isolated symptom? The general practitioner rightly inquires for other symptoms of organic disease, but we need also to ask whether there is any disturbance of sleep, mood, concentration, irritability, or energy. Does she suffer from headaches, palpitations, bad dreams? Is there any change in her progress at school? These are symptoms which distinguish an emotional problem from appendicitis. The GP rightly attempts to relate the pain to the phase of the menstrual cycle, but what about other situations—school, home, going out with boyfriend, arguments? A comprehensive history will show which areas are sensitive and may demonstrate a relationship in time between the pain and significant events. The patient must be seen alone and the parents interviewed separately. The doctor will then be in a position to explain to the patient and her parents that she is not suffering from appendicitis but from a common and well-recognised disorder which is the result of emotional disturbance for which he is able to offer or arrange help and that further investigations are unnecessary. A common result of this approach is that the pain may never again be mentioned, which clinches the diagnosis.

There are three important objections to performing unnecessary investigations here. They reinforce the patient's (and her relatives') belief that she is suffering from an organic disorder; they make psychological intervention less acceptable, and the cost to the NHS must be astronomical if all teenage girls with this type of pain are referred for extensive investigations and even appendectomy.¹ The chagrin of missing organic disease is mentioned, but the results of missing a psychological disorder are less often considered, particularly the cost of continued suffering and unemployment.

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¹ Lee, Z A H, *Lancet*, 1961, **1**, 815.

Clinics in General Practice

SIR,—I wish to record my disappointment in the series of articles entitled "Clinics in General Practice" which is currently appearing in your journal. My disappointment is due to the degeneration of what is basically an excellent idea into a meaningless charade.

I realise that these articles constitute a considerable advance over notes on the serum rhabarb:faecal treacle ratio in cases of Lithuanian jungle sores, but there is much room for improvement all the same. It is only natural that trainee GPs should exhibit the ingenuous enthusiasm of a Bertie Wooster, but why must the supposedly more mature GP behave like a superannuated amateur psychologist or, worse still, display all the artless sophistry of a third-rate social worker? The consultants are portrayed as rather practical, simple fellows who believe, as I do, that physical illness must be excluded before patients are patronisingly diagnosed in pseudo-psychiatric terms.

Could we have a little more along the lines of intelligent diagnosis, outpatient investigations, and sensible, timely referral to a consultant for answers to specific problems? I am sure that most readers would welcome a realignment of your approach because until

then these articles will have all the relevance of the minutes of the Flat Earth Society.

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Road Traffic (Seat Belts) (No 2) Bill

SIR,—The Road Traffic (Seat Belts) Bill was rejected on its second reading in the House of Lords on 26 April. On 2 May the Road Traffic (Seat Belts) (No 2) Bill "to require the wearing of seat belts in motor vehicles on motorways" was read for the first time, also in the House of Lords.

Without attempting to recapitulate the familiar arguments in favour of the wearing of seat belts on all classes of roads, the Society of British Neurological Surgeons wishes to place on record its conviction and advice that the passage of legislation requiring the wearing of seat belts would result in very considerable reductions in human suffering, deaths, and hospital expenditure. As the acknowledged authorities on the management of head injuries we consider that such legislation would be a piece of preventive medicine of even greater value than the compulsion upon riders of motor bicycles to wear crash helmets, a step that itself owed its origin largely to the advice of neurological surgeons. In no country where the wearing of seat belts has been made compulsory has there later been any reason to doubt the wisdom of the measure. The United Kingdom, Eire, and Italy are the only member countries of the EEC where seat-belt wearing is not compulsory. This society is assuring the Minister for Transport and the Secretary of State for Scotland of its wholehearted support for seat-belt legislation as it is convinced by careful monitoring of the problem that simple persuasion has been ineffective.

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Chasing the cause of Crohn's disease

SIR,—The genuine endeavour implied in your leading article with this title (9 April, p 929) is not in doubt, but you will not succeed in your objective by totally ignoring a determinant which has been substantiated at about 90% unanimity by investigators who over 30 years have explored the matter with sufficient expertise, at sufficient depth, and over a sufficient period of time. I refer to the consistent finding of a constellation of psychological attitudes in the sufferer and to a definitive form of emotional stress immediately antecedent to the onset of the disease and usually continuing in varying degrees throughout its course, with intensification of the stress punctuating relapses of the disease.

If research workers in the psychosomatic field were to ignore contemporary somatic research you would probably castigate them, and rightly. Yet this is what you have done in your article in reverse. I do not wish to imply that you are by any means the only sinner in this respect; indeed, your learned contemporaries have taken the same hemianopic view for years. When I have found

sufficient energy to do so I have complained about it, the last time being in 1958.¹

The psychosomatic findings in Crohn's disease may be inconvenient but will not go away by pretending that they do not exist or are invalid. Indeed, when recent systematic studies²⁻⁴ are added to earlier reports, which with the exception of those by Stewart⁵ and Grace⁶ were mainly of an observational character, then the validity of the case compares favourably with some recent enthusiasms in the purely somatic field. I have no doubt that those of us who have pursued the psychosomatic aspect of Crohn's disease over many years⁷⁻¹⁰ would be prepared to lay any odds that a hypothesis for the pathogenesis of Crohn's disease which did not incorporate in the causative chain of events the psychosomatic determinant would fail.

It is certainly right for the search to continue for an antigen, which, as you suggest, is as likely to be dietetic or chemical as viral, bacterial, or from autogenous damaged tissue, yet it is odd that research workers postulating exposure to antigens as universal in Western society as sugars, dyes, or flavours or as widespread as the opportunity for cross-infection from patients by bacteria or viruses do not then pause to ask themselves why Crohn's disease is so relatively uncommon, and do not conclude that, even if an antigen is involved, the major determinant must be elsewhere—for example, in a disordered immunological response genetically or psychosomatically determined or both.

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¹ Paulley, J W, *Lancet*, 1958, **2**, 959.

² Ford, C V, Guber, G A, and Castelnuevo Tedesco, P, *Journal of the American Medical Association*, 1969, **208**, 311.

³ McKegney, F P, et al, *Psychosomatic Medicine*, 1970, **32**, 53.

⁴ McMahon, A W, et al, *Psychosomatic Medicine*, 1973, **35**, 91.

⁵ Stewart, W A, *New York Journal of Medicine*, 1949, **49**, 2820.

⁶ Grace, W J, *Gastroenterology*, 1953, **23**, 542.

⁷ Gainsborough, H, *Current Medicine and Drugs*, 1961, **2**, 1.

⁸ Reinhart, J B, and Succop, R A, *Journal of the American Academy of Child Psychiatry*, 1968, **71**, 252.

⁹ Paulley, J W, *Psychotherapy and Psychosomatics*, 1971, **19**, 111.

¹⁰ Paulley, J W, *Practitioner*, 1974, **213**, 59.

Swimming goggles and eye injuries

SIR,—The Royal Life Saving Society (RLSS) was interested and alarmed to read the short report by Dr F Jónasson (2 April, p 881) in which he describes permanent eye damage occurring in two of three teenage swimmers when goggles were being cleared of steam, slipped from their fingers, and struck the globe of the right eye.

The RLSS is extremely concerned at the widespread and increasing use of swimming goggles, particularly by young people. The society has already banned the use of swimming goggles during the conduct of their practical examinations taken in the water and in initiative tests in competitions. This decision had been taken on the grounds that swimming goggles were not an item of first-aid equipment likely to be freely available to lifesavers at a drowning accident as well as because of our concern at possible injuries to the wearer. The RLSS had been aware of a number of injuries similar to those reported, affecting the globe and bony orbit but happily less severe than in Dr Jónasson's patients and in no case associated

with permanent injury. These injuries had usually been caused by collision with other swimmers or the side or bottom of the pool rather than by the catapult effect described.

The cases described by Dr Jónasson emphasise the seriousness of injuries which may be associated with the use of this popular type of goggle which incorporates a strong elastic band. In the light of these reports the society is continuing to discourage their use during teaching sessions and proposes to seek the opinion of other organisations responsible for other aquatic activities.

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Immunisation and brain damage

SIR,—In view of the statement of Dr G Schoenewald (30 April, p 1159) that "we have no large-scale experience with either pertussis only or with diphtheria-tetanus only vaccinations" so far as vaccinal brain damage is concerned I should like to recall our data from Hamburg for the period 1961-70. Among 146 480 children immunised with diphtheria and tetanus toxoids we found only two cases of convulsions (1 per 73 445 vaccinees), while among 41 250 children vaccinated with diphtheria-pertussis-tetanus vaccine there were 19 cases of fits (1 per 2200 vaccinees).¹ The difference in the frequency of convulsions after the two types of immunisation is statistically significant (χ^2 test: $P < 0.001$). There is no doubt that figures for permanent damage due to pertussis immunisation vary from country to country: Hansen found one such event among 25 000 vaccinees in Düsseldorf² and we ourselves one among 20 600 vaccinees.¹

It is well known that neural complications following tetanus toxoid administration are extremely rare, and in a review of the literature, including our own cases, we collected only a few cases of neural complications following diphtheria toxoid immunisation.³

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¹ Ehrengut, W, *Deutsche medizinische Wochenschrift*, 1974, **99**, 2273.

² Hansen, F, in *Kolloquium über Impffragen*, Deutsche Gesellschaft für Sozialpädiatrie, Berlin, 1970, p 75. Marburg, Deutsches Grünes Kreuz, 1971.

³ Ehrengut, W, *Monatsschrift für Kinderheilkunde*, 1964, **112**, 331.

Hormonal pregnancy tests and congenital malformations

SIR,—I have read with interest Dr D T Janerich's article (23 April, p 1058) confirming the teratological effect of hormonal pregnancy tests and other exogenous sex hormone preparations in relation to congenital heart diseases.

The discovery of the teratological effect of hormonal pregnancy tests emerged from my studies into central nervous system malformations in 1967.¹ In this and in further publications on this topic²⁻⁵ the teratogenic potential of hormonal pregnancy tests has always been

referred to "congenital malformations," without specifying the type but mentioning that the observation was made on spina bifida cases as my study then included only this particular malformation. The analogous effect between hormonal pregnancy tests and the use of other exogenous sex hormone preparations in early pregnancy has been emphasised in all the above communications.

I am pleased that subsequent studies have confirmed my observation in different types of birth defects.⁶⁻¹⁰ The large variety of malformations reported by the above workers seems to be a clear indication that the teratogenic effect of hormonal pregnancy tests and other exogenous sex hormones is not specific but rather depends on the stage of fetal development when the insult occurs—probably a similar mode of action to that of many other powerful teratogens.

Therefore it would be more prudent to adhere to the above conventional teratological principle instead of using acronyms such as the VACTREL syndrome (after Nora and Nora¹¹) which might lead to confusion.

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¹ Gal, I, Kirman, B, and Stern, I, *Nature*, 1967, **218**, 83.

² Gal, I, *Nature*, 1972, **240**, 242.

³ Gal, I, et al, *Advances in Teratology*, 1972, **5**, 144.

⁴ Gal, I, *British Medical Journal*, 1975, **2**, 749.

⁵ Gal, I, Parkinson, C, and Craft, I, *British Medical Journal*, 1971, **2**, 436.

⁶ Janerich, D T, Piper, J M, and Glebatis, D M, *New England Journal of Medicine*, 1974, **291**, 697.

⁷ Levy, E P, Cohen, A, and Fraser, F C, *Lancet*, 1973, **1**, 611.

⁸ Nora, J J, and Nora, A H, *Lancet*, 1973, **1**, 941.

⁹ Harlap, S, Prywes, R, and Davies, A M, *Lancet*, 1975, **2**, 191.

¹⁰ Greenberg, G, et al, *British Medical Journal*, 1975, **2**, 191.

Quality control for drug monitoring

SIR,—Your leading article on quality control of laboratories (7 May, p 1180) highlighted the necessity for external quality control in analytical work in pathology laboratories and mentioned the national schemes for clinical chemistry, haematology, and microbiology. The lack of schemes for histopathology and immunology was pointed out, but no mention was made of an analytical field which is becoming increasingly important—namely, that of drug monitoring. There is now increasing evidence that the measurement of serum levels is invaluable in the rational use of various drugs, including the antiepileptic drugs, lithium, digoxin, antidiarrhoeals, theophylline, antibiotics, and tricyclic antidepressants. Many clinical chemistry and clinical pharmacology departments now offer a service for measuring these compounds, particularly the first three.

In general, the current techniques used for measuring drug levels are less reliable than those used in clinical chemistry, and there is the added problem of interference from other drugs or metabolites. Furthermore, there is no "normal range" of serum levels to alert the analyst to an erroneous result because levels from zero to toxic may be encountered in patients for whom standard doses of drugs are prescribed. As a result the reliability of drug analyses is poor, as has been clearly shown for antiepileptic drugs.¹ External quality control is therefore essential if the clinician is not to be misled by inaccurate results.

In 1972 I started the St Bartholomew's

Hospital quality control scheme for anti-epileptic drugs, and this has gradually expanded to include 162 laboratories in the UK, most Western European countries, and several countries outside Europe. Although it so far lacks the support of the Department of Health and Social Security, negotiations are proceeding with the Bureau de Référence, Commission des Communautés Européennes, to develop primary reference standards which can be adopted in analytical work. At a recent meeting at the University of Surrey 150 of the participants came together to discuss ways in which the scheme could be improved, and valuable guidance was given by Professor T P Whitehead, who was responsible for initiating the Birmingham scheme for clinical chemistry. In North America a similar scheme for antiepileptic drugs has been set up by Dr Charles Pippenger at Columbia University, New York.

In the future it is intended to expand the St Bartholomew's Hospital scheme to include other drugs which are being increasingly measured. Anyone interested in taking part in the scheme is invited to contact the undersigned.

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¹ Pippenger, C E, et al, *Archives of Neurology*, 1976, **33**, 351.

Lithium as a drug of abuse

SIR,—As a psychiatrist practising in various areas and subspecialties within psychiatry over the past few years it has been brought to my attention by my patients that the spectrum of drugs involved in "drug abuse," particularly by adolescents and young adults, has extended in such a way as to include drugs which doctors would generally not consider to be of much interest to drug abusers. There seems to be an increasing abuse of benzhexol (which, I am given to understand, when taken in fairly large amounts provides a short-lived experience of euphoria) while in addition to the well-known abuse of sedatives and hypnotics, particularly methaqualone/diphenhydramine (Mandrax) and barbiturates, abuse of chlorpromazine, thioridazine, and similar drugs is not at all uncommon.

Of more serious import, however, is the fairly recent (over the past two years or so) abuse of lithium preparations, both as the normal lithium carbonate tablet and also as the slow-release preparations. I have not yet been able to establish why these drugs are being used—indeed abused—by poly-drug abusers. However, in view of the fact that lithium preparations are indeed being abused in this way it is well worth alerting casualty officers and the like to the very serious consequences of the ingestion of large amounts of lithium in any form whatsoever and reminding all doctors that in a case of lithium intoxication a sodium-depleting diuretic is contraindicated—indeed, the administration of such a diuretic will make the situation considerably worse. The treatment of choice so far as I understand it at the present time is to induce an osmotic diuresis by an intravenous infusion of one-sixth molar lactate solution, though when the serum lithium level is in excess of 2.5 mmol/l peritoneal dialysis or haemodialysis may be indicated (depending on the severity of the symptoms).