on the flanks—the wool of these areas being irregular in length, average diameter, and strength, and often giving rise to a " tailly " appearance.

Average fineness must be considered in close association with length, and with its variation in time and structure. Generally speaking, the coarser fibres are longer, include medulla in their structure, and are apparently less elastic; but if such coarse fibres are grouped together in the fleece they can be removed in sorting. However, it is found quite commonly that coarser fibres are mingled with finer fibres, and this apparently forms a much more serious defect, presenting more difficulties in eradication or amelioration. In some individuals the mixture of long, coarse, and short fine fibres may produce the appearance of two coats of fibres on the animal; in the great majority of animals examined it was possible to find, even on the shoulder areas, neighbouring fibres widely different in diameter throughout their lengths. It would seem that this defect is genetical in nature.

Observations also suggest, as in the case of density, that there may possibly be an optimum condition of average fineness in individuals; if, for instance, owing to general or specific deficiencies in nutritional conditions (*cf.*, the familiar " hunger fine " condition) this fineness is exceeded, then general weakness of fibre results (unsound, tender wool).

In another direction the question of average diameter and structure is important; in New Zealand wools a frequent defect is the existence of " thickened tip "—this condition occurring in adult fleeces and being distinct from the lamb coat tip, and being more noticeable in the longwool breeds. The expression of this condition varies greatly, and would seem to bear a definite relation to the time of shearing and/or the nutritional conditions immediately succeeding shearing, as the part of the fibre affected is that formed during the period just after shearing. The reactions of individuals to those conditions which give rise to thickened portions of the fibres may conceivably vary greatly. Closely connected with such gradual changes in diameter and structure is the question of occurrence and intensity of breaks in the fleece.

(*d*) *Staple Formation and Crimp and the Flow of Yolk.*—Great variation exists in the character of the staple; dense large locks are considered desirable by some breeders, while others prefer smaller locks. Similarly, in the style of crimp, a rolling wave-like crimp may have advantages over a short-phased saw-tooth crimp. In this connection the question of the flow of yolk appears, in that under the same conditions of management and nutrition certain individuals of similar breeding exhibit yolk flowing freely to the distal end of the staple, and in a general way these have soft-handling wool with an absence of " wasty " tip. The whole question of yolk formation and conduction through the fleece is of considerable importance to the breeder. Also, there may be some association between cross-fibres (fibres which do not conform in disposition to the general staple or crimp formations) and the undesirable character of harshness and irregularities in the fibre-diameters.

(*e*) *Harshness.*—This is a general defect of many New Zealand wools. It can be suggested without any exact knowledge of its nature that its origin lies in the genetical constitution of the individual, that its expression may be affected by environmental or nutritional conditions, and that its occurrence is apparently related to other general characters of the fleece already mentioned.

(*f*) *Elasticity and Soundness.*—In respect of these characters it must be stated in general that New Zealand wools appear satisfactory, but evidence is not lacking that certain wools show a marked tendency to be defective in one or other, or both, under the slightest environmental provocation.

(*g*) *Cotting and Matting.*—Though considerable light has been thrown in recent years on the nature of cotted fleeces, it is evident that the predisposing causes are not fully understood. This condition is particularly