statement that "zealous adherents of an extreme faddist diet are often critical of orthodox medicine and may be mentally ill" is unlikely to encourage people who follow unorthodox diets to seek help from the medical profession. Most vegans and vegetarians follow their diets because of a sincere belief in the vegetarian ethic, the abhorrence of animal suffering.³ They deserve to be treated with the same respect accorded to Jews, Muslims, and Hindus, whose religions prohibit the use of certain foods. There is clearly a case for greater tolerance.

Furthermore, the medical profession may need to be better equipped with modern nutritional knowledge. It was apparent that the nutritional knowledge of the authors was antiquated; for example, it was established some time ago that it is possible to construct a food entirely from plant ingredients that meets the protein requirement of the human infant.⁶ The inclusion of more nutrition in basic medical training would be a step in the right direction. However, as information about vegan and vegetarian diets is poorly covered in standard textbooks on human nutrition, both the vegan and the vegetarian societies have prepared booklets with the help of nutritionists who, like myself, are not vegans or vegetarians. In conclusion therefore vegans and vegetarians should be treated with sympathy and not dismissed as cranks.

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¹ Ellis, F R, and Mumford, P, *Proceedings of Nutrition Society*, 1967, 26, 205.

² Sanders, T A B, *Plant Foods for Man*, 1978, 2, 181.

³ Sanders, T A B, and Hughes, J, unpublished observations.

⁴ Mumford, P, and Ellis, F R, unpublished observations.

⁵ McKenzie, J, *Plant Foods in Human Nutrition*, 1971, 2, 79.

⁶ Miller, D S, *Recent Advances in Food Science*, vol 3, ed J M Laitch and D N Rhodes, p 125. London, Butterworth, 1963.

Polyunsaturated fatty acids in multiple sclerosis

SIR,—We have read with interest the letters from Professor E J Field and from Drs A G Hassam and M A Crawford (10 February, p 411) referring to our paper on polyunsaturated fatty acids in the treatment of acute remitting multiple sclerosis (18 November, p 1390). They raise a number of important points but each contains criticisms which we should attempt to answer.

Firstly, the letter from Professor Field, an avowed propagandist for the use of Naudicelle in multiple sclerosis (MS) and an advocate of its administration to children whose predisposition to the disease he believes he can detect with the aid of a blood test.¹ Our trial produced no evidence at all in favour of Naudicelle but Field's allusion to the paper as a report on "the inefficacy of polyunsaturated fatty acid (PUFA) treatment of acute remitting multiple sclerosis" is less than fair and totally disregards our conclusion that "exacerbations were shorter and less severe in patients receiving a high dose of linoleic acid than in controls." This finding was previously reported by Millar *et al*² and hailed by Field as "marking the first occasion in the 100 years the disease has been known that any properly tested treatment has been found to be of benefit."³ Field believes that we have misunderstood the theoretical basis on which PUFA might be expected to exert an effect in

MS and we would not deny that owing to editorial stringency our discussion of this topic was somewhat truncated. Field's enlargement on the subject is therefore welcome but the strength of his argument is diminished by the inaccuracies in the data he quotes from previous papers, including two of which he was a coauthor. Thus his recollection of the details of treatment and outcome in the trial of Naudicelle in MS reported by Meyer-Reinecker *et al*⁴ is seriously defective and he misrepresents the results of the trial of McHugh *et al*,⁵ in which Naudicelle was given to patients after renal transplantation with the aim of prolonging graft survival. It must be remembered also that much of the evidence adduced in support of his arguments hinges on his own electrophoretic mobility tests, which never seem to have caught on in other laboratories in Britain.

Dr Hassam and Dr Crawford conceded the confirmation of the Belfast-London linoleic acid trial result² but are critical of some aspects of the part of our trial involving Naudicelle. They echo the comments of Dr D F Horrobin and his colleagues (20 January, p 199) on the inhibitory effect on prostaglandin synthesis of tartrazine, which was incorporated in the capsules as a colouring agent, but they incorrectly trace the authorship of this discovery to a paper by Vane.⁶ All Vane said in this paper was, "It is interesting that the food additive tartrazine also causes reactions in the same group of patients who are sensitive to aspirin. Should tartrazine be found to be a prostaglandin synthetase inhibitor, it would add force to the proposition that the hypersensitivity is caused through this mechanism." We confess that we were unaware of this suggestion and of its subsequent confirmation⁷ but console ourselves with the thought that both papers were published long after the start of the trial.

Hassam and Crawford also criticise the lack of dietary control in our trial and the low Naudicelle dosage (8 capsules daily) that we employed. They quote their own recent studies,^{8,9} which suggest that such a dose would be unlikely to alter the serum fatty acid composition or to exert clinical effect. But here they must be aware of a contradiction. A report entitled "A statistical evaluation of Naudicelle as a dietary essential fatty acid supplement in multiple sclerosis patients" prepared "for and on behalf of" Bio-Oil Research Limited describes a study of 480 patients treated with Naudicelle. The authorship is not declared, but in the acknowledgment gratitude is expressed to Drs Hassam and Crawford for their assistance in preparing the manuscript. The study, which was designed to assess the response of MS patients to Naudicelle, was uncontrolled. The replies to a questionnaire completed by patients were submitted to expert statistical examination and it was found that 65% of those taking part showed "some form of improvement." The group reporting an improved condition contained a significantly higher proportion of sufferers diagnosed within the previous four years. There was also a significant tendency for a greater proportion of the "improved" than of the "non-improved" to be taking Naudicelle with the knowledge of their general practitioners, although the biological basis for this difference is not discussed. Adherence to a diet was also more frequent in the improved group. It may be that the last factor was the crucial one, but the interesting thing is that 90% of the patients were taking a lower dose

of Naudicelle (six capsules daily) than were the patients in our own trial—and presumably the capsules also contained tartrazine.

If Drs Hassam and Crawford attach weight to this report with which their names are associated we would be interested to have their views on the discrepancy between the results of the two studies. To be fair to its authors, they do state that "although no firm conclusions can be drawn from this report, the results obtained from this survey are nevertheless interesting." Our inclination is to agree with the first proposition and to leave the second to the judgment of others.

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¹ Field, E J, *ARMS Link*, June 1977.

² Millar, J H D, *et al*, *British Medical Journal*, 1973, 1, 765.

³ Field, E J, in *Multiple Sclerosis: A Critical Conspectus*, ed E J Field, p 246. Lancaster, Medical and Technical Publishing, 1977.

⁴ Meyer-Reinecker, H J, *et al*, *Lancet*, 1976, 2, 966.

⁵ McHugh, M I, *et al*, *Transplantation*, 1977, 24, 263.

⁶ Vane, J R, *Journal of Allergy and Clinical Immunology*, 1976, 58, 691.

⁷ Cesarani, R, *et al*, *Prostaglandins and Medicine*, 1978, 1, 499.

⁸ Hassam, A G, *et al*, *Journal of Nutrition*, 1977, 107, 519.

⁹ Hassam, A G, and Crawford, M A, *Journal of Neurochemistry*, 1976, 27, 967.

Drug administration and food

SIR,—I would like to comment on one point in your recent leading article on this subject (3 February, p 289). The impression was given that all tetracyclines are less reliably absorbed with food than on an empty stomach. There is, however, one exception. Furthermore, the data sheet does give adequate information.¹ Doxycycline is absorbed equally well when administered with a glass of milk as it is when taken on an empty stomach.² It frequently causes nausea when taken on an empty stomach. The data sheet therefore recommends that it be administered with either food or milk. Since this is contrary to the recommendation for other tetracyclines, it is important that it be stressed.

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¹ *ABPI Data Sheet Compendium*, p 745. Pharmind Publications Ltd, 1978.

² MacArthur, C G C, *et al*, *Journal of Antimicrobial Chemotherapy*, 1978, 4, 509.

Storage and cooking of poultry

SIR,—Drs A E Wright and A Withnell ask (24 February, p 551) for evidence to support the advice given by the British Turkey Federation and circulated by the DHSS in HN(77)190. This advice was based on a thorough investigation into the temperatures reached in turkey meat during cooking performed at the Birmingham College of Food and Domestic Arts.¹ This work showed that if the advice was followed, the internal temperature reached was sufficient to kill salmonellae, though it was not always adequate to cook the turkey meat thoroughly. The advice was intended to indicate a minimum cooking process for safety.

This cooking temperature could not be relied on to destroy the spores of *Clostridium perfringens*. Prevention of food poisoning by *C. perfringens* must be by rapid cooling of the bird after cooking to a temperature at which this organism will not grow. It is also, of course, necessary to prevent recontamination of the cooked bird with salmonellae derived from raw meat or poultry, as explained in the letter from Dr Diane Roberts, and others (16 December, p 1708).

The Birmingham work was a deliberate study of internal temperatures achieved by turkeys during cooking. Previous advice has been based largely on guesswork and therefore has always had to err on the side of safety.

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¹ Fereday, P B, and Bates, M P, *Environmental Health*, 1978, 86, 77.

Action on alcohol

SIR,—Professor R E Kendell's fascinating survey (10 February, p 367) frequently shows one side of the coin only. For example, most therapists openly admit their debt to and co-operation with "laymen,"—that is, Alcoholics Anonymous.¹ There may indeed be "little evidence to substantiate" AA's effectiveness (from research as distinct from clinical impressions); but "the consistent refusal of AA branches to keep any records" is aimed, of course, at protecting members' anonymity; many patients attend only after having been assured by their doctor of this anonymity.

Most clinicians interested in the problem do not believe in a "crucial difference" in psychological make-up or metabolism between alcoholics and others; they accept that there is no such person as "the alcoholic," and that probably everyone, including the so-called "normal" person, could become an alcoholic.^{1 2} How much and for how long a person drinks may indeed determine whether he becomes physically dependent; but then very often the reasons for his so doing may be due to personality features as well as to social and cultural circumstances.^{1 2} It is true that "our efforts to combat alcoholism are going badly"; but, as yet, society as a whole (not excluding doctors and politicians) has made few such efforts.

Professor Kendell repeats the frequently heard allegation of "judicious choice" of the motivated and stable patient by "most treatment programmes," which is certainly not true of most of the programmes I have known; but he himself "proves" his argument by selecting his evidence without giving us the other side—for example, the conclusion that "outpatient treatment [is] just as effective as inpatient . . ." was based on a relatively small trial (20 inpatients and 20 outpatients)³ and is by no means generally accepted⁴; every clinician surely sees many people who cannot possibly be treated as outpatients.

Professor Kendell's "judicious choice" is even clearer in "the most damning evidence of all": the sample of married men still living with their wives, voluntarily attending a clinic, and spending three hours in assessment⁵ anyway have a better prognosis than any other possible sample of drinkers, such as single or divorced women (or men), not

motivated or prepared to present themselves for even the briefest assessment.^{6 7}

Professor Kendell attacks the "disease concept"⁸ for various reasons, but far from denying the drinker's all-important responsibility this concept forces him, on the contrary, to co-operate closely with treatment; it does not imply that alcoholism is the exclusive responsibility of doctors, or the need to correct the fault. The multifactorial disease concept of alcoholism⁹ accepts the importance of emotional and social as well as physical factors, the disorder requiring a multidisciplinary approach (including education, research, treatment, and rehabilitation) by a team of professional and voluntary agencies and certainly not by the doctor alone.^{1 3} It is, in fact, the protagonists of the disease concept, such as Dr Norman Kerr (who in 1884 founded the Society for the Study of Addiction) and Jellinek,⁸ who pioneered efforts of professional and public education in the field.

Everyone interested in alcoholism acknowledges the vital contribution of the law; but, like doctors, politicians alone will not solve the problem either (as reflected, for example, in the highly restrictive 1736 Act in England or in prohibition elsewhere). If a "major government-financed campaign . . ." were to be mounted, "... a decade or more will be needed to achieve . . ." its aims; whose responsibilities are the casualties arising meanwhile and in the future? The statement that "the medical and caring professions are incapable of dealing effectively with the harm and suffering caused by alcoholism . . ." is highly misleading. Much can, and is, in fact, being done.

Professor Kendell believes that alcoholism is a political problem. Many may feel, however, that, as so often with alcoholism, the answer is not one of "either . . . or": "action on alcohol is everyone's business" (10 February, p 361). Politicians will not move without being continually prodded by society, and it is largely up to doctors to show society the way. It is reassuring that Professor Kendell, after a complex detour, confirms this conclusion in his last sentence.

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¹ Glatt, M M, *Alcoholism—A Social Disease*. London, Teach Yourself Books, 1975.

² Glatt, M M, *A Guide to Addiction and its Treatment*. Lancaster, Medical and Technical Publishing, 1974.

³ Edwards, G, and Guthrie, S, *Lancet*, 1967, 1, 555.

⁴ Glatt, M M, *Lancet*, 1967, 1, 791.

⁵ Edwards, G, et al, *Journal of Studies on Alcohol*, 1977, 38, 1004.

⁶ Glatt, M M, *Lancet*, 1977, 2, 817.

⁷ Glatt, M M, in *Alcohol and the Family*, p 24. London, United Kingdom Alliance, 1977.

⁸ Jellinek, E M, *The Disease Concept of Alcoholism*. New Haven, Connecticut, College and University Press, 1960.

⁹ Van Dijk, W K, in *Alcoholism: A Medical Profile*, p 133. London, Medical Council on Alcoholism, 1973.

SIR,—It was refreshing to read Dr D A Roche's letter (24 February, p 547) suggesting that soft drinks as well as alcoholic drink should be offered at professional functions.

Working in an accident and emergency department, I long ago became nauseated by the results of alcoholic drink. Pub brawls, street fights, unprovoked assaults, battered wives, and alcoholic vagrants are all regular alcohol-associated features in any accident and emergency department's case load—quite apart

from the constant flow of injuries caused by alcoholic car drivers. Caring for these patients turned me into a teetotaler years ago and I now always take pleasure in asking for a soft drink at any medical function.

On several occasions I have had to treat members of the medical profession who have been injured as a result of drinking alcohol. I have been pleased to help them but I am frequently bemused by their method of showing their appreciation—sending me bottles of alcoholic drink. It is hard to imagine a more incongruous means of expressing gratitude. In view of the recent rapid rise in the consumption of alcohol in Britain, it is to be hoped that the medical profession as a whole will accept the lead given by the Royal College of Psychiatrists in taking a fresh look at the use of alcohol in our society.

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Manic states in affective disorders of childhood and adolescence

SIR,—Your leading article (27 January, p 214) should not go unchallenged. Anthony and Scott¹ are quoted in regard to characteristic features of manic illness, which, on such criteria, is extremely rare. Apart from this the whole range of childhood and adolescent psychiatric symptomatology is offered along with hyperactivity and depression, leading on to quoting authors² who have treated 190 adolescents and children aged 3-19 with lithium carbonate. Details are given for only one-quarter of these cases, and the usual two-thirds response is claimed. You go on to recommend a trial of lithium carbonate.

In a professional lifetime of child and adolescent psychiatry in clinics and in hospital I have never seen a case of manic-depressive illness in a child, although I accept it may rarely exist. Manic behaviour or hyperactivity and also depression are common, but invariably respond to environmental changes, family work, and psychotherapy.

Lithium carbonate is acknowledged as a highly toxic drug, the use of which is only justified in carefully selected adults. Your encouragement of its use in adolescents and children even as young as 3 years of age, suffering from behaviour disorders and affective disturbances, which are almost always attributable to circumstances, is strongly to be deprecated.

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¹ Anthony, J, and Scott, P, *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 1960, 1, 53.

² Youngerman, J, and Canino, I, *Archives of General Psychiatry*, 1978, 35, 216.

*.*All effective medicines, from aspirin to morphia, are toxic if used inappropriately. Affective disorders in children are overlooked because the importance of the constellations of symptoms is not recognised. They have been described by several workers and in essence resemble adult conditions. The persistence of symptoms of behavioural disturbance with constantly lowered or elated mood at any age interferes with the individual's autonomy and prevents him developing and expressing himself. This is a pathological state, the fixed