

# Biochemistry and Biosynthesis of Mucopolysaccharides

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## INTRODUCTION

At this session the speakers will talk about the ground substances of the connective tissue, or components of the ground substances, which, in the older literature, are very often and very aptly referred to as the amorphous ground substance of the connective tissue. As you know, "amorphous" means *alpha* privative and *morphe*, or something which has no form or shape.

I should mention here my belief that this is not so; that at least the largest number of these polysaccharides, the sulfated ones, do contribute to the shape and form of the connective tissue.

One may ask why progress in this field has been slower than the remarkable progress shown in the evolving picture of the fibrous proteins, specifically, of course, of collagen? One obvious answer could be, perhaps, that the people who work in the collagen field were smarter than the people who worked on the ground substances. The speakers today will obviously convince you that this is not so, but the difficulty lies much deeper. This is an extremely difficult field, in which the nature of the substances is such that they are without easily discernible properties, non-crystalline or ordered structure. Furthermore, in this group of substances one finds a great variation of the molecules—a chemical variation whose extent, probably, we do not yet fully know. Also, in contrast to the field of proteins and probably of the nucleic acids, in each group of these substances and among the same members, whether derived from the same source or from different sources, we find a great spread in the molecular weights, which is something rather unique in these substances, especially the mucopolysaccharides, but which may be typical of macromolecular carbohydrates in general.

There are, of course, other problems in the viscosity of the material and the difficulty of separation which have already been alluded to, and I am sure, before this session is over, we will both have gained some new insights into these substances and, at the same time, have become more confused than we were in the beginning.

KARL MEYER