These results suggest that the cholesterol-lowering effect of protein concentrates may be ascribed primarily to the amino-acids, especially methionine. This view is supported by the well-known hypercholesterolæmic effect of methionine, as observed in experiments with mice[3], rates[3,4] and chicks[5–7]. Moreover the basal diet used in our experiments is deficient in amino-acids containing sulphur, as it contains casein as the only source of protein in a suboptimal amount.

Recently, however, Nath and Harper[8] arrived at the conclusion that the cholesterol-lowering properties of wheat gluten are associated with the lipid fraction which may be removed by prolonged extraction with hot butanol. In our experimental design, however, wheat gluten extracted with butanol, showed nearly equal activity in lowering serum cholesterol as untreated wheat gluten, whereas the corresponding amount of butanol extract was less active (experiment 3).

Further experiments are necessary to evaluate the significance of amino-acids and accompanying lipids of protein-rich foods with respect to their cholesterol-lowering properties.

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Glutamic-Pyruvic Transaminase in Rabbit's Long Bones

The finding that a transamination process is operative in metaphyseal cartilage of growing animals[1] led to drawn some relationship between protein metabolism and mineralization[2]. Moreover, the observation that cortisone treatment which is known to inhibit skeletal development[3] probably through a blocking activity on sulphate incorporation in the mucopolysaccharides[4] of the organic matrix, also decreases the activity of glutamic-oxalacetic transaminase in metaphyseal cartilage[5], suggests an active participation of transamination to osteogenesis, or at least in one of the metabolic processes leading to mineralization.

The relatively high level of pyruvate in pre-osseous cartilage[6] prompted us to check the presence in this tissue of an enzyme involved in the utilization of this substrate, namely, glutamic-pyruvic transaminase. This enzyme can be used as an indicator of amino-acid metabolism[7]. In order to connect the activity of this enzyme with mineral deposition, it was determined in three zones of the long bones of young rabbits in which mineralization (1) had not yet begun, (2) was proceeding, and (3) was already completed, namely, epiphyseal cartilage, the zone of the secondary spongiosa and cortical bone respectively.

The bones, which were obtained from 15-day-old rabbits, were quickly excised and chilled in ice. Glutamic-pyruvic transaminase was determined in the three zones mentioned above after careful homogenization of the tissues in a Waring blendor. The reaction was followed for 30 min. at 37° C., following the method of Caldwell[8].

Table 1. Glutamic-Pyruvic Transaminase in Three Zones of Young Rabbit's Bone. (Average Values of Nine Determinations.)

	Metaphyseal cartilage	Secondary spongiosa	Diaphyseal bone
μmole pyruvate utilized/mgm. bone (dry weight) /30 min.	0·110 ± 0·038	0·299 ± 0·040	0·028 ± 0·008

The results show that besides aspartic–α–ketoglutaric[1] glutamic-pyruvic transaminase, is present in ossifiable cartilage. The comparison of the activities in the three zones shows a close relationship between the amount of the transamination and the degree of mineral deposition. The results obtained here do not show whether this fact is in some way related to an essential step in the bone-forming process, or whether it is only the expression of the local proteolysis which takes place during the osteoclastic resorbtion and reconstruction to which the zone of the secondary spongiosa is subjected[9]. However, the finding that testosterone treatment, which has a favourable influence on bone formation[10], increases transamination in metaphyseal cartilage[5] while corticoids, which are known to inhibit skeletal development[11], decrease transamination activity[5], and the results reported here are consistent with an involvement of glutamic-pyruvic transaminase in osteogenesis.

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Formation of Leucrose in Dextran-Producing Cultures of *Streptococcus bovis*

In addition to dextran and fructose a mixture of reducing disaccharides, containing glucose and fructose, is formed when *Leuconostoc mesenteroides* strains are grown in sucrose media[1]. The same disaccharides are produced when cell-free dextransucrase, obtained from a sucrose culture of *L. mesenteroides*, is incubated with sucrose[2]. From this disaccharide mixture Stodola, Sharpe and Koepsell[2] isolated one of the components as a crystalline compound. The pure sugar, named leucrose, was markedly resistant to acid hydrolysis and was shown to have the structure 5-O-α-D-glucopyranosyl-D-fructose[2]. In recent studies on the production of dextran from sucrose by rumen strains of *Streptococcus bovis*[3,4] it was noted that similar acid-resistant reducing disaccharides were formed in good yield when dextran was being produced. The exact nature of the sugars was not determined at the time. An examination of the disaccharide fraction has now been made.

Culture fluid (200 ml., freed from dextran) obtained from a 48 hr. culture of *S. bovis* (strain 1)[4] was fractionated with aqueous ethanol on a charcoal-celite column. The syrupy disaccharide fraction obtained (0·5 gm.) was crystallized by the method of Stodola, Sharpe and Koepsell[2] to yield, finally, 0·15 gm. of twice-recrystallized sugar. The sugar was shown to