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19th March, 1984)

Dr. Henry Blackburn, Laboratory of Physiological Hygiene, University of Minnesota, MINNEAPOLIS. Minn. 55455, U.S.A.

Dear Dr. Blackburn,

Your name is well known to me as I have had an interest in the area of diet and coronary heart disease for some years. I am in fact head of the national institute of nutrition in Australia under this rather obscure title of the CSIRO Division of Human Nutrition within the Institute of Animal and Food Sciences!! Your colleagues John Farquhar and Nathan Maccoby visited this institute in 1979 and 1980. I also met your colleague Dr. G. Tell at the Geneva workshop on paediatric atherosclerosis held in November last year when I gave a paper.

Jack and Mac have taken a particular interest in our intervention study in schools which was the subject of my paper in Geneva and which I thought might also be of some interest to you. Some of this work was reported last year.*

I wondered whether it might be convenient for me to visit your laboratory at the end of June 1984. I am in the USA for a week prior to the 7th International Congress of Endocrinology and would, if convenient, like to spend two days in Minneapolis from the afternoon of Wednesday

I have also taken an interest in the tantalizing questions raised by the decline in coronary heart disease mortality in Australia and the USA. I have been interested in the possibility of the switch from animal to vegetable fat as being an important factor. Following a paper in 1980 with Terry Dwyer, I collected further evidence in a letter published

I have had a recent letter from Gerald Berenson in New Orleans suggesting the possibility of a workshop in paediatric atherosclerosis as part of the forthcoming International Atherosclerosis meeting to be held in Melbourne in October 1985. Discussions with Paul Nestel, the organiser, have resulted in the suggestion that we have a satellite meeting here in Adelaide on Friday October 11th. I have written to Gerry about this and hope very much that you would be able to be with us on that occasion, as I understand you are attending the Melbourne meeting.

There would be the possibility of conveniently visiting Central Australia from here or carrying out some other tourist activity that you might like to undertake. Obviously these matters can be discussed

*T. Dwyer, W.E. Coonan, D.R. Leitch, B.S. Hetzel and R.A. Baghurst (1983). The investigation of the effects of daily physical activity on the health of primary school students in South Australia. International Journal of Epidemiology Commonwealth Scientific and Industrial Research Organization, Australia 12: 308-313.

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il S. Hetjel

My immediate question is whether it will be convenient to visit with you in Minneapolis at the end of June, in which case I will make appropriate modifications to my itinerary to include this visit. If you wished, I would be pleased to give a seminar on our recent work covering whichever aspects you thought would be of most interest.

I look forward very much to the possibility of meeting you. With kind regards.

Sincerely yours,

BASIL S. HETZEL

(Chief of Division)

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From Basil S Hetzel,* Terence Dwyer** and Michael Marmot†

Decline in Coronary Heart Disease in the USA and Australia: Role of Polyunsaturated Fat

Sir—Recent papers in this journal^{1,2} have suggested a role for increased consumption of polyunsaturated fats in the decline in coronary heart disease mortality in the USA and Australia.

Further support has been provided by the results of adipose tissue analyses of fatty acid content, particularly in the increase in linoleic acid which occurred in the USA over the period 1960–1980, but not in the United Kingdom where no substantial fall in CHD mortality had taken place by the late 1970s. It is important to note that in the USA the fall in coronary heart disease mortality was first observed in California, with other evidence indicating an earlier change to polyunsaturated fat in California than in the rest of the USA.

The linoleic acid content of adipose tissue and plasma lipoproteins was lower in a sample of healthy males from a high CHD risk population (Edinburgh) than from a low risk population (Stockholm).

Increase in adipose tissue linoleic acid has been well documented following the use of therapeutic diets containing increased polyunsaturated fats.^{8,9}

Further evidence is now provided from the results of a recent case control study which revealed a lower level of linoleic acid in plasma triglyceride fatty acids and in erythrocyte membranes of 32 men who had recently had a myocardial infarction.¹⁰

Some polyunsaturates (essential fatty acids) may have a protective effect through an anti-thrombotic mechanism¹¹ which would reduce the incidence of coronary thrombosis. This could also delay the development of atherosclerosis.

More extensive study of the linoleic acid content of adipose tissue and other tissues such as platelet membranes is indicated in relation to current and future trends in coronary heart disease mortality.

Nevertheless, presently available epidemiological evidence suggests a significant role for an increased proportion of polyunsaturated fat consumption in the decline of CHD in the USA and Australia, and possibly in other countries.

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