bringing the reagent to act on it, the disposition of the granular precipitate may be quite different from that obtained in normal preparations. I have in such preparations found the granules, sometimes in the light bands alone and sometimes along the line of separation between two adjacent light and dim bands. In other cases again the reaction is uniform throughout the whole sarcoplasmic "network," and granules are not shown.

The explanation, which, with some reserve, I advance for these abnormal results is that in the preparations illustrating them there had occurred in the fibres, before they were subjected to the action of the reagent, a redistribution of the potassium compounds, and possibly also of the creatin, and, as a consequence, different structural elements were rendered visible by the reaction. This may also be to a certain extent the true explanation of the conflicting results of observers regarding the finer structure of muscle fibre, for the parts in question are exceedingly minute and thus, even in normal cases, make the interpretation of what is observed very difficult, but the difficulty would be greatly increased if there were a shifting of the soluble constituents of the fibres from one minute point to another, thereby making the results of the treatment with simple staining reagents more or less different from what they are in the case of normal or unaltered tissue.

I have not once succeeded in obtaining a satisfactory demonstration of the distribution of potassium in the cardiac muscle fibre of the frog, but in that of mammals, and specially of the guinea-pig, such a demonstration has been often obtained. The potassium found is confined to, and uniformly distributed throughout, the dim bands, which, through the cobaltous sulphide reaction, appear in as quite a marked contrast to the light bands as in the case of the fibres of the scavenger beetle. There is no evidence of any concentration of the potassium salt in the neighbourhood of Hensen's line, but this may have due to the absence of contracted cardiac fibres from my prepara I have not observed in such cardiac muscle fibre any tendency for the reaction to develop a granular precipitate confined to portions of the dim band, instead of the uniform distribution described.

General remarks.

Although a large number of observations, on a wide range of forms, animal and vegetable, regarding the distribution of potassium, have been made, it is not yet possible to formulate with certainty conclusions as to