

Chapter 2

Affordances for Situating the Embodied Mind in Sociocultural Practice



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2.1 Introduction

Much of human daily life is taken up with performing skilled activities in which we engage with the affordances the social, cultural, material, and natural environment provides. Activities as varied as driving, eating, performing surgery, talking, and making works of art can be understood in terms of skilled engagement with affordances. Affordances are possibilities for action provided to us by the environment—by substances, surfaces, objects, and living creatures that surround us (Chemero, 2009; Gibson, 1979; Heft, 2001; Stoffregen, 2003). The concept of affordances applies not only to humans, but to all living organisms, as we all share the fate of being inescapably surrounded by our surroundings.

This broad applicability of ecological psychology and its focus on action is shared by enactivism, an approach to cognition that focuses on the dynamic interactions between an acting organism and its environment. The Skilled Intentionality Framework (SIF) is a philosophical approach that combines insights from both

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ecological psychology and enactivism to understand the embodied and situated mind. With SIF there is the long-term ambition to provide a conceptual framework that applies across the board; to all living organisms, from mollusks to mammals, and to all types of behavior, including so-called *higher* cognition and collective action. SIF radically extends the scope of affordance theory and in doing so aims to offer a parsimonious account of cognition that provides a sound philosophical foundation for understanding the relation between people and their living environment and, moreover, is relevant for neuroscience, biology, the humanities, and the social sciences alike. The aim of this essay is to provide an overview of SIF and the role that affordances play in it. Skilled intentionality is the selective engagement with multiple affordances simultaneously, which puts affordances and the responsiveness to them at the heart of SIF.

A cup affords grasping by us, mostly by virtue of physical facts concerning the size and shape of our hands and cups. However, it is possible to explain so much more than just mechanical action routines using affordances if we understand how affordances are related to sociocultural practices. For example, it makes a difference whether a cup is yours or mine: I will be invited by the possibility of drinking from mine but not from yours. Crucially, we propose that it is possible to understand *all* skillful action in terms of engagement with affordances. To accomplish this the SIF proposes a broad definition of affordances as relations between (a) aspects of the sociomaterial environment in flux and (b) abilities available in a *form of life* (Rietveld & Kiverstein, 2014).

Using this definition allows for an analysis of affordances on multiple scales (e.g., their invitational character for a particular individual as well as the affordances available in a given sociocultural practice) while simultaneously bridging these levels to provide an integrated account of the embodied and situated human mind (this will become clear below). Our aim in this essay is to showcase these strengths of SIF and more generally the strengths of a philosophy of affordances that takes our human situatedness in a social, cultural, material, and natural environment seriously. In particular, first we will discuss the landscape of affordances as our ecological niche. Then we discuss the experience of an individual in a niche structured by affordances. In the third part, we discuss the interrelation of the individual and niche in terms of affordances. And we end by looking at the dynamics within an individual, namely the bodily states of action readiness that affordances can evoke.

2.2 The Landscape of Affordances as Our Ecological Niche

The aforementioned definition of affordances uses the Wittgensteinian notion of a *form of life* (1953), which refers to “the relatively stable and regular patterns of activity found among individuals taking part in a practice or a custom” (Kiverstein et al., 2019). The reason to use *form of life* in the definition of affordances is to be able to account for the highly specialized and varied abilities that humans can embody by being part of particular sociocultural practices. While for most purposes

it seems reasonable to characterize the abilities of all members of the earthworm species as a single set, this approach fails for humans, as the skillsets of different individuals, e.g., neurosurgeons and Maasai hunters, vary strongly (see Ingold, 2000). *Form of life* can thus refer to both sociocultural practices (e.g., those of neurosurgeons or hunters) and to species (e.g., earthworms, kangaroos, humans).

With regard to the environment in which people and other animals are situated, Kiverstein et al. (2019) proposed to distinguish between the level of the individual and the level of a *form of life*. At the level of a *form of life* we can characterize the ecological niche as a *landscape of affordances*. A core idea of the SIF is that the landscape of affordances that surrounds humans is incredibly rich, richer than is generally assumed (Rietveld & Kiverstein, 2014). It is not just that a cup affords grasping; a sad friend affords comforting, this page affords being *described correctly* as white, a surgical room affords a surgeon to do an operation, and a bow and arrow afford the hunter to shoot. Moreover, as affordances are defined relative to a form of life, the existence of affordances is not dependent on the individual. The landscape of affordances is as stable as the patterns of behavior that form our practices. The landscape thus is a stable, shared environment for individuals inhabiting a form of life (see Fig. 2.1a).

The rich human landscape of affordances arises due to the similarly rich relation of our definition of affordances: environmental aspects and abilities available in the form of life. We already touched upon the variety in human abilities; the wide variety of human sociocultural practices entails many different abilities that can be available to human individuals. The other relatum, the environmental aspects, come in even greater variety and are in the human case best understood as being thoroughly *sociomaterial* due to the intertwining of the material and the social in

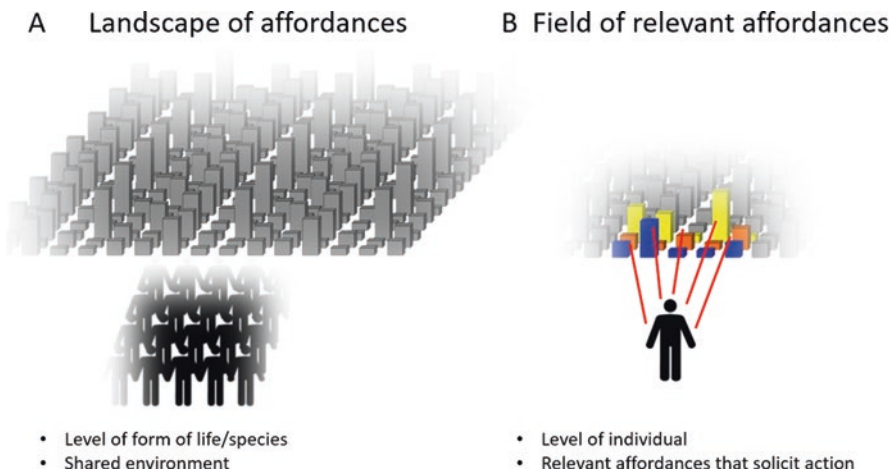


Fig. 2.1 Sketches of landscape and field of affordances, which are relative to a form of life and to an individual, respectively. Note that the landscape and field are both dynamic (see main text). The field and landscape stand in mutual and reciprocal dependence to one another (Kiverstein et al., 2019)

practice (van Dijk & Rietveld, 2017). As humans we are embedded in sociocultural practices, which means that also the material structures around us have been shaped by cultural practices. Wherever you are now, look around and you will see particular objects in particular places, both those objects themselves and the places they are in have been formed by social practices (e.g., this shows itself in that we tend not to put mugs on top of keyboards or keyboards on chairs).

As both our abilities and our environments come about through sociocultural practices, it follows that the landscape of affordances for humans is also fundamentally *social*. The possibilities for action we have depend on the sociocultural practices, i.e., forms of life, we are part of. For example, as part of the sociocultural practice of speaking English, we have the possibility to judge the arguments in this text, to imagine how it could be structured differently, to read out these words aloud, etc. The landscape of affordances in this way reflects the abilities that arise from our practices.

These abilities that arise from our practices include those related to so-called *higher cognition*, such as judging the arguments in this text. While research in embodied cognition has mostly focused on sensorimotor skills, we contend that responsiveness to affordances is not limited to repeating mechanically some routine, but is flexible in a context-sensitive way. The orthodox dichotomy of so-called *higher* and *lower* cognition hence plays no role in the SIF; all skilled behavior is viewed as engaging with multiple affordances, enabling the analysis of all forms of behavior in one framework. This includes activities such as reflecting, judging, imagining, verbalizing, planning, and more (Kiverstein & Rietveld, 2018; Kolvoort et al., 2021; Van Den Herik & Rietveld, 2021; van Dijk & Rietveld, 2021a, b).

We can think of *higher* cognition as part of temporally extended activities in which we coordinate with nested affordances in an environment structured by a complex constellation of sociomaterial practices (Kiverstein & Rietveld, 2018; van Dijk & Rietveld, 2021a).

Crucially, using the form of life as the level of analysis allowed the development of a Wittgensteinian notion of *situated normativity* to describe the normative aspect of cognition in skillful action (Rietveld, 2008). Situated normativity describes the normative dimension of the things we do in real-life contexts. In every concrete situation, an individual distinguishes between better or worse possibilities for action. For humans, this is strongly dependent on the sociocultural practices in which our actions are embedded; whether some action is adequate (or good, correct, etc.) or not is dependent in part upon agreement in action among members of a sociocultural practice (Wittgenstein, 1953). While dancing might be laudable within the confines of a nightclub, it might not be so when engaging in the practice of listening to a client's presentation at a company's office.

2.3 Individual Experience of Affordances

We have discussed that we can describe the ecological niche as a landscape of affordances on the level of a form of life. An important question is how an individual engages with this landscape. As the landscape of affordance is relative to a whole form of life, this question narrows to: How does an individual *selectively engage* with affordances that are relevant to them in their current situation? If we walk into a cafeteria looking for a place to sit and eat our lunch, we tend not to be overwhelmed by the myriad of possibilities that the chairs, tables, and people in the cafeteria afford us. In such a situation, we tend to be drawn in, or *solicited*, only by aspects of the cafeteria that will allow us to sit down and eat.

In SIF *solicitations* are distinguished from affordances (Rietveld, 2008; Rietveld & Kiverstein, 2014), where solicitations are those affordances that are experienced as *relevant* by a situated individual. So these solicitations or *relevant affordances* are to be analyzed at the level of the individual, while available affordances and their existence belong at the level of a form of life.

What makes one affordance relevant but not another? SIF avoids the groundless use of goals or tasks and instead argues for a *process of self-organization* as the source of relevance (Bruineberg & Rietveld, 2014). All organisms tend toward a state of relative equilibrium in the dynamic coupling between their body and the world via “self-organized compensatory activity” (Merleau-Ponty, 2003). It is this tendency that imbues some affordances with relevancy but not others and the SIF characterizes this tendency as a *tendency toward better grip* on the situation. It is those affordances that allow us to improve our grip on the situation that are relevant. Which is why in the previous example we are solicited by what an empty chair affords in a cafeteria, but not by the affordances of chairs with occupants.

However, in real-life we do not engage with only one affordance at a time, Skilled Intentionality implies a responsiveness to multiple affordances simultaneously. We refer to the constellation of affordances that are relevant or inviting to an individual engaging with a concrete situation as the *field of relevant affordances* (Fig. 2.1b; Rietveld et al., 2018; Rietveld & Kiverstein, 2014). The inviting affordances of the field are part of the lived experience of an individual (Withagen et al., 2012), and it is opened up out of the landscape, by their abilities and concerns in the concrete situation. This experience of a situation inviting behavior goes together with a *bodily state* that has been referred to as “action readiness” in emotion psychology (Frijda, 2007), that is, the body poises itself for active engagement with relevant affordances.

Although the landscape of affordances is in flux when considered over larger timescales, the field of relevant affordances is an even more dynamic and ever-changing phenomenon. When an individual acts or when the situation itself develops, the individual–environment relation is changed and other solicitations arise (Bruineberg & Rietveld, 2014). What is foreground and what is background shifts continuously, the field is in *flux* over shorter timescales. Crucially, the individual is responsive to field of relevant affordances *as a whole*. For example, while attending

a presentation, we can be responsive to what is afforded by our cup coffee and the speaker at the same time. And the relevance of what either affords can change due to our own actions (e.g., finishing the coffee, raising our hand) or by the changing environment (a colleague walking in, the presentation ending). Often it will be that being poised for multiple relevant affordances simultaneously allows for an improvement in grip, because it enables one to flexibly and rapidly respond to changes in the environment (Bruineberg et al., 2021).

2.4 The Individual Entangled with the Form of Life: Fields and Landscape as Continuing Process

Now that we have discussed the landscape and field of affordances, we can turn our eye to their complex and dynamic interrelationship. While we can conceptually distinguish shared publicly available affordances and those relevant affordances that invite a situated agent to act, they should not be separated on ontological grounds (Kiverstein et al., 2019). Such an ontological separation would violate the reciprocal and mutual dependence of the landscape and field. This violation becomes clear when we appreciate the fact that while the landscape of affordances incorporates physical and material structure, it is not the reality as described in physics. Instead, the landscape of affordances is pragmatically structured by patterns of regular activity available in an ecological niche or form of life.

For example, while it is indeed a physical matter that we are supported by the floor of a post office, that we often form a single file queue is not just a physical matter (as the physical space would allow a group to stand in a myriad of configurations), but it is a matter of sociocultural practices, in this case the practice of queuing. Queueing is a practice, it is a pattern of regular activity available in a form of life (one that most of us inhabit), hence it is part of the landscape of affordances. However, from the perspective of the individual, queueing is also an act, it is an individual engaging with a relevant affordance. This points us toward the reality that practices and affordances are different perspectives on the same thing. The practice of queueing consists out of individuals who tend toward better grip on their situations by engaging with the affordance to queue. When we take the perspective of one individual who enters the post office, the other individuals queueing form part of the sociomaterial structure around her, constraining her field of relevant affordances. On the other hand, when she joins the queue, she engages with the practice of queueing that is part of the public landscape of affordances available to all the people there.

We chose the example of queueing because of its physicality, as one person queueing (engaging with a relevant affordance) in a very physical sense is both part of a practice (landscape) and a relevant affordance for another person (field), who can queue physically behind her. In a very direct sense the material structure of the landscape (a queue) is here entangled with patterns of an individual's activity. However, this mutuality of practices and affordances is not restricted to physical

(material or temporal) contiguity. For instance, the contours of streets have been shaped by practices of people traveling in different ways (e.g., by foot or car) and by builders placing things in certain places (e.g., traffic lights, sidewalks, buildings), which determine the structure of the landscape for everyone who travels that street, even decades later.

From these examples we can learn that practices and affordances are perspectives on the same sociomaterial entanglement of people, activities, places, and things. Moreover, activities are related to practices in a fundamental sense (van Dijk & Rietveld, 2017). The practice of queueing exists by virtue of individual acts of queueing. The landscape of affordances is formed partly by a history of individual (or joint) activities and continues to take shape as practices unfold. On the other side of the coin, we have that individual acts of queueing depend on the existence of the practice of queueing. The field of relevant affordances opens up out of the landscape.

This reciprocal dependence between the landscape and field of affordances necessitates a view in which an ongoing process shapes the landscape and field together (Kiverstein et al., 2019; van Dijk & Rietveld, 2021a). This ongoing process is comprised of the activity of individuals: Individuals, enacting relevant affordances, simultaneously shape their field of relevant affordances as well as contributing to sociomaterial practices that shape the landscape of affordances (which in turn will shape the future history of activity of individuals). This process view points toward a temporal view on the relation between the landscape and field of affordances (Kiverstein et al., 2019). On short time scales, the more stable landscape constrains the affordances available in the more dynamic field. For instance, the affordance to queue when one gets to the post office is made possible by existence of the practice of queueing, which exists on a larger temporal scale than a particular individual engaging with the affordance to queue. Over longer periods of time, however, the landscape depends on the field of relevant affordances. Practices are maintained over time by the inviting character of affordances leading to activities constitutive of the practice. The practice of queueing is maintained by virtue of the soliciting character of the affordance to queue to individuals. Individuals queueing keep the practice of queueing “alive.” In this way, the field, which invites individuals to act in concrete situations, is “at the forefront” of the evolving landscape, continuing it through time, maintaining it how it is, or evolving it in new directions (Kiverstein et al., 2019; van Dijk & Rietveld, 2021a). Kiverstein, Van Dijk, and Rietveld offer the example of musicians making jazz: “the affordances of musical instruments to make jazz music depends upon musicians that know the history of jazz, and can maintain this history whilst also building on it through their own improvisations.” (2019, p. 2293).

It is important to note that some of the real-world examples we discussed above (e.g., queueing) can perhaps be considered somewhat trivial. These examples were chosen to be familiar and accessible, but considering our claim that all skillful activities can be understood in terms of engaging with affordances, one can expect SIF to be able to do more. One (not so familiar) example of applying the SIF is the analysis of the field of relevant affordances of patients receiving deep brain stimulation (De Haan et al., 2013). More generally, to understand complex and temporally

extended engagements in terms of affordances requires the methods of embedded philosophy and longer-term ethnographic observation. Examples of using these methods combined with the SIF include the practices of psychiatry (van Westen et al., 2019, 2021), visual art, and architecture (Rietveld & Brouwers, 2017; van Dijk & Rietveld, 2021a, b).

2.5 Within the Individual

So far we have regarded an individual's actions and the dynamics of a developing situation as impacting the individual–environment relation, but the SIF also connects these phenomena with the ongoing dynamics *within* an individual's body and brain. Employing principles from the complex and dynamical systems literature, the SIF relates phenomenology and ecological psychology to developments in theoretical neurobiology (see Bruineberg et al., 2018; Bruineberg & Rietveld, 2014, 2019).

The improvement of grip on a situation can be characterized as the reduction of disequilibrium in the *brain–body–landscape of affordances* dynamical system. Organisms selectively engage with those affordances that reduce their disequilibrium with the environment. The SIF views this disequilibrium as a *dis-attunement* between internal and external dynamics, i.e., between self-organizing affordance-related states of action-readiness in the individual and the changing landscape of affordances (Bruineberg & Rietveld, 2014). It is this dis-attunement that as a most basic concern drives organisms to selectively engage with relevant affordances. On SIF's view, Friston's Free Energy Principle (2010) is all about improving grip on the field of affordances; a reduction in free energy is a reduction in dis-attunement of internal and external dynamics (Bruineberg et al., 2018; Bruineberg & Rietveld, 2014).

Importantly, this conceptual scheme allows for cross-fertilization between disciplines: the study of activity in the brain and body can inform and be informed by investigations of an individual's landscape of affordances (including the embedding sociomaterial practices, which can be investigated well by means of ethnography, see van Dijk & Rietveld, 2021a) and the structure of the field of relevant affordances (which incorporates the individual's abilities and can be investigated by means of phenomenological interviews, see, e.g., De Haan et al., 2013). Overall, we contend that to understand the situated mind, we need to regard the whole system “brain–body–landscape of affordances.”

Acknowledgments We are grateful for the support for this research in the form of an ERC Starting Grant for the project AFFORDS-HIGHER (679190) and an NWO VICI grant awarded to Erik Rietveld.

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