

# CONTENTS

<i>Preface</i>	<i>page vii</i>
by G. E. FOGG	
I THE PHYSICAL BACKGROUND	
Tables of some Physical and Chemical Properties of Water	3
by P. G. KOHN	
The Structure of Water and its Biological Implications	17
by J. D. BERNAL	
Kinetic Theory and Transport in Ice and Water	33
by G. WYLLIE	
Recent Research into the Properties of Water in Thin Films and in Microcapillaries	55
by B. V. DERJAGUIN	
Water Flow in the Presence of Active Transport	61
by O. KEDEM	
Osmotic Flow	75
by J. DAINY	
II WATER IN THE PLANT	
Water Movement in Soils	89
by E. G. YOUNGS	
Overall Aspects of Water Movement in Plants and Soils	113
by R. O. SLATYER and W. R. GARDNER	
Water Movement across the Root	131
by R. BROUWER	
Water Movement in Stems of Tall Plants	151
by M. H. ZIMMERMANN	
The State and Movement of Water in the Leaf	157
by P. E. WEATHERLEY	

Stomatal Control of Transpirational Water Loss	<i>page</i> 185
<i>by</i> H. MEIDNER	
Evaporation and Environment	205
<i>by</i> J. L. MONTEITH	

### III WATER IN THE ANIMAL

Water Regulation in Mammalian Cells	237
<i>by</i> J. R. ROBINSON	
Cytoplasmic Contraction and the Distribution of Water in the Amoeba	259
<i>by</i> R. D. ALLEN <i>and</i> D. W. FRANCIS	
The Active Transport of Water: Evidence, Models and Mechanisms	273
<i>by</i> J. W. L. BEAMENT	
Water Movement through a Transporting Epithelial Membrane: the Gastric Mucosa	299
<i>by</i> R. P. DURBIN <i>and</i> F. G. MOODY	
Water Movement across the Mammalian Gut	307
<i>by</i> D. H. SMYTH	
The Mechanism of Isotonic Water Absorption and Secretion	329
<i>by</i> J. M. DIAMOND	
The Fluid Exchange of the Central Nervous System	349
<i>by</i> H. DAVSON <i>and</i> M. BRADBURY	
The Uptake and Movement of Water in Embryos	365
<i>by</i> A. I. ZOTIN	
The Uptake and Distribution of Water in the Developing Amphibian Embryo	385
<i>by</i> P. TUFT	
<i>Author Index</i>	403
<i>Subject Index</i>	411