

# Informational Affordance: A spatial model of generative environment

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## Abstract

*Generative environments* may be understood as dynamic relations between space, social organization, language, image, sound and artifacts that constitute fields of meaning, experienced within a variety of constructed contexts. From a spatial point of view, the key to understanding generative environments is the idea of a multi modal information field explored through movement. The properties of space which are conducive to such potential uses can be described as informational affordances. The term affordance describes the potential of support for information manipulation and inscription in the environment and the organization of, and access to, social actors. The term also implies, quite deliberately, that the actualization of spatial potential is contingent upon the culture of the occupant organization and well as constructive of it. This paper articulates one potential structure of a generative environment, in three steps. First, a normative abstract model of office space is proposed. Second, actual layouts that exemplify at least some of the characteristics of the model are introduced. Third, analytic and quantitative descriptors of informational affordances are developed. The aim of the paper is largely descriptive. The testing of the proposed structure through an investigation of performance has not been completed yet.

Elements of the model include: Arrangement of circulation along smooth curves to provide unbiased penetration in two dimensions. Secondary circulation arranged according to the principle of the “shallow core” so that no area is more than two steps away from the primary system, with the majority of areas only one step away. Distribution of shared amenities such as meeting places though the floor area so as to generate transverse mobility. Arrangement of partitions in visual layers such that perspectival depth is constructed and space is broken in identifiable zones. Use of the visual field, across layers of depth to convey information. Arrangement of partitions so that all isovists extend in at least two different directions. Arrangement of individual workstations so that they back onto a boundary and face towards the circulation, secondary or primary, so as to facilitate visual control over accessibility, and to enable social engagement.

Two case studies are introduced, a multimedia firm in Toronto, designed by the author, and a US government office in Philadelphia currently investigated as it undergoes organizational and spatial restructuring to promote greater social interaction.

## Key words

Generative environments, organizational and spatial morphologies, space syntax

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The measures being developed have five aims. First to quantify the informational potential of isovists drawn from workstations, and circulation spaces. Second, to express with precision the multiplicity of layers and the plurality of directions within which information becomes available within a given isovist. Three, to show how local and global scales of reference are defined from each position, based on the distances and the arrangement of visible boundaries and information. Four, to describe depth from several poles, including circulation and distributed amenities such as meeting rooms. Further, to take into account how many circulation, or amenity spaces are available at a given depth. Five, to describe the creation of recognizable local clusters and their interaction with a multiplicity of alternative paths offering choices for movement. Further, to describe the relationships of permeability and visibility between such clusters. The purpose in developing these measures is to enable an assessment of relevant environments by complementing generic syntactic measures with measures which are sensitive to particular design philosophies, and organizational typologies.

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