with vegetable consumption ($r=0{\cdot}5$, $P=0{\cdot}0013$). Low consumption of fortified cereals accounted for poor intakes of iron and nicotinic acid, while consumption of 400 ml milk per head per day was largely responsible for satisfactory riboflavine and calcium intakes.

Contrary to expectation, the long-term chronically ill patients who required the most nursing care and help with feeding had the highest nutrient intakes. Patients who were capable and therefore allowed to feed themselves made the poorest choice of food and consumed the least.

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The effect of altitude on thermogenesis in man. By D. S. MILLER and M. J. STOCK, *Department of Nutrition, Queen Elizabeth College, London, W8*

An early report by Giaja (1938) suggests that specific dynamic action (i.e. the thermic effect of feeding) is considerably reduced in rats exposed to low barometric pressures. During a recent expedition to Ethiopia the opportunity arose to investigate the effect of low barometric pressure on the thermic response to meals both in men normally resident at sea-level and in those native to high altitude.

The thermic responses were measured in exercising subjects by an experimental design previously described (Miller, Mumford & Stock, 1967). Energy expenditures on this occasion were measured with the Max Planck respirometer (Müller & Franz, 1952). The difference between the energy cost of a simple task (twelve steps of 9 in./min for 30 min) measured before and after an 800 kcal breakfast (Mueseli and instant milk) was estimated. Young males (age range 15–27 years) from two villages in the Simien region of Ethiopia were used for the tests. One village (Debarec) was at an altitude of *ca.* 10000 ft, whilst the other (Adai Arkai) was below the Simien Escarpment at *ca.* 5000 ft. Ten subjects were studied in Debarec and six in Adai Arkai. In addition, the same measurements were made on the five European male members of the expedition at both villages and in London. Some duplicate determinations were made when time permitted and have been included in the summary of results shown in the table.

Table 1. *Thermic responses (expressed as a percentage of the fasting energy expenditure)*

	Altitude (ft)	Thermic response (%)	*N*	Significance of response (*P*)
All subjects	0	+10·4	8	0·004
	5 000	0	11	NS
	10 000	−4·9	17	0·002
Europeans only	0	+10·4	8	0·004
	5 000	−0·4	5	NS
	10 000	−2·9	7	0·01

NS, not significant.

The thermic response to meals during activity has been shown to be an important mechanism in energy homoeostasis (Miller *et al.* 1967) and the lack of a positive thermic response at altitude suggests that calorie utilization there is more efficient; at 10 000 ft there were even small negative responses. The expected occurrence of obesity was not seen since the observed calorie intakes of the inhabitants (to be reported elsewhere) barely meet their energy requirements.

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