



Intentions in Ecological Psychology: An Anscombean Proposal

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Abstract

According to ecological psychology, agency is a crucial feature of living organisms: therefore many ecological psychologists maintain that explaining agency is one of the core aims of the discipline. This paper aims to contribute to this goal by arguing that an ecological understanding of agency requires an account of intention. So far, intentions have not played a dominant role in ecological accounts of agency. The reluctance to integrate a notion of intention seems to be motivated by the widespread assumption that intentions should be understood as internal states with representational content. This assumption goes against two main tenets of ecological psychology: its anti-representationalist stance and its claim that perception is direct (in the sense of not being mediated by inferential processes). Ecological psychology thus needs a different answer to the question what intentions are. In this paper, we aim to show that Elizabeth Anscombe's theory of intention can be fruitfully brought to bear on an ecological theory of agency. We will argue that Anscombe's account can meet the two challenges of bringing intentions into the framework of ecological psychology: firstly it can explain what intentions are, if not representational states; and, secondly, it can show how our perception of affordances is guided by intention without undermining the idea of direct perception.

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1 Introduction: The Issue of Agency in Ecological Psychology

Ecological psychology is one of the core positions in the embodied, anti-representational, and situated cognitive sciences (Chemero, 2009). Even though ecological psychology is primarily a theory of perception, several ecological psychologists have argued that it is not perception *per se* that lies at the centre of ecological psychologists' explanatory agenda, but agency: "the goal of ecological psychology is to explain agency scientifically, not to explain it away or simply offer a discourse about it" (Reed 1996, p. 19, see also Gibson 1994; Withagen et al. 2012, 2017)¹. Following this line of thought, the paper aims to contribute to this goal by arguing that an ecological understanding of agency requires a substantive account of intention.

To start unpacking the relationship between perception and agency, it is worth noting that a common assumption in ecological psychology is that perception is fundamentally *for* the control of action. This idea is most clearly epitomized by the claim that perception is primarily of affordances – opportunities for action that the environment offers to the perceiver. As Withagen et al. explain, "by arguing that the environment is not a collection of causes of behavior but a manifold of possibilities for behavior, ecological psychologists made room for the idea that animals are the source of their activity" (2017, p. 12). Similarly, they hold that by introducing the notion of affordance, J. J. Gibson "placed agency at the centre of his ecological approach" (2012, p. 250). According to this view, animals carry out activities and attain specific goals by perceiving and acting on affordances. Importantly, these affordances are said to be perceived directly, meaning that the agent can be aware of them without engaging in representation-based cognitive processes such as making inferences (Segundo-Ortín et al. 2019; Warren 2021). The coordination of perception and goal-directed action is a direct, non-mediated process, made possible by the detection or "pick up" of information about affordances.²

However, as Cutting (1982) argues, the theory of affordances by itself does not yet explain agency. Simply put, because a single object or situation offers the individual more affordances than she can use, how she behaves at a particular time is underdetermined by these affordances. Therefore, Cutting concludes, to explain the link between perception and action we must explain how the individual selectively acts upon some affordances instead of others. For him, this requires that we complement the theory of affordance with "full-blown theories of personality and of choice" (p. 216). In other words, to explain agency ecological psychologists need an account of

¹ This emphasis on agency comes from the ecological psychologists' frontal rejection of mechanistic explanations in psychology (see Reed 1996, p. 19).

² The notion of "information pick-up" has generated some controversy among defenders of radical embodied theories of cognition. A case in point is Hutto and Myin (2017). According to them, the idea that individuals must *pick up* perceptual information in order to perceive affordances suggests that such information is somehow internalized, leading to a representational theory of perception. This interpretation, however, is contested. As shown by Segundo-Ortín et al. (2019), J. J. Gibson is explicit in rejecting the idea that perception implies the internalization of information. Instead, in the ecological literature, perceptual information is said to be "picked up" or detected whenever the individual focuses her attention on it, becoming aware of what it affords. It is important to point out, however, that this awareness does not imply reflection (1975[2015], p. 249).

how individuals exert control over their perception-action cycles, selectively perceiving and responding to specific affordances.

Importantly, decades after Cutting's critique was issued, this problem remains to be solved. Some authors claim that in order to provide an ecological theory of agency, we must combine the classical ecological theory of perception with other notions taken from the life sciences. Proposals include the notions of "effectivity" (Turvey 2019), "self-organized criticality" (Van Orden and Holden 2002; Van Orden et al. 2003), or "action systems" (Heras-Escribano 2019). Others, such as Withagen et al. (2012, 2017), propose to re-interpret the notion of affordance, suggesting that affordances are experienced not only as opportunities for action but as *invitations* to act. However, even if such attempts emphasize that a notion of agency is indispensable for ecological psychology, they mostly just add agency to the picture instead of actually providing a detailed account of it (see Segundo-Ortín 2020). For example, Withagen et al. acknowledge that "[a]n affordance can invite behavior if and only if an agent perceives it. [...] Hence, a prerequisite for affordances to invite is an actually present observer that actively explores the affordances of its environment" (2012, p. 257). In other words, for affordances to be experienced as invitations, we need an individual that actively explores the environment, attuning her attention to detect some informational variables instead of others.³ It follows that in order to make sense of the idea that affordances can invite behavior, we must already presuppose agency.

In this paper we take a different and so far unexplored route. Our claim is that in order to develop a substantial account of agency in ecological psychology it is important to make use of certain conceptual resources from the philosophy of action, most notably the concept of intention. Although the label 'philosophy of action' covers a huge variety of philosophical positions, most of them define actions as those behaviours an individual performs under the guidance of intention (Pacherie 2014; Holton 2009; Davidson 1978; Anscombe 1957[2000]). Following this view, our main hypothesis in this paper is that in order to make headway with the aim of explaining agency, ecological psychology is in need of a more substantial understanding of the role of intention in perception and action.

Even though the notion of intention is commonly used in the ecological literature, accounts of what intentions are that are compatible with ecological psychology are scarce. Notable exception to this are Reed (1993) and Heft (1989), which will be discussed in section two. Other Gibsonian theorists, instead, have argued that intentions should be eliminated from the theory (see Withagen and van der Kamp 2010). This position could be motivated by the widespread assumption that intentions should be understood as internal states with representational content (see Pacherie 2014; Bratman 1987; Davidson 1978; Mele 2007; Mylopoulos and Pacherie 2017). As we will show in the next section, this standard picture not only goes against ecological psychology's general anti-representational approach to cognition, but also seems incompatible with the hypothesis of direct perception. However, this is not the only

³ This is linked with a crucial distinction in the ecological literature between "exploratory actions" and "performatory actions." Exploratory actions are those that are done in order to perceive an affordance (e.g., move to produce motion parallax, wielding and turning a rod, etc.). We elaborate on this distinction in section two. We thank one of the reviewers for the pointer.

possible interpretation. By contrast, a plausible alternative to the standard view of intention is found in Elizabeth Anscombe's seminal work on intentional action and perception (1957[2000], 1965). We will argue that her analysis allows us to explain how perceiving affordances can be guided by intention without assuming the existence of representational states (the intentions) in the agent. Also, we will show that such an Anscombean analysis of intention does not contradict the hypothesis of direct perception.

The structure of the paper is as follows. In section two, we will provide a brief overview of existing attempts to introduce intentions in ecological psychology, and formulate two challenges that any account of intention should meet in order to fit with ecological psychology's main tenets. We will then introduce Anscombe's account in sections three and four, showing how she analyzes intention as characterizing both action and perception. We will conclude (in section five) with some programmatic suggestions on how the Anscombean framework could be used for developing an ecological account of agency.

2 Intentions in Ecological Psychology

Several proponents of ecological psychology have expressed the view that the notion of intention might be crucial for the theory (see, e.g., Heft 1989, 2001, 2003; Reed 1993; Segundo-Ortin 2022; Brancazio and Segundo-Ortin 2020). For instance, Wagonman has offered an ecological characterization of agency as "the ability to select, perceive, and actualize affordances *appropriately based on intention*" (2019, p. 148, emphasis added). Importantly, the idea is not just that agents actualize different affordances depending on what they intend to do, but also that the agent's intentions affect what affordances she perceives. This view is in line with another basic assumption of the ecological theory of perception: that perception is a kind of activity, that is, something the organism *does* instead of something that merely 'happens' as one's sensory organs get stimulated.⁴ Consequently, Heft states that "an affordance is perceived in relation to some intentional act, not only in relation to the body's physical dimensions" (1989, p. 13), to which he adds: "The perceived affordance of an object can change in immediate experience as the goal of intentional action changes" (2003, p. 174). Likewise, Michaels and Palatinus make clear that "the ecological approach holds that intentions are central determinants of what is perceived and acted on" (2014, p. 21).

Nonetheless, despite the fact that ecological psychologists widely acknowledge that intentions play a role in both perception and action, intentions have not received much attention in the ecological literature. As said, one possible explanation for this lies in the assumed nature of intentions. According to the received cognitivist view, an intention is a mental and possibly also neural state that represents a goal, and that plays a causal role in bringing about the behavior needed to attain the represented

⁴ In fact, J. J. Gibson (1979[2015]) often spoke about the "act of perceiving" (p. 229), characterized perception as an "achievement of the individual" (p. 228), and described the idea of passive perception as a "myth" (1976[1982]).

goal (Pacherie 2014; Mylopoulos and Pacherie 2017). Consistent with this view, Withagen and van der Kamp reject the notion of intention on the assumption that they are “internal processes” (2010, p. 155). This idea clearly goes against ecological psychologists’ general anti-representational approach to cognition. Therefore, the first challenge for an ecological account of intention would be to explain what intentions could be, if not representational states.

Secondly, mainstream accounts of intention also seem to be in direct contradiction with one of the most important principles of ecological psychology: that of the direct perception of affordances. This potential objection has been raised by Withagen and van der Kamp (2010) too. As they argue, the claim that the affordances that are perceived vary as the perceiver’s intentions change necessarily implies that affordances are not directly perceived but mentally imposed or inferred. It seems to follow from such a view “that perception includes more than the detection of information. In fact, it runs the risk of introducing processes that transform a pattern in the stimulus array into a percept, an idea that is not consonant with the fundamental principles of the ecological approach” (2010, pp. 155–156). Consequently, the second challenge is to show how intentions can play a role in affordance perception without sacrificing the principle of direct perception.

In spite of this, it is fair to say that two authors have offered accounts of how intentions modulate the perception of affordances that are consistent with the framework of ecological psychology. These authors are Heft (1989) and Edward Reed (1993, 1996).⁵ In what follows we offer an analysis of their proposals, highlighting why, in our view, they are only partially successful. By exploring the philosophy of action of Anscombe, our aim in this paper is to offer an approach that address these shortcomings.

Heft’s (1989) proposal is motivated by his critical remarks concerning how affordances have been treated by most ecological psychologists. According to him, even though these scholars rightly conceive of affordances as relational – this is, as existing in virtue of the functional relationship between the properties of the object and the properties of the perceiver – they fall short in that they consider the bodily attributes of the perceiver only (body size, height, physical strength, etc.). For Heft, this somewhat limited account, although right, leaves unspecified the conditions that make it possible that an individual perceives a single affordance out of the multiple possible actions offered at a particular time. To make sense of this selective perception, Heft argues that affordances must be scaled to the agent’s intentions too:

⁵ Besides Reed and Heft, the only authors that have elaborated on the notion of intention in ecological perception are Shaw and Kinshella-Shaw (1988) and Brancazio and Segundo-Ortin (2020). Nonetheless, whereas Shaw and Kinsella-Saw provide a mathematical characterization of what they call “intentional systems” only, Brancazio and Segundo-Ortin have focused more prominently on providing a non-representational account for the formation of distal (future-oriented and abstract) intentions. As they clarify, their worry is “whether we can make sense of the role that linguistic utterances play in the formation of D-intentions without assuming these linguistic utterances function to represent the world” (p. 7). Hence, they articulate distal engagement as a skill that crucially depends on language, but they do not focus on offering a thorough account of intentions.

The affordances of an object are realized in relation to some intentional act in the individual's behavior repertoire. For example, if an individual's goal or intention is to cut an object, a second object that has a sharp edge and is graspable will be perceived as affording "cutting-with". If the individual's intention is to pry open a lidded object, the same "cutting-with" object will be perceived as affording "prying with" [...]. In each of these cases, the various affordances of the object arise from a relationship between a particular intentional goal and the properties of an environmental object. (pp. 21–22)

According to his view, what affordances of a single object are perceived at a particular time depend on the significance of these affordances for the individual's intentions. Because, according to Heft, the perception of affordances occurs in the context of intentional acts – namely, the act of chopping an onion –, the individual does not perceive all the affordances that the knife offers, but only the possibility of using the knife for chopping. Heft captures this idea more succinctly when he claims that "the perceived affordance of an object changes as a function of intention" (p. 16).

Although Heft presents his proposal as a logical evolution of J. J. Gibson's ecological psychology,⁶ he nonetheless wonders why Gibson never embraced this view explicitly. In answering this question, Heft speculates that this intentional analysis would have been regarded as conflicting with Gibson's consistent criticism of mind-body dualism in psychology. However, he claims that such reading of intention is not necessary. Instead, elaborating on Merleau-Ponty's phenomenology (1945[2002]), he argues that "intention does not refer to a mental representation; it is *not* a mentalistic notion. Rather, it refers to possibilities that are only realizable as situated behavior [...] intention refers to possibilities that are only instantiated in a particular form in interaction with situational factors" (p. 11). To this, he adds that "[a]n intention is not describable in the absent of some foreseeable expression of it in the world" (p. 11). In this sense, Heft argues that intentions are not mental states disconnected from the ecological situation of the agent; rather, they depend on the affordances of the environment and the bodily properties and action capabilities of the agent, because, "in combination, [they] constrain the range of intentional acts that can be expressed" (p. 12).

Echoing this proposal, Reed (1993) begins his analysis asserting that intentions serve to select a small number of affordances, constraining the attention and action of the agent so that they contribute to fulfill this intention. Likewise, he also rejects the received view of intentions as discrete, causally efficacious mental representations. Instead, he proposes that:

From an ecological point of view, intentions are not causes of action, but patterns of organization of action; they are not mental as opposed to physical, but are instead embodied in the kinds of performances most likely found in cognitively capable creatures. [...] The purely cognitive ability to think of things or

⁶ He even argues that an analysis of perception that includes the agent's intentions is in better shape to explain how perception can be shaped by socio-cultural norms (for a more recent elaboration of this view, see Segundo-Ortín 2022).

to plan activities is a component of intention, but only one small component of a much larger, more complex process. (p. 62)

For Reed, intentions are characterized by three features. First, they are directed toward objects. Second, they are persistent until they are fulfilled and, presumably, until the agent recognizes them as such. And, third, they are resilient in the sense that the agent can vary her strategy to realize them if unexpected contingencies come up. Moreover, Reed's conception of intention is truly ecological, for he asserts that intentions "spread out across mind, body, information, ecological context, and social setting" (p. 68).

Remarkably, even though Reed holds that intentions, understood as patterns of organization of action, contain more than the expression of intention in action, including a "mental component" too (e.g., planning, thinking, etc.) (p. 62), he agrees with Heft that intentions depend on the affordances. On his view, intentions only appear whenever there is a possibility of choosing among different affordances. To explain this, he takes inspiration from Darwinian evolutionary biology and hypothesizes that intentions emerge out of processes of variation and selection, like any other biological kind. According to his theory, the minimal units of analysis are perception-action cycles, where each cycle corresponds to a particular affordance. According to Reed, when the perceiver is offered multiple affordances, the perception-action cycles enter a sort of competition, and this competition results in the intention to actualize an affordance. Intentions, he asserts, "are thus the "species" that emerge out of competition among perceptual and action processes for utilizing affordances" (p. 65).⁷ The emergence of such intentions, he adds, "is the growth of the ability to select specific affordances for the observer to become aware of and to use it" (ibid.).

Although we sympathise with Heft and Reed in their attempt to understand intentions in a non-mentalistic way, we hold that their proposals yield various problems. First of all, we disagree that intentions depend on the presence of affordances. Coming back to the example of the knife, imagine that our cook has the intention of chopping an onion but someone has stolen all the knives. In such a case, she will intentionally explore the environment, looking for an object that affords "cutting-with", but will not find it precisely because there are no objects affording that in the kitchen. This shows that even though the expression of the intention is in fact constrained by the affordances currently available in the environment, the intentions themselves are not. In short, *pace* Reed and Heft, it seems clear that one can intend to do something for which there is not an affordance currently available in the environment.

This is connected to a classical distinction in the ecological literature between "performative" and "exploratory" actions. Often, the information that specifies the possibility of performing a particular action is not immediately present to be detected, thus leading the individual to act, in an exploratory way, to find such infor-

⁷ This idea is parallel to his own view of evolutionary biology, where the evolution of species is driven by the selection pressures exerted by the affordances of the environment (Reed 1996). Turvey has criticized Reed's theory of evolution, arguing that it is too passive and externalist to be compatible with J. J. Gibson's ecological approach (Turvey 2019, p. 16). Our criticism of Reed is partly inspired by Turvey. Even though we do not believe that Reed's theory of agency is necessarily externalist, we hold that it depicts the emergence of intentions as a passive affair.

mation. However, as the previous example shows, sometimes the environment does not afford such action. It follows that although the absence of an affordance makes it impossible that a particular intentional action (i.e., cutting an onion) is performed, this does not preclude the individual from having such intention in exploring the environment to that end. Exploratory actions can be carried out with the intention of performing certain actions for which there may be no affordances available in the environment.

The second problem concerns Reed's approach specifically. We hold that Reed's picture renders perception and action passive, as it gives the agent no role in the competition that gives rise to intentional action. If Reed were correct about the intentions emerging out of processes of competition *like any other biological species*, then we would have to conclude that individuals have no say in determining what affordances they perceive and act upon. This means that although Reed's understanding of intention is truly ecological (and non-representational), it does not really help in understanding agency: it does not explain how individuals exert control over their perception-action cycles.

Ecological psychology thus needs an alternative answer to the question what intentions are. In the remainder of the paper we hope to show that Elizabeth Anscombe's theory of intention (1957[2000]) can be fruitfully brought to bear on an ecological theory of agency.⁸ We will argue that Anscombe's account can meet the two challenges of bringing intentions into the framework of ecological psychology: firstly it can explain what intentions are, if not internal representational states; and, secondly, it can show how our perception of affordances is guided by intention without undermining the idea of direct perception.

3 Anscombe's Account of Intention

During the heyday of cognitivism in psychology, it became mainstream to conceptualize intentions as discrete mental states with representational content (see for example Davidson (1971, 1978), Bratman (1987, 1999)). However, before cognitivism became the default framework in psychology, philosophical accounts of intention were embedded in a very different (Wittgensteinian) tradition, of which Elizabeth Anscombe is the main representative. Recently, this tradition has been revived, and in current debates about intention the Anscombean perspective is considered one of the main contenders (Ford, Hornsby and Stoutland 2011, Sandis 2020, Haddock and Wiseman 2021). Even though we are sympathetic to the Anscombean approach, our aim for this paper is not to provide a general defense of her account of intention. Instead, the point we want to make is that Anscombe's view is a serious alternative to cognitivist accounts of intention, and that it offers a much better fit with the main tenets of ecological psychology than accounts like Davidson's or Bratman's.

⁸ Recently (2020), Gallagher has also used Anscombe as a source that might shed light on an embodied and situated understanding of agency. However, although Gallagher uses 'Anscombean examples' (most notably the example of the man pumping poisoned water), in fact he uses them to tell a quite different story. Gallagher argues that different descriptions of an action pick out different aspects of the situation, and proposes that we define actions in terms of the aspect that reflects the highest realized affordance.

Anscombe begins her main work, *Intention* (1957[2000]), by pointing out that her account covers three interrelated subjects: expression of intention for the future, intentional action, and intention in action. In her view, all three subjects can be understood by having a good grasp of the concept of intention. A crucial aspect of her approach is that she is adamant about the need to avoid reification of this concept. In fact, Anscombe is famous for rejecting what she dubs “Cartesian Psychology” and, with it, the idea that to understand the intention with which an agent did Φ we have to look inside her mind for some mental state.⁹ As she explicates, the pervasiveness of Cartesian Psychology:

conspires to make us think that if we want to know a man’s intentions it is into the contents of his mind, and only into these, that we must enquire; and, hence, that if we wish to understand what intention is, we must be investigating something whose existence is purely in the sphere of the mind; and that although intention issues in actions, and the way this happens also presents interesting questions, still what physically takes place, i.e., what a man actually does, is the very last thing we need to consider in our enquiry. Whereas I wish say that it is the first. (1957[2000], § 4, p. 9)

So, for Anscombe, if we want to understand the intention with which a particular agent did Φ , we must start by focusing on what she actually did (or is doing). This is so because, according to her, “intention is never a performance in the mind” (§ 27, p. 49). Besides, as Vogler (2001) explicates, Anscombe’s rejection of Cartesian Psychology can also be brought to bear against the so-called “standard account of action” as defended by philosophers like Davidson and Bratman, according to which intentional actions are material events that are caused by specific sorts of mental representations (the intentions).

But what are intentions, if not representational mental states? Here, Anscombe’s view bears similarities to Wittgenstein’s later writings about the notion of intention (Wittgenstein 1953; for a discussion see Kalis 2019). Bluntly put, her view is that intentions do not exist as particular entities: they are not states nor processes nor mechanisms. For Anscombe, as for Wittgenstein, expressions like “she has the intention to Φ ” and “she did Φ intentionally” constitute a certain form of description, in the sense that they allow us to give a certain qualification to what we do. As such, these expressions aim to provide information about ourselves or other agents, as Wittgenstein indicates in the *Philosophical Investigations*:

Why do I want to tell him about an intention too, as well as telling him what I did? – Not because the intention was also something which was going on at that time. But because I want to tell him something about myself, which goes beyond what happened at that time. (1953, § 659)

⁹ Anscombe characterizes “Cartesian Psychology” as the view that “an intention was an interior act of the mind which could be produced at will” (Anscombe 1961[1981], p. 59).

When asked about what distinguishes an intentional action from a non-intentional one, Anscombe's famous reply is that the former "are actions to which a certain sense of the question 'Why?' is given application; the sense is of course that in which the answer, if positive, gives a reason for acting" (§ 5, p. 9). To understand this idea, we first need to know that actions are only intentional *under a description*. The same action, Φ , can be described in multiple ways (flipping the switch, activating a circuit, moving air in the room, alerting a prowler), but only some of these descriptions indicate intentionality. So the question becomes, what makes an action intentional *under some description*? For Anscombe, the key is that certain descriptions identify the action as a means towards a certain goal. For example, if you ask your sister 'why did you flip that switch?', she can answer 'to turn on the light'. If you continue by asking, 'why did you turn on the light?', her answer might be 'it's getting dark, I could no longer see what I'm reading'. This answer tells you that your sister wants to read, that turning on the light is a means to reach that goal, and that flipping the switch is a means to turn on the light. By contrast, Anscombe would claim that if your sister replied by saying 'I was not aware I was flipping the switch!' (she might be leaning against it inadvertently), this answer would show her movement *not* to be an intentional action. Thus, in situations where the agent isn't aware of what she was doing, the question 'Why?' is refused application, indicating that the behaviour was non-intentional.

This points to another crucial feature of Anscombe's account: intentional action is characterized by practical knowledge.¹⁰ This is a very complex concept with wide ramifications (see, e.g., Ford et al. 2011; Moran 2004; Satne 2020; Teichmann 2000; Thompson 2011; Van Miltenburg 2011), but here we will focus on three core elements of the Anscombean view of it. Firstly, the idea that intentional action is characterized by practical knowledge entails that we know what we are doing intentionally without observation. This means that our knowledge is not the result of taking up information from the environment in the way a lot of our knowledge is – like my knowledge that it will be full moon tomorrow, or that cats are often brown or black, or the previously described situation where my sister suddenly noticed that she was flipping the switch.¹¹

As Van Miltenburg (2011) explicates, the fact that our practical knowledge is non-observational makes it possible that we can correct our actions on the fly: "Practical knowledge is the driving force behind intentional action. We constantly correct our movements, for instance, when we steer our hands towards a doorknob, and we do so because we know we are opening a door." This quote also points to the second feature of practical knowledge: that it is, as Aquinas quite cryptically stated, "the cause of what it understands" (Anscombe 1957, § 48, p. 89). Satne (2020) explains this in the following way: "knowledge of action is practical knowledge, in that it depends

¹⁰ As Schwenkler explicates, "knowledge is practical to the extent that it is a *doer's* way of knowing. Practical knowledge always concerns something that one *is able* to bring about, and in knowing such a thing in a practical way one may either be thinking *how* to bring it about, or be thinking of it *with the aim* of bringing it about, or both" (2019, p. 160).

¹¹ This claim must be understood as implying that perception *alone* does not suffice for practical knowledge. It does not follow, however, that perception cannot be an aid for it (see Schwenkler 2019, pp. 191–200).

on its special links to the individual's own powers of agency. It is the knowledge of something someone sets herself to do, and that she understands herself as doing when she does it." To clarify this feature, Moran (2004) discusses the following example from Velleman (1989): "You are walking up Fifth Avenue. All of a sudden you realize that you don't know what you're doing" (p. 15). Both Velleman and Moran claim that "the normal response to realizing this is to halt the movement one is engaged in until such knowledge can be recovered," and Moran makes the stronger suggestion that intentional action can *only* continue if the agent 'recovers' her practical knowledge. This indicates that in an important sense, intentional action depends on the agent knowing what she is doing.

The third feature of practical knowledge concerns the question *what* we know when we know what we are doing. Here, Anscombe explains that we know we are doing something, and how what we are doing is a means contributing to the realization of our ends: it is thus practical knowledge that allows agents to answer any 'why' questions addressed to them (1957, § 45–48).¹² To give an example: when you are typing, you know the movements you make on the keyboard make words appear on the screen, and how this will lead to a text that you need to write in order to, for instance, fulfil a promise you made to a colleague. After all, if you wouldn't know this, you wouldn't know how to go on (think back to the 'blinking' example). Regarding this point it is crucial to see that this doesn't mean that what ultimately happens is always what you intend to happen: not all our intentional actions reach completion (Thompson 2011; Kalis and Ometto 2019). However, the possibility of failure does not undermine the fact that: "Intentional action' always presupposes what might be called 'knowing one's way about' the matters described in the description under which an action can be called intentional, and this knowledge is exercised in the action and is practical knowledge" (Anscombe 1957, § 48, p. 89).¹³

The fact that practical knowledge is knowledge of means and ends, brings to the fore another crucial aspect of Anscombe's account of intention – namely, that the things we do intentionally can be described as forming an ordered means-end hierarchy or a teleological pattern (Stoutland 2011, p. 27). This idea is famously illustrated by the much-cited example of the man who is pumping poisoned water into a household (Anscombe 1957, §§ 23–27). There, Anscombe describes a single action

¹² On this point, the concept of practical knowledge is intrinsically connected to the concept of practical reasoning. Explaining this would move us to far away from the main argument of the paper, but for discussion and explanation see (Ford 2016; Ford, Hornsby, and Stoutland 2011).

¹³ Importantly, practical knowledge in the Anscombean sense is most aptly characterized as knowing *how* (Campbell 2018; Small 2020). This means that even though we can, if required, describe what we are doing in propositional terms, this is not a necessary condition for acting intentionally. As Kalis and Ometto (2019) show in the context of habitual actions, when we act habitually we are often aware of what we are doing while we act, but this action is not preceded by a prior process of thinking ("I need to do such and such"), nor is it accompanied with an explicit deliberation. For them, this is true of non-habitual actions too. For instance, they argue that while we are cooking risotto, we can initiate actions for that end (e.g., grabbing onions from the cupboard) without the necessity of thinking about these actions in an explicit way. The fact that this kind of knowledge is knowing *how* indicates that it need not be construed as representational. Even if this practical knowledge makes it possible that we describe what we are doing in propositional terms, practical knowledge should be understood as a non-speculative form of knowledge (Campbell 2018).

under four different descriptions: (A) moving the arms up and down, (B) operating the pump, (C) replenishing the house water supply, and (D) poisoning the household. According to Anscombe, the four descriptions form a series A-B-C-D, where each term is “related to the next as description of means to end; which means that we can speak equally well of *four* corresponding intentions, or of *one* intention – the last term that we have brought in the series” (§ 26, p. 46, emphasis original). For Anscombe, the teleological structure of intentional action is made clear by the fact that we can explain what the agent is doing either by showing how each individual description relates to the following one – A as a means to B, B as a means to C, and so on – or by citing D, poisoning the household, as the overall intention that covers the other descriptions.¹⁴

In sum, Anscombe’s view is that by describing an action as intentional, what we are doing is indicating that the agent knows what she is doing right now, and how what she is doing embodies a certain teleological structure. We will come back to this point in the conclusion, because it shows how Anscombe’s account of intention and intentional action inherently entails an understanding of what agency is.¹⁵

Recall, however, that Anscombe’s view does not imply that intentions or goals are representational states found in the agent’s mind. In fact, she is explicit that “an action is not called ‘intentional’ in virtue of any extra feature which exists when it is performed” and that “[w]e do not add anything attaching to the action at the time it is done by describing it as intentional” (§ 19, p. 28). Hence, the critical point of Anscombe’s anti-Cartesian philosophical psychology is the idea that actions embody a means-end organization, or a teleological pattern, without this organization being realized as states or processes in the agent’s mind.¹⁶

¹⁴ According to Anscombe, the more “abstract” the description the more circumstances are required for the description to apply (§ 26). Whether or not ‘pumping’ also counts as ‘poisoning’ cannot be determined by just taking a close look at the agent’s pumping movements. Instead, we need to know more about the situation. This suggests that in order to scale up in the hierarchy of intentional descriptions proposed by Anscombe, a situated account of cognition is needed (Gallagher 2020). This idea is, once again, mirrored in the ecological literature. For instance, Reed claims that “[t]o have an intention requires objects as well as subjects [...] And both objects and subjects must be situated in a setting” (1993, p. 62).

¹⁵ A first-pass objection to our project is that if the Anscombean account of the structure of intentional action presupposes the existence of a capacity to answer Why-questions, then only human beings with linguistic capacities can be considered agents. This view would be incompatible with ecological psychology, for which agency is a feature shared by all living organisms. We think, however, that this objection does not hold. It is true that Anscombe understands concepts like agency and intention to be first and foremost at home in discourses about human beings. However, what intention talk *does*, is pointing out that an agent’s doings manifest a means-end hierarchy or teleological pattern. And as Anscombe herself emphasizes, animal behavior can certainly manifest such a pattern: “we certainly ascribe intention to animals. The reason is precisely that we describe what they do in a manner perfectly characteristic of the use of intention concepts: we describe what *further* they are doing *in* doing something” (§ 47, p. 86; see also Moran and Stone 2009). Hence, if we can answer the question ‘Why is the cat climbing the tree?’ by saying that he is stalking a bird he wants to catch, then we are showing that the cat’s actions are intentional in the sense that they embody a means-end hierarchy. Importantly, for Anscombe, describing the cat’s actions as intentional in this context is perfectly valid, “though the cat can utter no thoughts, and cannot give expression to any knowledge of its own action, or to any intentions either” (§ 47, p. 87). Thus, even if the capacity to answer why-questions is a core feature of *human* agency, we can also legitimately use agency concepts to understand goal-directedness in other lifeforms.

¹⁶ “The concept *intention* applies in each case to the *description* and assigns it to a calculative order; it does not apply to some state or property, mental or physical, of a human being” (Wiseman 2017, p. 161).

To finish up, we hold that the Anscombean anti-Cartesian analysis of intention is totally compatible with the ecological treatment of the notion offered by Heft (1989) and Reed (1993). In particular, we hold that it bears interesting similarities to Reed's idea, mentioned earlier, that "from an ecological point of view, intentions are not causes of action, but patterns of organization of action" (1993, p. 63). The crucial difference, however, is that for Anscombe the means-end structures of action depend on the agent's practical knowledge of what she is doing or aims to do. This implies that it is the agent's practical knowledge that determines what affordances in the environment she will seek to perceive and utilize, thus excluding the possibility that perception-action cycles be selected without the agent's control and allowing the agent to intend something for which there are not affordances present.

4 Intention and Direct Perception of Affordances

This brings us to the second challenge: Doesn't bringing in the notion of intention undermine the idea that perception is direct, in the sense of being non-mediated by further cognitive processes? We believe that this objection could be countered by emphasizing that, for Anscombe, intentions are not representational states inside the mind of the agent. Nonetheless, it remains to be shown that we can make compatible the claim that "[t]he perceived affordance of an object can change in immediate experience as the goal of intentional action changes" (Heft 2003, p. 174) with the view that affordances are directly perceived in the environment, instead of mentally construed and subjectively imposed on it (see Withagen and Van der Kamp 2010).

In order to show how Anscombe's ideas could address this challenge, we first need to look a bit more closely at the relation between action (which was our main focus until now) and perception. In her paper "The intentionality of sensation: a grammatical feature" (1965), Anscombe addresses this relation by explaining how perception¹⁷ can be understood as an intentional activity. In doing so she hopes to establish a middle ground position between two in her view mistaken ideas concerning perception: the idea that what we perceive are private sense-data (the "sense-datum theory"), on the one hand, and the view that we perceive the world exactly as it is, without further qualification – a position she associates with some defenders of "ordinary language theory", most notably Austin (1962), on the other. Interestingly, even though Anscombe takes sides with those who, like Austin, defend a non-mediated (i.e., direct) theory of perception, thus rejecting the sense-datum theory, she criticizes the ordinary language approach too, because it disregards the intrinsic first-personal nature of perceptual activity.¹⁸

Crucially, Anscombe argues that a middle ground position can be established once we acknowledge that intention, understood in the scholastic meaning of *intentio* or

¹⁷ As Teichmann explicates, although Anscombe alludes to sensation, "it is sense-perception she mainly has in mind" (2008, p. 130). Following Teichmann, in the following we will speak of perception.

¹⁸ Remarkably, we find a similar move in Gibson (1976[1982], p. 397). Even though Gibson agrees with Austin regarding the need for a theory of direct perception, he also rejects Austin's account of it. Gibson's ecological psychology can thus be seen as defending a similar middle ground between sense-datum views and Austin's naïve realism.

“aiming at”, characterizes both perception and action (Anscombe 1965, p. 56; Aucouturier 2015, p. 218). In her view, both the ways in which we behave *and* the ways in which we perceive are often characterized by intentionality or aiming (see Frey and Frey 2017). To show why this is so, Anscombe elucidates the intentional character of perception by discussing some important features that it shares with action.¹⁹ We will take a closer look at two of these features: (i) what we see, hear, smell, and so on, can be characterized under different descriptions; and (ii) we can be mistaken regarding what we perceive.

For starters, Anscombe argues that perception, like action, can be characterized under different descriptions. Quite tellingly, she illustrates this first point with an example that links perception with the act of aiming: “A man aims at a stag; but the thing he took for a stag was his father, and he shoots his father” (1965, p. 63). Given this scenario, Anscombe wonders about what the man was aiming at and what he saw. For her, there are two possible answers here. One possible answer would be to say that he saw his father, and that in shooting he was aiming at his father. There is a clear sense in which this is true: the thing he took for a stag indeed *was* his father. However, we can also say that even though the man eventually shot his father, he was aiming at a stag. Just like a single action has multiple descriptions, only some of which indicate the intention with which an action is done, what we see, hear and so on can also be described in multiple ways. Whereas the first answer appeals to the object he actually hit (the “material object” of his perception – see Anscombe 1965, p. 71), the second gives us what he intended to hit (the “intentional object” of his perception).

Importantly, Anscombe is not suggesting here that the intentional and the material object are two separate entities, as if the intentional object existed in the mind of the perceiver, the way a sense-datum theorist would claim. She is certainly not introducing a metaphysical duality here.²⁰ Instead, Anscombe emphasizes that she is concerned with the fact that perception verbs (seeing, hearing, and the like) have both material and intentional uses. That we can use perception verbs in these two ways precisely captures the fact that perception both establishes an unmediated connection to the real world, while nevertheless being an inherently first-personal, practical activity. It is the second use (the intentional use) that aims to capture our first-personal practical perspective on what we see.

We believe the same dual approach is also found in the ecological account of perception. On the one hand, ecological psychologists describe the environment or ecological niche of a species as composed of affordances, which depend on functional relations that hold between a group of perceivers’ bodily features and skills

¹⁹ As the title of her paper already indicates, Anscombe takes a ‘grammatical approach’ to the problems of perception and action. She aims to elucidate the phenomena of action and perception by investigating how we can talk about these phenomena. Although this method is very different from the methods that are common in ecological psychology, we do not think this is necessarily a problem. Just like Anscombe, we take her insights about the grammar of sensation verbs to have meaningful implications about the phenomena of action and perception themselves, and it is these implications we will bring to the fore as conceptual tools for ecological psychology.

²⁰ As she explicates, using other intentional verbs: “Objects of desire, objects of thought, are not objects in the one common modern sense, not individual things, such as *the objects found in the accused man’s pockets*. [...] I will introduce the phrase “intentional object” to mean “object” in the older sense which still occurs in “object of desire”” (Anscombe 1965, p. 55–6).

and the environment's properties. These are objective relations that determine that some affordances exist for certain perceivers but not for others – i.e., a step is *climbable* if the relationship between the height of a step and the length of the perceiver's legs is lower than 0.88 (Warren 1984; Warren 2021). On the other hand, ecological psychology describes the perception of these affordances by an individual *in a particular moment*, which depends on the current detection of the information that specifies these affordances. Now, the crucial point is that we do not perceive *all* possible actions a single object or environmental setting affords. Instead, we perceive only some of them. This is so, we agree with Heft, because the perception of affordances is scaled to the intentions of the perceiver. For instance, a chair in the middle of the corridor will be perceived as an obstacle if I want to move along the corridor. By contrast, when I am looking for a place to rest, this chair will be perceived as affording the possibility to sit on it. Thus, seeing affordances has material features in that we are responding to actual properties of the world, but seeing affordances also has intentional features in that we see a means-end hierarchy: we see ways to interact with our environment that bring us closer to our goals. Hence, the same object can be perceived as affording different actions at different moments, depending on what the individual intends to do.

This, however, does not imply that we impose affordances onto the world, nor that they are created in the mind of the perceiver. As we said before, affordances exist in virtue of objective relations between the perceiver (including her bodily features and skills) and the environment, and their existence is independent of the agent's intentions. Our claim that perception is intentional (or that it is scaled to the agent's intentions) is to be understood as the claim that we modulate our detection of information on the basis of what we aim to achieve (see Brancazio and Segundo-Ortin 2020 and Segundo-Ortin 2022). Imagine, for instance, that we are looking for an object that we can use as a paperweight. We will scan our environment (via a series of exploratory actions), focusing our attention on the informational variables that are behaviorally relevant to our goal – variables that specify, for instance, the presence of a moderately heavy object that we could grasp – while other variables are ignored. As a result, we will look at different objects perceiving whether they can be used as a paperweight. The same applies if we want to hunt a stag: We will explore the environment seeking for information that specifies the presence of a stag we can aim at.

Hence, against what Withagen and van der Kamp (2010) imply, the view that intentions affect our perception of affordances does not imply that perception is indirect, nor that affordances are subjectively imposed on perceptual information. Intentions do not mediate perception by means of interpreting or enriching the detected information, transforming it into a percept, or adding an inferential step between the detection of information and the perception of affordances. By contrast, our view is that we guide our perceptual search, actively constraining our attention and exploratory perception-action cycles to detect the informational variables that specify those affordances that are relevant for our intentions. Affordances, we hold, are real properties of the ecological niche, and they are directly perceived, although what affordances we perceive depends at a particular time, at least to a certain extent, of what

we intend to do.²¹ We take this feature of ecological psychology to be perfectly in line with Anscombe's demand for an account of perception that avoids both the Scylla of Austin-style naïve realism and the Charybdis of accounts that take perception to be inherently mediated or indirect.

Importantly, if our hypothesis is correct, we have all we need to explain the link between direct perception and agency that Cutting (1982) demands. In short, if we are right that our perception is guided by the goals we intend to achieve, it is very plausible that we will only perceive affordances that are relevant for our intentions. Perception and action are linked because both *aim* at particular intended goals. In consonance with the Anscombean view, we hold that this link is made possible by our first-personal practical knowledge of what we aim to achieve.

The second feature of intentionality which Anscombe took to be shared by perception and action is the way in which both 'intentional activities' can misfire. Her point is that just like action, perception is a first-personal achievement that can sometimes go wrong in specific ways. In Anscombe's example, a man takes "a dark patch against the foliage" for a stag, even though that dark patch is actually "his father's hat with his father's head in it" (p. 71). Crucially, this perceptual mistake results in a practical mistake: the man hits his father although he intended to hit a stag. The possibility of perceptual error, where the agent fails to perceive a relevant affordance, is also acknowledged in the ecological literature. Consider this example:

an adult can misperceive the affordance of a sheet of glass by mistaking a closed glass door for an open doorway and attempting to walk through it. He then crashes into the barrier and is injured. The affordance of collision was not specified by the outflow of optical texture in the array, or it was insufficiently specified. He mistook glass for air. (J. J. Gibson 1979[2015], p. 133)

In this situation, because the information available in the environment was not sufficiently specific for the agent to be aware that there was a closed glass door, the agent did not see that he could not walk into the corridor. This led him to crash into the glass.

But, again, the possibility of perceptual error does not imply that affordances must be inferred or mentally represented for such errors to occur. Rather, perceptual error occurs when we detect the wrong perceptual information for what we intend to do. To come back to Anscombe's example, if there had been information to specify that the dark patch was not a stag, or if the hunter would have taken the time to explore the environment more thoroughly (e.g., getting closer to its target), he would not have shot at his father. In Anscombe's example, like in Gibson's, "[t]he mistaken perceptions led to inappropriate actions" (J. J. Gibson 1979[2015], p. 134).

In sum, we hold that Anscombe's notion of intention can help ecological psychology to understand how perception of affordances can be direct and neverthe-

²¹ We believe this interpretation agrees with J. J. Gibson's views: "[W]hat about the "intentionality" of perception, the active, striving nature of perception when an observer is seeking information instead of simply having it presented to him? [...] What sounds to me promising is to begin with the assumption that *active perception is controlled by a search for the affordances of the environment* and that active behavior is controlled by the perceiving of these affordances." (1974[1982], pp. 387–388, emphasis added).

less intentionally modulated. Our inherently first-personal perspective on the world when we perceive shows that perception is, in itself, a sort of aiming (Frey and Frey 2017). This explains why the same objects can be perceived as affording different things, depending on what we intend to achieve. Our intention, our inherently first-personal practical knowledge of what we are doing (and aim to do), makes us focus our attention on certain properties of the world while ignoring others, and this leads to our being aware of particular affordances only. This explains how perception can be guided by intention while nevertheless being direct.

5 Concluding Remarks

In this paper, we have argued that adopting an Anscombean approach to intention can help us make sense of the idea that one's perception of affordances is direct (non-mediated by mental representations and inferences) and at the same time guided by one's intentions. By adopting this framework, we can iron out the suspicions raised by some Gibsonian theorists that the notion of intention might be incompatible with an ecological theory of perception and action.

Nonetheless, it can be argued that since the work of Anscombe is conceptual in nature, it remains to be shown how adopting the Anscombean framework can provide substantial contributions to the field of ecological psychology. This would be a long-term project. In this conclusion, we want to propose some potentially fruitful routes such a project could take.

First of all, recall that the core notion in Anscombe's view is practical knowledge. According to her, in acting intentionally we know that what we are doing right now has a certain means-end structure. Moreover, this knowledge is practical (or "productive") in that it brings about the action. The Anscombean approach thus provides an understanding of agency that is very different from the standard account of action, which assumes that actions are caused by internal representational states (the intentions). Crucially, even though the notion of practical knowledge requires further elucidation (a project picked up in for example Haddock and Wiseman (2021) and Teichmann (in press)), we believe that linking the notion of intention to that of practical knowledge can offer ecological psychologists new leads towards understanding agency.²²

Secondly, we believe that Anscombe's view can be fruitfully combined with some ideas already present in the ecological literature. One such idea is the that affordances are invitations (Withagen et al. 2012; Withagen et al. 2017; Rietveld and Kiverstein 2014). In the introduction, we argued that this view seems to already presuppose agency instead of explaining it: for affordances to be experienced as invitations, we need an individual that actively explores the environment, attuning her attention to detect some informational variables instead of others. Our proposal is that in order to understand how agents actively explore the environment perceiving some affordances as invitations, we must understand the relationship between practical knowl-

²² For an attempt to make compatible the notion of practical knowledge with the notion of affordance see Ford (2016).

edge and perception. According to our view, the fact that some affordances invite behavior is not due to any property of the affordances themselves, but to the fact that these affordances are related to the agent's practical knowledge of what she is doing or aims to do. As we see it, an Anscombean approach can help make sense of the view that the inviting affordances may depend, at least partially, on the current intentions of the agent (see Withagen et al. 2017, p. 13 for a suggestion that this is so) while avoiding the problems of conceiving of intentions as "internal processes" (Withagen and van der Kamp 2010, p. 155).

Thirdly, we submit the view that Anscombe's theory paves the way for looking in a new way at the relation between different types of action. Whereas ecological psychology has provided strong accounts of how we behave in our immediate environment (picking up a cup, climbing a flight of stairs), it remains to be shown how the perception and actualization of affordances in the *here-and-now* contributes to the realization of temporally remote actions (such as taking a trip to Spain in a week, or finishing your Bachelor's programme this year – see Brancazio and Segundo-Ortin 2020 for a full analysis of this problem). Again, we think that investigating the relationship between practical knowledge and affordance perception can help shed new light on this issue. Even though there is no information that specifies the possibility of taking a trip to Spain next week, we perceive those affordances present in our immediate environment which allow us to take the necessary means for taking such a trip (packing up the luggage, taking our passport, driving to the airport). Following Anscombe, we propose that what unifies these seemingly independent perception-action cycles is our practical knowledge of the situation – thus, our knowledge that certain concrete affordances allow us to realize the means necessary to achieve a more abstract or distal goal.

Finally, and in line with Brancazio and Segundo-Ortin's (2020) proposal, it would be interesting to investigate the relationship between practical knowledge and language, and more specifically the role of language in ecological perception. Importantly, even though the idea that language has an effect on perception is already present in the work of some ecological psychologists – see, e.g., Gibson (1966) and Reed (1996) – adopting an Anscombean approach can help us formulate more concrete hypotheses about their relation. According to Anscombe, the concepts that matter most for agency are those that we use to give and ask for practical reasons ("because", "in order to", and so on) (Schwenkler 2019). The Anscombean view thus suggests that mastering the skills associated with the use of these concepts provides us with specific ways to reflect about the world and ourselves (e.g., to self-ascribe intentions, to ascribe intentions to others, etc.), which increases our possibilities for regulating our own action, embodying more sophisticated teleological patterns. This suggests that our linguistic capacities affect the way we perceive the world in terms of affordances.

To wrap up, we hold that adopting an Anscombean approach to intention opens new ways for thinking about the relationship between agency and ecological perception. It is time for ecological psychologists to make use of existing anti-representational sources in the philosophy of action.

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