

# Affordances in the Field of Fashion and Clothing

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## Abstract

The paper examines whether James J. Gibson's concept of "affordance" can be made fruitful in the field of fashion theory. Thereby first Gibson's ecological theory of perception is explained. The embedding of perceptual activities in the ecological niche of living beings forms a prerequisite for the concept of affordance. In the next step, the text addresses the foundations of Gestalt theory, since the concept of Gestalt represents a kind of precursor to the notion of affordances and leads to Gibson's theorem of 'direct perception.' On this basis, the explanation of the concept of affordance follows. Then, case studies from fashion design are examined to explore whether the social phenomenon of fashion can be seen as a performance of the clear handling of objects with the help of affordances, similar to what has been demonstrated in design theory using the example of the practical use of design objects. The argumentation tries to prove that fashion takes a different path. Particularly striking for this are selected works by the fashion designer Hussein Chalayan, who ascribes new functions to the clothes in his collection "Afterwords" (2000) and has the call for surprising handling of such clothing objects demonstrated via the medium of a performance. The designer Iris van Herpen, on the other hand, produces fashionable clothing sculptures with the 3D printer, for whose use knowledge of affordances is presupposed, but which at the same time question the usual process of dressing through the optical transformation of the living body into a hybrid object. So the interaction between object and body in general comes into focus, and the question of the handling of objects is posed anew. The text shows that in fashion, affordances are reflected and counteracted, and that the productivity of the concept in this field must be seen above all in the critical redefinition of the application-oriented relationship to objects.

## Introduction

The American perception theorist James J. Gibson was received by perceptual psychology primarily for his research on the relationship between perception and active motor activity and on the importance of environmental conditions for visual perception (Goldstein 2002, 328; Guski 1994, 45). He formulated his theory of perception within the framework of perceptual systems and their fundamental link to the environment in the works "The Senses Considered as Perceptual Systems," 1966 (Ger1973), and "The Ecological Approach to Visual Perception," 1979 (Ger 1982). In the latter book he elaborates the foundations of his ecological optics. The theory of affordances contained therein found little resonance in perception theory, but some elements of the "ecological approach" have been rediscovered in recent years in various cultural and social science disciplines, including by "Actor Network Theory" (Yaneva 2012) as well as by design theory. At the center of this interest is the concept of affordance.

The emergence of this concept and its possible further development are the subject of this essay. The aim is also to reformulate Gibson's considerations from a perspective of aesthetics and fashion theory. The question is raised whether they could be made fruitful for the analysis of wearing clothing and fashion. After a brief overview of ecological perception theory, Gibson's theory of affordance is elaborated on the foil of Gestalt theory, to which Gibson referred partly approvingly, partly disapprovingly. The exposition of important aspects of the concept of Gestalt serves to make the framework for Gibson's ecological approach comprehensible. Then it will be showed, how the concept of affordance derives from ecological perception theory and Gestalt theory. After that, the possible meaning for the analysis of artistic and creative processes, especially in the interplay between body and dress, is discussed. Finally, the question arises whether the concept of affordance makes sense with regard to artistic work, or whether there is not a fundamental contradiction here, because the affordance character directs and threatens to restrict the field of perception towards certain 'practical' goals, since perception in the affordance concept is inseparably linked with environmentally based action (Guski 1994, 42).

Incidentally, it is fair to state that as neurobiological research on perception has developed over the past 30 years, new priorities have been set and theories such as Gibson's ecological approach have receded into the background. It will have to be seen in the future whether Gibson's theory can hold up in the face of neurobiological evidence. In the case of Gestalt theory, the interesting turn of events was that it received new impetus from neurobiology after threatening to lose its significance. It is integrated now into the neurobiological approaches, as will be shown below. It would be interesting to see whether this will also be possible for a concept of affordances.

## Overview of Gibson's Ecological Approach

James J. Gibson's research is far less well known in German-speaking perception theory than Gestalt theory, whose roots lie in the German-speaking world, when Christian von Ehrenfels 1890 formulated his theory of qualities of Gestalt, which is also reflected in the untranslatability of the term "Gestalt." Gibson sought a way between theories of rationalistic representation and Gestalt perception. He accused both directions of various misconceptions (Gibson 1973, 19; Gibson 1982, 145, 256-257). He posited that there is direct perception, that is, that complex information is taken directly from the environment even before individual qualities of objects are realized. At this point logically arose the rejection of ideas that perception is constituted on the basis of disordered sensations that have to be conceptualized. In this there is a deep affinity to the notion of "Gestalt" in Gestalt theory. Gibson, however, demands even more clearly than Gestalt theory that research should get out of the laboratory, and in this sense it should derive the concept of direct perception more consistently from the environment.

One of the arguments for the necessity of researching perception in the context of ecological arrangements is that theories of vision, according to Gibson, could not yield new results without including movement (Gibson 1982, 196; Goldstein 2002, 328). As Goldstein points out, Gibson himself drew on experience in his practice as a pilot in World War II, and argues that humans, as moving organisms, must be studied as creatures that have oriented their perception to their own movement and, at the same time, to the movement of alien organisms that stand out from the environment on the basis of certain invariants (Goldstein 2002, 332). It should be noted that also in neurobiology today the relevance of motion perception is emphasized, and the German brain researcher Gerhard Roth points out how important it is to experience the characteristic kind of motion of living beings or objects in order to be able to infer their nature (Roth 1997, 258-259).

In his book "The Senses Considered as Perceptual systems" Gibson assumes that we find a large and rich variety of stimuli in our environment. In the act of perception, however, by no means is an arbitrary variety or unmanageable quantity of it taken in, but a rigorous selection is made. The selection corresponds to the ecological niche in which we live. Every living being has a perception system that is adapted to its environment in order to be able to survive in it. Gibson shows that the information intake is implemented by the tailoring of the organs to the specific environment (Gibson 1973, 75). In addition, the energy expenditure is as limited as possible in order to follow the economy of the organism (Gibson 1982, 146). Consequently, we see other conditions than for example the bee, which has a fundamentally different optical system.

Gibson states that our sense organs can pick up mechanical, chemical and physical stimuli. Human orientation is adapted to the medium of air and the discrimination of liquid substances or solid material. The gravitational force of the earth gives man the possibility to move upright and to orientate himself accordingly by perception on the basis of those media. The so-called ground perspective corresponds to the optical arrangement of the encountering reality from the view of the human being moving on two legs, who estimates patterns, material, arrangements of edges etc. (Gibson 1982, 142).

Gibson also develops the notion of perceptual systems because, in his view, no organ works alone; information from the environment can be unconsciously networked (Gibson 1973, 75; Gibson 1982, 263). He assumes that we actively seek perceptions: Perceptual systems consist of constantly working organs that unceasingly discover and transmit information in the dynamic world of experience. The concept of affordance assumes, as it were, a regulating function between the perceiving organism and the surrounding world. It describes a sphere that is located between subject and object.

## The Gestalt Theory

The concept of direct perception in the sense of Gibson's ecological optics and the extension to the concept of affordance can only be understood against the background of Gestalt theory. The concept of Gestalt also initially assumes to approach a sphere between object and subject.

The concept of "Gestalt" was first formulated in theory of perception in terms of so-called "Gestalt qualities" by Christian von Ehrenfels (Ehrenfels 1960, 21). Von Ehrenfels refers on the one hand to considerations of Ernst Mach, and on the other hand to a concept of Gestalt in art that had already been discussed and developed in aesthetics and literary studies since Johann Wolfgang Goethe's studies on morphology. In the latter field, from Goethe to Stefan George, Gestalt was constructed as wholeness and unity of parts tending towards wholeness, and especially in the more modern expressions also: as unity of content and form (Simonis 2001, 84). Ehrenfels himself, who is considered the founder of Gestalt theory, had close contact with literature and art. His entire work is interdisciplinary in the sense of a tightrope walk between art, perception theory and philosophy, and he was familiar with the debates about Goethe's concept of Gestalt (Kobbert 2008, 235).

In aesthetic or genius-aesthetic discourse, there have been repeated attempts to place artists in the vicinity of the special ability to perceive shapes. The sociologist Georg Simmel said in reference to Goethe: he would perceive in figures (Simonis 2001, 89). This means that Goethe already sees the whole in the small, in the part. Basically, according to Simmel, Goethe was already creative like an artist in the act of perception and only needed to write down his perception. The emphatically coined concept of Gestalt understands Gestalt as a living structure that exhibits wholeness and, approximately, also "perfection" in the sense that the interaction of the parts results in a living whole, whereas the parts alone or their "sum" would not accomplish this. In Goethe's concept of Gestalt, for example, the idea of participation and transcendence plays a major role. The individual element has a part in the infinite, in that it holds the actually intangible infinite virtually or tendentially within itself.

The literary theorist Annette Simonis claims that, finally, the philosopher Walter Benjamin uncovers the metaphysical implications of the concept of Gestalt, when he formulates the demand for a disfiguration of literature and art (Simonis 2001, 324). She says, whole and parts would fall apart for him, and they no longer represent a gestalt-like organism that would move harmoniously as a whole. Ehrenfels' gestalt qualities already show aspects which are later called typical characteristics of Gestalt: Supersummativity and transposability. A Gestalt should be more than the sum of its parts. Furthermore, the Gestalt theory according to Ehrenfels emphasizes an additional insight: the perception of the Gestalt is the primary thing.

The next generation of Gestalt theorists – Max Wertheimer, Kurt Koffka and Wolfgang Köhler – work experimentally and refine the concept of Gestalt (Guski 1996, 27). The Gestalt is a holistic entity and the change of only one piece must entail the change of the whole Gestalt. In addition to these differentiations of the Gestalt concept, a quality that can be experimentally demonstrated now comes to the fore: Gestalts are not only supersummative and transposable - in our perception they also work as "simplifiers," as principles of organization. To do justice to this aspect, the Gestalt principles are formulated (Guski 1996, 27- 28). 1921 and 1923 Wertheimer formulated various "Gestalt factors," later known as Gestalt principles: the gestalt factor of proximity, the gestalt factor of equality, the shape factor of unity, the shape factor of good curve passage (good continuation) and shape factor of the multiplication/ the common fate, and in addition, there is the distinction between figure and ground (Goldstein 2002, 192). Numerous Gestalt laws are further differentiated and new ones are added.

The Gestalt theorists understand perception as a creative process: it is not a recording like a camera, but proceeds creatively, inventively and simplifying at the same time. Modern Neurobiology has taken up Gestalt principles and reflected them. If for Gestalt theory Gestalten formed an intermediate realm between subject and object that is difficult to define, neurobiology interprets Gestalt laws as a kind of human grammar of seeing, which is pre-formed in the brain like the ability to speak. Experiments with optical illusions are taken up to show that the brain obeys the Gestalt principles, and Gerhard Roth writes about the Gestalt psychology of Wertheimer, Köhler and Metzger, their principles would have again gained special topicality especially within neurobiological cognition research (Roth 1997, 258). Roth emphasizes that the laws of seeing were extraordinarily effective and difficult or impossible to set aside will-wise (Roth 1997, 259).

## The Concept of Affordance

One can better understand the concept of affordance against the background of the ecological approach on the one hand and Gestalt theory on the other. The fact that in the process of perception for the Gestalt theorists the gestalt is seen before individual pixels are perceived, and thus the gestalt form is directly received, means that wholes play a crucial role in the process of perception. This idea provides the mental bridge to be able to develop the theory of affordances. At the same time Gibson accuses the Gestalt theorists of not going far enough with their approaches.

His concept of affordance means that the environment makes certain offers to the living being (Gibson 1982, 144). What we perceive are not nonspecific constellations of light, for example, but wholes very precisely attuned to us, which turn out to be affordances. Affordance implies that the environment and organism are moving towards each other. In certain ways, environment and organism exchange on the basis of an affordance relationship. Affordances are neither subjective nor objective, but subvert this separation. They can be divided into classes: first there is the medium (air), the substances (certain surfaces like earth), there are surface arrangements (surfaces and their layout), objects and other beings (Gibson 1982, 142).

In the group of objects, Gibson distinguishes certain types of them that make characteristic offerings. He says a rigid object with a sharp dihedral angle, an edge, would afford cutting and scraping; it could be a knife (Gibson 1982, 144), or an elongated elastic object, such as a fiber, thread, thong, or rope, would afford the activities of knotting, binding, lashing, knitting, and weaving (Gibson 1982, 144). Another example are hiding places that afford dwelling or give the possibility of optical concealment.

Living beings, in turn, make reciprocal offers to each other that are extremely complex. Not the qualities of objects are seen, but the offers they make. An apple makes to us an offer to bite into; for animals it is something else. Gibson claims an affordance would be composed of invariants with varying aspects. Here again the question of economy of perception plays a role: we do not see everything, but only the necessary circumstances that correspond to our ecological niche (Gibson 1982, 146). Gibson emphasizes that perceiving an offering does not mean classifying it. Information need not be divided into philosophical classes (Gibson 1982, 145). Neither naming matters, nor what else can be done with an object. Offerings can be combined, they can overlap, and they can also provide complex information as a whole set, as well as negative perceptions, for example, danger. Of course, there is also misinformation in the process of perception. Affordances are closely related to the goal of an action. Perhaps one could say there is no action without prior affordances, but not every affordance leads to an action, because, according to Gibson, it is not a matter of a stimulus-response model (Guski 2002, 45).

## Clothing, Gestalt and Affordance

The notion of affordance is amenable to design theory in several ways. Norman stated that affordance circumscribes the communication between user and object (Norman 1999, 42). This field can only be understood with the help of the assumption of affordances. One must add that the designer's work has to analyze the culturally produced and defined relationship between artifact and user, and design and construct the offerings that the object will make to the user in the course of use. Actor-Network Theory, on the other hand, goes a bit further and claims: objects are enacting the social (Yaneva (2012, 71). Man-made objects are embedded with a "script" that evokes a certain way of acting. For example, a stair railing, according to Yaneva, invites one to use it as a supportive object, as it lends security to movement as one ascends or descends the stairs.

In addition, it can be used flexibly: I can lean on a stair railing to stop and talk, or I can slide down the railing if it is slippery enough, etc. (Yaneva 2012, 73). The object's implicit invitation becomes part of my social reality and evokes activity. In this sense, Yaneva claims that the agency of things is related to the notion of affordance, and she names Gibson as a guarantor of this approach (Yaneva 2012, 72). An interesting example illustrating affordances in the field of art and architecture is provided by the Israeli artist Absalon (1964-1993). He designed models ("Celulles," 1980) and prototypes for living cells ("Propositions d'habitation," 1990-1993). His idea was to reduce the necessities of life to a minimum in exchange for housing. He constructed six white cells of different shapes and sizes, all so that one can stand and lie down in them, tailored to the proportions of the user's body, along with white fixtures such as couches, cabinets and toilets. Walls and fixtures were covered with plaster painted white, giving the impression of an ascetic life based on nothing more than the staging of affordances that indicate what is necessary for survival.

The question now is whether fashion theory can better describe or understand its object clothing and fashion with the application of the theorem of affordance. Basically, clothing and fashion must first be distinguished from each other, because clothing is the generally applicable tool of a possible covering adapted to the body, which serves the motives for clothing described by psychologist J.C. Flügel as "adornment, shame, protection" (Flügel 1986, 210) while fashion means a trend-related section of it, which is provided with the symbolic attribution of being "in fashion" (Kawamura 2006, 73; Leutner 2011, 1). In what follows, we will mostly refer to both domains.

As we have seen, Gibson himself noted, certain materials would imply the affordance of covering oneself with them because they are soft and elastic. If we consider the body-related cut of clothing, it goes further than a simple piece of fabric and makes the designer-initiated offer of being suitable for covering a particular part of the body. The pants signal the possibility of being pulled over the legs, the sweater offers to tuck the arms into the two sleeves. Dressing, in this respect, constitutes that part of everyday life that brings the body into immediate connection with artifacts and is shaped by perceptual experiences and automatisms. We perceive very easily, according to the affordances invested in them, which pieces of fabric are intended as clothes and for which parts of the body they are suitable. Fashion designers repeatedly try to thwart this simple request by expanding or inverting the formal possibilities of garments, especially when they are supposed to be fashionably striking. I will give a few examples.



In his collection "Afterwords" (2000), fashion designer Hussein Chalayan presents, among other things, a skirt made of the hard material copper or wood that can be used as a table before or after wearing (fig. 1). It is by no means made of inviting, soft material and implies from the outset several, overlapping or even contradictory instructions for action. These were explored performatively at a presentation of the collection (Chalayan 2012). In the course of which one learns that affordances can be fundamentally deceptive. At the same time, the collection aims to make a political statement by dedicating these objects to people on the run, who have to establish new kinds of relationships to things in their life situation (Loschek 2007, 82).



Figure 1: Hussein Chalayan, *Afterwords*, autumn/winter 2000.  
Photo: *Coffee Table Skirt Hussein Chalayan* by Manuelarosi,  
February 6, 2017. Licensed under CC BY-SA 3.0.

In his collection “Molux” (2005), designer Bernhard Willhelm created a garment that provides not just two, but a confusing multitude of sleeve-like outgrowths (Loschek 2007, 56; fig. 2). It is difficult to gauge which action offer underlies the garment, because one can also easily put one of the sleeves over one's head, resulting in an elephant-like shape. When the garment is perceived, the experience of an affordance is suspended. Instead, a different experience of the world than that of the practically manageable is brought into play: the clothing refers to its own mode of operation, questions it in the sense of a fashion statement, and directs the gaze to that relationship between body and dress that remains hidden in everyday practices. The relationship between user and object is made thematic.



Figure 2: Bernhard Willhelm, *Molux*, collection femme autumn/winter 2005/06.  
Photo by Geoffrey Cottenceau and Romain Rousset, June 2006 Cologne.  
Photography © Gneborg

Dutch designer Iris van Herpen creates garments that seem like spatial sculptures. They impede the supple movement of the body and instead exhibit it as an imaginative, utopian-looking figure like the famous "Snake Dress", that oscillates between human, animal and machine. The female body is transcended and at the same time locked into rigid, if graceful, silhouettes (van Herpen, 2020). Van Herpen makes large sections of the dresses using the 3 D printer, a process that until now has had little opportunity to use elastic material. The novel silhouettes owe much to the designer's experimentation with new production processes and materials on the one hand, and her artistic approach on the other. It is astonishing that the sculptural objects can be used as clothes at all. The affordances of material and form do not suggest their use as garments. The viewer's idea of the relationship of clothing and fashion to the body is completely redefined.

The punk fashion of the 1980s, which emerged predominantly from the youth movement itself, destroyed blue jeans with rips and holes and used materials foreign to fashion in new designs, such as latex, which came from pornographic contexts. Accessories such as razor blades and safety pins were applied to destroy the impression of a familiar, bourgeois-coded body shape and to demonstrate the danger of injuring the body while dressing. The garments and applied paraphernalia configured the surface of the body as the site of a provocative aggressiveness and violation (Leutner 2014, 322).

These examples show that although fashion design is considered a realization of application-based design, affordance is certainly questioned and reflected upon. One can see from the designs and also from punk fashion that they explicitly negate or transcend the notion of a dress oriented towards functions. Wearing dresses does not only semiotically point beyond covering the body. One can state that this everyday practice is about creating a "fashion body" (Lehnert 2013, 67). This fashion body constitutes an aesthetic sphere that strives for a significant relationship between object and body, in that both communicate with each other on a superordinate level and, if necessary, lead to a new gestalt, regardless of whether this is characterized by unity or by ruptures. This gestalt may be anticipated at the sight of a garment even before it is worn.

It is certainly a desideratum of fashion theory to further explore the contribution of affordances in this process. The cases listed should document that fashion design is primarily concerned with the reflection of affordances, rather than the design-based enhancement of the practicality of the objects in question. As in product design, however, the relationship between object and context of action must be explored in detail. The exploration of affordances thereby directs attention to the virulent, nonverbal constituted communications of artifacts, to which, in the case of dresses, an overdetermined bodily motif is added. The visible surface is transcended to the "inside" as well as to the "outside." The fashion body presents itself as a figure in the interrelationship of living body and artifact.

## Conclusion

Gibson's concept of affordance should be understood against the background of its emergence from the context of Gestalt theory and ecological perception theory. Since the perception-theoretical concept of Gestalt has its roots in the literature and philosophy of the 18th and 19th centuries, a rethinking of its application to aesthetic phenomena would suggest itself, which would also take into account the critique of the claim to wholeness of Gestalt formulated in modernity. Gibson's notion of affordance has been embraced by recent design theory, but he has been controversial within perception theory. In the context of design, it opens up the possibility of illuminating the realm of complex interaction between user and object. Within fashion theory, the notion of affordances helps to focus attention on the interactions between bodies and artifacts that are not captured in language. Indeed, unlike product design, the question of clothing and fashion foregrounds the relationship between body and object. The critical reflection of affordances through contemporary fashion, through corresponding aesthetic works, and finally through questioning by fashion theory and aesthetics makes an important contribution to the further development of research in perception theory.

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