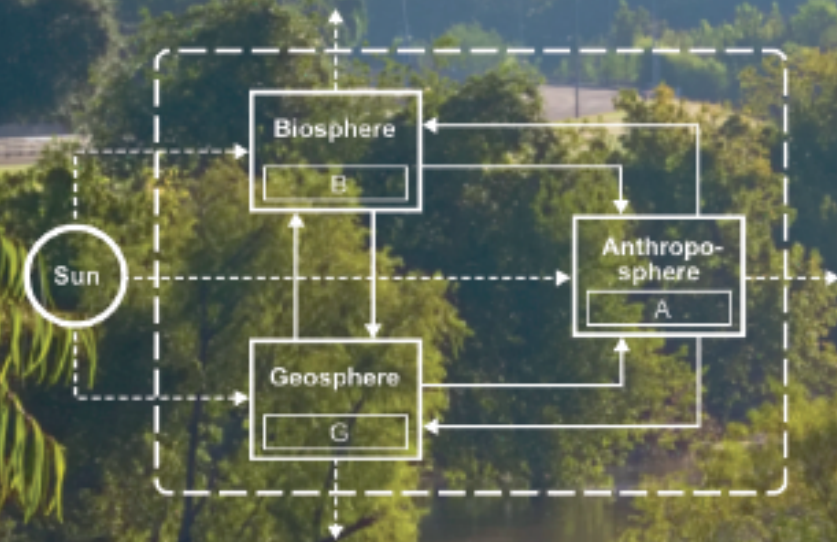


Metabolism of the Anthroposphere

Analysis, Evaluation, Design

Second Edition

Peter Baccini and Paul H. Brunner



The MIT Press
Massachusetts Institute of Technology
Cambridge, Massachusetts 02142
<http://mitpress.mit.edu>
978-0-262-01665-0

Endorsements

“Sustainable use of resources is one of our key challenges and it requires a long-term, large-scale perspective. Baccini and Brunner offer a comprehensive system-oriented view to understand the effects of material and substance flows in our societies. *Metabolism of the Anthroposphere* is essential reading for any expert working in the field of resources and waste management.”

Juha Kaila, Professor of Waste Management, School of Engineering,
Aalto University

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<http://iwr.tuwien.ac.at/metabolism-of-the-anthroposphere/home.html>

Metabolism of the Anthroposphere

Analysis, Evaluation, Design

Peter Baccini and Paul H. Brunner

Over the last several thousand years of human life on Earth, agricultural settlements became urban cores, and these regional settlements became tightly connected through infrastructures transporting people, materials, and information. This global network of urban systems, including ecosystems, is the anthroposphere; the physical flows and stocks of matter and energy within it form its metabolism. This book offers an overview of the metabolism of the anthroposphere, with an emphasis on the design of metabolic systems. It takes a cultural historical perspective, supported with methodology from the natural sciences and engineering. The book will be of interest to scholars and practitioners in the fields of regional development, environmental protection, and material management. It will also be a resource for undergraduate and graduate students in industrial ecology, environmental engineering, and resource management.

The authors describe the characteristics of material stocks and flows of human settlements in space and time; introduce the method of material flow analysis (MFA) for metabolic studies; analyze regional metabolism and the material systems generated by basic activities; and offer four case studies of optimal metabolic system design: phosphorus management, urban mining, waste management, and mobility.

This second edition of an extremely influential book has been substantially revised and greatly expanded. Its new emphasis on design and resource utilization reflects recent debates and scholarship on sustainable development and climate change.