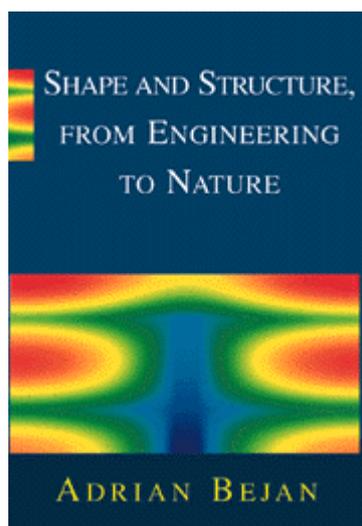


*Book Received\**

**Shape and Structure, from Engineering to Nature.** By Adrian Bejan. Cambridge University Press, Cambridge (<http://www.cambridge.org/>), December 2000. Pages: 344, Hardback. Price: GBP 24.95. ISBN 0521793882

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Seemingly universal geometric forms unite the flow systems of engineering and nature. For example, tree-shaped flows can be seen in computers, lungs, dendritic crystals, urban street patterns, and communication links. In this groundbreaking book, Adrian Bejan considers the design and optimization of engineered systems and discovers a deterministic principle of the generation of geometric form in natural systems. Shape and structure spring from the struggle for better performance in both engineering and nature. This idea is the basis of the new constructal theory: the objective and constraints principle used in engineering is the same mechanism from which the geometry in natural flow systems emerges. From heat exchangers to river channels, the book draws many parallels between the engineered and the natural world. Among the topics covered are mechanical structure, thermal structure, heat trees, ducts and rivers, turbulent structure, and structure in transportation and economics. The numerous illustrations, examples, and homework problems in every chapter make this an ideal text for engineering design courses. Its provocative ideas will also appeal to a broad range of readers in engineering, natural sciences, economics, and business.

Chapter Contents

1. Natural form, questioning, and theory; 2. Mechanical structure; 3. Thermal structure; 4. Heat trees; 5. Fluid trees; 6. Ducts and rivers; 7. Turbulent structure; 8. Convective trees; 9. Structure in power systems; 10. Structure in time: rhythm; 11. Transportation and economics structure; 12. Shapes with constant resistance; About the author; Author index; Subject index.

*\*Editor's Note:* The brief summary and the contents of the books are reported as provided by the author or the publishers. Authors and publishers are encouraged to send review copies of their recent books of potential interest to readers of *Molecules* to the Editor-in-Chief (Dr. Shu-Kun Lin, MDPI, Saengergasse 25, CH-4054 Basel, Switzerland. Tel. +41 79 322 3379, Fax +41 61 302 8918, E-mail: molinfo@mdpi.org). Some books will be offered to the scholarly community for the purpose of preparing full-length reviews.

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