

Progress In Botany Vol. 73

[DOWNLOAD HERE](#)

1;Progress in Botany 73;3 1.1;Contents;5 1.2;Contributors;7 1.3;Part I: Review;11 1.3.1;A Half-Century Adventure in the Dynamics of Living Systems;12 1.3.1.1;1 What is Life?;14 1.3.1.2;2 Methods and Methodological Improvements;14 1.3.1.2.1;2.1 Radioactive and Stable Tracers, the NCR and SIMS Techniques;14 1.3.1.2.2;2.2 Ionic Interactions, Ionic Condensation, Microelectrodes;16 1.3.1.2.3;2.3 Practical Applications;16 1.3.1.3;3 Enzyme-catalysed Reactions Under Non-classical conditions;18 1.3.1.3.1;3.1 Brief Reminder of Classical Enzyme Kinetics;18 1.3.1.3.2;3.2 Non-usual Cases of Enzyme Kinetics;19 1.3.1.3.3;3.3 Functioning-Dependent Structures;20 1.3.1.4;4 Fluxes of Solutes Exchanged by Biological Systems;23 1.3.1.4.1;4.1 Fluxes of Solutes Between Macroscopic Aqueous Compartments;23 1.3.1.4.1.1;4.1.1 Fluxes of Solutes Through an Enzyme-Grafted Gel Slab;23 1.3.1.4.1.2;4.1.2 Fluxes of Solutes Through an Isolated Frog Skin;24 1.3.1.4.1.2.1;Ussing's Flux-Ratio Equation;24 1.3.1.4.1.2.2;Lithium-Induced Electric Oscillations;25 1.3.1.4.2;4.2 Transport of Solutes by Plant Cells;26 1.3.1.4.2.1;4.2.1 Conventional Formulation of Cell Transport;26 1.3.1.4.2.2;4.2.2 Flow/Force Formulation of Cell Transports;27 1.3.1.4.2.2.1;Principle of the Flow/Force Formulation;27 1.3.1.4.2.2.2;Arrhenius Plot: Significance of a Variation of Conductance;28 1.3.1.4.2.2.3;Active Versus Passive Transports: Use of the Flux-Ratio Equation;28 1.3.1.4.2.2.4;Active Versus Passive Transports: Use of the Symmetry-Criterion;30 1.3.1.4.2.3;4.2.3 Examples of Application of the Flow/Force Formulation;31 1.3.1.5;5 Plant Sensitivity to Stimuli;33 1.3.1.5.1;5.1 Immediate and Local Responses in Separated Tissues or Cells;34 1.3.1.5.1.1;5.1.1 Ageing of Foliar Discs;34 1.3.1.5.1.2;5.1.2 Gas-Shock in Suspension Cultures of Acer Cells;34 1.3.1.5.2;5.2 Migration, Storage and Recall of Information in Entire Plants;35 1.3.1.5.2.1;5.2.1 Inhibition of Hypocotyl Elongation in Bidens Seedlings;35 1.3.1.5.2.2;5.2.2 Breaking the Symmetry of Bud Growth in Bidens Seedlings;36 1.3.1.5.2.2.1;Asymmetry-Index, g , of a Set of Bidens Seedlings;36 1.3.1.5.2.2.2;STO and RCL Functions in the Control of Bud Growth;37 1.3.1.5.2.2.3;Mechanisms Involved in the Control of Bud Growth;39 1.3.1.5.2.3;5.2.3 Induction of Meristems in the Hypocotyl of Flax Seedlings;40 1.3.1.6;6 Reflection and Speculations;42 1.3.1.6.1;6.1 Methodological and Conceptual Implications;42 1.3.1.6.1.1;6.1.1 Use of Stable Versus Radioactive

Isotopes;42 1.3.1.6.1.2;6.1.2 Molecular and Macroscopic Parameters of Cell Transport;42
1.3.1.6.1.3;6.1.3 Increasing Instead of Decreasing a System Complexity;43 1.3.1.6.2;6.2 Physiological
Considerations;43 1.3.1.6.2.1;6.2.1 Biological Processes in Organised Media;43 1.3.1.6.2.2;6.2.2
Protein/Protein Interactions and Regulatory Properties;44 1.3.1.6.2.3;6.2.3 Lithium-Sensitive Responses
to Wounds and Stresses;45 1.3.1.6.2.4;6.2.4 Memorization of Information in Plants;45 1.3.1.7;7 Back to
the Initial Question About Life;47 1.3.1.8;Appendix;51 1.3.1.9;References;60 1.4;Part II: Genetics;63
1.4.1;To Divide and to Rule; Regulating Cell Division in Roots During Post-embryonic Growth64 1.4.1.1;1
Introduction;65 1.4.1.2;2 The Cell Cycle in Roots and the Core Components;65 1.4.1.3;3 Size Control of
the Proximal Root Apical Meristem and the Mitotic Cell Cycle;70 1.4.1.4;4 Maintaining the Stem Cell
Population in the Distal Meristem and the Procambium; CLE Loops72 1.4.1.4.1;4.1 Post-embryonic
Formative Divisions in the RAM;74 1.4.1.4.2;4.2 Environmental Signaling in the Root Apex via Redox
Homeostasis;75 1.4.1.5;5 Cell Proliferation Outside the Root Apex: Reactivation of the Pericycle;78
1.4.1.6;6 Conclusion and Perspective;79 1.4.1.7;References;79 1.4.2;Metabolic Engineering of
Cyanobacteria for Direct Conversion of CO₂ to Hydrocarbon Biofuels;88 1.4.2.1;1 Introduction;89
1.4.2.2;2 Fatty Acid Metabolism in Cyanobacteria;90 1.4.2.3;3 Bios EAN/ISBN : 9783642227462
Publisher(s): Springer, Berlin Format: ePub/PDF Author(s): Lttge, Ulrich - Beyschlag, Wolfram - Bdel,
Burkhard - Francis, Dennis

[DOWNLOAD HERE](#)

Similar manuals:

[Progress In Botany Vol. 73](#)