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Published in:
Adaptive Behavior

DOI:
10.1177/1059712320982683

IMPORTANT NOTE: You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.

Document Version
Publisher's PDF, also known as Version of record

Publication date:
2022

Link to publication in University of Groningen/UMCG research database

Citation for published version (APA):

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What does the concept of affordances afford?

Rob Withagen1 and Alan Costall2

Abstract
Gibson once suggested that his ecological approach could provide architecture and design with a new theoretical basis. Erik Rietveld takes up this suggestion—the concept of affordances figures prominently not only in his philosophical and scientific work but also in the design practices he is engaged in. However, as Gibson introduced affordances as a functional concept, it seems ill-suited to capture the many dimensions of our lived experience of the (manufactured) environment. Can the concept of affordances also take on the expressive and aesthetic qualities of artifacts and buildings?

Keywords
Affordances, architecture

Handling Editor: Julian Kiverstein, Amsterdam University Medical Centres, The Netherlands

I. Commentary
In an address at a conference of the American Society for Esthetics in October 1976, James Gibson immediately set the tone by starting with a provocative statement: “Architecture and design do not have a satisfactory theoretical basis” (Gibson, 1976/1982, p. 413). In the remainder of the talk, he laid out his ecological approach, a new direction he had already begun to take as early as the 1950s (Reed, 1988). He talked about substances and how they provide the “materials” for the architects and designers. Gibson also highlighted the affordances (i.e., action possibilities) of different surfaces, pointing to a new approach to design: “We modify the substances and surfaces of our environment for the sake of what they will afford, not for the sake of creating good forms as such, abstract forms, mathematically elegant forms, esthetically pleasing forms” (Gibson, 1976/1982, p. 415).

In fact, architects had already started to take a serious interest in Gibson and his concept of the “optic array,” and began developing an “isovist” description of environments: “location-specific patterns of visibility” (Benedikt, 1979, p. 48). Environments vary in their visual complexity from a fixed viewpoint, but also over paths of movement. According to this perspective, buildings are for looking at: “To grasp space, to know how to see it, is the key to the understanding of building” (Zevi, 1957, p. 23). But, of course, buildings are not just to be looked at. They are to be lived in and experienced in a wide variety of ways. And the concept of affordances would seem to promise to take us in that direction. Beek and de Wit (1993), for example, demonstrated how powerful Gibson’s concept of affordances can be in the understanding buildings. They analyzed, among other things, Het Burgerweeshuis, one of van Eyck’s iconic buildings, and illustrated how the architect intentionally created possibilities for action for an individual, but also for social gathering.

In his philosophical, artistic, and architectural work, Erik Rietveld has followed and extended this perspective. In fact, the concept of affordances has been central to his thinking, and he has applied it rigorously in each of the domains he has been working in. Indeed, at RAAAF, Erik and Ronald Rietveld conceive of architectural interventions as the creating of affordances (Rietveld & Rietveld, 2011) and have developed several innovative landscapes with new and alternative

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possibilities for action. As an example, *The End of Sitting*, their office of the future that Rietveld discussed in his address, consists of various slanted surfaces that afford working in several non-sitting postures. Moreover, it also invites critical reflection about our daily (working) practices and environments. So perhaps Gibson was right: his ecological psychology could provide architecture with a “satisfactory theoretical basis” (Gibson, 1976/1982, p. 413).

However, on reflecting upon the work of RAAAF (and other artifacts and buildings), we are no longer convinced that Gibson’s concept of affordances is sufficient to capture what the environment means to us. It is true that architects, in their interventions, create possibilities for action. But they do way much more than that. If a person chops a piece of wood to a suitable size, and then places it at the center of her garden, she has created several new possibilities for action for herself, for her boyfriend, and for their visitors (and that includes the birds in their garden). She can sit on the piece of wood, put a cup of tea on it, walk around it, grasp it, throw it in the air, and so on. The fact that each and every object affords a myriad of actions, as Gibson (1979/1986, p. 134) himself had acknowledged, is both a strength and a weakness of the concept of affordances (Cutting, 1982). On one hand, the concept affords enumerating all the possible meanings of a certain object. On the other hand, this endless list of all possibilities for action does not capture how the object actually reveals itself to us. Artifacts and buildings always have a certain feel: they are beautiful (or ugly), suggest a certain action to a certain degree, have expressive qualities, invite the user to do something with it, and so on. Hence, to capture how the environment is experienced and what it does to us, Gibson’s concept of affordances as possibilities for action does not suffice.

So the challenge will be to develop the proper vocabulary, to capture the many dimensions of our experience of the environment. And the new concepts and ideas that grow out of this exercise will not only be helpful in understanding the experienced (manufactured) environment but could also further guide the design of them. An interesting question in this respect, and one that drives Rietveld’s overall research program, is what work the concept of affordances can do for us here. Over the last decade, Rietveld went to pains to further the concept of affordances, stressing that the “landscape of affordances” is rich, that affordances are relative to “a form of life,” that they can invite action, and so on (e.g., Rietveld & Kiverstein, 2014). Although we are on board with (or have actually anticipated) many of these developments (e.g., Costall, 1995; Withagen, 2018), we do wonder whether there should be a limit to how far we can stretch the concept of affordances. For Gibson affordances are solely about “possibilities for action.” It is a resolutely functional concept. Hence, if one cares about retaining some of its original meaning, we should not want the concept of affordances to capture all of the many dimensions of our experiencing the environment. Perhaps, we need to add further complementary concepts.

Interestingly, the Gestalt psychologists—an important influence on Gibson—chose the latter option. They had already anticipated something along the lines of the theory of affordances (Gibson, 1979/1986, p. 138). But alongside their concepts of demand characteristics, valence, invitation character (*Aufforderungsscharakter*), they placed equal emphasis upon expressive qualities, physiognomic properties, and the aesthetic. They did not regard these categories as mutually exclusive. Functional objects can, for example, be elegant, oppressive, or poignant with memories. And that is, of course, the fundamental point Rietveld is making.

**Acknowledgements**

Ludger van Dijk and John van der Kamp are gratefully acknowledged for useful discussions.

**Declaration of conflicting interests**

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

**Funding**

The author(s) received no financial support for the research, authorship, and/or publication of this article.

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**Alan Costall** is emeritus professor of theoretical psychology at the University of Portsmouth. Before that he was based at the University of Southampton, and before that at the University College London. Over the years, he has been trying to extend the “ecological approach.” But he has become increasingly puzzled about what this approach is supposed to be approaching—after all, ecological *psychology* seems to be a contradiction in terms.