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## Journal of Theoretical Biology

Volume 38, Issue 2, February 1973, Pages 205-287

### Biological shape and visual science (part I)

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[https://doi.org/10.1016/0022-5193\(73\)90175-6](https://doi.org/10.1016/0022-5193(73)90175-6)

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#### Abstract

A new geometry based on the primitive notions of a point and a growth is explored. Growth from a boundary generates a description of an object that is centered on the space it includes. Growth from this centered or core description generates the boundary by an inverse growth. This leads to new properties and descriptions which are particularly suitable for many biological objects. Some implications for mathematics and biology are discussed. Part II explores the use of this description to the understanding of the visual process. Some implications for a revised view of nervous system structure and function are discussed.

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