that simple dietary restriction alone is unsuccessful in preventing hyperglycaemia." The great practical problem is to determine the right course of action when dietary restriction is ignored, not when it is "unsuccessful."

I see numerous obese maturity-onset diabetics who, in spite of all that I and the dietician say, refuse to restrict their diet indefinitely. If they are given sulphonylurea drugs or insulin they become more and more obese. Which is the less harmful situation—more obesity without hyperglycaemia or less obesity with hyperglycaemia? This question is hardly ever posed—much less answered—in writings about diabetes.—I am, etc.,

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### Bullous Lesions in Poisoning

SIR,—There has been much discussion on the aetiology of the bullae seen in barbiturate poisoning and other states of unconsciousness.[1-4] While it is generally agreed that coma, pressure, and anoxia play important roles, there is no unanimity about the possible local effects of drugs on the skin. The following case provides further evidence of the prime importance of anoxia and pressure.

A 48-year-old woman, previously well, was admitted to hospital 24 hours after taking about 20 Tuinal capsules (quinalbarbitone sodium and amylobarbitone sodium, 100 mg of each per capsule). She had been found at home semiconscious, lying on her right arm. On examination she was drowsy and complaining of pain in her right hand and forearm which were cold and oedematous. There were large tense bullae over the medial side of her forearm including a linear arrangement of small blisters where, it was thought, her night-clothes had rucked up. There was global weakness and anaesthesia of the hand, the latter to about 10 cm above the wrist. The radial pulse was initially impalpable but readily felt when the oedema subsided. Her blood pressure was 130/85 mm Hg. Her urine was dark and gave a positive chemical test for blood.

Investigations showed considerably elevated levels of serum glutamic oxaloacetic transaminase, lactic dehydrogenase, and creatine phosphokinase. Electromyography revealed evidence of widespread denervation of the small muscles of the hand. Further specimens of urine were normal on microscopy and chemical testing.

A diagnosis of brachial arterial and venous occlusion with ischaemic muscle necrosis, nerve damage, and myoglobinuria was made. With initial elevation and continuing intensive physiotherapy, Volkmann's ischaemic contracture has not developed four months later although there is considerable forearm muscle wasting. The area of anaesthesia is much less. The bullae healed rapidly without scarring.

The occurrence of ischaemic damage to muscle and nerves in barbiturate poisoning has been known for many years and undoubtedly occurs more frequently than reports suggest.[5] The association here with bullae strongly suggests that anoxia and local pressure are important causative factors for these skin lesions. Local pressure is probably important, since skin blood flow is fairly well maintained in anaesthesia induced by long-acting barbiturates, as was demonstrated in a recent experimental study, albeit on monkeys.[6] The marked progressive reduction in skeletal muscle blood flow found in this investigation may indicate a predisposition to muscle ischaemia and necrosis in barbiturate poisoning.—We are, etc.,

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### Chinese Burn

SIR,—A girl of 14 presented with an area of cellulitis 4 in (10 cm) by 2 in (5 cm) on the extensor surface of the lower third of her left forearm. I could find no break in the skin, nor was there any local sepsis elsewhere on the hand or arm. I administered an injection of Triplopen (benethanine, procaine, and benzyl penicillin combined) and asked her to return in 48 hours.

On her return the cellulitis was slightly more extensive and I therefore changed to a course of erythromycin. On further review three days later, the cellulitis had largely resolved and there was now palpable, something that felt like a thick knitting needle about 4 in (10 cm) long in the subcutaneous tissues. Neither the patient nor her mother were able to recall any incident suggestive of penetration by a foreign body.

Four days later I undertook an exploration of the forearm under local anaesthetic and was surprised to find that the presumed foreign body in fact consisted of a linear streak of fat necrosis. This was confirmed by histology. The explanation lay in the fact that a few days before the onset of symptoms, the girl's brother had subjected her to a so-called "Chinese torture," consisting of gripping the wrist with both hands and twisting in opposite directions to produce a shearing stress which resulted in an acute fat necrosis.—I am, etc.,

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### Cardiac Arrythmias during Laparoscopy

SIR,—I read with interest the article by Drs. D. B. Scott and D. G. Julian on the occurrence of cardiac arrythmias during laparo-