# Pretence: role of representations and intersubjectivity?

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For my family

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## Abstract

This thesis investigates the role of representations and intersubjectivity in explaining pretend play of young children. Its goal is to show that basic forms of pretending can be explained without recourse to mental representations. The thesis targets two aspects of pretence: imagining (underlying the ability to act as if), and guiding (underlying the ability to play in specific ways). It proposes an alternative account of pretence to cognitivist accounts that dominate in the literature. The alternative account is based on enactivism; it proposes to explain pretending through dynamic interactions of environmental affordances and animal effectivities in context. The thesis emphasises the role of social and environmental factors as well as cultural engagements in shaping the relevant context for pretence to occur. The thesis is an important contribution both to the literature on pretence as well as to philosophy of mind. While the topic of pretence is narrow, considering it through enactive lens involves considering some of the most debated issues, such as the applicability of mechanistic explanations to studying cognition.

# Chapter 1. Stage Setting

This chapter introduces the topic of pretence and sets the stage for other chapters. Section 1.1 clarifies why the focus of this thesis is both on representations and intersubjectivity in pretence, and explains the basic strategy of the thesis. Section 1.2 explains the motivations behind targeting explanations based on mental representations and behind looking for enactivist alternatives. Section 1.3 explains why the target of this thesis is solely the explanation of basic acts of pretend play of young children, such as playing that a banana is a phone. Section 1.4 clarifies what mental representations are and clarifies how they will be understood throughout the thesis. Section 1.5 explains what will be involved in each consecutive chapters of the thesis.

## *1.1 Introduction to the thesis topics*

As the title "Pretence: role of representations and intersubjectivity?" suggests, the focus of this thesis is twofold. Primarily, the thesis questions the role that representations – in particular mental representations – play in explaining how one engages in pretending. The thesis argues that mental representations need not be involved in the explanation of pretending; defending this possibility is the main purpose of the thesis. The second, additional aim of the thesis is to highlight the role of intersubjectivity, or social and environmental engagements (as emphasised by the enactive accounts of cognition) in the proposed initial sketch of an alternative explanation of pretending. Looking for an enactive account of pretence, which stresses the role of the others in shaping cognition, is a result of challenging the roles that mental representations are supposed to play in the explanatory account of pretence. The thesis contrasts the roles that representations and intersubjectivity play in explaining some aspects of pretending. It questions whether representations (in particular, mental representations) must do the required explanatory work, and whether or not intersubjective factors and norms can be involved in that same explanatory work. Hence, the broad nature of the title serves to capture exploration of viable alternatives to explaining some aspects of pretending.

The basic strategy of the thesis is to first determine which jobs mental representations have been designated to perform in explaining pretending, and then to argue that either the job in question does not need doing (because, on close inspection, pretending does not actually involve it) or that the job does need doing but something other than mental representations can be posited to do it. For this purpose, the most developed and recent theories of pretence that posit mental representations in explaining pretence will be reviewed. The most developed proposals include, i.e., the cognitive models of Leslie (1987) and Nichols and Stich (2000, 2003), and the most recent models are those of Currie (2009) and van Leeuwen (2013). The thesis extracts what jobs mental representations are supposed to play and focuses on two exemplar jobs to analyse further ('imagining' and 'guiding'). This analysis determines if it is credible that *only* mental representations can do those jobs, which is the commonly held view. The aim of this part of the analysis is to establish that, basing on the two cases, it is at least possible to explain pretending without positing mental representations. The thesis concludes with arguing that the mechanisms that posit mental representations are not the *only* mechanisms that can explain how pretending comes about. Something else can do the explanatory work in accounting for pretending, as, for example, affordances, which serve as the alternative posits to mental representations.

The thesis also provides an initial sketch of an alternative story of what explains pretending that involves how we relate to our bodies (embodiment), our environment (embeddedness) and one another (intersubjectivity). The last aspect (intersubjectivity) is looked at in more detail. The thesis considers special practices that involve other people, and looks at the extent to which they play a role in pretence. While it may be possible to give an intersubjective account of how pretending comes about that also involves mental representations, the cognitivist philosophers who propose explanations involving mental representations take them to operate wholly within individuals (e.g., Nichols and Stich, 2000, 2003). Thus, showing that mental representations need not be posited to explain pretence opens up a door for a truly intersubjective account of pretence.

The thesis proposes the beginnings of a possible alternative story – the Enactive Account of Pretend Play – providing an initial suggestion about how we might address the 'how else are we to explain pretence without mental

representations?' question. The initial sketch of the positive story includes the notion of affordances and the possibility of dynamical mechanisms, which play a role in explaining various aspects of pretence. Such story may, in light of new developments in the cognitive sciences, turn out to be a contender for the best explanation of pretence, although at this stage the alternative account is complex and requires further development. Proposing a developed theory of enactive and intersubjective pretending is not the goal of this thesis.[1] The thesis will be successful if it can open the way for such work by establishing that mental representations are not necessary in explaining pretending, as something else can do their jobs. The thesis proposes that affordances can serve as the alternative explanatory posits that can play the relevant roles mental representations are supposed to play. Thus, it is not the purpose of this thesis to provide knockdown arguments against the existence of mental representations as such. It is not even to argue directly against the existing mental representational accounts of pretence. The aim is simply to establish the possibility proof that positing mental representations is not the *only way* to explain pretending.

This thesis is important because of its novelty; to-date, there is no available explanation of pretending that questions the role of mental representations in its explanatory role. I anticipate the need for such explanation given the emerging embodied, enactive and intersubjective trends in philosophy and cognitive science. This thesis is the first step towards developing such an account. If it is shown that pretending need not involve mental representations in its explanation, this has further implications for other related topics in philosophy of mind and cognitive science, such as understanding workings of cognition in general. In addition, that pretending might be understood without appeal to mental representations can make a difference to practical domains, such as to therapy that uses pretend play.

### *1.2 Motivations*

There are two main motivations behind looking at the role of representations and intersubjectivity in explaining pretence. First has to do with increasing challenges to

[1] To argue for a truly intersubjective explanation of pretending, I would have to compare the cognitivist accounts that posit mental representations with a developed alternative account, arguing that the latter better explains pretending in light of some accumulated evidence. While the analysis of this thesis prepares the ground for such work, providing a detailed alternative account of pretence is beyond the scope of this thesis.

the standard cognitivist accounts of cognition and emerging proposals of embodied and enactive cognition (Shapiro, 2007; Chemero, 2009; Hutto and Myin, 2013). Second has to do with renewed interest in intersubjective accounts of cognition (De Jaegher and Di Paolo, 2009; Gallagher 2009).

There are new arguments on the horizon that put standard views of mental representationalism in question. For example, Hutto and Myin (2013) challenge whether basic minds (such as those of non-linguistic young children) have mental contents to begin with. They argue that so far there is no naturalised account of mental content, and no satisfactory theory of informational content available that could explain mental contents in terms of informational contents.[2] The only articulated theory of such content that all naturalised theories of representation have attempted to build upon is the theory of informational content outlined by Dretske (1981), who identifies information with covariance, which logically precludes it from constituting content of the relevant kind (which is the truth-evaluable content, as will be explains in section 1.4 of this chapter). Hutto and Myin argue not only that other, richer and credible candidate notions of informational content have yet to be articulated, but also that it is likely that they will lack the requisite scientific credentials to do the work required by explanatory naturalism. On this basis, they cast doubt on the standard theories of mental representation and on the idea that basic cognition involves truth-conditional or other kinds of content.

Hutto and Myin's reasons for rejecting contentful mental representations are highly debated, and it is not the intention of this thesis to support their argument. It is enough, however, that their arguments cast a shadow on the standard cognitivist approaches, thereby motivating exploration of possible non-representational accounts of aspects of cognition. Doubts about positing mental representations to explain cognition have already been raised by other scholars in the philosophical community (Ramsey, 2007; Chemero, 2009), and suggestions for alternative accounts of cognition are further supported by the intersubjective interaction approaches to social cognition (e.g., Gallagher, 2001). Looking for non-mental representational accounts of cognition can raise understandable scepticism, not in the least with regard to

[2] As they argue, "anything that deserves to be called content has special properties – e.g., truth, reference, implication – that make it logically distinct from and irreducible to mere covariance relations holding between states of affairs" (Hutto and Myin, 2013, p. 67). The idea that covariance does not constitute content motivates their argument that there is no naturalized account of content other than correlation, which cannot do the job content has to do.

pretence. Considering the default framing of pretence in terms of mental representations, as will be shown in Chapter 2, many think non-represenationalism about pretence is a non-starter. For example, Spaulding (2010) lays down a challenge to Gallagher's (2009) primary and secondary intersubjectivity stances to explain what is going on when a child pretends. Spaulding does not think that the embodied and enactive accounts of cognition can give an appropriate explanation of pretending. She follows Baron-Cohen (1995) in saying that

> (The) *developed* capacities for (pretence) require a *developed* capacity for mindreading. To *fully* understand these kinds of behaviors, one must be able to appreciate aspects of interactions that become apparent only after developing mindreading abilities, but that is not to say that prior to mastering mental state concepts children cannot even begin to engage in these behaviors" (2010, p.14).

This claim distinguishes between "developed" capacities for pretence and potential underdeveloped one, as well as its "full" understanding and potentially its partical understanding. While it is not clear when "these kind of behaviours" (of the underdeveloped pretence) stop and genuine pretence starts, there is a logical space that would allow the proponents of the embodied, enactive and intersubjective cognition to accommodate young children to count as genuine pretenders (the logic of the position is clarified in section 1.3). Hence, this thesis will begin to meet Spaulding's challenge.

The first motivation for this thesis is to propose an alternative account of pretence that does not posit mental representations has not yet been proposed or defended in the philosophical literature. Preliminary ecological account of pretence have been proposed in the recent past by psychologists, who proposed a de-individualised account of pretence, contextualised in the worldly engagements and social interactions (see Szokolsky, 2006). However, the available ecological approaches do not address the question of mental representations; it is even possible that they could accommodate mental representations, as explicit reasons why mental representations are not needed have not been voiced. Moreover, inspired by the ecological psychologists, the second motivation for this thesis it to showcase the role of intersubjectivity in explaining pretending, when pretending is understood as acting

on affordances. The thesis will show that other people play an important role in pretence, forming the required context for pretence affordances to be acted upon.[3]

*1.3 Target: pretend play of children*

In evaluating the possibility of articulating an alternative explanation of pretence, this dissertation will focus mainly on young, pre-linguistic children's engagement in pretend playing, taking banana-phone play to be a paradigm case of pretence. Other, adult or non-human pretence is also possible (Mitchell, 2002), but focusing on cases of pretence of young children is interesting for several reasons, and important for one big reason. It is interesting as human children are said to be the prototypical pretenders, and one might believe that "understanding children's pretence is necessary to get some idea as to the phenomenon itself and its scope" (Mitchell, 2002, p. 4). Pretending is an activity that (most) children engage in on a routine basis. It is an example of a common interaction in child play; it varies between individuals and throughout child development. Pretence is an important subject of philosophical study, as, for example, it is often held to be indicative of having a Theory of Mind (see Baron-Cohen, 1995). There are developmental reasons for studying child pretence to get insight into the learning capacities of children. In clinical psychology, engaging in pretend play is deemed as one of the benchmarks of healthy development of social cognition, as we see underdeveloped spontaneous pretend play in children with Autism Spectrum Disorder (ASD).

However, the main reason the thesis focuses on young children's pretend play behaviour is for the following reason. While pretence has been commonly said to require 'symbolic thinking' or symbol-swapping of some kind, it is not clear whether 18 month old children – the likely first genuine pretenders, as agreed on in various philosophical and psychological literature – can pretend without having mastered a public language. Object-substitution play (like the banana-phone play) of 18-month-old children is particularly interesting as typically, such pretend activity is seen as a symbolic activity (Piaget, 1945/1962; Leslie, 1987; Nichols and Stich, 2000, 2003; Mitchell, 2002). Many in the field are inclined to speak of pretence as an activity of

[3] The pretence need not be social or group pretence; Chapter 7 will show clearly that even individual pretence is largely socially scaffolded, thereby arguing for the important role of intersubjectivity in pretence.

symbolic thinking; just as symbols stand in for something else (e.g., a flag stands for the country 'X'), so pretence shows itself as requiring being able to treat one thing (e.g., a banana) as another (e.g., 'a phone'). And for many, in turn, this seems to require being able to *represent one thing as another*. They rely on the Piagetian idea that pretence involves a 'signifier' and what is 'signified' (1945/1962), and this sets up the discussion about pretending in representational terms.

Therefore, it is necessary to look at the earliest forms of pretence. What makes examining the play of pre-linguistic children so important is that pretence seems to be constitutively *representational* (as will be discussed in detail in Chapter 2). Given that young children are not full-blown language users and symbolisers, the consensus is that to be pretending is necessarily to be *mentally representing*. It is not surprising that scholars such as Leslie (1987) and Nichols and Stich (2003) phrase their research question as follows: "How is it possible for a child to *think* about the banana as a phone?" This way of framing the question already assumes the legitimacy of an intellectualist understanding of the nature of pretence. Yet, how can such imaginative, seemingly symbol-swapping, abilities be in place prior to mastery of public language, pertinent to symbolic (counterfactual, hypothetical) thinking? There is no indication that such young children know how to form symbols or have mastered external and public practices such as linguistic manipulation of concepts (the evidence is rather to the contrary). This, in turn, should preclude very young children without such capacities from being counted as genuine pretenders, unless we can account for the relevant symbol-swapping capacities that involve manipulation of representations to be taking place in the child's cognitive architecture (Leslie 1987, Nichols and Stich 2003). Cognitivists often posit mental machinery that takes care of the symbol swapping by means of mental representations. For example, Nichols and Stich (2003) famously hypothesised mental mechanisms to explain how pretence can be achieved. Others (Velleman, 2000; Currie, 2006; Doggett and Egan, 2007) turn to non-propositional imagination to do that job. The standard view is that pretending is made possible by some sort of ability to represent alternative scenarios, and act upon these. However, as children are known to grasp false beliefs only at around the age of four (Baron-Cohen et al., 1985), a closer look at pretence, which seems to show itself already at the infantile age of one and a half years, bears important implications. On the one hand, Onishi and Baillargeon's (2005) violation of expectation test is said to

serve as evidence for infantile grasp of false-beliefs, which suggest support for the idea that meta-representational capacities might be in play even in early pretence. On the other hand, the young age of pretenders suggests implausibility that complex symbol-swapping mechanisms need to be in place prior to explicit use of language (Huttelnocher and Higgins, 1978).

We can propose a Logical Possibilities Table to capture these distinctions (Table 1). First possibility is that pretending necessarily requires representing (as it is a symbol-swapping activity), but *ala* Huttenlocher and Higgins (1978), only explicit language users can do the representing; in which case it would follow that young children who are non- or poor-language users (as children of the age of 18 months) could not be counted as genuine pretenders. At best, their behaviours can be counted as 'proto-pretence' behaviours. Second possibility is that pretending necessarily requires representing (as it is a symbol-swapping activity), but the symbol swapping can be done without explicit linguistic manipulations. This is where cognitive mechanisms such as decoupling mechanism (Leslie, 1987) or inference mechanism (Nichols and Stich, 2000, 2003) are introduced. These structures rely on mental representations. Most available positions on pretence propose to involve mental representational structures to account for the symbolic nature of pretending (as will be shown in Chapter 2). This possibility allows, however, for 18-month-old children to be counted as genuine pretenders. What has not yet been proposed is a third alternative. This is the logical possibility that pretending many not require representing (either linguistic or mental), but 18-month-old children can still be counted as genuine pretenders (indication for why we would want to count them as genuine pretenders is their behaviour that looks like pretence behaviour). This is where an enactive account of pretence can fill the void. This thesis specifically targets the second and third possibilities, arguing against the view that if young pre-verbal children are genuine pretenders, we need to posit mental representations in the explanation of their pretence. The thesis shelves the question whether banana-phone pretence play of 18-month-olds is in fact genuine pretence (assuming that it is), thereby, not addressing the first possibility.

Table 1. The Logical Possibilities Table

## Logical Possibilities Table

| Is Pretence Necessarily Representational? | Young children (non- or poor-language users) |
|---|---|
| Option 1: **Yes** – Linguistic representations (*Huttenlocher and Higgins, Davidson, [Rakoczy]*) | Denies the possibility of pretence (at best proto-pretence) |
| Option 2: **Yes** – Mental representations (*Fodor, Piaget, Leslie, Perner, Nichols & Stich, Harris & Kavanaugh, Lillard, Currrie*) | Allows for genuine pretence<br><br>(thinking as if, acting as if, intentionally acting as if) |
| Option 3: **No** | Allows for genuine pretence |

Moreover, there are different types of behaviours one can engage in that have been treated as 'pretence' behaviours. It is difficult to draw a sharp line between acts of pretence that require sophisticated cognitive capacities and ones that do not. What follows is that there is no clear agreement about which behaviours should count as 'genuine' pretence behaviours. As such, classifying an act as genuine pretence depends on the theorists' ideas about what is necessary for pretence to occur, such as whether the agent that is pretending has the right mental capacities. What these necessary capacities are, however, differs across the literature. For example, some theorists (Huttenlocher and Higgins, 1978; Rakoczy, 2005) support the idea that full-blown linguistic capacities must be in place for a child to be considered a genuine pretender; as the former claim, "true evidence of pretence is when verbalization

reveals a symbolic or pretence attitude prior to his/her act" (1978, p. 124). Explicit linguistic capacities and verbalisation are taken to be required to confirm engagement in a pretence act; without such confirmation, there seems to be no way of telling if the child is truly pretending. In some ways this approach is compelling; indeed there is no *clear* way of *telling* whether pretence is going on without the child clarifying that what he/she is doing is "not for real." However, it is also questionable whether verbal confirmation of pretence *must* take place to reasonably treat someone as a pretender. Many pretenders that can speak simply do not bother to make such an explicit gesture (or do not want to make it), especially when they are using pretence for the purpose of deception. It might also be case that pretence requires symbolic manipulations, which can only take place with developed linguistic skills. Then, young children's pretence becomes problematic, unless we accept that the symbol-swapping process occurs by means of mental representations. This is the second, accepted view, which the thesis questions.

This is why the focus of the thesis is on the earliest forms of what is taken to be genuine pretence, such as simple banana-phone object substitution play. It would be possible to analyse adult pretence as well, but as adults have developed language in place, it may seem easier to posit that their linguistic skills are the source of their pretence. With young children it is not clear whether representational or symbol-swapping structures are in place. Therefore, it is crucial to take young children's play behaviours as examples; analysing play of children takes away one possible explanation of their behaviour – that fully developed language is doing the relevant work – and so allows us to focus on the two other explanations: one involving mental representations in the cognitive mechanism of pretence, and its alternative, the wide, enactive and intersubjective mechanism of pretence. The alternative suggests that pre-linguistic children can still be considered as genuine pretenders, but mental representations need not play the relevant roles.

### *1.4 How to understand mental representations?*

As the main purpose of this thesis is to argue for the possibility of explaining pretence without positing mental representations, it is crucial to explain from the start what will be meant by 'mental representations'. There are different ways to understand

what mental representations are.[4] To quote Chemero (2009),

Mental representations are theoretical entities (…). That is, just as we might posit dark matter to explain observations in astronomy, we posit mental representations to explain observations of intelligent or adaptive behaviour. Mental representations, then, are parts of explanations of behaviour, and their existence is vindicated and their proposed properties are confirmed by the success of explanations that call upon them. The role of mental representations in explanations of adaptive behaviour is as causally potent, information-carrying vehicles. The representation plays a role in the causal economy of the agent, and, because it carries information about the environment, allows the behaviour it causes to be appropriate for the environment. Because representations are posited as theoretical entities and because they do explanatory work in virtue of the information they carry, a theory of representation needs to explain how something inside an agent could be about something outside the agent…" (p. 50)

The important qualities of mental representations are the following. Firstly, they are theoretical entities, posited for explanatory purposes. Secondly, they are nothing short of objects with semantic properties. They have contents, which fulfil some condition of satisfaction, whether truth, accuracy, correctness or the like, as the world is taken (or 'claimed') to be in a certain way that it might not be in. In short, mental representations have conditions of satisfaction.[5] They are the vehicles of such truth-evaluable contents.[6]

This characterisation of mental representations accurately reflects the commitments of pretence theorists who posit mental representations. Leslie (1987), who endorses a Fodorian notion of mental representations, claims that

[4] This section does not aim at a comprehensive overview of theories of mental representations (nor would such a discussion be necessary).

[5] As Crawford (2010) explains, "Philosophers sometimes speak of the representational feature of our attitudes as their *content* and of that content or representation having a *semantic evaluation*. That is, since attitudes represent things beyond themselves, they can be evaluated with respect to whether these things beyond themselves are as they are represented to be. In other words, we can always ask whether the content of an attitude fits with reality. (…) If the content of my belief does match reality (…), then that content can be evaluated as true, and if it does not match, as false. The evaluation is a *semantic* one because it concerns the relation between the belief and the world just as the semantics of a language concerns the relation between the signs of the language and their meanings, that is, what they signify" (p. 90-91).

[6] There are many ways to understanding the vehicular nature of mental representations. For example, classical cognitivist theories understand mental representations as structured symbols in a 'Language of Thought' (Fodor, 1976). However, the vehicular nature of mental representations will be of no importance in this thesis, as the focus is strictly on the contents that mental representations carry. Hence, for purposes of clarity, non-contentful notions of mental representations (such as that of Wheeler, 2005), shall not be considered as 'mental representations' in this thesis.

The basic evolutionary and ecological point of internal representation must be to represent aspects of the world in an accurate, faithful, and literal way, in so far as this is possible for a given organism. (...) Primary representation is thus defined in terms of its direct semantic relation with the world. (...) [R]eference, truth, and existence are really relations holding between primary representations and the world (1987, p. 414).

This notion of mental representation underlies the commitments of other theorists of pretence aside Leslie. Importantly, even the so-called 'behaviourists' and 'intentionalists' to pretence (whose accounts will be discussed in Chapter 2) show commitment to the existence of mental representations described in semantic terms. Even though they give mental representations a different, 'weaker' role in explaining pretence than Leslie does (on their account mental representations allow merely 'acting as if' as opposed to counterfactual thinking), we can hold them as committed to the existence of semantic content of the mental representations posited in their explanatory mechanisms, even if they deny it at face value. For example, Harris and Kavanaugh (1993) claim that to successfully play pretence games, a child must 'flag', or act according to a rule (such as "this banana is not a phone") and edit these rules to generate new flags, with "statements written on the various flags" (p. 66). Similarly, Currie (2004) allows for *decentring* of what is real from not real to occur through "tokened suppositional thought" (p. 233), and Rakoczy et al. (2005) claim that "in pretending to pour, the actor symbolizes that 'there is water coming out of this container,' he acts as if it was true" (p. 81). Thus, there is a clear indication that, explicitly intended or not, these theorists too commit to the notion of mental representations with semantic properties. Hence, the notion of mental representations that will be referred to throughout this thesis is of semantic content-bearing vehicles, which fulfil some condition of satisfaction. While other notions of mental representations without semantic contents have been proposed (see, for example, Wheeler, 2005), discussing contentful mental representations throughout this thesis is consistent with how the pretence theorists are using the term.

In making my case I will not cover all the places mental representations may appear in the explanatory proposals of pretending. Chapters 5 and 6 (which look at imagining and guiding roles in pretence, respectively) do not exhaust all the possibilities of the roles mental representations might play in pretence. For example,

the question of what motivates pretence (whether representationally-construed intention or desire) is not tackled in this thesis at all, though not because the question is unimportant. Similarly, how children (or people in general) *recognise* pretence *of others* may involve mental representations, but this too will not be dealt with in this thesis. While it may be crucial to know why children engage in pretend play to begin with, and how can they engage in pretence with others, these questions do not deal with the mechanism of an on-going pretence episode. The cognitive mechanisms that allegedly make acting as if and mental guidance possible (discussed in detail Chapters 5 and 6, respectively) do share positing of mental representations to explain the basis of the occurrence of a pretence episode; to these realisers mental representations alternatives will be given. Thus, while the thesis does not examine all of the places mental representations can be posited in explaining pretence, the thesis aims to have done enough to show that some aspects of pretending can be accounted for without positing mental representations.

### *1.5 Outline of the chapters*

Presently, I will explain how the arguments are structured in the rest of the chapters of this thesis. This is how the thesis unfolds:

Chapter 2 is a descriptive chapter that identifies the assumptions about the nature and mechanisms of pretence in cognitive theories of pretence. The chapter concentrates on three most prominent cognitivist theories of pretence (metarepresentational, behaviourist and intentional). The chapter brings forth the assumptions cognitive theorists make about what is needed to explain pretence and what role mental representations are thought to play in them. The chapter considers the explanatory character of the available proposals. It observes that mental representations serve both as essences of pretence and as explanatory posits in mechanisms of pretence. This double role of mental representations is a cause for confusion in thinking that an explanatory mechanism of pretence is justified to involve mental representations, even if pretending is essentially representational. Paying attention to whether cognitivist theorists of pretence are making constitutive claims about the very nature of pretence, or simply offering explanatory hypotheses about the mechanisms that are logically separate from pretence but causally enable it,

clarifies the rationale for the approach adopted in this thesis – namely, that of demonstrating that an explanatory account of pretending that does not posit mental representations can be offered.

Chapter 3 pauses to consider what type of explanation is an enactivist explanation, based on affordances instead of mental representations. As far as enactivist provide explanations, and not mere re-descriptions, enactivists give dynamical explanations, which are considered to be covering-law explanations. This type of explanation differs from the mechanical explanations, which cognitivists offer. To address the worry that enactivist explanations cannot threaten cognitivist explanations, the chapter shows that it is possible to consider dynamical explanations as mechanical explanations, when mechanisms are understood as wide and situated. The chapter concludes with showing that enactivists can give genuine alternative mechanistic explanations to cognitivist explanations, but should dynamical explanations be ultimately incompatible with mechanistic explanations, the affordance-based explanation given in this thesis will be telling either way.

Chapter 4 zooms in on the alternative explanatory posit of affordances. It explains how the term 'affordance' has been used in the literature, providing ontology of affordances. The chapter clarifies how to think of affordances with respect to explaining pretence. It proposes that Turvey's (1992) conception of affordances (and introduction of effectivities that compliment affordances) best serves the purpose of explaining pretence.

The next two chapters (Chapters 5 and 6) examine in detail two of the main roles mental representations are proposed to play in pretence. Each of these chapters questions whether the role that mental representations are supposed to play is needed to begin with (these are the roles of enabling 'acting as if' and 'guiding' pretence). After showing that the answer is 'yes', the chapters look at whether something other than mental representations might play those roles. The chapters consider problems with the standard cognitive mechanisms, and show that alternatives are possible in each case. The alternatives have in common that they step away from positing mental representations but turn to affordances, environmental setting and social practices for the relevant explanations.

To elaborate, Chapter 5 examines the question "how do children manage to treat one thing as another?" Cognitivists posit cognitive mechanisms that are assumed

to underlie imaginative capacity to 'act as if one thing was another', such as 'decentring', or imaginatively '*seeing* one thing as' another (Currie, 2004). The alternative proposal is one of a sensory-motor account of imagination, whose principal explanatory concept is one of 'affordance'. The chapter proposes to explain the imaginative role in pretence to be accounted for by the capacity to 'see-affordances-in'.

Chapter 6 deals with the question: "what guides pretence?" The standard cognitivist models assume the necessity of a mental representational mechanism that creates mental maps and follows rules – a mental guider of a sort (Nichols and Stich, 2000, 2003; van Leeuwen, 2011). The alternative proposed in this chapter is that the guiding of pretence acts can be offloaded to affordances in the environment and to the social and narrative structures.

The concluding Chapter 7 discusses in detail how the explanatory posits of the alternative account (affordances, effectivities, social practices) interact to provide a coherent explanation of pretence. The chapter identifies various factors that play a role in explaining how affordances get to invite specific actions. It elaborates on the mutuality of environmental affordances and animal effectivities in explaining pretending. It further shows the roles cultural and social factors play in actualising pretence in a specific context. With the end of this chapter, the thesis that early forms of pretence can be explained without recourse to mental representations is secured.

# Chapter 2. Standard Explanatory Models of Pretence

This chapter looks at what is involved in the best explanation of pretence. The chapter distinguishes the different ways pretence is thought to be representational: sometimes it is thought to be essentially so, and sometimes it is thought to be so because mental representations are alleged to feature in the best explanations of pretence. To date, there are at least three developed and interestingly different theoretical accounts of pretence in the literature: *metarepresentational* (Leslie, 1987), *behaviourist* (Perner, 1991; Harris and Kavanaugh, 1993, Nichols and Stich, 2000, 2003), and *intentionalist* (Rakoczy et al., 2004, 2005). These accounts form standard frameworks for understanding pretence and what best explains it (see Liao and Gendler, 2010). The frameworks feature both a theory about what pretence is (the models assume some pretence characteristics), and propose mechanisms to explain how pretence comes about.[7] These models attribute specific functions to mental representations.

The chapter will unfold in the following way. First, the chapter explicates the ways in which mental representations figure in the main existing theories of pretence (as part of the essential make-up of pretence, and as part of the explanatory mechanisms of pretence). Section 2.1 focuses on the theoretical commitments about the nature of pretence in the main explanatory models of pretence. Section 2.2 focuses on mechanisms that the models posit in explaining how pretence is achieved. Then, it clarifies what roles representations are said to play in pretence across the standard explanatory models of pretence. Section 2.3 identifies the common explanatory roles that mental representations are supposed to play in these models, two of which are the role of imagining and the role of guiding. Finally, the chapter includes two observations about the relationship between characterising pretence as representational and positing mental representations in its best explanation. Section 2.4 considers what is involved in the best explanation of pretence. It looks at reasons

[7] The term 'model' refers to scientific modeling, which is to be understood as "a scientific activity, the aim of which is to make a particular part or feature of the world easier to understand, define, quantify, visualize, or simulate by referencing it to existing and usually commonly accepted knowledge. It requires selecting and identifying relevant aspects of a situation in the real world and then using different types of models for different aims, such as conceptual models to better understand, operational models to operationalize, (…)" (Retrieved from Wikipedia on 9 July 2015, entry on 'Scientific modeling'). In line with this definition of models, my referring to the theory and the mechanism of the model can be considered as referring to a conceptual model and an operational model of the overarching model, respectively.

for thinking that pretence is representational and reasons why it might be thought that mental representations feature in the best explanation of pretence, arguing that these ought to be kept separate. It makes an observation that how pretence is characterised (representationally) influences how it is explained (with mental representations). It further argues that even if pretence can be regarded as representational, mental representations need not be posited as the best explanations of pretence. Ultimately, this chapter sets the stage for questioning the need to posit mental representations in explaining certain aspects of pretence, and opens the door to proposing alternative to mental representations explanations of pretence.

### *2.1 Theories behind the pretence models (or* what *is assumed about pretence)*

#### a) The metarepresentational model

Leslie (1987) proposes a highly intellectual account of pretence. His cognitive theory of pretence assumes pretence to be a mental state – one, which requires symbolic thinking.[8] He asks: "How is it possible for a child to *think* about a banana as if it were a telephone…?" (1987, p. 412). Leslie's is a theoretical account built upon the work of Piaget (1962), who defined pretend play as a type of symbolic play. Leslie claims that "pretend play …[is] a primitive manifestation of the ability to conceptualize mental states" (p. 424). To use Leslie's example of pretence in play, if a child pretends that a banana is a phone by placing it to her ear and speaks to it, the child is said to play symbolically with the banana. Leslie further assumes the need for making a "deliberate distortion of reality" (1987, p. 412) and preserving "cognitive quarantine" (*idem)* by the pretender keeping the distinction between what is real and what is not real. Leslie further points to the parallels between pretence and the attribution of mental state expressions.[9] He characterises three types of pretend play and three corresponding linguistic 'deviances' that occur in these forms of play. First is object-substitution play, where the deviant is reference. For example, in pretend

[8] He sees the symbolic nature of pretence as a precursor to a more elaborated mind-reading ability, where representational capacities are used in the wider context. Leslie places the capacity to pretend as necessarily prior to understanding *other minds*.

[9] He claims that there is a "striking similarity between these properties of pretend play and logical properties of sentences containing mental state terms (…) to explain why an isomorphism between mental state expressions and pretence exists, I shall do this by positing an underlying form of internal representation that possesses these semantic properties" (Leslie 1987, 416).

play, an object (banana) refers to another object (phone). Second is the attribution of pretend properties ("this towel is 'wet')", where there is deviance with respect to the truth (the towel is actually dry). Third is pretend playing with imaginary objects (having an imaginary friend), where the deviance is with respect to the existence (of the friend). The most characteristic feature of Leslie's model of pretence, which he considers to be a precursor of a fully developed Theory of Mind, is the requirement for workings of the concepts like 'I' and 'pretend', retained by the metarepresentational cognitive network.

b) The behaviourist model

The behaviourist model emerged as a direct response to Leslie's model.[10] Its representatives (i.e., Perner, 1991; Harris and Kavanaugh, 1993; Lillard, 1994; Nichols and Stich, 2000, 2003) all agree that entertaining a concept 'pretend' and engaging in metarepresenting does not feature in the best explanations of pretence. The behaviourists in the debate on pretence claim that what is required to pretend is simply to be behaving appropriately to the situation were the situation real. The central claim of this account is that pretenders need only behave 'as if' a scenario obtained and have beliefs and desires about how to do so appropriately. The pretenders need not have beliefs about their own mental states (and metarepresent "I pretend…"), the concept 'PRETEND', or the need to conceptualise the mental states of others.

Still, their pretence seems to be a cognitively demanding task. For example, Nichols and Stich (2000) claim that "to pretend that p is (at least to a rough first approximation) to behave in a way that is similar to the way one would (or might) behave if p were the case," where behaving *as if p* requires having a counterfactual state, or imagining a possible state, where something obtains, and then applying it to the actual behaviour (2000, p. 128). Having counterfactual states, in turn, requires an

[10] It should be kept in mind that while these accounts are called 'behaviourist', they share little to nothing with psychological behaviourism of Pavlov or Skinner, or logical behaviourism (Ryle, 1949). They still represent cognitivist frameworks of explanatory account, referring to beliefs and desires in their theories of cognition and using mental representations in their cognitive explanations. They have been called 'behaviourist' simply to highlight the contrast of their characterisation of pretence ('behaving as if') with Leslie's metarepresentational characterisation ('thinking as if').

"ability to make representations with a counterfactual attitude" (Liao and Gendler, 2010, p. 6).

To take another example, on Perner's (1991) suppositional account of pretence, the child supposes that X (that "the banana is a phone"), and then acts on that supposition. Perner speaks of pretend representations, which "are not representations of the world as it is but of the world as it might be" (1991, p. 59). Perner suggests that the content of belief representations is different from the content of pretence representations, which is similar to what Leslie proposes.[11] He also seems to be suggesting a version of cognitive quarantining: "My suggestion for pretence is to mark off the pretend scenario as "nonreal" or "hypothetical" (…) The need for quarantine is served adequately by multiple models representing different situations (1991, p. 60-61).

Perner is a pretence behaviourist with a suppositional account of pretending, but one can also have a *simulationist* account of pretending. Simulationists such as Currie (1996, 1998) and Harris and Kavanaugh (1993), claim that behaving as if requires actual behaving modeled on the behaviours of other people appropriate to the pretend context. This stems from observing and imitating other people. The simulation is used to understand and predict other people's actions. For example, Currie (1996) endorses the simulationist position, claiming that pretence is a type of 'mentally taking on a role'.[12]

Finally, another behaviourist about pretence, Lillard (1994), claims that the ability to pretend is strongly linked with an ability to reflect on pretence as a mental state.[13] She lists the necessary ingredients of pretence, which include, i.e., the pretender (an animate, mindful being), a reality, against which pretence contrasts (or at least the pretender must *think* that it does), a mental representation of the pretence

[11] Leslie also proposes to distinguish 'pretence' representations from 'primary' representations. They represent two different situations, hypothetical and real ones, respectively.

[12] When describing role-play, he claims: "It is natural to think that childhood games of pretense in which the actors play at being pirates or bears are driven by the actors mentally taking on these roles and imagining being pirates or bears. In doing these things, the children simulate, to the best of their ability and within the compass of their relevant knowledge, the experience of being pirates or bears" (Currie 1996, p. 251).

[13] Lillard conducted to an experiment that used a troll Moe, who was described to children as hopping like a kangaroo, but who did not know what kangaroos are. The experiment has presumably shown that children understood that Moe *could not have been pretending* to be a kangaroo without knowing previously what a kangaroo is. The worry with the set-up of this experiment, however, is that it tested the children's ability for verbally assessing the pretence of others. It also has assumed that having former knowledge of kangaroos is required to be able to pretend to be one, without giving justifications.

scenario in the pretender's mind, and separately, a mental representation that is projected onto reality, as well as the pretender's awareness of both the reality and the fact that the representation is projected onto the reality.[14] Such model of pretence requires many representational factors and is also highly cognitively demanding.

c) The intentionalist model

Finally, there are the *intentionalists* about pretence who further stress the importance of intentions in determining pretence. They claim that the behaviourist account of pretence in its current form is not entirely satisfactory and complete; it misses the crucial role that intentions play in pretence. One of their arguments is that the behaviourist account is "coarse-grained and has many instances of non-pretense in its extension," like, for example, an inability to distinguish pretending from trying.[15] Thus, instead of mere "behaving as if", they speak of pretence as "acting as if with an appropriate intention". The intentionalist account stresses not the intentionality, or aboutness of pretence acts (Brentano, 1874/1973), but it stresses the agent's '*having an intention'*. As Searle, the father of this position, suggests, "One cannot truly be said to have pretended to do something unless one intended to pretend to do it" (1979, p. 325). Having an intention, in short, is essential to pretence; it is a necessary part of the cognitive make-up of pretenders. One must have an intention to pretend, or to act in 'as-if' fashion.

According to Rakoczy et al. (2004, 2005), pretence does not concern only the individual's intentions regarding their own actions, but in a shared context, requires also '*understanding the intention of the other*'. Hence, their understanding of pretence extends to the social sphere, as pretence is necessarily social on their view. They perceive pretend play as an inherently social activity that entails prior understanding

[14] She lists additional features of pretence to be non-serious emotional tone that indicates the activity as fun, and being an actual activity, but these are, according to her, not constitutive of pretence like the former six (see Lillard in Lewis and Mitchell, 1994, pp. 212-214.)

[15] "In trying to write with a malfunctioning pen, for example, one performs behavior that would be appropriate if the pen were working. Accordingly, children would have one undifferentiated category of as-if behaviors comprising pretending and trying" (Rakoczy et al. 2004, p. 396). Rakoczy et al.'s (2004) study showed that children do distinguish between different forms of as-if-behaviours with different underlying intentions. Children can tell that "the intentions involved are radically different in the two cases: In trying, one wants to really perform the action, whereas in pretending, one does not" (p. 396).

of others as intentional agents.[16] What follows from their account is that it is not individual imaginative capacities that give rise to pretence, but rather, pretence is derived from "a cultural imitative learning, supported by adult scaffolding" (2005, p. 77-78). Rakoczy et al. (2005) make the following proposal about what pretence requires: "Armed with an understanding of intentional action, some nascent understanding of hypothetical and counterfactual possibilities and a basic proficiency with a natural language, children then come to understand and imitatively acquire pretending as a new intentional, non-serious action form" (p. 77). Rakoczy (2008) further proposes that pretence involves normative aspects, such as "given that an *X* counts as a *Y* in a certain context *C*, some acts with *X* in *C* are appropriate and others are inappropriate" (p. 1195).

While some intentionalists press for a more social account of pretence, other intentionalists, together with metarepresentationalists and behaviourists about pretence have are largely individualistic models of pretence (they refer to an individual pretending). Next section considers the mechanisms posited by their models.

### *2.2 Mechanisms behind the models (or* how *the pretence works)*

#### a) Leslie's decoupling mechanism

To explain pretence, Leslie (1987) posited *metarepresenting*. On his account, to metarepresent in pretend contexts requires representing oneself as the actor who engages in representing the banana as a phone. This requires possession and exercise of the concept 'PRETEND'. Arguably, the metarepresentational capacity is a subpersonal capacity of the actors, as the 'PRETEND' concept is provided through a Language of Thought (Fodor, 1976), a view that Leslie accepts.

Leslie proposed that acts of pretending are best explained by manipulation of representations of how things are pretended to be (*pretence representations*), which are distinct from representations of the real world (*primary representations*). Primary representations, on Leslie's model, feature in everyday perception and cognition.

[16] Also see Varga (2011). Rakoczy et al. speak of shared intentionality, which might be confusing, as they do not mean that the representations are shared. Rather, they refer to some mutual capacity to understand each other's intentions that drives the joint pretence. On that note, they may not consider the inherently individualistic example of the banana-phone play as genuine play.

Their main job is to provide a "literal and sober'" account of the world, and to represent accurately. The current perceptual situation (there being a banana) then will be represented, e.g., by tokening a sentence in the Language of Thought such as "that is a banana."

Leslie tries to explain how perception of a real banana can invoke a "this is a phone" representation, in such a way that the latter is not taken seriously. Primary representations do not explain how children can engage in symbolic play like the banana-phone play. Here, the pretender is at risk of *representational abuse*. This is the danger of applying the signifier ("banana") and another signifier ("phone") to the very same object in a way that makes no sense. It is a conceptual problem, because the signifiers apply only to specific objects (e.g., "banana" only applies to an actual banana). According to Leslie, unless these representations are somehow kept apart, the pretenders are at risk of confusing the banana and its properties with those of a phone.

Of course, pretenders do not make this sort of mistake. For this reason, Leslie concluded that there must be a *decoupling mechanism* present in the cognitive architecture of those capable of pretence. The decoupling mechanism marks (or makes a copy of) the primary representation ('this is a banana') and decouples it into a pretence representation ('this is a banana'*). According to Leslie, manipulations of pretence representations can be made this way (such as transforming 'this is a banana'* to 'this banana is a telephone') without losing the original representation ('this is a banana'). Decoupling allows 'normal semantics' to be suspended, and the pretence representation to be treated as a purely formal object.[17] Moreover, Leslie's decoupling mechanism requires a *manipulator* (sequence 'I PRETEND'), which manipulates the expression ('this is a banana'*), thereby, allowing for manipulation of content to be cut free from literal connotations. Then, an *interpreter* allows the decoupled expressions to be anchored to parts of primary representations and,

[17] To quote Leslie (1987, p. 417): "Suppose we start with a representation of the current perceptual situation, for example, this is a banana. This is decoupled to "this is a banana." Because its normal semantics has been suspended, the expression can be manipulated freely without fear of abusing the normal representational system existing outside this context. So, for example, it will be possible to transform the expression "this is a banana" into "this banana is a telephone" while disregarding its interpretation. An expression like this banana is a telephone could not arise in primary representation. Such nonsense violates the basic design principle of primary representation that it represents in a literal fashion. Decoupling, however, allows such expressions to be treated and worked on as purely formal objects. (…) Pretend representations do not pose the problem of abuse precisely because their semantics are suspended."

thereby, not refer to actual objects (*idem*, p. 418). Finally, *inference rules* are part of the decoupling mechanism, making inferences on the already decoupled input ("this toy elephant is 'wet'; therefore, it needs 'drying'). All of these operations are part of the same cognitive mechanism.

b) Nichols and Stich's inference mechanism

Offering the 'cognitive architecture underlying pretence' (p. 125), Nichols and Stich (2000) posit an inference mechanism that incorporates a cluster of smaller mechanisms (e.g., Possible World Box and UpDater). Unlike Leslie, they do not posit special 'pretence representations', or mental representations with pretend contents, that do the explanatory work. Instead, they only speak of 'initial premises', which are akin to Leslie's primary representations, that feature in the special structure of the cognitive mechanism called 'Possible World Box' that then takes care of the representational abuse.

Initial premise is an assumption that *determines what is to be pretended* (e.g., that the child is "going to make a phone call with the banana" or, in a restaurant play context, "that one person is a waiter and one a customer." The content of the initial premise specifies the impending pretence play episode. The premise is a proposition, which represents a specific situation and which can be evaluated. Initial premises form scripts. Scripts are hypothetical scenarios (Funkhouser and Spaulding, 2009) or event representations (Mitchell, 2002), which detail the way in which certain situations typically unfold. Scripts have plans that guide action or sets of rules of what to do. According to Nichols and Stich, scripts "play an important role in guiding and constraining the description of a possible world which gets elaborated in the course of a pretense episode" (2002, p. 126-127). They provide general structure to pretence episodes, but need not themselves be accurate descriptions of the world. Moreover, on Nichols and Stich's account, pretence involves a distinct type of attitude: supposing (alongside believing and desiring). The primary representations, which form initial premises, are what the pretender supposes about what the world would be like.

Then, the pretender's "cognitive system must start generating thoughts and actions that would be appropriate if the pretense premise were true" (Nichols and Stich, 2000, p. 119). The initial premises enter the *Possible Worlds Box* (henceforth:

PWB), leaving the Belief Box with the true beliefs (e.g. "this is really a banana") and the Desire Box (really wanting to play banana-phone) intact.[18] The PWB contains tokens of primary representations, whose function is "not to represent the world as it is [domain of the Belief Box] or as we'd like it to be [domain of the Desire Box], but rather to represent what the world would be like given some set of assumptions that we may neither believe to be true nor want to be true" (2000, p. 122). In addition, Nichols and Stich posit an "Up-Dater" component of the overall mechanism, whose function is to ensure that the beliefs that go into the PWB remain fresh and intact. This is how Nichols and Stich (2000) explain tea party play:

Early on in a typical episode of pretense, our theory maintains, one or more initial pretense premises are placed in the PWB workspace. So, for example, as a first approximation we might suppose that in Leslie's tea party pretense, the episode begins when a representation with the content *We are going to have a tea party* is placed in the PWB. What happens next is that the cognitive system starts to fill the PWB with an increasingly detailed description of what the world would be like if the initiating representation were true. Thus, in Leslie's tea party scenario, at the point in the pretense where Alan has just turned the green cup upside down has been added to the PWB, the child's cognitive system has to arrange to get *The green cup is empty* in there too" (p. 122).[19]

Thus, the PWB plays the same role as Leslie's decoupling mechanism, which is to quarantine the pretence-initiating representations, and thereby avoid representational abuse and conceptual confusion (Nichols and Stich 2000, p. 136). This account is said to be simpler than Leslie's as it does not require additional metarepresentational structures, and it provides a clear place for storing intact primary

[18] By a 'box', Nichols and Stich refer to a metaphor, or a "notational device for distinguishing representations that have systematically different functional or computational properties" (2000, p. 136).

[19] In the original version of this paper, Nichols and Stich spoke of the banana-phone game: "Early on in a typical episode of pretense, our theory maintains, one or more initial pretense premises are placed in the PWB workspace. So, as a first approximation we might suppose that in the banana/telephone scenario the pretense initiating representation would be one with the content: [*This banana is a telephone*]. What happens next is that the cognitive system starts to fill the PWB with an increasingly detailed description of what the world would be like if the initiating representation were true. In the banana/telephone case, the PWB presumably comes to contain representations with contents like the following: *People can use this thing* [the banana] *to talk to other people who are far away. In order to talk to people using this thing, you have to put one end near your ear and the other near your mouth. When someone wants to talk to you on this thing, it goes "ring, ring."* etc." (*Unpublished,* see http://ruccs.rutgers.edu/ArchiveFolder/Research%20Group/Publications/ACTOP/actop.html).

representations (Belief Box). Only the relevant token primary representation that forms the initial premise has to be manipulated.

However, it is debatable whether Nichols and Stich's model can claim to be superior to Leslie's model in its economic value and simplicity. For example, Nichols and Stich do not explain why these and not other primary representations form the initial premise, or where the PWB came from. Even assuming, for argument's sake, the existence of PWB, it is questionable how it could hold a detailed description of the entire world in which a banana would be a phone; there are presumably close to infinite descriptions that would fit the bill. In addition, this model fails to capture the sense in which the pretence is not serious (for example, it does not explain why children do *not*, in reality, expect someone to pick up on the other side of the 'banana'), unless more descriptions of the relevant kind are added. Thus, we have reasons to question whether the inference mechanism is simpler in any way from the decoupling mechanism.

(c) The proposal of intentionalists and summary

According to Rakoczy et al. (2005), for pretence act to occur one agent must understand another agent as an intentional agent. To do that, the agents must posit (full-blown) representations of social engagements, or *dialogic cognitive representations* (Rakoczy et al., 2005, p. 684). The cognitive representations underlying collaborative activities must contain at least two hierarchical levels: a higher one for the shared goal and a lower one for the joint intentions, with at least two sets of action plans in the joint intentions. The *higher* cognitive representations that are said to explain shared goals behind a pretence act ("representing myself and the other sharing a goal", e.g., "playing doctors") and *lower* cognitive representations that are said to explain initial joint attention (representing action plans or roles, e.g., "I will be a doctor and I'll do X, you will be the patient and do Y") (*idem*, p. 684). Thus, some structures on their model are mentioned, such as 'action plans' that the agents must have, on which dialogical representations are built.

To summarise, while I have not exhausted all possible explanatory models and explanations, it is clear that the main explanatory proposals posit mental representations, whose contents are said to do the required explanatory work. The

pretence mechanisms include contents that are propositions and have conditions of satisfaction. For example, the banana-phone play would not count as pretend play without the child being able to think counterfactual thoughts like 'there is imaginary voice coming out of this banana', regardless of whether additional metarepresenting is required or not.

As is especially clear in the models of Leslie and Nichols and Stich, mental representational contents and cognitive mechanisms are important in explaining *how* pretence occurs. According to Leslie, the primary representations manipulated in the decoupling mechanism explain pretence; 'pretence representations' allow *thinking* as if one thing were another. According to Nichols and Stich, the initial premises manipulated in the PWB component of the overall inference mechanism explain pretence, which they see as *behaving* as if one thing were another. In that respect, they provide cognitivist answers to the question of *how* pretence works. Whether their answers are satisfactory or not will not be fully assessed in this thesis, although there are reasons to be sceptical of them (as briefly mentioned in section 2.2 (b)).

So far, what has been addressed is *how* mental representations work. But what has not yet been properly addressed is *why* mental representations and cognitive structures were posited in the first place? If mental representational contents do the explanatory work, what work do they actually do? This will be addressed in the next section.

### *2.3 Functions of mental representations in pretence (or why they were posited)*

To Leslie, the decoupled pretence representations play a crucial role in explaining how one can think of and act upon states of affairs that are not the case while being aware of what is the case. As summarised by Varga (2011), Leslie's account explains the following aspects of pretence: *object substitution* (using an object as if it is something else, e.g., using a banana as a phone); *attribution of false properties* (ascribing a pretend property to something, e.g., pretending that the doll's dry hair is wet); and *making a reference to an absent object* (the invention of an imaginary object, e.g., feeding the doll invisible cake, and referring to it as if it were present). Leslie claims to be providing a response to Huttenlocher and Higgins' (1978) challenge, which is to explain the difference between mere functional play and

pretend play of children. Functional play demonstrates knowledge of conventional use of objects (banana as food), but in pretence play, the objects are used unconventionally (banana as phone) (Leslie 1987, p. 124). As explained, Leslie appeals to the decoupling mechanism, suggesting that the primary representations would be used in functional play and decoupled pretend representations are used in pretend play. Furthermore, this mechanism also explains how pretenders can distinguish between what is real and what is not real without getting confused (what I will call having 'double knowledge'), as well as it explains why there are elaborations in pretence. Presumably, the ability to make inferences, an ability considered to be inherently representational, is invoked in the explanatory mechanism to explain how children follow-up on their pretence and remain in appropriate roles. Finally, apart from explaining individual pretence, Leslie builds on his model in order to try to explain how children can *correctly respond* to pretence games initiated by others.[20] In acts of pretending with others, the crucial factor enabling pretence is, for Leslie, the pretender's ability to "infer from what the other is literally doing to what he or she is pretending" (p. 423).

Mental representational structures that feature in the 'behaviourist' accounts of pretence are posited to explain pretence by addressing the question of how to get the pretence started; as mentioned, this is done by, e.g., the pretender's initial premise, which the pretender must produce to initiate or frame a pretence act. Moreover, mental representations seem to be required to remain or persist in a pretend role, via inferential and non-inferential elaborations. Nichols and Stich claim that making an inference enables correct sorts of play. Inference is not only drawn from the initial premise ("I'm going to play phone"), but also from current perceptions that determine what kind of play would be allowed (the banana's size and shape), the agent's background knowledge (that's how phones are held) and memory of what has already happened in the game (relevant to more elaborate games). To stay in the pretence game, the actor must draw on all of these inferences, and supposedly, keep them in mind at all times. In addition, the mental representations of the initial premises and

[20] Leslie claims that to understand pretending in others, "It would be useful for the infant to have some way of marking information from pretend contexts to distinguish it from information from serious contexts. It would be more useful if the infant had some way of representing that someone was pretending, what the pretend was, and how the pretend related to the literal acts. If an infant could do all this, he or she might be able to join in the fun and elaborate on the pretense begun by someone else" (1987, p. 516).

inferences implicate demonstratives (such as '*that'* and '*this'*), which apparently allow the pretender to constantly refer to the object of the game as part of the pretence act. Furthermore, mental representations allow the actor to stay in pretence as they draw the pretence boundaries with scripts. Finally, mental representations are also posited to explain how *context-appropriate play is produced*, which is by being part of the right sort of propositional knowledge ("that is how we make phone calls").

There are many other roles that mental representations play in pretence that are not discussed by Leslie and Nichols and Stich, but which are important to other pretence theorists. It is worth mentioning additional functions such as the *strategy-testing function, motivating function* and *normative function*. I will explain these in order. According to Currie (1995), the function of the mechanisms underlying imagination (which is also relevant for pretence) is *strategy-testing*, which is running a simulation of possible courses of action.[21] Mental representations underlying hypothetical and counterfactual reasoning allow the actor to engage in this form of trial-and-error before taking on a course of pretend action. Moreover, Currie explains how agents decide whether and how to proceed in the pretence act: they evaluate the initial premise as "fun/not fun" or "good/not good" and calculate "if fun, then proceed", "if scary, do not proceed", thereby playing the motivating role. Rakoczy et al. (2005) also give the mental representational structures a motivating function. They explain how children can engage in joint pretence and follow the stipulations of the other, thereby, playing according to some unspoken rules of the game. Rakoczy et al. claim that since children play appropriately in specific pretence scenarios, the relevant rules must somehow be represented. They explain how children can make and follow rules when playing. They either need to represent the common inference rules (e.g., when 'water' is poured on the toy elephant, it is now 'wet'), or their own rules (e.g., 'this rock will now signify a cake'). Overall, while there are three distinct models of pretence in the literature, they are united in at least one interesting way. All of them commit to some form of mental representationalism. Whether or not they regard pretence as representational by its very nature, they all posit mental representations of some or other kind as playing substantive roles in the best explanation of pretence.

To summarise, what this section will do is bring out the many and varied

[21] "Strategy testing," Currie writes, "is, on my hypothesis, the proper function of the imagination: the function appeal to which explains why we have the faculty of imagination (…) Daydreaming and fantasy, along with imaginative involvement with fictions, are made possible by a system that already exists for other purposes: the running of simulations" (Currie 1995, p. 158).

things mental representations might be doing in pretence, without tying them back to the specific explanatory proposals. It will group and discriminate the various functions that mental representations are hypothesised to play in explaining pretence.[22] Below is a list of questions (taken from the accounts described above) that the cognitivist theories of pretence we have looked at hold:

i. How do children think of or use an object "as if" it is something else? In short, how do children play in an imaginative way?
ii. How do children get pretence started, remain or persist in a pretend role, follow-up or elaborate on their pretence, produce context-appropriate play or play in a structured way? In short, what guides children in pretend play?
iii. How can children not lose track of reality, hold a distinction between what is real and what is not real, switch between pretence and reality, and why they are not confused by pretence?[23] In short, how do children know what is real and what is pretend?
iv. Why do children choose to engage in pretence in the first place? Why do children choose one pretence act over another? In short, what motivates pretence?
v. How do children participate in *joint* or *shared* pretence and follow the stipulations initiated by the others? In short, how do children engage in joint pretence?

The capacities invoked to answer these questions are (respectively):

i. Imagining. Imagination is generally said to be representational (see Gendler, 2011). It is said to, i.e., enable counterfactual thinking or simulating perspectives.
ii. Forming and following Mental Plans and Models. They are said to allow rule-following in a game, as well as development of and partaking in more complex pretence.
iii. Double-Knowledge. This capacity of knowing what is real and what is not real is said to be required to not confuse pretence with reality.

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[22] This task is important to the thesis, as it will show which functions the alternative account will be targeting to explain, albeit without positing mental representations.
[23] This question presupposes there is something to be confused about in the first place. It might stem from the assumption that there are two worlds, the pretend world and the real world, that creates the gap in the first place.

iv. Intrinsic Motivation. It drives the child to engage in specific kinds of pretence activities inside the play context.

v. Having a Theory of Mind. These allow understanding others as intentional agents in order to begin and continue joint pretence.

These capacities, according to the pretence models, can all be explained by positing mental representational structures. However, non-representational structures could be introduced to answer the same questions. It may be that some of these capacities need not be played or posited in pretence altogether.

This thesis will target the first two questions and capacities in detail. It will propose that non-mental representational structures such as affordances can explain 'how children play in an imaginative way' (Chapter 5) and 'what guides pretend play' (Chapter 6). In those chapters, it will be explained why these functions should be addressed by an explanatory account of the pretending of pre-verbal children.[24]

### *2.4 What is involved in the best explanation of pretence?*

This final section engages in a discussion about the theoretical commitments behind different philosophical frameworks that can be used to explain mental phenomena like pretence. The frameworks are cognitivism and enactivism. Cognitivism is the framework that the three available explanatory models of pretence use (even, as it was clarified, the so-called 'behaviourists' to pretence). Also, to date, there is no explanatory model of pretence that is based on the enactive framework. This section targets the theoretical commitments of pretence theorists to positing mental representations.

In the mentioned models, mental representations feature both as essences of pretence and as explanatory posits of pretence. How they featured in the mechanism was clearly shown in section 2.2. What this section will do is further explicate how mental representations feature in underlying theoretical assumptions about what pretence is, which shape the explanatory mechanism. The section makes two

[24] I will not engage in analysing the other functions and subsequent capacities in detail mainly for the reason of limited space. However, in the thesis the reader will find that the alternative proposal that will be put in place (Chapter 7) could address some of the other aspects of pretence as well, such as 'knowing what is real from not real', what motivates pretence, and how pretence can be played together.

observations: (1) characterising pretence as representational influences positing mental representations in its explanation, which is not necessary, and (2) even if pretence is essentially representational, mental representations need not feature in the best explanation of pretence. Clarifying this makes a difference to the rest of the thesis, where it will be shown that alternative explanations to ones that posit mental representations can be given to explain pretence, blocking any arguments that the alternative may fail on the account of pretence being essentially representational in the first place. The simple point is that even if pretending overall is representing, still the mechanisms that enable pretending need not involve mental representations, opening up the space for something else to take on their functions.

There are different approaches one can take to investigating cognition in philosophy of mind. That applies to investigating pretence as well. On the one hand, one can seek to know what pretence *is* and focus on its nature. That is a question of determining its essence. On the other hand, one can ask what best *explains* pretence. There is a common view in the present literature on pretence that mental representations are involved in both the definition of pretence, and in the make-up of the explanatory mechanisms of pretence. However, we should draw a distinction between phenomena being representational and their being implemented by representational mechanisms, as for pretence.

Most theorists who investigate pretence (including the ones mentioned in earlier sections) begin by assuming that pretence is representational in nature. Across philosophical and psychological literatures, there are many conceptions of pretence or characterisations of what is involved in pretence. The features of pretence that are said to figure in its explanation across the theories are said to be, in no particular order, possession of conceptual knowledge, having knowledge of what is real and not real, imagination, intentionality, being in the right mental state, having mental attitudes that are 'belief-like', shifting perspectives, mapping and following rules, symbolic thinking, or meta-communicating (Piaget, 1945/1962; Leslie, 1987; Harris and Kavanaugh, 1993; Lillard, 1994; Mitchell, 2002; Nichols and Stich, 2000, 2003). Pretence has been traditionally thought of as *requiring* representational capacities, such as, i.e., thinking, imaginations, symbolism, belief-/desire-like states, concepts or

knowledge of what is real and not real (called 'double knowledge').[25] Then, thinking that pretence is representing allegedly justifies the presence of mental plans or models (mental representations in the mechanisms) in its the explanation: "The capacity to utilize such internal models of previous experience is considered to be the foundation of the capacity to engage in mental representation, and hence pretending" (McCune and Agayoff, 2002, p. 44). Similar views are held about the mental representational nature of the pretender's capacity to know the distinction between the real and the not real in pretence, and the capacity to imagine. In short, pretence theorists make an assumption about the nature of pretence, construing the explanandum in representational terms. Then, their primary goal is to provide the best explanations of pretence, where they posit mental representations.

By now, it should be apparent that mental representations get to come into the story through both doors: as essences and as explanatory posits of implementation mechanisms. The pretence theorists in question are not analytic philosophers; on the contrary, they engage in cognitive science, claiming to be offering substantial explanations of how pretence comes about. To that aim they posit mental representations of some kind to figure in their best explanations of how pretending is accomplished (as seen in section 2.2). However, they also assume that pretending is a species of mentally representing. As Ramsey (2007) points out, "the distinction between theories that posit representations and theories that try to explain representation is not as sharp as one might assume. A large number of cognitive models – indeed, perhaps the majority – do a little of both" (p. 36).

This leads to the first observation:

> 1: Characterising pretence as representational influences positing mental representations in its explanation.

Simply put, how one thinks about the topic influences how one proposes to explain it. In the case of pretence, being attracted to characterise pretence as

[25] Double Knowledge is described as having to "entertain two representations of a single situation, one literal/veridical/real and the other nonliteral/distorted/pretend/imaginary, simultaneously, without confusion, and deliberately" (Russon, 2002, p. 237). Imagination is described as implying "some displacement from the reality plane and thus meaning transformations relative to the meaning that the actions and the objects involved would have were they considered "literally" (Veneziano, 2002, p. 60), where meaning transformations can be understood as manipulations of representational contents.

essentially a representational phenomenon leads scholars to think that one needs to explain pretence by positing mental representations. The tendency to characterise the explanatory posits in line with the analytic posits about essences is not justified, and leaves hostages to the fortune of how one characterises the phenomenon in the first place. For example, should one characterise pretence differently (as, a set of dispositions or behaviours), then one would presumably not seek out mental representations to explain it, but suggest other dispositional or behavioural explanations.

Nonetheless, even if a phenomenon is taken to be representational in nature, this does not justify positing mental representations to figure in its best explanation. This leads to the second observation:

> 2) Mental representations need not figure in the best explanation of pretence even if pretence is representational in essence.

Simply put, even if it turned out to be true that pretence is essentially representational, still one could propose to explain it without positing mental representations. One should not assume that pretence being representational requires its mechanisms to be representational. Even if some phenomenon is essentially representational, it need not use mental representations in explanations of how the phenomenon arises. Consider linguistic practice as an example. Language can be said to be a representational activity, in essence. To use language, in all its forms, is at root to represent how things are, one way or another. However, being able to use language does not necessitate positing a mental representational mechanism.

Pretence may be similarly characterised as a *representational* activity, as is linguistic activity. By representational in nature, I mean having the quality of referring or symbolising, which many theorists accept about pretence (Piaget, 1962; Huttenlocher and Higgins, 1978; Rakoczy et al., 2005; see section 1.2 in Chapter 1). We see such characterisation plenty in the literature, where pretending is understood as symbolising (e.g., Lillard, 1994): in pretence, something stands for or symbolizes something else, so in that respect it is representing something else. The main point is that we can separate the question of whether one needs to posit mental representations to implement pretence, even if it seen as a representational activity. Even if when

we're pretending, we're representing, what enables us to pretend (or represent) need not involve mental representations. That would be analogous to saying that a house has to be made out of little houses; it is simply an unnecessary move. Just as with language, it is logically possible for pretence to be essentially representational, while mental representations need not be posited in its best explanation. What follows from this argument is that non-mental representational explanation of pretence can be given even if pretence is essentially representational.

*Conclusion*

This chapter has shown that, to date, mental representations are posited in the best explanations of pretence. The available explanatory models of pretence (metarepresentational, behaviourist, intentionalist) are all cognitivist models. They assume pretence to be a representational activity, and use mental representations to do the relevant explanatory work in pretence mechanisms they propose. The target of this thesis is showing that mental representations need not be posited in the best explanation of pretence.

This chapter plays an important role in securing this target for two reasons. First, it shows the status quo of available explanatory models of pretence, which all use mental representations in their explanations. This clarifies what competition a non-mental representational explanation of pretence, the target of this thesis, is facing. Second, this chapter opens up the door for defending the view that such non-mental representational explanation of pretence, if achieved, can explain pretending regardless of how pretending is conceptualised. That is because whether some phenomenon *P* is representational or not, it does not follow that mental representations figure in the best explanation of *P*. In fact, there may be no mental representations involved in the implementation, even if the activity itself is metaphysically representational.

The chapter brackets any potential challenges from cognitivist interlocutors about the need to posit mental representations in best explanations of cognitive phenomena. It opens the door for pretence to be reconceptualised without positing mental representations in its essence, as mental representations are to play an explanatory role. Thus, the chapter allows bracketing further analytic or conceptual

arguments about the nature of pretence, and focus solely on what features in the best explanations of pretence, as well as how such explanations will look without positing mental representations.

Having secured the focus of the thesis, the next chapter looks at the kinds of explanations cognitivists propose. As clarified in section 2.2, available explanatory models of pretence posit mental representations in *mechanisms* of pretence, and in 2.3 it was clarified that mental representations were posited play specific *functions* in pretence. The next chapter clarifies what kind of explanation enactivists can propose that do not posit mental representations.

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# Chapter 3. The Nature of the Enactive Explanation

The purpose of this chapter is to clarify what type of explanation an enactivist may provide in response to the explanations provided by cognitivists. Cognitivists give mechanistic explanations of cognitive phenomena, including pretence, and such explanations make use of mental representations. This chapter is a prelude that will show what an enactivist explanation can look like, and whether it can also be mechanistic. The thesis aims to provide an affordance-based explanation in terms of a dynamical story. This chapter shows that even dynamical explanations could be construed as mechanical explanations, when understood in a wide sense.

Considering the nature of the enactivist explanation is important for the thesis as it opens up the possibility of interpreting the novel proposal of a non-mental representational explanation of pretence, provided in subsequent chapters, as a genuine alternative explanation of pretence to the explanations provided so far. The chapter addresses the commitments behind different philosophical frameworks (cognitivism and enactivism) with regard to their explanatory methodologies. It shows that these philosophical frameworks make use of different conceptual tools (mental representations and affordances, respectively), which has implications for what methods of explanation of cognitive phenomena they typically rely on (mechanistic explanations or covering law explanations, respectively). However, to secure the claim that a possible non-representational explanation of pretence provides a genuine counter proposal to representational explanation, it is important to show that enactivists could be seen as providing the same explanatory method as cognitivists, which is to refer to a mechanistic explanation. This has to do with understanding what the criteria are of mechanistic explanations. The chapter shows that enactivists can provide genuine rival explanations of phenomena like pretence, as the dynamical and affordance-based explanatory structure of enactivist explanations can count as a species of mechanistic explanations, in which there is no reason to think that mental representations figure as proper parts. Such a structure is a wide and situated mechanism, which incorporates both the animal and the environment as components of its explanatory mechanism.

This chapter is part of the larger argument of the thesis. It sets the stage for developing the affordance-based explanatory structure and applying it to pretence in succeeding chapters. It clarifies that while the enactive explanation of pretence will be complex and multi-faceted, it need not posit mental representational structures, yet it still should be considered as a genuine alternative explanation of pretence (as opposed to a mere 're-description') that stands in sharp contrast to mental representational explanations of pretence proposed by cognitivists. The chapter clarifies the background dialectic of the thesis. It also connects to other bigger debates, such as on the nature of mechanistic explanations (see Chemero and Silberstein, 2008), and it situates the discussion about pretence in these debates. It clarifies the sense of the alternative proposal. This chapter does not yet address the enactivist non-representational explanation of pretence, and does not engage with specific aspects of pretence at all. Instead, it aims to bracket general worries about providing such alternative explanations. This chapter is crucial in clarifying the differences between types of explanations currently provided by enactivists. It also shows what types of explanations could be provided by enactivists, and discusses whether they could count as mechanistic explanations understood in a broad way.

The steps in the analysis of this chapter are the following. Firstly, section 3.1 clarifies that enactivists usually propose covering law explanations of cognitive phenomena unlike cognitivists, who provide mechanistic explanations. Section 3.2 discusses the nature of mechanisms and mechanistic explanations in general. Section 3.3 addresses the worries of enactivists concerning mechanistic explanations of cognitive phenomena. Section 3.4 proposes alternative conceptions of mechanistic explanations (Zednik, 2011; Bechtel, 2009) and introduces the concept of a wide and situated mechanism. It further argues that the notion of wide and situated mechanism is compatible with enactivist explanations and could be endorsed by enactivism. Finally, section 3.5 addresses some of the worries concerning dynamical explanations as wide mechanistic explanations. The chapter concludes with showing that dynamical explanations could be understood as mechanistic explanations, but even if they ultimately are not mechanical, the explanations provided by enactivists about pretence will be illuminating either way.

### *3.1 Enactivist explanations in light of cognitivist explanations*

Enactivism contrasts cognitivism both on its theoretical commitment to positing mental representations, and as concerns methodological strategies for studying cognition. Many E-theorists, such as radical enactivists, do not seek to explain cognition at all, but re-describe it *ala* Wittgenstein (1953) (see Hutto and Myin, 2013). Other E-theorists such as embodied cognition theorists and ecological psychologists, who do attempt to explain cognitive phenomena, rely not on mechanistic explanations, but on providing covering law explanations (Varela et al., 1991; Chemero, 2009).[26] The target of this section is to showcase the methodological commitments of enactivists in light of the ones of cognitivists, examples of whose methods we have seen in the previous chapter. This section further clarifies the commitments of both groups of theorists. On the one hand, cognitivists have been following Marr (1982) in providing scientific explanations. They propose to study cognition mechanistically, which entails a reductionist approach to get to the components of cognition, such as underlying mental representational structures.[27] On the other hand, enactivists, when engaging in providing explanations, provide only covering law explanations such as dynamical explanations. This section describes in more detail the enactivist approach to studying cognitive phenomena, opening up the space for understanding enactivist explanations mechanistically in later sections.

Cognitivists follow Marr's (1982) explanatory trichotomy. These are different levels on which we can explain a phenomenon. Marr and Poggio's (1976) paper is famous for introducing a differentiation between levels of explanation, originally applied to perception. They approached perception from a computational standpoint, treating it as an information processing system. As such, they distinguished three levels of abstraction in analysing perception:

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[26] For the purposes of the argument in this chapter, the distinction within the E-theorist camp, such as between enactivists, radical enactivists, radical embodied cognition scientists and ecological psychologists need not be made, as they all importantly contrast with cognitivists in the same way. As Chemero (2009) clarifies, "Ecological psychology's core concepts—perception for action, direct perception, affordances, environmental information—form the core of the embodied cognition movement" (p. 86), and he defines "radical embodied cognitive science as the scientific study of perception, cognition, and action as necessarily embodied phenomena, using explanatory tools that do not posit mental representations" (p. 28-29). Hence, for simplicity's sake, I will refer to all e-theorists as 'enactivists', as not positing mental representations is the key feature of enactivism, and in this thesis, this is the most important feature of e-theories.

[27] The cognitive architecture with posited mental representations often forms the explanatory mechanism underlying the cognitive phenomena, as seen in Chapter 2.

1. Computational level: What the system does and why it does these things,
2. Algorithmic level: How the system does what it does,
3. Physical level: How the system is physically realised (neuronal structures).[28]

Since Marr's consequent paper (1982), the three levels of explanation have become popular in many fields. Following Marr's methodology results in breaking down even complex cognitive phenomena like 'mindreading' to simpler components in order to explain them. For example, Nichols and Stich propose to explain 'mindreading' with a cognitive mechanism. They write that the goal of their theory is to "try to explain mindreading (or some other complex cognitive capacity) by positing functionally characterised underlying mechanisms with capacities that are simpler than the capacity they are trying to explain" (2003, p. 10-11). This explanatory hierarchy is also endorsed in different fields; aside from perception and cognition, it has even been applied to understanding social cognition, such as empathy (see, for example, Gallese, 2001).[29]

Cognitivists typically explain how the system works by positing mechanistic structures on the algorithmic level, and the algorithmic level is the level of explanation where mental representations are most often posited (although mental representations are known to feature in the computational levels as well, as essential to the phenomenon). Enactivists, however, have an entirely different approach to studying cognitive phenomena. The next part discusses the main theoretical and methodological commitments that are shared by most enactivists.

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[28] Stich and Nichols (2003), who make use of this distinction, clarify: "Marr's highest level, which he perhaps misleadingly called the *computational level*, presents an analysis of the cognitive capacity to be explained. The analysis given an explicit account of what the system underlying the capacity does and decomposes the system into a set of simpler subsystems. (…) At Marr's second level, which he calls the *algorithmic level*, the theory provides formal procedures or algorithms for accomplishing each of the tasks into which the initial target task or capacity has been decomposed. The third, or *physical implementation*, level explains how the algorithms are actually executed by some real physical system – typically some part of the brain. On Marr's view, the three levels are largely independent of one another (p. 10)".

[29] Although Gallese (2001) does not explicitly refer to Marr's explanatory distinctions, it is clear in his work that he considers that there are such different levels of understanding empathy: the experience or phenomenology of empathy (what we could call the computational level); the mechanism of simulation and action representation (the algorithmic level), and the firing of mirror neurons in the brain (the physical level).

Enactivists disagree with cognitivists on several points. Firstly, according to enactivists, cognition is not first and foremost representation, with respect to both the essence of cognition and its implementation. As Varela et al. (1991) claim,

> (Enactivism) questions the centrality of the notion that cognition is fundamentally representation. Behind this notion stand three fundamental assumptions. The first is that we inhabit a world with particular properties, such as length, color, movement, sound, etc. The second is that we pick up or recover these properties by internally representing them. (…) We propose as a name the term *enactive* to emphasize the growing conviction that cognition is not the representation of a pregiven world by a pregiven mind but is rather the enactment of a world and a mind on the basis of a history of the variety of actions that a being in the world performs (p. 9).

Secondly, enactivism proposes the study of living organisms, and describes autopoietic systems in their environments (Varela at al., 1991; De Jaegher and Di Paolo, 2009). In this respect, enactivism is modelled on ecology, and ecological approaches stress the dynamic relation between organisms and their environments. That is a sharp methodological contrast to the cognitivist approaches, which focus on manipulation of mental representations or representational mapping in the implementation of cognition. Enactivism also stresses the activity of the animals in their environments (Hutto and Myin, 2013). It considers the animal in its context, focusing on the role of the objects and other animals in this context in shaping the animal cognition (Froese et al., 2012; De Jaegher and Di Paolo, 2009). The outcome of taking an enactive approach to cognition is that it finds mentality in the interactions between organisms and environments, not in encapsulated mental representations. It can be concluded that enactivist explanations of cognitive engagements will not posit mental representations, but rather will focus on dynamic interactions of the animals with their environments, which shape the animal cognition.

In general, enactivists do not provide mechanistic explanations because living things are importantly unlike machines (though, as will be argued below, their rejection of mechanistic explanations may be premature). Instead, they propose covering law explanations. Covering law explanation (Kelso, 1995) "relies on a lawlike regularity to deduce properties of the target phenomenon" (in Zednik, 2011, p. 242). In *The Embodied Mind*, Varela et al. claim that

(The) overall concern of the enactive approach to perception is not to determine how some perceiver-independent world is to be recovered; it is, rather, to determine the common principles or lawful linkages between sensory and motor systems that explain how action can be perceptually guided in a perceiver-dependent world (*idem*, p. 173).

An example of covering law explanation outside philosophy and cognitive science is the law of gravity. It provides us with a principle of why objects fall to the ground, explaining this phenomenon without having to posit an underlying mechanism in the object (although the explanation will advert to the mass of the object, determined by its parts, their nature and configuration).[30]

Dynamical explanation, thus, is said to be a case of covering-law explanation. As Chemero (2009) claims, "radical embodied cognitive science uses dynamical systems theory to explain cognition" (p. 199). Therefore, it may seem that providing a mechanistic explanation is not compatible with it. As he suggests, "it might seem that dynamical cognitive science—at least the dynamical cognitive science of radical embodied cognitive scientists who do not posit mental representations—is like phenomenological physics in that it posits no underlying mechanism for cognition. It is essentially a phenomenological psychology: it is successful when it provides equations that capture observed behaviour" (p. 80-81).

Clearly, there seem to be two different kinds of explanatory projects occurring. This could be considered as a slight problem for a non-representational alternative explanation of pretence, as it can be easily argued that enactivists and cognitivists are engaging in different work, and in virtue of that, they do not provide a threat and need not be in each other's way (Aizawa, 2014). However, that conclusion also seems principally unfitting for those enactivists who do provide an explanation. The strong contrast between the theoretical and methodological commitments motivated enactivists to counter cognitivist proposals, not just provide different characterisation of the phenomena. Moreover, enactivists should not only want to provide a different story to that of cognitivists, but one that substantially rivals it. This

[30] However, it may be observed that once one counts the wider context as including two objects and a force (the earth, the falling object, gravity), this looks like a mechanism in the relevant sense. In that case, the 'covering law' explanation could describe a mechanism. Considerations along these lines motivate Zednik's (2011) proposal that covering law explanations are in the end compatible with mechanistic explanations (as will be discussed below).

motivates the question: *if* mechanistic explanations are the right way to explain cognitive phenomena (and that is a big if), could enactivists propose a mechanistic alternative explanation of cognition in order to give a contrasting explanation of cognition? This chapter will propose to answer 'yes' to this question; enactivists could be said to provide explanations that are mechanistic explanations, albeit when mechanism is understood in a proper broader sense. Thus, first, it is imperative to clarify what is actually meant by a mechanism and a mechanistic explanation.

### *3.2 Mechanisms and mechanistic explanations*

It is useful to begin with the most influential conception of a mechanism in contemporary philosophy of science:

> A mechanism is a structure performing a function in virtue of its component parts, component operations, and their organization. The orchestrated functioning of the mechanism, manifested in patterns of change over time in properties of its parts and operations, is responsible for one or more phenomena" (Bechtel and Abrahamsen, 2010, p. 323; see also Machamer et al., 2000; Bechtel and Abrahamsen, 2005; Craver, 2007).

Mechanisms have typically two explanatory heuristics: decomposition and location (Bechtel and Richardson 1993, Craver 2007, Zednik 2011). Location refers to the idea that mechanisms typically occupy some space in time. Decomposition can be structural and functional. "Structural decomposition involves breaking a complex system down into a collection of simpler subsystems or parts. (…) Functional decomposition involves re-describing the behavioral phenomenon as a series or organised collection of simpler behaviors or operations" (Zednik 2011, p. 240-241). Those operations are working parts of the system and are realised in the system from which the target phenomenon arises.

This shapes what is to be considered as a mechanistic explanation. According to Zednik (2011), "mechanistic explanation consists of describing the particular organized collection of parts and operations that is responsible for the behavioural regularity being explained" (p. 240). Furthermore, mechanistic explanation is "a form of reductive explanation; phenomena manifested at one level of organization are

explained in terms of component parts and operations at lower level(s) of organization (Machamer et al., 2000; Craver, 2007; Bechtel, 2008)" (*idem,* p. 261).[31]

Considering these characteristics, it may be clear why talk of mechanisms and mechanistic explanations has been applied in philosophy by cognitivists. Withagen et al. (2012) point to Descartes (1641/2007) as the exemplar promoter of applying mechanistic methodology in philosophy. They claim, "Ever since the mechanization of the worldview (…), philosophers and later psychologists have generally tried to understand mind and behaviour in mechanistic terms" (p. 250). With regard to decomposability, Dennett (1993) famously discusses the method of breaking the phenomenon into smaller 'component' mechanisms that are 'stupid', and therefore, have lesser functions, in his version of homuncular functionalism. In short, decomposition has to do with 'breaking down' the phenomenon to aspects or component parts in order to facilitate its explanation by targeting its smaller component parts. The idea is that scientists can 'get beneath' the phenomenon to explain it better, as well as interpret and put together the component parts to make better predictions about when the phenomenon would resurface.[32]

Decomposability seems to fit with cognitivist explanatory strategies, which break down the phenomena they study (e.g., cognition) into smaller component parts (e.g., mental representational structures).[33] Cognitivists also appeal to the location heuristic of the mechanism. The idea is that the cognitive mechanism reflects some sort of internal processing, which is often said to be located in the brain. Hence, it would look like mechanistic explanations have a good fit with cognitivist types of explanations.

Ramsey (2007), however, cautions against considering mechanistic explanations of cognitive phenomena as necessarily representational. He argues that

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[31] Other, yet similar, definitions include Bechtel's (2009): "mechanism is understood as an organized set of parts that perform different operations which are orchestrated so as to realize in the appropriate context the phenomenon in question. The explanation itself consists of representing the mechanism and showing how it realizes the phenomenon (often by simulating its functioning)" (p. 544).

[32] For example, Aizawa (2014) says that mechanistic explanations "explain the behaviour of a whole organism primarily by appeal to the behaviour of one of its components" (p. 24). "The idea is that entities do things in virtue of their parts doing qualitatively distinct things" (p. 33), and in mechanistic explanations, "higher level properties are realized by properties of lower level individuals" (p. 34).

[33] This seems to follow Marr's explanatory hierarchy, but it does not. Marr suggested that his levels of classification are to be treated independently of one another. Thus, the structure of the mechanism of the algorithmic level should not make a difference to the description of the phenomenon on the highest computational level. However, this is the one key point that many decide *not* to follow Marr on, assuming that the findings about one level will make a difference on the findings about the other (see, for example, Nichols and Stich (2000), p. 11).

even if we speak of an internally localised cognitive mechanism, it need not be mental representational:

> (Try) to imagine what a non-representational account of some cognitive capacity or process might look like. (…). Presumably, at the very least, it would need to propose some sort of internal processing architecture that gives rise to the capacity in question. The account would perhaps invoke purely mechanical operations that, like most mechanical processes, require internal states or devices that in their proper functioning go into particular states when the system is presented with specific sorts of input. But now notice that in the current climate, such an account would turn out to be a representational theory after all. If it proposes particular internal states that are responses to particular inputs, then, given one popular conception of representation, these would qualify as representing those inputs (*idem*, p. 3)

Hence, there is no good reason to think of the cognitive mechanism as necessarily representational. Ramsey cautions against counting mere correlations between internal states and inputs as amounting to a satisfying notion of mental representation. Thus, Ramsey's point opens the door for non-mental representational explanations to be counted as mechanistic.

Having said this, there still seems to be a better fit between mechanistic explanations and cognitivist explanations, even if mechanistic explanations do not commit to mental representationalism. Below I will consider some of the worries enactivists have with mechanistic explanations.

### *3.3 Enactivist worries concerning mechanistic explanations*

On the surface of it, both heuristics of mechanisms do not seem to fit the enactivist framework, making mechanistic explanations unlikely to be appropriated by enactivists at face value. With regard to the decompositionality heuristic, enactivists would not study cognition by breaking it down to component parts in virtue of following the principle of Gestalt psychology, namely, that the properties of the parts are not the properties of the wholes. As enactivists are interested in studying cognition holistically through a dynamic interaction of the animal with its environment, they would argue against the method of singling out properties of cognition and studying those independently of cognition as a whole. Moreover, decomposition of phenomena

(and looking for underlying mechanisms) may not be best applicable to studying complex social phenomena (Leuridan, 2012), and *hierarchical* decomposition may even result in contradictions.[34]

There is also a clear worry with the location heuristic. If there is a specific location of the cognitive process, it is natural to locate it in the brain. For example, computational models "specify the component operations of a mechanism that are then (in ideal cases) localised in neurobiological component parts" (Zednik 2011, p. 241). Location may imply internalisation of the cognitive processes, such as by encapsulation of the cognitive processes in a representational structure, most often found in the brain and realised by neural structures alone. As localisation of the mechanism suggests its internalisation (and, possibly, representationalism), it is not compatible with the non-representationalism and worldly interactionism of the enactive accounts.

However, these heuristics are actually not problematic for potential enactive explanations. One can speak of components on the enactive account: these would be the animal (or animal effectivities) and its environment (or environmental affordances), as well as situational factors that shape the context an animal found itself in (such as other animals), forming a wide-mechanism.[35] Also, the location heuristic is not threatening, considering the argument for the extended mind (Clark and Chalmers, 1997) that many enactivists endorse. *Locating* the mechanism is not a problem, as one can locate it between the animal and the world.[36] Thus, the heuristics of mechanisms on their own should not be threatening for enactivists.

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[34] For example, Fuchs (2014) proposes to explain autism and schizophrenia through a hierarchical decomposition of intersubjectivity. He says that autism is best conceived of as a disorder of primary intersubjectivity, and as a result, "the later development of higher-order capacities such as perspective-taking and language acquisition is impaired as well" (2014, p. 6). This is a problem for explaining 'morbid rationalization' in autism, which is the ability of autistics to compensate for the lack of primary, embodied understanding by engaging in 'Theory of Mind'. Presumably, Theory of Mind capacity would require perspective-taking and language acquisition to already be in place. Hence, autistics should not have the capacities to compensate for their lack of primary intersubjectivity, if these capacities are necessarily preceded by primary intersubjectivity. For full argument, see Rucinska (2015).

[35] The concept of effectivities and affordances is explained in more detail in Chapter 4. How other animals/people can shape the relevant contexts is targeted in Chapter 7.

[36] *Localising* the mechanism may be more problematic that *locating* it, as that suggests a location somewhere short of the animal-world combination as being where the 'real' action happens. However, even if there is a significant difference between localising and locating, there is no reason to assume that the location heuristic must speak to the former and not to the latter. Moreover, even if the mechanism were to be localised only within the animal, following Ramsey (2007), there is no reason to suppose it would have to involve mental representations.

However, there is a further worry of enactivists about applying mechanistic explanations to understand cognitive phenomena in general. The worry has to do with positing inputs and outputs that mechanisms usually mediate. It is the cognitivist approach to understanding cognition that pertains to an input-output relation between the mind and behaviour, whereas the ecological approach as appropriated by enactivists stresses the dynamic relation between the organism and its environment, where there is no longer a clear divide between inputs and outputs; the behaviour of real physical systems may be exhibiting non-linear effects (Chemero and Silberstein, 2008). This pertains to the type of explanation to be offered. As explained in 3.1, enactivism proposes the study of living organisms and describes autopoietic systems in their environments. What follows is that relying on dynamicism seems to be incompatible with mechanistic explanations, where mechanisms are provided with inputs and produce outputs in a linear fashion. Varela at al.'s (1991) comparison of the autonomous systems with mechanical systems shows why rarely can an operation of an organism be specified through input/output relations:

> Such autonomous systems stand in sharp contrast to systems whose coupling with the environment is specified through input/output relations. (…) Under very restricted circumstances can we speak as if we could specify the operation of a cell or an organism through input/output relations. In general, though, the meaning of this or that interaction for a living system is not prescribed from outside but is the result of the organization and history of the system itself (*idem*, p.157).

Similarly, Withagen et al.'s (2012) explanation of why Gibson's ecological psychology tried to do without mechanisms is that they wanted to step away from understanding behaviour "in terms of a chain of causes and effects", as merely responding to stimuli (p. 250). Withagen et al. clarify Gibson's reasons for stepping away from mechanistic explanation in the following way:

> Gibson (1966, 1979/1986) took aim at the mechanistic conceptions of perception and action. He argued that animals should not be conceived of as machines, the responses of which are caused by stimuli from the environment. In addition, he claimed that the mechanistic conception of the environment as matter in motion is inappropriate to understand animal behavior. In Gibson's view, the animal's environment consists of action possibilities, which he

termed affordances. (…) After all, if the environment consists of opportunities for action that do not cause behavior but simply make it possible, animals appear as being autonomous, making their way in the world. They are not mere puppets pushed by the environment like machines; rather, animals have agency (p. 250).

Clearly, in these readings 'mechanistic' means having to do with providing causal explanations in terms of acting on impulses from the outside, not just having component parts or location. What this understanding of mechanism assumes is that there is a linear chain of causes and effects (stimulus-response), so a causal notion of mechanism cannot be what enactivists are after.

In short, the worry is that even if component parts and location heuristics can be accounted for, it seems like mechanistic explanations posit chains of causes and effects, whereas dynamical systems explanations do not, which is why enactive explanations are not mechanistic. However, in reply, it will be shown that this is not a worry if one follows a notion of wide and situated mechanism. The wide and situated mechanism addresses the heuristics of mechanisms and deals with the worry of input-output causation. It has non-hierarchical components that engage in continuous reciprocal causation, and its location is extended, in the sense that the components are distributed in the world. Furthermore, continuous reciprocal causation is how the component parts stand in relation to each other; the causality is simply not linear. The next section will clarify how wide and situated mechanisms can be used by enactivists.

### *3.4 Alternative conception of a mechanism: wide and situated*

It is possible to understand enactivist claims as compatible with mechanistic explanations, when mechanism is understood in a certain way. This is the notion of what I will call 'wide and situated mechanism'. It is based on arguments of Zednik (2011) and Bechtel (2009) about the nature of mechanisms.

Zednik (2011) argues that dynamical explanations "may be uniquely able to describe mechanisms whose components are engaged in complex relationships of continuous reciprocal causation (p. 239), and that dynamical explanations "actually

resemble mechanistic explanations rather than covering-law explanations" (p. 245).[37] He argues that dynamical explanations "are well suited for describing extended mechanisms whose components are distributed across brain, body, and the environment" (p. 239). The structural decomposition can be made to (minimally) two working parts: animal and environment (see Beer 2003).[38] Applied to enactivism, the enactive mechanism could involve taking the environment and taking the animal as a single whole, with no representing. For example, animal's know-how (effectivity) can be said to be a component located 'in the body', the object's possibility for action (affordance) could be said to be located 'in the environment', and the interaction between them to be located in the world (to be further explained in Chapter 4). Moreover, "insofar as it makes sense to talk of body and environment as the components of a (minimally) cognitive mechanism, that mechanism is extended; its components are distributed across brain, body, and environment" (Zednik 2011, p. 256). The parts and operations of the mechanism are distributed; it could include social structures and the cultural environment.

Moreover, Zednik argues that continuous reciprocal causation implies that the interacting parts do *not* work in a linear fashion as inputs and outputs. The continuous reciprocal causation can be thought of as a form of coupling between the components. As he clarifies,

> Coupling is a technical term that applies whenever two or more dynamical systems mutually influence one another's change over time. In the philosophical literature, such mutual influence is more commonly known as continuous reciprocal causation (Clark, 1997). Systems B and E are engaged in a relationship of continuous reciprocal causation because each system's behavior is at all times determining, as well as being determined by, the other's. (*idem*, p. 258)

Hence, a wide and situated mechanism does not posit chains of causes and effects, but speaks of dynamical reciprocal causation. The causation takes place

[37] "Therefore, a closer look at dynamical cognitive science will reveal that the extant philosophical conception of mechanistic explanation may have underestimated practicing scientists' willingness and ability to describe increasingly complex and distributed cognitive mechanisms" (p. 239).

[38] Beer (2003) relies on the explanatory heuristic of structural decomposition to identify two working parts—the embodied brain on the one hand and the environment on the other (…). Then, he provides a detailed dynamical analysis to describe the operations associated with each part (see Zednik 2011, p. 254).

within the whole, and as such, it could be said that it does not count as having inputs and outputs in the traditional sense. However, in a non-traditional sense, it could be said that affordance-effectivity pairs are 'inputs' and banana-phone actions are 'outputs' within the wide mechanism of pretence.

Dynamical reciprocal causation is not a problem for affordance-based explanations. For example, following Chemero (2009), affordances causally interact with each other (p. 151).[39] Even understood as components of a wide and situated mechanism, they can causally interact with effectivities and other affordances as part of the wide mechanism, without being causes of behaviour in the sense of providing inputs, where the outputs are pretence behaviours. As mere possibilities for action, affordances are not causes of behaviour on their own; but when coupled with effectivities and contextual factors that forms the whole system, it is this system that is a reciprocally causal system, where behaviour takes place. Affordances and effectivities (as further explained in Chapter 4) can be said to form components of a continuously reciprocating causal system. What is clear is that affordance-based explanation is thus compatible with a type of a mechanistic explanation.

Second, I propose to follow Bechtel's (2009) notion of a mechanism, whose components interact in complex ways, and which is situated in a wider context. As Bechtel claims,

> Accounts of mechanistic explanation have emphasized the importance of looking down—decomposing a mechanism into its parts and operations. (…) But once multiple components of a mechanism have been identified, researchers also need to figure out how it is organized—they must look around and determine how to recompose the mechanism. (…) Researchers also need to look up—situate a mechanism in its context, which may be a larger mechanism that modulates its behavior. When looking down is combined with looking around and up, mechanistic research results in an integrated, multi-level perspective" (p. 543).

By 'looking around and up', Bechtel emphasises both the organisation of a mechanism and its situatedness in a wider context ('larger mechanism'), where external factors further affect the behaviour of the mechanism. For example, by the original mechanism he refers to the visual system, claiming that it cannot be best

[39] "(A)ffordances and abilities (…) causally interact in real time and are causally dependent on one another" (*idem,* p. 151).

understood without also situating it in a context where the animal, or object in the environment, is moving. To explain the mechanism of perception, the movement of the perceiver and of the objects in the environment should be appealed to, as these impact what information is received by the visual system. Bechtel (2009) claims that is in line with Gibson's notion of "optic flow, the manner in which the visual scene changes as a result of the relative movement of the perceiver and objects in the environment" (*idem,* p. 558). Thus, he concludes that

> The behavior of mechanisms is highly dependent on conditions in their environments, including any regularities that occur there. But these are not discovered by looking inside the mechanism to the parts and operations or how these are organized. They must be discovered by examining the environment in which the mechanism operates and employing tools appropriate for such inquiry (*idem*, p. 559).

Such understanding of a mechanism (as wide and situated) is compatible with the explanations proposed by enactivists thus far. One example of a dynamic type of explanation is how Varela at al. (1991) explain colour experience. For example, Varela at al. (1991) discuss how colour experience comes about. To understand colour experience, they claim that we need to understand factors that simultaneously shape the experience, such as appearance of the object (structured by basic colours and their dimensions such as hue, saturation and brightness), illumination, retinal structures, neuronal structures (structures of visual pathways that participate in the perception of colour), the relationship between colour and motion, and other sensory modalities. They claim that "our coloured world is brought forth by complex processes of structural coupling" (p. 164), and they demonstrated that "colour as an attribute is intimately involved with other attributes of our perceived world" (p. 165). According to them, colours belong to a shared biological and cultural world. They conclude with a claim that to explain colour one must "locate colour in the perceived or experiential world that is brought forth from our history of structural coupling" (p. 165).

As explained in section 3.1, Varela et al. look for 'common principles' or 'lawful linkages' that can be generalised to all perception to explain what colour experience is. However, they look also at the relation of the sensory-motor systems to the external world, one that is perceiver-dependent. Their explanation of colour

experience includes the description of the physiognomy of the human eye as well as the influence of the colour concepts of our culture on perception. In that respect, it could be considered as a wide and situated mechanistic explanation. Similarly, Chemero (2009) speaks of component parts of the dynamical system,[40] and having components is a general heuristic of a mechanism as explained in section 3.2. Chemero looks for a unified model to explain the coupling of brain-body-environment systems and interpersonal (social) coupling, looking for models to be applied to data that are "widely applicable and easily extensible" (p. 100). Again, such models could be interpreted in the line of a wide and situated mechanism.

It is clear that neither Varela et al. nor Chemero speak of mechanisms, but provide their explanations as covering law explanations. If dynamical explanations are compatible with wide and situated mechanistic explanation, why might it be a good idea to think of them as such? Dynamical models understood as providing covering law explanations describe general principles, and thus, account for a wide range of cognitive phenomena.[41] Hence, their explanations are not restricted to any particular system. This may be why providing covering law explanations it is not best applicable to pretence, because there may not be a unique phenomenon of pretending that would pertain to such a law: pretence could come in various forms, as shown in section 2 of Chapter 1. Since there is no one unitary account of what can be covered by the phenomenon of pretence, it may be difficult to establish whether what we are trying to explain can have one law. Moreover, what follows from generalisation is de-contextualisation. Giving laws of pretence would also imply de-contextualising pretence, so that the component parts of a functioning mechanism would always hold for any pretence case. The worry is that perhaps the phenomenon of pretence is so varied that we can only at best speak of exemplars, or specific tokens of pretence acts (such as banana-phone play as chosen for this thesis).[42] However, we don't have that

[40] "In dynamical explanations, the behavior of a system is typically explained in terms of collective variables (…). A collective variable describes the emergent, coordinated activity of the parts that compose a dynamical system, and in some cases this collective variable is causally responsible for the component parts" (199).

[41] As Chemero claims, "This would allow scientists to predict that other, similar behaviors would fall under the same covering laws, and then test that prediction" (2009, p. 85).

[42] According to Hutto (2011), a similar problem faces the study of consciousness. Hutto claims, "There is no utterly clean, clear and neutral account of what exactly is covered by the concept of consciousness. The situation reflects, and is exacerbated by, the fact that we speak of consciousness in many different ways in ordinary parlance. A consequence of our multifacious uses of the concept is that is impossible to define its essential characteristics through conceptual analysis. (…) Recognizing that attempts to provide a philosophically robust definition of consciousness are likely forlorn, a standard tactic for

worry when speaking of a wide and situated mechanism. The mechanism can be multiply realisable, in the sense that different environmental affordances and different animal effectivities, in different contexts, can form the wide and situated mechanistic structures of individual pretence acts, explaining individual pretence acts and accounting for their variety. While covering law explanations could be expressed in terms general enough for very varied explanations (e.g., explaining all cognition as dynamic interplay of affordance-effectivity pairs), mechanistic explanations certainly capture the multiple realisability of the affordance-effectivity pairs required for specific cases of pretence.[43]

### *3.5 Some challenges and a conclusion*

This chapter has shown that the explanations of enactivists and cognitivists can share a framework. Securing this strengthens the position of enactivist explanations in the overall debate about what best explains pretence, allowing for enactivist explanations to be considered as rival explanations to cognitivist explanations. This chapter has shown that mechanisms could be compatible with enactivist explanations, if enactivists take on a liberal notion of mechanism that is wide and situated. What results is that an enactivist explanation could be considered as a genuine rival explanation to cognitivist explanations, in the sense that both would then propose a kind of mechanistic explanation.

However, one challenge a cognitivist may pose is that a wide mechanism is not a mechanism in the relevant sense. The worry with the wide mechanism might be that the entire world could count as a mechanism, and the boundaries between the mechanism and the environment are not clearly set. To that, it may be answered that only the relevant parts of the environment, causally contributing to the phenomenon in question, would count as part of the mechanism. Demarcating the relevant

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isolating core features of consciousness is to provide clear-cut exemplars as specimens" (p. 35). While Hutto speaks of *consciousness* (not pretence), and the inability to agree on one *definition* of consciousness (not account), his words speak to pretence and its available accounts as well.

[43] Multiple realisability here does not necessarily refer to the functionalist notion of multiple realisability. As Chemero and Silberstein (2008) claim, "The non-linear dynamics of a cognitive system will be multiply realizable or "mappable" with respect to a wide array of diverse underlying causal mechanical stories about the same processes. This is not the metaphysician's multiple realizability of types, but the real world universality of dynamical patterns and the equations that can describe them. If models are accurate enough to describe observed phenomena and to predict what would have happened had circumstances been different, they are sufficient as explanations" (p. 9).

environmental factors is crucial. Examples of relevant environmental factors to pretence will be proposed in the last three chapters that deal with pretence specifically. Thus, while the mechanical explanations of cognitivists and enactivists would be importantly different, they are both mechanical explanation in the sense that they both pertain to the qualities and heuristics of mechanism respected in scientific terminology.

Moreover, one may worry that true mechanisms are to be found only in the neural implementation levels, so speaking of wide mechanism is not a genuine alternative to cognitivist proposals. However, by mechanism, I do not speak of mechanism on Marr's (1982) 'physical' level. The contrast is to the 'algorithmic' level, where mental representational structures of pretence theorists were found. Following Marr's (1982) distinction, pretence could be re-described also in the following way:

1. First level, which addresses the question "What does the system do?" describes the pretence phenomenon.
2. Second level, which addressed the question "How does the system do it?" can have (at least) two possibilities: mental representations or affordances.
3. Third level, which addresses the question of implementation of pretence at the physical level.

Applied to pretence, it can be asked what structures or capacities need to be in place for an animal to pretend. The 'wide mechanism' explanation only aims to provide an alternative to the mechanisms proposed by cognitivists, such as inference mechanism or decoupling mechanism (as per Chapter 2 section 2). However, while it may be that the enactive explanation does not provide explanations on the physical level, it is also the case that the cognitivist explanations do not provide causal explanations on the physical level either (for example, they do not specify how the unorthodox pretence representations get selected). Thus, as the theorists mentioned in that section do not engage in providing further explanations about mechanisms involved on physical or neural levels of their explanatory accounts, neither is this account obliged to do so.

Finally, what happens to the alternative explanation if it turns out that mechanisms are not wide and situated after all? In the end, it might turn out that dynamical explanations are not mechanical explanations; such worry may be raised not only by cognitivists, but by enactivists as well. The rest of this section addresses the question of what follows in case the dynamic explanations are in the end not compatible with mechanistic explanations.

Even though decompositionality and location are agreed to be important features of mechanisms, it is still hotly contested what properties mechanisms have. There is an on-going debate about whether mechanisms can be understood as wide, and whether they are still mechanisms. Some think that mechanistic explanations are compatible with dynamical explanations (e.g., Zednik, 2011). Others challenge this (Chemero and Silberstein, 2008). To date, this is still a lively, evolving debate.[44] At this moment, the outcome of this debate cannot be controlled. It would take another thesis to adjudicate the question of mechanistic explanations. However, given that enactivists provide dynamical explanations, and their explanatory tools are, i.e., affordances, there can be two outcomes of this debate:

1) Dynamical explanations are covering-law explanations, and these are compatible with mechanistic explanations. Hence, affordances can form mechanisms.
2) Dynamical explanations are covering-law explanations, and these are *not* compatible with mechanistic explanations. Hence, affordances cannot form mechanisms.

If it turns out that 1 (that dynamical explanations can be incorporated into mechanistic explanations, under much wider and looser notion of mechanism), then, as it has been shown, there is room for two parallel mechanistic explanations of cognitive phenomena available, and the enactivist mechanistic explanations would pose direct threat to cognitivist mechanistic explanations.

If it turns out that 2 (that old-school dynamical explanations are in the end not mechanisms), then it could turn out that giving mechanical explanations of

[44] The topic of mechanical explanations in philosophy of mind is a current one, as can be seen by the conference topics of this year; for example 'Modeling minds' workshop (University of Nijmegen, March 2015) or "Situatedness and models of mechanisms" in 'Situating Cognition' conference (University of Warsaw, October 2015).

phenomena like pretence is not appropriate to begin with. To elaborate, if it turns out that there is some truth to the affordance-based account, it would show that mechanistic explanations were a miss, and so cognitivists' mechanistic explanations are not good explanations of cognitive phenomena altogether. It a sense, the alternative non-mechanical explanation would still be a threat to cognitivists' mechanical explanation, if not a greater one, as it would turn out that the notion of mechanism is not useful for the purposes of explaining cognitive phenomena on the algorithmic level of explanation to begin with; dynamical explanations go beyond mechanical explanations.

To sum up, whether dynamical systems are mechanisms hangs heavily on the outcome of the debate about the nature of mechanisms. This chapter cannot settle this debate. However, it can show what difference the possible outcome of this debate would make. If dynamical explanations are mechanical, the affordance-based alternative is a genuine alternative proposal. If dynamical explanations are not mechanical, and it turns out that affordance-based alternative is right, then it would have meant that mechanistic explanations are not appropriate to target cognitive phenomena like pretence. Given any outcome of the debate, proposing affordance-based explanations is a valuable contribution.

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# Chapter 4. Getting Clear about Affordances

The purpose of this chapter is to clarify how to think of affordances with respect to explaining pretence. There is an on-going debate in the affordance literature about how to conceive of affordances. The term 'affordance' has been used in multiple ways in the literature on ecological psychology (incl. Gibson (1979/1986, 1982), Turvey (1992), Reed (1996), Chemero (2003, 2009), Noë (2004), Withagen et al. (2012), Rietveld and Kiverstein (2014)); the concept of an affordance features in Gestalt psychology and phenomenology as well. The only consensus with respect to affordances is that they are possibilities for action. What they are (properties or relations), where they are located (in the environment or cutting across the environment-animal dichotomy), and how they work (whether they invite actions or not) is a matter of great debate.

This chapter seeks an answer to the question: how should we think of affordances as explanatory posits of pretence? It will clarify the possible ways of thinking about affordances, and on that basis suggest the most fruitful way to think about affordances in order to provide a coherent affordance-based explanation of basic pretence. This chapter does not aim at settling the issue on what affordances really are. Rather, it sets the stage for an analysis of how different conceptions of affordances impact the ways they can explain pretence. Showcasing the many conceptions of affordances serves to show which one in the end might do the best job to explain basic pretence. Overall, the analysis in this chapter serves the purpose of determining which of the available conceptions of affordances is best suited to explain pretence, specifically to be applied both in the guiding and imagining aspects of pretence discussed in the consecutive Chapters 5 and 6.

The chapter will unfold as follows. Section 4.1 begins with briefly characterising the notion of 'affordance' as proposed by Gibson (1979/1986). It shows the discrepancies in the original notion that lead to development of many novel interpretations and accounts of affordances. It also addresses an important question about the relationship of affordances to 'meanings'. It clarifies the use of the notion 'meaningful' with respect to affordance-based explanations, and addresses the worry that referring to meanings is covertly referring to mental representations. Section 4.2

describes some of the novel accounts of affordances available in the literature, creating a map of the available (and relevantly different) ontological positions on affordances one can take.[45] This section clarifies what follows from different ontologies of affordances with respect to explaining pretence; it shows that different conceptions of affordances come with different ontological commitments about them (forms of realism, idealism, and relationism).[46] It also compares the ontologies of affordances to the ontologies of colour in order to explicate these commitments. Section 4.3 comments on the effect of the different pretence conceptions and their ontologies on explaining pretence. It builds on what the affordance theorists think plays more important role in explaining the phenomenon at hand (whether it is the environment, the animal, or whether the burden is truly divided equally), and applying it to pretence context. Finally, section 4.4 proposes the most fruitful way of thinking about affordances for the purposes of explaining pretence. It argues the point that conceiving of affordances as dispositional properties of the environment (inspired by Turvey, 1992) might best serve the explanatory function of affordance-based account of pretence, as it divides the explanatory burden equally between the animal and the environment.[47] Thinking of affordances as dispositional properties of the environment relative to the animal asks for something else (effectivities) to act as the dispositional properties of the animal relative to the environment. Introducing effectivities as animal-relative counterparts of affordances shows the dynamic relationship between the environment and the animal. What their role is will be elaborated on in Chapter 7.

### *4.1 Gibson's affordances (incl. caveat on meaning)*

The coining of the notion of affordance has been attributed to ecological psychologist James Gibson. Gibson (1979/1986) emphasized the relational nature of affordances; affordances exist in the environment for the animals. As Gibson famously writes,

[45] This clarification is important to the thesis as affordances carry in this thesis high explanatory load, so determining what ontological positions one can take with respect to affordances is relevant to the extend it impacts the explanatory story.

[46] There is a room for a variation of idealism (better thought as antirealism) about affordances when one follows Varela, Thompson and Rosch's (1991) enactive proposal.

[47] It should be clarified that my account is only inspired by Turvey's, and may not be attributed to Turvey as such. Turvey is clear to think of affordances merely in biological terms; for example, the nutrients of the environment can be said to have dispositional properties of being 'edible'. However, it is not likely that Turvey would apply the notion of affordance beyond basic biological functions, as will be done in this chapter (e.g., to phoneness of a banana).

"The affordances of the environment are what it offers the animal, what it provides or furnishes, either for good or ill" (1979, p. 127).

On the one hand, affordances are to be placed in the environment. They might be thought of as properties of the environment. As Gibson (1982) writes,

> The affordances of the environment are permanent, although they do refer to animals and are species-specific. The positive and negative valences of things that change when the internal state of the observer changes are temporary. The perception of what something affords should not be confused with the 'coloring' of experience by needs and motives. Tastes and preferences fluctuate. Something that looks good today may look bad tomorrow but what it actually offers the observer will be the same (*idem,* p. 410).

On the basis of this quote, Withagen et al. (2012) explain that affordances are to be thought of as mind-independent ecological phenomena. They clarify that Gibson's affordances do not change as the need of the observer changes. As they claim,

> They are not properties of the phenomenological world that depend upon the state of the observer; rather, they are ecological phenomena that exist in the environment. (…) Hence, according to Gibson, affordances are opportunities for action that exist in the environment and do not depend on the animal's mind (2012, p. 251).

On the other hand, Chemero (2003) clarifies that to Gibson, "an affordance (…) is a resource that the environment offers any animal that has the capabilities to perceive and use it. (…) Thus, affordances are properties of the environment but taken relative to an animal" (p. 182). Hence, according to Withagen et al., affordances seem to be properties of the environment, which exist completely independent of the animal, or independent of the animal's perceiving of them in the broad sense (strong realism about affordances), while according to Chemero, they 'refer' to the animal's capabilities even though they are only resources of the environment.

Moreover, Gibson's notion of affordance is taken to be rather mysterious. For instance, Gibson's affordances are not clearly properties of the environment; some quotes suggest that affordances have a peculiar ontological status. For example, in Gibson's own words,

An affordance is neither an objective property nor a subjective property; or it is both if you like. (…) It is equally a fact of the environment and a fact of behaviour. It is both physical and psychical, yet neither. An affordance points both ways, to the environment and to the observer" (1979, p. 129).

Based on this description, affordances seem to go beyond mere animal-environment coupling; they occupy an ontological space of their own; perhaps they can be considered as a relation. Also, if it is a 'fact of behaviour' of the animal, it is difficult to understand how they can also be 'mind-independent', as the later Gibson's text suggests.

The supposed inconsistency has sparked a great discussion, and many interpretations of what is the nature of Gibsonian affordances, and how best to think of them, have been proposed since (including the interpretations that will be discussed in this chapter, such as one of Varela et al. (1991), Turvey (1992), Reed (1996), Chemero (2003), Withagen et al. (2012) and Rietveld and Kiverstein (2014)). What is most unclear is the particular ontological status of affordances on Gibson's picture: are affordances relational *properties* of the environment, or are they *relations* between the animal and the environment? A related question arises: what is the relationship between the animal and the affordances? In section 4.2 I will describe some of the most prominent yet interestingly different conceptions of affordances and attribute to them one of these ontological positions: realism, relationism, and even idealism.

However, before this, a caveat about the notion of meaning is in order. Gibson clearly intended for the affordances to be strongly related to the environment. He claimed that the environment is already *meaningful* in the sense of providing opportunities for particular kinds of behaviour: "The meaning or value of a thing consists of what it affords" (Gibson, 1982, p. 407). This equates with saying that whatever affordances afford can already be seen as meaningful. As Noë clarifies, "Gibson took this feature of his theory to be quite radical, for it suggested that we directly perceive meaning and value in the world; we do not impose meaning and value on the world" (2004, p. 105). According to Gibson, the affordances that are to be found in the environment are already meaningful. Hence, the notion of meaning does not play a greater role than suggesting that it can be *used in a certain way* by an

animal. For example, to say that the tree is meaningful to an animal that seeks shelter is just to say that the tree affords using it as a shelter to that animal.

Gibson's notion of meaning should not be conflated with a conception of meaning as being anything like mental content (with respect to being dependent on the mind of the animal). In seeing the affordance, we do not impose meaning on it. We could say then that an affordance exists only in so far as it has one identity or another. For example, a banana affords: eating, grabbing, playing phone with; as such, it means all these things: it is a food, an object, a toy, with respect to the dispositions of the animal. There is no need to add representational contents to specify what the object 'means' in use.

Also, Gibsonian affordances do not have a normative value. They do not specify what the action is good for. Szokolsky (2006) explains that while Gibsonian affordances are meaningful, they do not tell us how to best act upon the objects or the environment, contrasting them to functional properties of the environment. As she proposes,

> Traditionally, functional properties are taken to be predetermined properties of objects that define what the object is good for – pillows are for sleeping, and knives are for cutting. Affordances, on the other hand, are defined as action potentials in relation to the particular actor at a more basic level of on-line coordination with the object world (2006, p. 68).

Hence, although meaningful, affordances are not normative; they are not 'good for' anything, or do not lead to a 'better action'. In that sense, they are also unlike mental representational contents because they do not have conditions of satisfaction. One cannot go wrong in acting on affordances; one just acts on different affordances.[48]

To conclude this section, in this thesis, 'means' will be equated with 'affords'; instead of speaking of new *meanings* of objects, we can speak of their various *uses*

[48] There are some disagreements about how meanings enter affordance-based explanations. Not all think that affordances are just meanings. For example, Withagen et al. (2012) and Rietveld and Kiverstain (2014) suggest that affordances should be understood as solicitations, or animal-environment relations that invite behaviours, which are normative in the phenomenological sense, because they more strongly invite behaviours that lead to an 'optimal grip'. Also, on Varela's picture, meaning is not what the environment affords, but what the animal brings forth in the interaction with the environment. These positions will be clarified in the next section. Yet, as will become clear, even the positions that attribute meaning not to the environment, but to the animal or animal-environment relation, do not require positing mental representations.

*that are afforded* in different contexts. Either way, the notion of 'meaning' that will be referred to is not representational.

### *4.2 Different conceptions and ontologies of affordances*

Presently, some interpretations of affordances and their ontological statuses will be proposed. My task is not to settle what is the right way to interpret Gibsonian affordances; it is to showcase the available ontological positions one can take (such as realism, idealism, relationism) on affordances. Having such an overview will help to clarify which affordance-based account is best placed to account for the explanatory role of affordances in non-representational account of pretence. Firstly, however, it is useful to clarify what ontological positions one could take with respect to affordances. The case of colour illuminates how we might think of different ontologies of affordances.

a) Ontological variations applied to colour

Discussion about property realism, idealism and relationism has been prevalent in the literature on colour (see Maund, 2012). Colour realism holds that an object has objective property of colour; colour 'red' of an apple exists independently of anyone perceiving it. Colour idealism says that colour is not a property of the object, but belongs to the subject's phenomenal or experiential world; a subject, then, only has colour experiences. The apple is not 'red', only my experience is that of the 'redness' of the apple. Colour relationism holds that colour is to be found in the world, but only in the context of an appropriate interaction. For example, the apple *is* red, but only when I am looking at it. While dependent on the subject, the colour is not just the experience of the subject, but it *is* part of the world, in the sense of being in the relations between subject and the world. As Maund (2012) explains,

> (There) are no such properties as *blue simpliciter, red simpliciter*, and so on. What there are, instead, are relational properties: blue-for-perceiver *A*-in-circumstances C1, red-for-perceiver *B*-in-circumstances C2, yellow-for-perceiver *D*-in-circumstances C3, and so on.

The interesting question about these positions is whether active engagement on the part of the subject is required, or only potential engagement, in bringing about the property in question. The realist has obviously no problem for the cup to be 'red' without the subject (the realist would have a problem if the subject was relevant in any way in bringing 'redness' about). The idealist would have to accept that, without the subject, the apple would not be red, as the redness is just in or of the subject's experience. To the relationist, the colour is there in the apple (it exists, as for a realist); however, as the property is relational, the colour of the apple is different with regard to who perceives the apple. The apple seems to have, theoretically, infinitely many colours: that same apple will be red to me, but maybe it would be green to someone else. Hence, the apple is likely to be at least red and green at the same time (and many infinite other contrary ways).

As will be shown, the last characterisation fits with affordances: there are many possibilities for action that objects afford to different animals in different situations. Hence, if understood as real possibilities for action in the environment, we would have to say that there is a possibility of an indefinite number of action possibilities one object allows. The interesting question is whether those possibilities are latent in the environment, in need of being actualised, or whether they only get to emerge in the interaction with the animal. I will show that, on the relationist view on affordances, affordances should be not understood as emergent properties.

What the comparison to colour achieves is mapping the ontological space of how affordances can be thought of, showing important commitments about affordances one can have, which are often left unsaid. While these three ontological positions about colour may not be exhaustive, they will serve to determine the main rivals for an ontological position of affordances. Hence, for our purposes, this rough-and-ready sketch of main ontological positions of colour will suffice. Understanding these commitments, in turn, allows determining which conception of affordance can play the relevant explanatory role in a non-representational account of pretence. It should be kept in mind that calling the positions of affordance theorists 'realist', 'idealist' or 'relationist' should be treated lightly, as they may not exactly fit the colour profiles. The differences will be made explicit. Presently, I turn to the main ontologies of affordances.

b) Realism about affordances

One could be a realist about affordances. This is the view that affordances are completely independent of the animals and totally dependent on the world.

Reed (1996) is considered to be the most dedicated realist about affordances. He claims that affordances are properties of the environment that are resources of that environment. As resources, affordances play the evolutionary role of selecting the animals and their skills. It could be said that they exist in the world prior to animals.

Realism about affordances is also promoted by Noë (2004), who follows Gibson by describing affordances in the following way:

> Things in the environment, and properties of the environment, offer or afford the animal opportunities to do things (find shelter, climb up, hide under, etc.). (…) When you see a tree, you not only directly perceive a tree, but you directly perceive something up which you can climb.

There are clear similarities between Gibson's and Noë's statements about affordances in terms of where the affordances are to be found (in the environment). They are also directly perceptible, as Noë's account of sensorimotor perception suggests; for example, one not only sees the front of the tomato, but also its back, in a holistic act of perception that involves sensorimotor activity (O'Regan and Noë, 2001; Noë, 2004).[49] Noë's committal to realism about affordances is strong, as aside proposing that the environment has real animal-relative properties (the tree affording climbing), the environment is said to also have animal-independent properties.[50]

c) Weak idealism (or antirealism) about affordances

One could hold idealism about affordances. This is the view that affordances are totally dependent on the animals and completely independent of the environment.

[49] O'Regan and Noë's (2001) sensorimotor account of perception will be further clarified in Chapter 5 of this thesis, when applied to explaining the imaginative role of pretence.

[50] This can be inferred from his claim: "When you see a tree, you not only directly perceive a tree but you directly perceive something up which you can climb," as if there were two types of things we can perceive when looking at a tree: the tree as itself and the tree as affording actions towards it.

To date, no one seems to hold such a strong view. However, arguably, Varela, Thompson and Rosch (1991) come close to weak idealism about affordances, where the affordances are not completely independent of the world, but totally depend on the animal. While Varela et al. emphasise the co-determination of the environment and the world, they seem to hold a positively idealist attitude about where the meaningful action comes from, even though they reject both idealism and realism in their enactive account of cognition. This will be explained below.

Varela et al. agree with Gibson that "certain properties are found in the environment that are not found in the physical world per se. The most significant properties consist in what the environment affords to the animal, which Gibson calls affordances" (1991, p. 203). But while they agree with Gibson that there are affordances, they disagree with him about how affordances are 'picked up'. Gibson thinks that the affordances do not depend in any way upon the perceptually guided activity of the animal, whereas Varela at al. disagree (p. 203). If we follow Varela at al., affordances should be understood as dependent on how the animal perceives the world. Affordances would be contextualised in an animal-environment dynamical whole. This is in line with their notion of enactivism, according to which there are no properties of the world independent of the interaction or mutual enforcement.[51] Mutual interaction, or necessary coupling, between the environment and the animal is crucial.

It is controversial how to read Varela et al. on affordances. On the one hand, it is clear where they want to be placed in the ontological spectrum. They say that their position lies between classic realism and idealism, as both of those positions ask for representationalism.[52] Instead, they propose to speak of *enactivism*. On the other hand, as they place more focus on the capacities of the animal than on the properties of the environment in securing affordances, this may give us a cause for attributing to

[51] "(Enactivism) questions the centrality of the notion that cognition is fundamentally representation. Behind this notion stand three fundamental assumptions. The first is that we inhabit a world with particular properties, such as length, color, movement, sound, etc. The second is that we pick up or recover these properties by internally representing them. The third is that there is a separate subjective "we" who does these things" (Varela et al., 1991, p. 9).

[52] "These two extremes both take representation as their central notion: in the first case representation is used to recover what is outer; in the second case it is used to project what is inner" (1991, p. 172), and "realism infers something particular about the world, how the world is; idealism projects onto the world such particular properties" (1991, p. 10).

them weak idealism about affordances.[53] Several things they say come close to suggesting this; for example, "the meaning of this or that interaction for a living system is not prescribed from outside but is the result of the organization and history of the system itself (*idem*, p.157)." This reflects Varela's earlier stand on the origin of meaning of cellular organisms. Consider how Varela (1998), first and foremost a biologist, discusses this origin:

> Meaning can only arise for those systems, which assert their own identity vis-à-vis their environment, that is, for systems with a degree of autonomy. (…) In general, however, a living system brings forth its own world of relevance, and is not given in advance. The meaning of this or that interaction is not given by an outside designer, but is the result of the organisation of the system itself and its history (*idem*, p. 152).

Hence, Varela et al.'s enactivism promotes a view of affordances that only exist or come into existence when there is a self-sustaining organism present. Perhaps on Varela's view we can only speak of the world affording action when it shows up for creatures. For example, the affordance of the tree to be sheltered under or climbed may only show up to subjects who can do these things and have a specific self-sustaining organisation; the subject is the one who turns what the world offers into meaningful invitations for action, as opposed to, for example, the invitation being already present in the environment.

Some may think that Varela at al. do not belong to the 'idealist about affordances' camp, but to the 'relationist' one. However, we do not have to settle this issue. While global idealism (a view that the world disappears when one closes their eyes) or strong idealism (meaning being generated entirely by the mental capacities of the animal) definitely cannot be attributed to Varela et al., what can be certainly said is that on their account, the organism would play much more important role than the environment in securing meaningful interaction. While they stress the partnership between the animal and the environment, the partnership is not equal.

d) Relationism about affordances

[53] As Chemero neatly points out, "For all the noise ecological psychologists make about being realists, it is not obvious at the outset that ecological psychology is not a form of idealism, in which perceivables exist only when they are perceived. It is a small step from this to a rather silly global idealism, in which the world disappears whenever I close my eyes" (2003, 193).

One could hold relationism about affordances. This is the view that affordances are equally dependent on the animals and their environments. As seen with colour relationism, relationism about affordances would claim that affordances are to be found in the world (*ala* realism), but what they invite in a particular circumstance depends on how an animal interacts with it.

Turvey (1992) could be considered as holding such relational view about affordances. He thinks that affordances are real properties of material objects, which are also relational: "An affordance is an invariant combination of properties of substance and surface taken with reference to an animal" (p. 174). He claims that realism about affordances is necessary; he wants to establish that "possibilities for action are real or factual states of affairs (i.e., they exist independently of perceiving or conception) that are perceived directly" in order to establish that they constitute an ontological category (*idem*). What Turvey suggests is to consider affordances as dispositional properties of the environment. As such, they dispose the environment to be in a certain way, relative to an animal. He considers a disposition to be a property of a thing that is latent or possible. The disposition to act is prior to the action, and it is actualised when "conjoined in suitable circumstances" (1992, p. 178).[54] Hence, the dispositions of the animals pair up with, and are actualised by, dispositions of the environment, just as the dispositions of the environment need the dispositions of the animal to be actualised. To match the affordances in the environment, we need the counterpart dispositions of the animal, or *effectivities*. Effectivities are also dispositional properties. They are organismal complements to affordances qua properties of the environment. They complement the affordances.[55] They also allow affordances to become 'manifest'. As he claims,

[54] As Turvey explains, "6.1. The disposition to do Y is prior to doing Y. For example, a crystal will actually refract light provided that it is refractive to begin with. If it was refractive to begin with, then it was so regardless of whether it was exposed to light. 6.2. Dispositionals (or causal propensities) come in pairs. For example, (all) light rays are refracted if and only if (some) pieces of matter are refractive. Complementarity occurs in the very definition of a dispositional property. 6.3. Dispositionals never fail to be actualised when conjoined with suitable circumstances. Disposition and suitable circumstance equals actuality" (1992, p. 178).

[55] "Whereas an affordance is a disposition of a particular surface layout, an effectivity is the complementing disposition of a particular animal. An effectivity, as the term suggests, is the causal propensity for an animal to effect or bring about a particular action, to manifest what is needed for (an action) to be realized" (*idem,* p. 179).

7.1. The circumstances actualising a disposition or causal propensity of a thing Z involve some thing *X,* other than Z, forming part of Z's environment.
7.2. This X, the complement of Z, must have a disposition matching (in the mathematical sense of "dual to") Z, for Z's disposition to actualise (i.e., if Z is refractible - has a disposition to become refracted-then *X* must have a disposition to refract). (1992, p. 178-179).

Hence, objects in the environment (Z) and animals (X) have certain dispositions. Affordances are the dispositions of the environment; effectivities are the dispositions of the animals. Affordances need to be complemented, or paired with effectivities in actualising circumstances, where the dispositions can become manifest.

To give an example, an object (an apple) has an affordance of 'pick-up-ability', only if there is an animal that has the effectivity of 'picking-up'. As dispositions, both affordances and effectivities are real in the sense of existing independent of each other, but they need each other to be actualised. What this means is that the affordance 'pick-up-able' of the apple does not emerge in the interaction with the animal; it is there, so to speak, dependent on the fact that there exist animals that can pick it up. So, unlike classic relationism, there is no need for the animal to be acting on the affordance for the affordance to be there. In fact, the affordance has to be prior to, or be in place together with the effectivity; it cannot emerge from the interaction.[56] However, the action of picking it up requires at least the affordances and effectivities to be in place.[57]

e) Realism about affordances understood as relations

The last position I discuss is another form of realism about affordances. Affordances on this view are understood not as properties of environments, but as relations. This makes a significant difference on how affordances are said to work. This position does not have a clear parallel to colour.

[56] Otherwise, it would not work as a good explanatory proposal. One could postulate that the animal must be present for an affordance to come about. Such emergentist position about affordances could be appropriated. However, emergentism about affordances would be problematic for using them as explanatory tools of interactions like pretence, as affordances are supposed to explain the interaction, but could not exist prior to the interaction. The question arises: what came first, affordances or interactions? With emergentism, the interaction would have had to be prior to the affordance.
[57] This is not the whole story Turvey proposes about what brings about actions; more will be said in this chapter and in Chapter 7.

Chemero (2003) proposes a new ontology of affordances. He does not consider them to be properties, but relations:

I argue that affordances are not properties of the environment; indeed, they are not even properties. Affordances, I argue, are relations between particular aspects of animals and particular aspects of situations. (…) Affordances, which are the glue that holds the animal and environment together, exist only in virtue of selection pressure exerted on animals by the normal physical environment. They arise along with the abilities of animals to perceive and take advantage of them (*idem*, p. 184, 190).

What this means is that affordances are features of whole situations that involve animals and environments. It is not the object that affords, but the situation. Affordances belong to animal-environment system. To operationalise the view that affordances are relations between particular aspects of animals and particular aspects of the situations, Chemero explains that for a relation 'affords Q' to hold between a subject and the environment is to say that the environment affords Q to the subject, where Q is a behaviour (2003, p. 186-187). Thus, it is the environment (or situation as a whole), and not the individual object in the environment, that affords certain behaviours. The environmental relata of affordances are features, or aspects, of the environment, whereas organismal relata of affordances are animal capacities or body scales.

With regard to whether affordances exist without animals, Chemero claims,

Affordances do not disappear when there is no local animal to perceive and take advantage of them. They are perfectly real entities that can be objectively studied and are in no way figments of the imagination of the animal that perceives them. So, ecological psychology is not a form of idealism. However, affordances do depend on the existence of some animal that could perceive them, if the right conditions were met (2003, p. 193).

Thus, Chemero clarifies that affordances have the quality of *being lovely (ala* Dennett, 1998). This means that affordances depend on there being a potential observer, not an actual act of observation. This feature can exist even if there are no animals present. This is a feature of affordances that is similar to the one proposed by Turvey.

The idea of the reality of affordances being dependent on a potential animal to whom the affordance relates (as opposed to an actual animal that is currently interacting with the environment) has been taken up by the last affordance theorists to be presently discussed, Rietveld and Kiverstein (2014), who elaborate on Chemero's account of affordances. While Chemero spoke of individual affordances as relations between 'features' of the environment and the abilities of an organism, Rietveld and Kiverstein take the relationship further from a potential animal into a potential *form of life*. They claim,

> Affordances are possibilities for action the environment offers to a form of life, and an ecological niche is a network of interrelated affordances available in a particular form of life on the basis of the abilities manifested in its practices; its stable ways of doing things. (…) (A form of life is formed by) "patterns of animal's behaviour, relatively stable and regular ways of doing things." (…) "An individual affordance is an aspect of such niche" (*idem,* p. 10).

On their view, affordances are relations between the environments and the whole animal species (what they call a 'form of life'). Rietveld and Kiverstein claim that one should focus on what the relations are between the kind of animal (a 'form of life') and its ways of living (i.e. its practices) in the environment the animals find themselves in. The interaction of animals with their environment is best understood as following from their selective openness to available affordances and the self-organized states of action readiness that are driven by these affordances.

Moreover, affordances, on their view, show up in two forms: forming the *landscape* of affordances and the *field* of affordances. The *landscape* encompasses all the possibilities for animal's action, even if they are not perceptible or if they cannot be acted upon by the animal at a moment. The *field* of affordances is a subpart of the landscape that is available to a particular animal at a particular time. Even though they need not be acted upon, the affordances in the *field* of affordances entail the relevant affordances to a particular animal.[58] Some call the field of affordances 'solicitations' or 'invitations' as the affordances in the field can *solicit* or *invite* particular behaviour

[58] The distinction between the field and the landscape of affordances could be understood as a type-token distinction for the animal: the landscape consists of all possibilities for action (type affordances) and the field consists of the possibilities for action available to the particular animal in a particular situation (token affordance).

from an animal. The inviting character of affordances will be explained in more detail in Chapter 7.

The different ontologies inspire different conceptions of affordances; how one understands affordances will come with different ontological commitments. This is not a complete list of available accounts, but these accounts have been chosen as exemplary ontological positions one can take about affordances. What making these distinctions pointed to is a tension between how to think of the environment with respect to affordances; whether it plays a big role in explaining pretending, or is its role not as big as the one of the animal; finally, is the burden divided equally?[59] In the next section, the four ontological distinctions about affordances will be applied to a case of pretend play, showing how these conceptions of affordances would work for explaining basic pretence.

### *4.3 Why clarifying the ontology of affordances makes a difference to pretence explanations*

It makes a significant difference which notion of affordance is taken to explain pretence. What makes pretence an interesting, yet difficult case, for affordances, is that pretence adds another dimension to the story; in pretence, we respond to 'playful' sets of affordances, not the 'typical' ones. For example, we play 'phone' with the banana, so the banana seems to afford particular behaviour of 'playing phone with' to us. Explaining how a banana can specifically afford 'playing phone' with' will be discussed in Chapter 7. For now, the aim is to establish what the different affordance conceptions will say about pretence. The question is simply, what would the mentioned positions have to say about how to explain 'phone' pretence? Answering this question clarifies the problems these positions may have with explaining pretence. Knowing these problems allows making a choice with respect to which affordance conception may be the best one to explain pretence with.

Reed-style realism would have to commit to the view that the 'phoneness' affordance of the banana exists in the banana as its property, completely independent of there being any subjects. Reed would further have to commit to saying that, as long as affordances can be used to explain pretence, even 'phoneness' affordance of a

[59] Chapter 7 will further specify what weight the environment and the animal have in allowing pretence interactions to occur.

banana influenced the types of animals that evolved. Those animals would be human beings with the capacities to respond to such affordances in the adequate phone-like way (grasping, placing to the ear, talking to, etc.). However, for 'phoneness' of a banana to exist independently of the animal (and its sociocultural practices of using phones) is just not likely. Phones are cultural developments, and would not exist without human animals. Hence, given that on this picture, affordances of the world select for animals, Reed would have to commit to saying that 'phoneness' affordance of the banana *selected* for there to be an animal that can respond to it.[60] As this is highly unlikely, his notion of affordance would not make affordances good explanatory tools of pretence.

Varela-style weak idealism would suggest that for things to afford 'phone-play', the subject must have a relevant capacity brought about by autopoietic structuring of the agent. In a sense, it is a capacity the subject possesses; the capacity in question would be 'graspability', 'pick-up-ability' and other capacities that amount to the capacity 'playing phone with'. It would have to be said that the subject can use this capacity in different contexts, in the presence of different objects. Hence, the object would not be as important as the capacity of the subject, or what the subject can do with the object. On this account, perhaps 'phoneness' affordance could be considered as most independent of the actual object at hand (the banana); another object would seem to do just as well. On this view, a banana would afford 'phone' just as much as, presumably, a table. Again, it is not likely that this conception of affordance would best explain what we see about how children pretend.

Turvey-style relationism would suggest that the banana affords 'phoneness' only if there is a subject with the effectivity to play 'phone' with a banana (dispositions that could be shaped by, e.g., the history of interactions with phones) and if there are objects with right dispositions to be like phones (such as bananas, due to their shape and size resembling that of phones). This story depicts a dynamic relationship between the objects in the environment and animals, where the object is just as important as the animal that it interacts with. It is not a view about emergence of phone qualities in the direct manipulation of the banana by the animal; rather, the idea is that the 'phoneness' affordance, or possibility for action, is residing in the

[60] Most likely, Reed would say that the conception of affordance does not extend to socio-cultural realm, but belong solely to the biological realm. However, excluding the possibility that affordances (possibilities for action) can be social is unjustified.

banana only in so far as it is matched with an agent who has latent dispositions (prior to the interaction) to manipulate the banana in relevant 'phonelike' ways. Only in suitable circumstances, such as play context, can the affordance-effectivity pair be actualised. This it is a good candidate for the best conception of affordance to explain pretence; I will return to it in the next section.[61]

Finally, Rietveld and Kiverstein-style realism endorses the position about the affordances as 'lovely', which is that they rely on potential, not actual, animals that can interact with the environment in relevant ways. What their position shares with Turvey's position is that the animal does not have to be actually interacting with the object for that object to have an affordance. Where they differ with Turvey is that Turvey speaks about latent dispositions of particular animals, whereas Rietveld and Kiverstein speak about capacities that could be found in a whole set of animals, or forms of life. Hence, the 'phoneness' of a banana would be found in the landscape of affordances. This means that we do not look at dispositions of a particular animal, but look at practices of types of animals. In the case of pretence, they would have to say that there is a practice of playing 'phone' that is part of our 'human' form of life that shapes the landscape of affordances, where cultural niches that practice 'phone play' exist. On this story, the particular animal is not as important as the animal's socio-cultural context that forms the landscape of affordances. The way of using bananas as phones is independent on the individual, but not independent of the society the individual is part of.

However, this is what may be problematic for their account to explain pretence. One would have to commit to the idea that as long as there are people in the form of life who happen to play with the bananas as phones, the bananas can afford 'phones' to any individual sharing the same form of life, even if that individual does hot have a personal history of interactions with bananas as phones. For example, just as someone who has never engaged in parkour would have to see the wall as climbable (because such practice exists in one's culture or a form of life), a child would have to see the banana as affording phone even if it was never engaged in a

[61] One might consider my reading of Turvey as overly charitable. As mentioned before (third footnote of this chapter), it is unlikely that Turvey would consider 'phoneness' to be an affordance; his position was applied to unicellular organisms only. Also, one could read him to be more of a realist about affordances than a relativist. However, for the sake of showing clear possibilities of how to think about affordances with respect to pretence, I have classified Turvey's account to be most promising to develop. His framework inspired the elaborations on the notion of affordances for pretence featuring in section 4.4.

context involving phones. This is also unlikely. At best, their account could explain how the child can see the banana as affording phone to other people in their form of life. Yet, if the question is how to explain individual child's pretence, Rietveld and Kiverstein's story is not the most promising.

Moreover, the object would not be as important as the entire environment. This follows from Chemero's proposal that that affordance is not considered to be a property of objects (like the banana), but to be a relation between particular aspects of animals and particular aspects of situations. As such, the 'phoneness' would not be of a banana, but of the *pretence situation* as a whole. This view also endorses a dynamic relationship, albeit not between animals and objects in their environments, but between animal forms of life and whole environments, and the whole situation that results from their relation would be considered 'phonelike'.

Yet, the distinction Chemero makes between properties and relations is not clear. Relations could be understood as kinds of properties of the entire situations; for example, 'phoneness' affordance could be considered as a property of the situation, such as of pretend playing. But then, what does it mean for the 'phoneness' relation to hold between a banana and the animal? Chemero gives an example of 'being taller than' as a relation holding between two people: "Affords-f is like taller-than in this respect: it is neither of the person, nor of the environment, but rather of their combination" (2009, p. 142). However, this example does not hold; 'taller-than' clearly refers to (a property of) the first one of the two individuals, albeit with respect to the other (hence, it is a relational property). The other is 'shorter-than' the first. Hence, it seems to be best to understand 'taller-than' as a relational property of one subject with respect to the other. This case also holds for pretence; affording 'phone' is best understood as a property of the environment with respect to an agent; it does not work vice versa.

Finally, if we speak of affordances as relations between the material world and animal's capacities, then the worldly objects and capacities are two relata of the same relation 'affordance'. As such, it would be hard to carve the animal and the environment up as component parts of a mechanism that involves the animals and the environment. But with separate components, as suggested in Chapter 3, we can give a wide-and-situated mechanistic explanation of pretence.

For these reasons, I propose to go along with Turvey's affordance framework, albeit augmented by some notions from the other accounts. This will be proposed in the next section.

From the accounts of affordances so far, we have seen that two trends are emerging: one, which finds the environment and objects most crucial in affording action, and another, which stresses the role of the animals (their biological dispositions or social capacities) in affording action. This raised the question: what is more important to explain pretence successfully with affordances, is it the environment, is it the animal, or is the weight of the responsibility equally divided between the environment and the animal? These are relevant questions for the project of using affordances as an explanatory tool that counters mental representational explanations.

One may worry that if the animal is doing more work, then affordances are tacitly mental representational and there is room for mental representational structures to be doing the relevant work.[62] Reliance on any mental-representational structures would be a problem for my account. However, importantly, all of the proposed affordance-based stories actively deny mental representations. That is absolutely clear with Reed's account, where affordances exist independently of the animal. But even the accounts that depend on the animal (Turvey, Chemero, Rietveld and Kiverstein), or even emphasize the role of the animal (Varela), need not posit mental representations; what plays a relevant part on the 'animal' side of the relationship is either the animal dispositions, animal capacities, or practices found in the form of animal life. If that is the case, any of those affordance-based stories would already secure the thesis that pretence can be explained without positing mental representations.

Ultimately, all affordance-based accounts do without recourse to mental representations. Accepting any of them secures the possibility that a non-mental representational explanation of pretence that uses affordances could be provided. The question remains about the appropriate characterisation of affordances with respect to the animal and the environment in order to explain pretence. Some accounts work

[62] This worry, however, may not be entirely justified, as we can conceptualise the mind in action in terms different from mental representations. By contrast, if one were to focus only on the environment because one fears mental representations, one would be motivated by a very problematic of the mind. Thanks to Martin Weichold for this point.

better than others with respect to providing such explanation of basic pretence. What makes some better will be shown in this section.

### *4.4 The most adequate affordance account to explaining pretence*

The purpose of this section is to extend the resources of the affordances to deal with pretence. To do that, we must understand what plays the relevant resource of allowing pretend interactions. Getting clear on the available ontologies of affordances gives us a better chance to suggest the best ontology for an affordance-based explanation of basic pretence. The best notion of affordance for explaining pretence should focus on how the environment as well as the animal partakes in explaining a pretend activity, without recourse to mental representations. The section below will explain why Turvey's conception of affordance is most fruitful for explaining pretence, and how his conception requires certain adjustments; these are inspired by the other accounts.

One approach to explaining basic pretence with affordances is to use some aspects of the mentioned positions and their terminologies to make a new account of affordances and to show how they work. Some ideas are borrowed, other lost. Following Reed, affordances should be understood as mere possibilities for action that exist in the environment, independent of the animal. For example, 'graspabiliy' is an affordance of a cup in the sense that it is a possibility for grasping a cup. That possibility exists in the world. Realism about affordances should then be preserved.[63] Following Rietveld and Kiverstein, there is a useful notion of solicitation to be added to the story. Following Varela, it should be accepted that the animal is very important; one can speak of animal's effectivities that turn affordances into solicitations, or give affordances an inviting character. How the solicitations and animal effectivities add to the alternative explanation of pretence is shown further in Chapter 7.

Mostly, however, the new approach follows Turvey and the conception of affordance-effectivity pairs. As mentioned, for each affordance in the environment, there must be a complementary effectivity in the animal. That's what makes affordances relational properties of the environment. The animal does not have to act upon the affordances, but the affordances are there in the virtue of there being an

[63] While realism about affordances may be naïve, it is better to embrace it than not. Hence, we can speak of the 'phoneness' affordance already being there as one of the possibilities for action. This has some of its own explanatory problems (problem of the given), but bypasses others (problem of emergence).

animal that can interact with the environment in relevant ways. Also, both affordances and effectivities are dispositions. Even capacities and past histories can be considered as shaping the basis of current dispositions to act in a certain way.

Turvey proposes to consider affordances as not only relational properties of the environment, but also as dispositional properties of that environment. This means that the affordance is in the environment even when the animal is not interacting with the environment. The affordance is there in the sense of being disposed to be taken up by a particular animal when that animal becomes present.[64] Turvey also introduces effectivities, or dispositions of the animals. Effectivities can be biological dispositions, like of digestion; effectivities can also be based in the animal's interaction history with the object. They shape the object to have a disposition that is essentially connected to that animal. The animal then has such capacities or interaction histories, whether or not the animal acts on them. In line with this thought, Turvey's notion of effectivities can be extended to involve various capacities and capabilities of animals, as well as moods, all shaped by histories of interactions.[65] What exactly can form an effectivity that is relevant to specific cases of pretending will be explained in Chapter 7.

Turvey's account appropriated to pretence does not yet explain how particular pretending occurs. After all, there are many affordances and just as many effectivities. What explains which affordance-effectivity pair is actualised that would lead to action? Turvey (1992, p. 180) suggests a right actualising context:

Let Wpq (e.g., a person-climbing-stairs system) = j(Xp, Zq) be composed of different things Z (person) and X (stairs). Let p be a property of X and q be a property of Z. Then p is said to be an affordance of *X* and q the effectivity of Z (i.e., the complement of p), if and only if there is a third property r such that

(i) Wpq= j(Xp, Zq)possesses r

[64] Some may find conceiving of affordances as dispositions problematic. Chemero, for instance, claims that affordances depend on the animal's abilities, and abilities cannot be considered as dispositions; as "Having the ability to walk does not mean that one will not fall down even in the ideal conditions for walking" (2003, p. 189). The implication is that on the dispositional account, the dispositions must be actualised at all time. Indeed, the nature of dispositions is that they "never fail to be actualised in the right circusmtances" (Turvey 1992, p. 178). Yet, dispositions can also fail to manifest for various reasons. In addition, capacities should be thought of as dispositional; they do not always manifest themselves. To deny that is to say that we are always doing everything we possibly can.

[65] Weichold (pending) suggests a new name for them, called 'acceptances'. They can be thought of as subjective preconditions for acting on the affordances; necessary but not sufficient enabling conditions for interactions to emerge. For the sake of coherence, I will retain the name 'effectivity' in this thesis.

(ii) Wpq = j(Xp, Zq) possesses neither *p* nor *q*

(iii) Neither Z nor X possesses r.

Thus, a person cannot execute locomotion in the highly particular manner of stair climbing unless a sloped surface is underfoot composed of adjacent steps with suitable dimensions (of rise and horizontal extent). When it is, then the disposition to locomote in this highly particular way is actualised.

To clarify, something actualises an affordance and an effectivity if and only if there is a third property given by the context. One such property can be a sloped surface.

Applying Turvey's conception of affordances to pretence context, we can explain the banana-phone pretend play using the similar structure. Let Wpq (a child pretend playing that a banana is a phone) be made of different things Z (the child) and X (the banana). Let p (phoneness) be a property of X (banana). Let q ('capacity to play phone with') be a property of Z (the child). Then, p (phoneness) is said to be an affordance of X (banana) and the q (capacity to play phone with) is the effectivity of Z (the child). The effectivity is a complement of the affordance; hence, we can conceive of the effectivity as the flexibility to 'play phone with' objects, the history of interactions with phones, the *know-how* to use phones, etc. Then, what actualises this affordance-effectivity pair is the right circumstance, such as being in a playful context, which is shaped by the presence of toys, other people playing, or narrative contexts (as will be shown in the following chapters). The third property can be another agent acting as extrinsic disposition to action; this will be explained in Chapter 7 section 3. In short, once the right context is in play, it solicits action.

*Conclusion*

This chapter has argued that affordances are best understood as being found in the environment, as being real properties of the environment, and as being dispositions of the environment relative to animals. As such, they can form the relevant tools for the alternative explanation of pretence. Regardless of the ontology of affordances (realism, idealism or relationism), affordance-based explanation will not rely on mental representations (none of the ontologies of affordances requires positing mental representations). However, the conceptualisation of an affordance makes a difference

on how well the alternative explanatory account of pretence will work; this conceptualisation has been said to be based on Turvey's proposal. In the next two chapters, affordances will be proposed to play the imaginative role (Chapter 5) and the guiding role (Chapter 6) instead of mental representations.

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# Chapter 5. The Imagining Role[66]

This chapter focuses on the imagining function of pretence. As explained in Chapter 2 section 3, imagining function explains how it is possible to think or treat one thing as if it was another. Imaginative capacities were said to enable counterfactual thinking or simulating perspectives; they answered the question: how do children think of or use an object "as if" it is something else? Answering this question was considered as one of the crucial ones in explaining pretence. Moreover, as shown in Chapter 2 section 2, mental representations were said to explain the imagining function in pretending. The exemplar explanations provided were Leslie's (1987) decoupling mechanism and Nichols and Stich's (2000, 2003) inference mechanism.

This chapter introduces new terminology from Currie (2004, 2006), such as *seeing one thing as another* instead of treating one thing as another or thinking of one thing as another. All these terms refer to the same explanandum that is the imaginative capacity to 'act as if', which is necessary to explain pretence. The difference in the terminology points to the fact that the least representational notion of imagining is targeted in this chapter. Currie's proposal is targeted because, to date, it is the least cognitivist description of treating one thing as another, making his position most challenging to object to.[67] However, even Currie's notion posits mental representations in its explanatory story. Currie introduces the term *decentring* to speak of the capacity to *see* one thing as another that is necessarily representational. Decentring is the capacity to see one thing as another by representing the world 'as if', or 'as it might be'. What makes decentring possible is 'Recreative Imagination' (Currie and Ravenscroft, 2002), which I will consider to be Currie's proposal of the simulation mechanism that uses mental representations.

[66] A version of this chapter has been published (see Rucinska, 2014a).

[67] Leslie proposes that the imaginative role is achieved by a kind of *thinking* (of x as y), which requires metarepresentational structures, while Currie says that the imaginative role is achieved by a form of *seeing* (x as y). Clearly, seeing is less cognitively committing than thinking. The reason to target least cognitivitely demanding proposal is that strong commitments to mental representations (such as of Leslie) are easier to object to, while 'seeing as', while still considered to involve mental representations, is more likely to be the best story, making it harder to argue against. Many also believe this 'behaviourist' account is more plausible than Leslie's (see, for example, Lillard, 1994). Hence, in fact, I take on the more challenging opponent.

What this chapter will argue is that there is another way we can explain how we can treat one thing as another, or see one thing as another (and so, fulfil the imaginative role) without positing mental representations. It will argue that the function of imagining can be adhered to without positing mental representations; as such, 'seeing as' need not be understood as representational decentring. The enactivist alternative is to understand 'seeing as' as 'seeing-affordances-in'. This alternative makes use of a relevant notion of environmental affordance and animal's sensorimotor capacities (effectivities), such as sensorymotor perception (based on O'Regan and Noë's (2001) Sensorymotor Theory of Perception, or SMTP), dynamically interacting with each other. The chapter argues that we can understand 'seeing as' trough a capacity to see relevant affordances *in* the objects, without positing mental representations, which is an alternative to Currie's decentring.

This chapter will be structured in the following way.

Section 5.1 addresses the question of why imagining is targeted. It briefly recaps how the notion of imagination has been used in pretence literature, and spells out the different roles imagination is said to play in explaining pretence. It clarifies why, out of other functions of imagination, the role of 'treating one thing as if it is another' (in Chapter 5) and 'guiding' (in Chapter 6) are targeted.

Section 5.2 examines the to-date weakest cognitivist account of imagining that appeals to mental representations to do that work, which is Currie's (2004) capacity to 'decentre'. The section explicates this notion and clarifies why Currie finds it necessary in order to pretend. The section further explains that Currie's capacity to decentre requires 'Recreative Imagining' (or RI in short), which posits mental representations. The section describes RI as a mental representational mechanism of simulation, and demonstrates what may be problematic with it.

Section 5.3 begins to build the argument that decentring need not be required to pretend. It explains Currie's account of pretending, which makes room for a supportive to seeing-as perceptual capacity to '*see-in*', or '*see* one thing *in* another'. The section clarifies the strategy for proposing the alternative, which is to borrow Currie's notion of seeing-in and apply to it the notion of affordances, to propose the alternative account of how imaginative function can be accounted for. The alternative explanation also makes use of O'Regan and Noë's (2001) sensorimotor theory of perception (henceforth: SMTP), to explain how the affordances are dynamically

'seen'. Affordances and sensorimotor skills are applied to Currie's notion of 'seeing-in', allowing for 'seeing-as' to be reinterpreted along more enactivist lines. The alternative account proposes the capacity to '*see affordances in*' (or see possibilities of action in) situations to explain how one pretends. I argue that this capacity replaces the representational capacity to decentre, as it obviates the need for positing mental representations.

Section 5.4 identifies potential cognitivist challenges to the alternative proposal, and suggests potential rebuttals. The first challenge has to do with cognitivist arguments for why imagining must involve mental representations, and challenges whether the perceptual capacity to see-in is sufficient to meet the job. The second challenge focuses on the notions of recognition and resemblance that are used to explicate the seeing-in capacity, claiming that they are representational in nature. The third challenge deals with the idea that in pretence, we deal with absence, therefore mental representations have to be posited. The fourth and related challenge has to do with the concern that meanings, or contents, play a more crucial role than the environment in pretence; the 'direction of fit' when we pretend is meaning to the world. The section addresses all four challenges, and proposes rebuttals in line with the new proposal of 'seeing-affordances-in', arguing that mental representations need not be posited in any of the explanations: seeing-affordances-in is sufficient for imaginative role, resemblance and recognition need not posit mental representations, affordances are not absent so we deal with presence, and there is no direction of fit on the enactivist story as affordances are already meaningful.

The chapter proposes a first suggestion of a cohesive, positive account of explaining the role of imagining, where, in the place of decentring, it is argued that the relevant work might be done by perceptual activities augmented by sensorimotor skills and certain understanding of affordances.

### *5.1 Imagination and its roles*

This section clarifies how imagination is often conceived of, and what roles it is said to play in pretence. As mentioned in Chapter 2, some form of imaginative capacity is said to be necessary for pretence to occur. For example, Lillard (1994) claims that to pretend that banana is a phone one needs to imagine the banana as a phone. Goldman

(2006) claims that pretence or make-believe is a mental activity involving imagination that is intentionally projected onto something. Some consider pretence and imagination to be necessarily coupled. According to Walton (1990), pretence or make-believe 'is the use of … props in imaginative activities', where props are 'objects of imaginings' (p. 25).[68] It is even quite telling to see that in the Stanford Encyclopaedia of Philosophy, the entry on 'Pretence' is one shorter section of an entry on 'Imagination' (Gendler, 2011).

While there are many ways one can conceive of imagination (see Bennett and Hacker, 2003, p. 180-183), I will focus on two notions that come about most often in the pretence literature. These two notions form an interesting dichotomy. On the one hand, there is *suppositional imagination* that is propositional. Suppositional imagination is associated with having a counterfactual thought. For example, the command "imagine what you would do if you had wings" could be replaced with 'think about what you would do if you had wings,' or 'suppose you had wings'. On the other hand, there is *imagistic* or *sensory imagination*. It is to be understood as 'having an image'. A command 'imagine you have wings' could be replaced with 'picture yourself with wings'. Both of these forms of imagining are said to involve a mental representational capacity; the first type of imagining requires manipulating counterfactual contents, which are often made of propositions, while the second, arguably, requires manipulating content in the shape of stored mental images.[69] The manipulations are said to be taking place *offline*, or in the cognitive mechanisms of the agents who imagine. Leslie (1987) and Stich and Nichols (2000, 2003) propose that the mental representations are propositions; Currie (2004, 2006) and van Leeuwen (2011) propose that the mental representations are imaginings or images, respectively.

Presently, the focus will be on the roles imagination is said to play in pretending, in order to assess whether those roles need playing, and if so, if they need to be played by a structure that posits mental representations. One role in which imagination plays a part in pretending is by motivating pretence. Some theorists say the motivation is done through some analogue in imagination of a belief-desire pair

[68] There is a conceptual difference between the notions of 'pretence' and 'make-belief', one that has to do with the assumption whether pretending is like belief in the first place. For the purposes of this thesis it is not so important to distinguish between them.

[69] Although sensory imagining need not be in principle representational, accounts that propose them do often insist on their mental representational nature (see, for example, van Leeuwen, 2011).

(e.g., having a belief-like attitude that the banana is a phone, having desire-like attitude to make a phone call (Harris and Kavanaugh, 1994, Velleman, 2000, Currie and Ravenscroft, 2002).[70] However, arguably, motivation to pretend is not yet a current aspect of pretence (under functionalist description, it is not a 'realiser' of pretence, but its antecedent) Hence, the issue of the motivational role of imagination in pretence will be left for future research. For the purposes of this thesis, an argument whether one can have non-representational imaginings to motivate pretence is redundant.

Another role of imagination in pretence is one of guiding and elaborating pretence as it unfolds. To quote Amy Kind (2013),

> Philosophers have assigned imagination an especially central role in [engagement with fiction, pretence, mindreading, modal epistemology]. (…) [In a pretence context,] imagination is supposed to explain *why we take the actions that we do* when engaging in games of pretend. [For example,] In pretending to be a Jedi Knight, Christopher imagines that the tree branch in his hand is a light saber" (emphasis added) (p. 142).

Imagination plays the role of explaining what guides us when we engage in pretence and how we plan future actions and elaborate the pretence in the pretence episode. It is a relevant role to explaining pretence, and it will be discussed in Chapter 6.[71]

The last two roles imagination plays are the role of generating counterfactual thoughts and enabling simulating perspectives. 'Generating counterfactual thoughts' will be bracketed as it asks for complex representational capacities to be involved in reasoning what is counterfactual, more complex than mere simulation. It is also arguably not yet present in preverbal children, whose pretence I analyse. So to take the least representation-hungry proposal under radar, yet one that still is said to require mental representations, I will discuss only the role of simulating perspectives. Currie and Ravenscroft claim that "pretense requires imaginatively taking up alternative perspectives," and to quote from Liao and Gendler (2010), "Imagination in the sense required for pretend play and engagement with fictions is the capacity that

[70] There is currently a disagreement on this issue; for example, Funkhouser and Spaulding (2009) deny imagination the power of motivation altogether.
[71] There I will discuss how this role is played, where one of the explanatory proposals is of an imagination mechanism (van Leeuwen, 2011)

underpins our ability to simulate perspectives" (p. 1).[72] As such, imagination enables simulation. Imagination in the sense required for pretend play is the capacity to treat one thing as another. Being able to treat one thing as another goes in hand with the ability to see things in novel ways. Such way of phrasing the role is neutral; it stays true to the simulationist proposals as well, but it opens the possibility for an alternative account of imagination. The next section discusses Currie's account of imagination that gives rise to his concept of 'seeing as'.

*5.2 Decentring capacity involving Recreative Imagination*

This section discusses one of the explanations for how one can treat one thing as another. Currie (2004, 2006) claims that we can treat one thing as another thanks to *seeing* one thing *as* another by representing, or what he calls *decentring*. Decentring can be accounted for by a reductionist proposal of Currie and Ravenscroft (2002) called "Recreative Imagination", or 'RI' in short. RI can be seen as a mechanism of off-line simulation of possible scenarios, which posits mental representations. Thus, *decentring* (representational seeing-as) can be best explained by the means of RI, which simulates perception by representing and manipulating perceptual contents off-line. It is in line with the core of simulationist idea that imagination is off-line perceiving. The simulationist proposal will presently be unpacked.

Currie explains that "in pretense, a creature may respond to the environment, but as it is transformed by imagination" (2006, p. 275). His ambition in advancing his account of pretence is clear: "The more we can account for what we do without supposing we need to think about doing it, the better" (2004, p. 191). Towards that end he regards pretence as involving imaginative transformations that, while not meta-representational, require *decentring*. For example, he asks: what would be required for *seeing* the banana *as* a phone? To *see-as*, he says, "the pretending creature represents the world, not as it is, but as it might be" (Currie 2006, p. 276), or *decentres*. Hence, according to Currie, decentring is a form of seeing as that requires representing the world 'as if'.

In earlier work, Currie (2004) describes *decentring* in terms of a shift of perspectives that involves mental representations:

[72] They clarify that this function is important for theorists of mind as it is supposed to explain later emerging mind-reading abilities.

Decentring is the capacity to view the world from another perspective: to view the world as it was for me yesterday, as it is for you now, as it might be for me tomorrow, as it is according to some story. Decentring indicates the (relative) freedom from environmental constraint and sensitivity to representational content we think of as part of rationality (p. 211).

To clarify, viewing the world 'as it was'/'as it is'/'as it might be' is specified by the mental representational contents that are part of the simulations. 'Freedom from environmental constraint' suggests that the simulation is done off-line.

Why do we need to decentre? Arguably we need to explain how it is that we are free from 'environmental constraint' and get to be directed at an absence, or that which is not perceptually present, when we are pretending.[73] Decentring is said to be necessary to allow the basic 'as-if' response to the environment that does not provide the appropriate perceptual stimuli. As Currie and Ravenscroft (2002) claim, we need to explain the "ability to experience or think about the world from a perspective different than the one that experience presents" (p. 9). Minimally, decentring is said to be needed to account for having controlled experiences in the absence of appropriate stimuli.

How does decentring work? Currie and Ravenscroft (2002) propose that the least cognitively demanding mechanism that posits mental representations is that of "recreative imagination" (henceforth: RI). It is said to allow us to engage in pretence by enabling 'putting ourselves in someone else's shoes'.[74] RI works by simulation of perception, which involves representing and manipulating perceptual contents *off-line*, or to "substitute one thought *content* for another" (Currie and Ravenscroft, 2002, p. 140). Currie and Ravenscroft spell out their central hypothesis in the following way:

Imaginative projection involves the capacity to have, and in good measure to control the having of, states that are not perceptions of beliefs or decisions or experiences of movements of one's body, but which are in various ways like those states – like them in ways that enable

[73] Similarly, Harris and Kavanaugh (1993) claim that "pretence is similar to false belief in that actions stemming from both mental states are directed at situations that do not actually obtain."

[74] Similar role is said to be played by Goldman's (2006) E- imaginings; they are supposed to generate pretend states that resemble their intended counterparts. However, as E-imagination is said to be central to high-level mindreading (E-imagination qualifies as instances of simulation that plays a role in tasks of third-person mindreading), I will bracket discussion of e-imaginings to focus on least cognitively demanding proposal to date, which is agreed to be Currie and Ravenscroft's Recreative Imagination.

the states possessed through imagination to mimic and, relative to certain purposes, to substitute for perceptions, beliefs, decisions, and experiences of movement. These are what we are calling states of recreative imagination" (2002, p. 11).

Moreover, the imaginings are inputs of the mechanism and they give decision-like imaginings as outputs. The mental mechanism manipulates imaginings that correspond to beliefs and desires. Currie and Ravenscroft specify what the mechanism does at a task level in the following passage:

There is, let us assume, a mechanism dedicated to forming decisions on the basis of our beliefs and desires. 'Mechanism' here means a physical system, a part (though possibly a very widely distributed part) of the body, something that may be damaged or fail to develop. When it operates solely on the basis of beliefs and desires as inputs, we have practical reasoning that delivers decisions. This mechanism can then be run 'off-line', disconnected from action-generating systems. When operated this way, it takes as inputs belief-like and desire-like imaginings and delivers imaginary substitutes for decisions (2002, p. 66-67).[75]

What is characteristic of Recreative Imagination is that it seems to be a mechanism that recreates content. As Currie and Ravenscroft claim: "The question 'To what is the subject attending during acts of imagining?' gets the answer 'To those things, whatever they are, that figure in the contents of the mental states being recreated" (2002, p. 42).

To summarise, one way of explaining how decentring is done might be to appeal to RI mechanism, understood as an empirical hypothesis about a mechanism involving simulation of perception that makes use of mental representational contents.

Recreative Imagination as a concept has been used in various explanations beyond pretence. According to Hutto (2008), it is first and foremost a thesis that sensory imagination is a form of simulation of perception, and the most compelling reason to endorse recreative imaginings is that they explain 'off-line' cognition. According to Hutto (2008), acts of imagination, understood as perceptual re-enactments, are likely to be the basis for the ability to re-enact and practice complex routines. For example, to explain how the hominids managed to make a sharp tool

[75] For example, consider the case of propositional imagining: "The idea ([behind propositional imaginings] is that instead of adding *P* as a belief I can add it 'in imagination', and since imagination preserves the inferential patterns of belief, I can then see whether new imagining, Q, emerges as reasonable in light of this" (2002, p. 12-13).

from a round rock asks for an account of how the hominids were able to 'imagine' or 'visualise' in the rock the final form of the tool before starting to shape it. Recreative imagination was likely to be necessary for collection and preparation of materials of the early toolmaker's craft. However, while that function of 'visualising' the rock for its possibilities is important, it is not necessary to endorse Currie and Ravencroft's RI mechanism. There is an alternative, which I present in the next section. Moreover, below I will give reasons for not endorsing the decentring capacity or the RI mechanism, showing why it is not good enough for enactivist explanations of pretence.

Firstly, RI mechanism seems to heavily rely on the notion of belief, as the mechanism involves suspension of belief and its replacement with 'belief-like' state. Currie and Ravenscroft claim that the "accessing and controlling inputs (beliefs and desires) to the acts of imaginative projection underpin pretence" (2002, p. 140). Moreover, their mechanism is one of simulation, which requires representing the point of view of the one who is simulated. Simulating others, however, is problematic as it requires more than 'mere' putting oneself in someone else's shoes; it also seems to involve theorizing (or making an inference) about the mental states of the other in order to pick out which aspects of someone's beliefs and desires we should simulate to start with (see Gallagher and Zahavi, 2013). In addition, as shown above, the RI mechanism makes use of the notion of representational content. Currie and Ravenscroft claim that to have recreative imagination is to simulate by substituting one thought content for another: "Placing yourself, in imagination, in another's position requires the capacity to make use of appropriate imaginative states; temporarily, one puts aside some aspect of one's own mental economy – some belief or desire, say – and substitutes it for a thought content you actually don't believe, or don't want" (2002, p.147). Moreover, to Currie (2004), pretence requires contentful thoughts: "The child who pretends that Pig is dirty needs to have the first-order thought 'the Pig is dirty'; … this thought is tokened as part of an act of decentring" (2004, p. 219). Currie also claims that decentring involves "acting under a suppositional mode", where one can "consider an idea, draw consequences from it, consider the evidence for it, and compare it with other ideas" (2004, p. 233).[76]

[76] He even says that pretence is to pretending as truth is to believing (2004, p. 205), suggesting that pretending has conditions of satisfaction.

To summarise this section, Currie holds that a capacity to decentre is necessary for pretending and he thinks that both decentring and its underlying RI mechanism involve mental representations. But is decentring really necessary for pretending? This chapter argues no. Hence, while Currie's account of pretence is to date the least intellectualist one, as it does not propose metarepresenting to explain pretending, it will be shown that it is possible to understand pretence even without decentring, but with seeing-as construed in non-mental representational terms. This will be argued in the next section.

*5.3 From seeing-in to seeing-affordances-in*

What kind of alternative may be proposed to explain the imaginative function in pretence? The alternative proposal builds on Currie's (2004) attempt to provide an anti-intellectualist account of pretence, but rethinks some of its central commitments. Thus, it offers an even less intellectualist approach to object-substitution pretend play of young children than Currie does. It does so by applying the conception of an affordance and ideas from O'Regan and Noë's (2001) Sensorymotor Theory of Perception (henceforth: SMTP) to Currie's (2004) notion of perceptual *seeing-in,* reinterpreting it along more enactive lines. The alternative to decentring is a sensorymotor a capacity to 'see-affordances-in'. The section shows how it might be possible to account for the sorts of imaginative transformations, like seeing one thing as another, while bypassing the need to invoke the capacity to decentre that makes use of mental representations.

Currie's (2004) notion of perceptual capacity to *see-in* is a good start to fulfill this demand. According to Currie, *seeing-in* (or *experiencing-in*) is a perceptual basis for *seeing-as*. It is important to pretence as it plays various enabling roles in pretence. He says, "Seeing-in may constitute part of primitive basis of pretence, it enables pretence to be enacted and communicated without the necessity for full-blown conceptual capacities" (Currie 2004, p. 222). Take, for example, seeing a woman in the clouds. What kind of phenomenon is seeing-in? Currie emphasizes the perceptual nature of seeing-in. He claims,

Such seeing-in does not involve seeing a woman, nor does it involve the perceptual illusion of seeing one; neither is it a case merely of judging that the picture represents a woman: it is genuinely perceptual phenomenon (*idem*, p. 220).

Currie contends that the ability to see-in extends from seeing things in static objects to seeing things in human behaviours. As Currie claims,

The next step (…) is to suggest that, just as we can see things in pictures, we can see things in simple mimetic acts. When someone moves in a certain way we can see in their movements such acts as driving a car, hitting a cricket ball, or nursing a baby (…). The movements might be exaggerated or stylized, but we can still see the action in the performance, just as we see a well-known face in its caricature (*idem*, p. 221-222).

To recap, Currie thinks that seeing-in is a precursor state for pretence.[77] Importantly, *seeing-in* is a necessary precursor to *seeing-as*. As it is perceptual, it shapes what is to be seen-as; otherwise, presumably, one could see anything as anything else. Seeing-in may, thus, be a kind of weak conditions that structures and constrains what is to be imaginatively transformed. In agreement with Currie, *seeing-in* is a crucial capacity for engaging in basic pretence. But while Currie's version of seeing-in is not sufficient to generate pretence, the chapter will show that seeing-in can be sufficient if we understand it as a form of sensorimotor activity that uses affordances. This section paves the way to the positive proposal of the sensorimotor account of seeing-as called 'seeing-affordances-in' (Rucinska, 2014a).

Crucial to the account proposed in this chapter is the idea that seeing-in could be understood as *seeing-affordances-in.* To make sense of this idea, we need to firstly consider the notion of affordances, followed by applying O'Regan and Noë's (2001) Sensorimotor Theory of Perception (SMTP) to understand how one can see affordances in things or situations. Drawing on the notion of affordances, it will be proposed that seeing-affordances-in is an activity in line with SMTP that allows bypassing the need for decentring.

As explained in Chapter 4, affordances are simply possibilities for actions that are found in the environment. Gibson (1982), Turvey (1992), Reed (1994), and Noë

[77] It is only a precursor as he says that "there is a sense in which pretence *is* a 'higher' mental process" (*idem*, p. 219).

(2004) alike describe affordances as properties of the environment that "offer or afford the animal opportunities to do things (find shelter, climb up, hide under, etc.)" (Noë, 2004, p. 105). Gibson intended for affordances to be applied to the theories of perception. The idea is that affordances, or possibilities for actions, can be perceived, both in entities and in activities. For example, in a face we could see the possibility to smile to it; in a banana, we could see the possibility to eat it; in the action of playing, we could see the possibility of joining in the play in specific ways. Hence, one is not just seeing an object or an action, but what one could do with them. This could be applied to pretence; one is not just seeing a banana, but what one can do with it. As bananas afford both eating and playing phone with, both actions are available to perception. Why this and not another affordance gets to be acted upon will be explained further in Chapter 7. For now, it is enough to understand that affordances can be perceived.

However, regular notion of perception, which proposes that perception is independent of action, cannot be applied to affordances. That would result in contradictions. Affordances, understood best as relational and dispositional properties of the environment (Turvey 1992), are closely tied to the animals that have dispositions to act on the environment in relevant ways. As such, when animals perceive objects, they perceive actins that these objects afford. Moreover, such perceiving does not require inferencing, but is direct, whereas in standard notions of perception, perceptual inputs require cognitive inferencing to allow the animal to act upon them. Hence, a different conception of perception is required. Such conception is provided by O'Regan and Noë's (2001) Sensorimotor Theory of Perception (SMTP).

O'Regan and Noë (2001) are the promoters of a view of perception that is intimately linked with action; their motto is: *perceiving is something we do*. The big idea behind SMTP is the stress it lays on the role of embodied activity over thought. Noë has an unusual story about perception that makes it an activity (2004). For example, seeing a cube as a cube would, arguably, require an exercise of a basic sensorimotor skill that treats *seeing* as kind of doing. Noë (2004) claims that seeing a cube as a cube is a form of embodied activity:

When you experience something as cubical, you experience it as presenting a definite sensorimotor profile. That is, you experience it as something whose appearance would vary in precise ways as you move in relation to it, or as it moves in relation to you (p. 117).

This suggests that the cube affords acting towards it as if it were a whole (as 'cube that has front and back sides'), which can be picked up from the world in perception-action.

SMTP also claims that action changes what is perceived. As O'Regan and Noë (2001) claim, "A crucial feature of our theory (…) is the involvement of the body in experience. The peculiar, *sensory,* quality of our perceptual experience consists (in part) in the fact that movements of the body produce changes in our sensory stimulation" (p. 1016). This changes how we perceive the world, and explain how we get to see things in new ways.

Hence, SMTP allows for 'seeing' of affordances that is produced through acting upon the world, in a dynamical action-perception-action loop. One could consider Held and Hein's (1963) famous 'kitten carousel' experiment as evidence for acting making a difference on how the environment is perceived or experienced, which further affects action. As Pepper (2014) describes,

For three hours daily ten pairs of neonatal kittens were placed in apparatus resembling a fairground carousal: a circular box with a two-pronged rotating arm at the centre. At one end of the rotating arm, the 'active' kitten of the pair was attached to a harness with its feet in contact with the ground so that it could control its own locomotion. The 'passive' kitten was placed in a box with its head held in a fixed position and suspended from the other end of the rotating arm so that it could see the inside of the apparatus but not move around freely (although it could still move its own eyes). By walking, the active kitten pulled the passive kitten around the carousel, so while both sets of kittens were exposed to the same patterns of movement and visual stimuli, only the active kittens' movements around the apparatus were self-initiated. Held and Hein found that the active kittens avoided visual cliffs, put out their paws to brace themselves when picked up and placed on a surface, and displayed avoidance behaviour to looming objects, while the passive kittens did not, though their responses did normalise within forty-eight hours. Unsurprisingly, they conclude that 'self-produced movement with its occurrent visual feedback is necessary for the development of visually guided behaviour' (p. 53).

Thus, while we cannot be sure about the details of the visual experience of active kittens (whether they actually *saw* visual cliffs *as* cliffs or *as* 'danger', assuming they could), what the experiment does show is the clear effect of the animal's acting on the environment on their consequent behaviours.

Perhaps in SMTP, we can find the resources for developing an understanding of enactive *seeing-as*. It is likely that the banana-phone object substitution play can reduce to utilisation of solely such sensorimotor abilities, at the same time being a paradigm case of basic pretence that more complex accounts of pretence can build on. For example, when dealing with a banana, the features of the object (its shape and size), and the children's sensorimotor capacities, mutually interact so as to allow seeing new affordances in bananas ('phone'), explaining how the child can treat a banana as if it were a phone without positing mental representations. The complete story about how the banana affords phone activities will be provided when additional factors such as intersubjective context and interactions are introduced (in Chapter 7); however, the sensorimotor capacities are the basis for such engagements to start, as they allow seeing of the novel possibilities for action.

### *5.4 Cognitivist objections and rebuttals*

There are valid challenges that may be raised by the cognitivists, which will be introduced in the present section. First has to do with the sufficiency of appealing to seeing in when explaining pretence. Second is a worry that pretence requires seeing resemblances and recognizing, which are representational activities. Third challenge criticises the account as not genuinely perceptual, but likely to be representational, because in pretence as we are dealing with absences (since the phone is not present, representing the phone must be introduced in the account). Fourth is that in pretence, meaning plays more important part than the environment. In the following section I will explicate these challenges, and provide first suggestions for how to deal with them.

a) Is seeing-in enough?

Seeing-affordances-in is just a form of seeing in, not seeing as. An account of seeing-in may be considered to be not sufficient to explain pretence, because it has further

constraints on actions. According to Currie (2004), seeing-in is "fast, mandatory, encapsulated, very little dependent on learning…Try *not* seeing a person in the picture next time you look at a painted portrait" (p. 220-221).[78] However, in pretence, we have many possibilities of play. The suggestion is that seeing-in perhaps would leave us with a very little room for voluntariness and creative choice in how or what we pretend. Hence, Currie insists that decentring is required even for the simplest acts of pretence, as it provides the creative choice in how one pretends.

While Currie's notion of seeing-in may be insufficient, the possibilities of seeing-affordances-in are much wider. With seeing-affordances-in, we are not limited to see one way of interacting with an object. That is because affordances, or possibilities for action, are many, almost infinite (and 'playing phone with' is one of them, just as 'eating of'). What invites one action as opposed to another is dependent on the context. For example, a banana may afford various actions in the context of play, such as playing 'phone' when held to an ear, playing 'hat' when held on the head or playing 'gun' when pointing it at someone. However, it is important to note that affordances do not afford every action; that would not be very telling. In fact, objects can also resist some kinds of play (e.g., playing 'human shoe' with a banana would be difficult as the banana would get squashed). Thus, while there are many possibilities for action, there is also the limit in what can be afforded in perception and action that is shaped by the object.

This is an important point about affordances as it clarifies why it is a notion compatible with perception and not unstructured imagination. That is because in perception, there are constraints built up from material engagement with objects. Applied to affordances, perception of and engagement with the object (applied sensorimotor capacity) structures the possibilities of what can be seen and responded to. Imagination understood as representing, however, does not structure how to play; anything can be imagined as anything else.

But in pretence, the child does not act independently of what is seen; the difference is that what can be seen in terms of how to act upon it is wide.[79] All this

[78] Similarly, it may be claimed that affordances are limiting. As Vygotsky claims, "(Things) dictate to the child what he must do: a door demands to be opened and closed, a staircase to be run up, a bell to be rung. In short, things have an inherent motivating force. (…) In play, things lose their motivating force. The child sees one thing but acts differently in relation to what he sees. Thus, a situation is reached in which the child begins to act independently of what he sees" (1978, 11).

[79] This is consistent with the concept of 'forcible presence', as explicated in the enactive theory of perception: "Forcible presence is the fact that, contrary to other mental states like my knowledge of

means is that perhaps it is little out of our present control to affect which affordance will be solicited from the field of the possibilities. It is most likely that it will be one from a routine. However, that is not to say that the banana will always afford eating it; in various contexts, it will afford a different action as well.

b) Seeing resemblances is representational

In addition, seeing resemblances between objects is considered to be a representational capacity. Cognitivists suppose that one is comparing what one is seeing to an absent object, which must take form of a mental content of this object stored in one's mind. On the present story, the relationship between bananas and phones (and holding a banana to the ear and holding a phone to the ear) could be said to be one of resemblance. The resemblance allows for the object or the activity to look like something, without involving a concept in any robust sense of the term. The similarity of shape and structure of the banana to the typical phone, as well as how it responds to manipulation (way of holding it to the ear), could be said to be *visible in* the interaction with the object. Gallagher and Zahavi (2013) have argued that resemblances do not involve representations. They say that "in order for me to understand that *x* represents *y* by resembling it, I must have an access to y that is not mediated by x, so that I can compare the two in order to see the resemblance. If I know only the representation, I cannot know that it resembles the object represented" (p. 102). Their argument is that knowing that one thing resembles another requires for the two things to be present to the observer. They deny 'introspectionism' that allows one to know that the mental representation resembles the object in question. This leads them to believe that one is not comparing what is seen to mentally represented copies of those things. In which case it makes the mental representation redundant for seeing resemblances.

A comparison of the banana to a representation of a 'phone' need not be made, as one does not need to see resemblances. What one simply needs to see is what one can do with the object. Why a particular object (banana) is good enough is because it has the right properties to be held to the ear. Why it is good enough may be because

history, for example, a sensory experience imposes itself upon me from the outside, and it present to me without my making any mental effort, and indeed is mostly out of my voluntary control" (Myin and O'Regan, 2002, p. 30).

bananas are objectively similar to phones. One can think of the object as having real, objective correspondences to other objects. In the case of the banana, there is an objective correspondence between its shape and size, and the shape and size of a classic phone handle. When one is in the presence of a banana and a phone handle, this correspondence between them need not be seen, only acted upon. Paired with effectivities (dispositions stemming from history of interactions with both bananas and phones), these correspondences could trigger seeing in possibilities for action where one object can be treated as another. The objective correspondence may affect the banana to be more inviting to 'play phone with', because of the matching possibilities for action. Other objects that are of a similar size and can be lifted (e.g., cucumber, soap, etc.) would do as well.

Importantly, these similarities need not be represented. The properties of an object like a banana (shape and size) and what it affords to a child (lifting, holding by the ear) can broadly direct the child into what to play with it (phone). The child need not compare the banana with a phone, shape-wise. The correspondences are there, but need not be seen in terms of comparing what one sees to a mental image. All one needs to do is act upon the possibilities for action that are in the environment. Hence, 'seeing' of the resemblances is not needed; it is replaced by seeing-affordances-in. Instead of seeing resemblances between the present object and a represented model of an absent object, it could be said that we see in the present object the affordance, or possibility, of playing with it in another way, a way similar to the absent object. The notion of absence will be discussed shortly.

c) To deal with an absence we need mental representations

One reason to doubt that a perceptual account can be used to explain imaginative transformation is that perception cannot explain dealing with absence. Even if perception can be understood without mental representations in basic, immediate cases of perception, it is generally assumed that we must have mental representations when dealing with absences. That is because something that is not there ('phone') is invoked when we are dealing with a banana, and so 'phone' must be represented. Representational faculties are allegedly needed for one to "be directed at situations that do not actually obtain" (Harris and Kavanaugh, 1993) or to "stand back,

cognitively speaking, from the immediate environment" (Currie, 2006, p. 275), for fulfilment of which Currie endorses making off-line simulations. If pretence is supposed to be directed at that which is not perceptually present, how is SMTP relevant for pretence? After all, the cognitivist could argue that even if we grant the validity of SMTP as applied to perception, it seems to, at best, only target the capacity to see X as X (e.g., a cube as a cube), but not X as Y (e.g., a banana as a phone).

Moreover, a cognitivist could object that in seeing-in, we are not merely seeing anything at all, but are in fact imagining, or that such seeing is infused with imagination. For example, in seeing a face in a cloud, given there is no human in the clouds present to be seen, and given there is no confusion or illusion as to what is occurring, it is a fair question to ask whether seeing-in is a genuine perceptual phenomenon.

In addition, a related worry is with 'seeing-affordances-in'. We also need to explain the possibility of seeing an action (calling) in the object (the banana). The problem is that there is no affordance to ring someone on the banana or dial a number, so how can objects afford special 'phone' actions, such as, e.g., calling or dialling? The worry here is that the question may have shifted from 'how is it possible to see objects (that are not there)' to 'how it is possible to see affordances (possibilities for actions), which are not there.

What the worries have in common is the assumption that one requires representations to refer to something that is absent. Absence is seen as a referent similar to the one found in language. As Harris and Kavanaugh (1993) claim, "In Piaget's terms, Jacqueline [who acts as if a cloth were a pillow] treats the cloth as a symbol – it serves as a signifier whose referent (or signified) is the absent pillow" (p. 68).

One possible rebuttal does not counter the assumption that when objects are absent, representations are needed, which may be a live possibility (though this notion of representation is different than the notion of mental representation). Noë himself suggests that we need representations when the world is not immediately present ("Surely we sometimes need to think about the world in the world's absence (when it's dark, say, or when we're blind, or not at the location we're interested in), and for such purposes we must (in some sense) represent the world in thought" (2004, p. 22)). I will for the time being accept this, and suggest another line of thought: in the case of

basic pretence, there is nothing to represent because there is no absence; what one is directly seeing is a *present* affordance. [80]

This rebuttal targets the cognitivist assumption that in pretend play, we encounter *absence* in the first place, and we *must* stand back from the immediate environment. It is not clear whether all pretend play deals with such absence from the immediate environment. It is highly questionable whether in the situation when the child acts upon a prop (like in the banana-phone game), he or she ever acts independently of what is seen. That is because the banana, as an object, is part of the immediately present world, which affords acting upon. This makes sense if we think of affordances not only as 'real' properties of objects, but also as relational properties (Turvey, 1994). So while 'buttons' property is absent in a banana, the shape of the banana is present in the possibility it brings to act out 'calling' to a human child, who has effectivities to place the banana to the ear. Properties of objects (Noë) as well as the history of past interactions (Chemero) of the child shape how the banana is interacted with, which make 'calling' (or a way in which the object in question can be held, placed or turned around), in some sense, present. Thus, it is likely that in acting upon a prop (like in the banana-phone game), the player does not act independently of what is seen, but is guided by the prop and perceives in action what the prop affords. Then, in the absence of a phone as during the pretend play, the animal, which has seen such possibilities with phones, can see those possibilities again with bananas and act on them, without having to represent the absent 'phone'. The affordances are *present* to the animal. This way the banana can solicit 'phone' because of its shape and size corresponding to the one of a phone.

Thus, acting upon affordances, which allows manipulating the possibilities of what objects or situations afford, answers the question of how it is possible to see something other than what is perceptually present. How specific affordances get solicited to the subject in particular context is a question that involves individual differences. In pretence, different things can be perceptually present to one depending

[80] There is another rebuttal that could be offered. It is to argue that one can actually directly see absences. For example, perhaps we can directly 'see' the absence of a phone. As an analogy consider the example of Pierre in Sartre's (1943/1957) *Being and Nothingness*. Sartre describes a situation whereby he looks in a crowded café to see if a friend, Pierre, is there, and he sees that Pierre isn't there. In a way, he *sees* Pierre's absence in the presence of everything else in that café. Perhaps that is an example of having expectations of seeing Pierre, and thereby seeing that he is not there (seeing an absence). With pretence, however, we do not expect things to look in certain, pretend way. Hence, this rebuttal is not most promising for present purposes.

on their background – on what they have seen in the past – as well as on the skills they possess at the time of pretence. As Noë claims, "What we perceive is determined by what we do (or what we know how to do)" (2004, p. 1). An elaboration of what is involved in how affordances are solicited will take place in Chapter 7, which analyses in grater detail the notion of affordance in playing the relevant explanatory roles.

Furthermore, to the proposal that the affordances might figure in our best explanation of pretending, a cognitivist may say that there is a possibility of 'phone' or calling being present, but only as long that 'phone' is represented in one's mind one way or another (whether in terms of concepts, pictures, etc.). Only then, can we speak of 'phone' concept or image as present. To reply to this possible worry, I suggest that speaking of a notion of concept might be acceptable to an enactivist, but a lot has to do with the notion of concept one endorses (see Machery, 2009). While discussing different possibilities of conceptualising the notion of a concept is beyond the scope of this thesis, a relevant notion of concept could be Noë's (2015) concept as skill, understood as 'skills of access', or 'techniques for enabling access to what there is' (p. 2).

d) Meaning above environment?

Finally, an objection to an account of pretence involving direct perception is that it is supposed to be the *meaning* (not the environment) that guides pretence. There is no denying that in object-substitution pretence, the agent uses the object differently than what the object usually designates; it could be said that a new meaning is added to the object. For example, when a banana is played as if it were a phone, in the present context it 'means' 'phone'. According to Currie, "Vygotsky recognized (that) pretence is a form of decentring: the pretending creature is guided 'not only by immediate perception … but by … meaning'" (Currie 2004, p. 211). Meanings, traditionally, are understood as ideas or thoughts imposed on reality. The intellectualist assumption is that without representing the meaning of what is to be acted out, one could not get engaged in pretence in the first place. Thus, if we were to borrow the jargon of Searle (1983), the *direction of fit* is supposed to be meaning to environment (adding new meaning 'phone' to the banana that is part of the environment), while the seeing-affordances-in account seems to propose a view along

the lines of fitting the environment to meaning, in order to see it as 'phone'. That, however, would not be a good description of what the enactivist proposes, which will be explained below.

While Vygotsky may have been right in noticing that some forms of pretence are framed by meaning, his notion of meaning is not to be equated with decentring of the sort that Currie endorses. 'Meaning' in this context might include a wider grasp of active possibilities; it may be a different sense of seeing connections and possibilities for action. Vygotsky did not specify that meaning had to be representational or contentful, but notes that in pretend games young children are reliant on perceptually available information:

> Experiments and day-to-day observation clearly show that *it is impossible for very young children to separate the field of meaning from the visual field* because there is such intimate fusion between meaning and what is seen (1934/1978, p. 97).

Thus, there is a way to accommodate Vygotsky (but not Currie) in the claim that imaginative transformations are important for pretence, when Vygotsky's notion of meaning is not understood in terms of decentring but through an alternative conception of 'meaning'. One such alternative conception can be found in phenomenology, where the notion of meaning does not refer to mental contents, but to directly perceivable possibilities. According to Merleau-Ponty (1962), perception is already meaningful; it "arouses the expectation of more than it contains, and … is therefore already charged with meaning" (p. 4). The claim is that perception is already meaningful as it allows for novel possibilities to be perceived in the present object. Seeing a possibility is then anticipating something as happening. This is applicable to the pretend play in question, which can be explained not in terms of imposing new meanings in terms of rules for using the items on objects (such as imposing 'telephone' on a banana). Instead, it can be accounted for with directly seeing the meanings in terms of possibilities for action, or affordances (possibility of holding and using the banana as a phone).

Overall, the 'direction of fit' jargon does not fit with enactivist proposal, as seeing of affordances is governed by dynamical systems theory, the idea that there is a perpetually governing force that mutually shapes the action and its interpretation, or the meaning. Thus, how one acts with respect to the banana shapes how one sees it

(what meaning one adds to it), which in turn further shapes how one acts with it; there is no direction of fit. That capacity is then to be placed in wider intersubjective contexts and socio-cultural practices, which further shape how one gets to see-affordances-in objects and situations, and how 'acting as if' comes about.

*Conclusion*

In this chapter I have proposed an explanation of one aspect of pretence – how one gets to 'act as if', or engage in 'imaginative transformation', without mentally representing by means of decentring. The positive proposal involves active seeing-affordances-in. What is required for imaginative transformations ceases to be an *off-line* mental activity and is instead understood as an *on-line* perceptual activity. This novel approach to pretence suggests that pretence can be conceived as a way of acting that relies solely on embodied, perceptual (and intersubjective) skills, which is in line with O'Regan and Noë's view of perception: just as they claim that perceiving is a way of acting, so I claim that basic pretending is.

Non-representational perception with regard to pretence can be exemplified in the following manner: one can see affordances (possibilities for action) *in* the situation through interacting with it. The relevant work might be done by *sensory imaginings* (understood as *on-line* perceptual activities), which are augmented by sensorimotor skills, which form effectivities of the animal. Sensory imaginings do not have to involve mental representations; this can be reasonably ruled in. If imagination can be understood as essentially based on perception, and considering that perception can be understood non-representationally (as proposed by, i.e., Gibson 1979, O'Regan and Noë 2001, Noë 2004), then imagination need not be understood representationally as well.

There are several advantages of this novel account of pretence as inspired by SMTP, particularly by its focus on activity and the role of affordances in perception. While it may not extend to all forms of pretence for fictional activity, as undeniably there are more complex ways of pretending possible that may require representing or making inferences, an account making perception and action do all the required work suffices to explain pretence of 18-month-old children. In line with known empirical studies, children at the age of 18 months engage in pretend games are reliant on perceptually available information (see e.g., Piaget 1962). As Vygotsky observes,

"child's play is imagination in action … we can say that imagination in [older] adolescents and school children is play without action" (1934/1978, p. 93). Presumably, just seeing one thing as another without acting upon it comes later in life (Sainsbury, 2010). As the burden was on the enactivist theories to show whether any form of genuine pretence is possible without representing (Spaulding, 2010), this account has shown that there is a possible space for non-representational pretence that applies to basic pretence, laying groundwork for its application to further types of pretence for future research.

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# Chapter 6. The Guiding Role[81]

This chapter will focus on another function mental representations are supposed to play in explaining pretending, the function of guiding how pretence is accomplished in a specific way.

As explained in Chapter 2, cognitivists posit the presence of cognitive mechanisms that imply mental representations to explain various aspects of pretending itself. For example, Nichols and Stich (2000) ask how do the pretenders "determine what behaviour to engage in during an episode of pretence?" Given their assumed framework, this question translates into 'how do the structures underlying the cognitive capacities of the pretenders determine what behaviour to engage in during an episode of pretence?' They propose an account of 'mental guiders' that are internal to the pretender, pushing all of the activity of guiding pretence to the subpersonal structures, such as the inference mechanism with the Possible World Box. They are not the only ones who make this move; philosophers and cognitive scientists posit mental representations in the form of mental plans and models to explain not only pretence, but various acts of cognition, from sophisticated human mindreading (Baron-Cohen, 1995) to basic animal dead-reckoning (Gallistel, 1998). With regard to pretence, as McCune and Agayoff explain, "(an) internal plan recedes and guides the pretend action," and "(the) capacity to utilize (…) internal models of previous experience is considered to be the foundation of (…) pretending" (in Mitchell, 2002, p. 45, 47).

This chapter targets the need to posit mental representations to play the guiding role. The analysis below will focus particularly on the *belief-based account* of Nichols and Stich (2000, 2003) and the *imagining-based account* of van Leeuwen (2011) in order to show how mental representations have been said to come into the mental structures that guide pretending. It focuses on these two accounts as, although they both posit mental representations, they are importantly different; in Nichols and Stich's account, the contents of mental representations are propositions, and in van Leeuwen's account, they are non-propositional imaginings. What will then be shown

[81] A version of this chapter has been published (see Rucinska, 2014b).

is that mental representations need not be posited to explain what guides pretending, as non mental representational alternatives can explain all the three roles for which it has been thought guiders are needed: guiding what is to be pretended, determining how acts of pretending unfold, and how acts of pretending are elaborated. Clarifying that these specific jobs are what guiders are supposed to perform is important, as it opens the door for both cognitivist guiders and their alternative counterparts to perform them. As such, they can be considered on par as realization mechanisms of pretence, and therefore, are genuine alternatives to each other.

This chapter will unfold in the following way. In line with the previous chapter, the strategy is to first explain why the guiding role has been targeted, examining whether that role needs to be played. This will be done in section 6.1, together with a clarification of what possible things can act as guiders. Section 6.2 specifies how mental representations are supposed to play such guiding role. It looks at two significantly different cognitive accounts involving mental representations that have been posited to guide pretending: the *belief-based account* (Nichols and Stich, 2000, 2003) and the *imagining-based account* (van Leeuwen, 2011). Section 6.3 suggests an array of alternative factors that guide pretence that do not involve mental representations: objects (e.g., toys), other people (e.g., playmates) and narrative practices (e.g., storytelling). The object in play has affordances that guide pretence. Other people can be considered as forming the additional context shaping the pretending of the agent. Narrative practices can be considered as an aspect one of the agent's effectivities, shaped by a history of interactions with stories. Section 6.4 addresses some potential cognitivist worries with the alternative suggestion to what guides pretence, and proposes rebuttals.

This chapter gives further support to show how another role of mental representations in pretence can be played by structures that do not involve them. The alternative proposal in this chapter draws out the mere bones of the possible account, showing why it need not include mental representations. How the factors come together to make a coherent affordance-based alternative is left to Chapter 7.

*6.1 Why target guiding, and what could a guider?*

The reason why the guiding role of mental representations in pretence is targeted is because that role needs to be played in order to explain pretence. Pretence always requires some execution; one cannot pretend in non-specific way. In a circumstance of pretend play, an agent performs specific actions X Y Z in order to enact A. For example, when pretending that the banana is a phone (A), one holds the banana to the ear (X); alternatively, one can hold it in front of one's mouth (Y). Not only is the play specific; it is also often adequate to the situation. As Nichols and Stich (2000) assert, "(p)erhaps the most obvious fact about pretense is that pretenders actually do things, i.e. they engage in actions that are appropriate to the pretense. (…) A theory of pretence must explain how the pretenders determine what behaviour to engage in during an episode of pretence" (p. 119-120). That is why we need to ask about what guides the pretenders to act in these specific manners.[82] If the specific behaviour was not present, but instead, the child engaged in a random act, then we would not be speaking of pretending at all. Engaging in some kind of specific, non-accidental behaviour is a necessary requirement of pretending. Otherwise there would be no difference between an accidental act and a pretence act (e.g., banging drumsticks on the table vs. 'pretending to be a drummer'). Whatever it is that structures the behaviours to be non-accidental is the guider; it explains how the non-accidental and appropriate behaviour is produced.

This chapter focuses on the question of what guides pretence. I target the question: 'how is pretence accomplished in a specific way?' There are many variations of this question. Some are synonymous (for example, Funkhouser and Spaulding (2009) ask: "Given that the child is pretending, why does she react to the pretence in this manner?" (p. 14)). Other questions seem synonymous, but ask for different types of answers. One might be confused by the way Nichols and Stich elaborate on their question "how the pretenders determine what behaviour to engage in during an episode of pretence?," by following up with: "How do they *know* that they should walk around making jerky movements and saying 'Chugga chugga, choo choo' when pretending to be a train, and lie still when pretending to be a dead cat,

[82] This is a different issue than what *motivated* engaging in pretending in the first place. It may be that the motivators are mental representations, but even if that is the case (e.g., a 'desire' to pretend play X motivated the play), it does not follow that the guiders are mental representations.

rather than vice versa?" (2000, p. 120, emphasis added). Clearly, the epistemological question of how children *know* anything about how to pretend is a different kind of question than how the pretending gets to happen; the latter requires only looking at that which enables children to pretend in a specific (and appropriate) way.[83] This chapter targets the latter question, which asks about the mechanisms that guide children's pretence behaviours. Thus, for clarity sake, the chapter will continue to ask 'how is pretence accomplished in a specific way?' alongside 'why is the child pretending like that?' under the banner question 'what guides pretending?' A satisfying answer to this question will propose some explanation about how specific behaviours come about in pretend play.

But what is, or could be, a guider? Let us consider an everyday example to illuminate possible options of what could guide: a case of putting together a bookshelf that is delivered to our door in pieces. We don't know how to put it together yet, so how do we go about it? Here are some options of what could guide our behaviour. Option 1 is to follow written instructions (if available), with rules specifying how to put the bookshelf together (e.g., "connect piece 4A to 4B using a screw"). Option 2 is to look at the image of the completed bookshelf and follow a model or diagram, which specifies pictorially (with arrows) how to connect pieces 4A and 4B.

These options are loosely representative of respectively the belief-based account and the imagining-based account that will be analysed below, except for the fact that in real life, we follow written scripts and drawn images, whereas in these accounts, we *implicitly* follow rules and models that are provided by subpersonal mechanisms. Nichols and Stich posit a mechanism with mental representations whose contents are "conditional beliefs" that instruct the behaviour (2000, p. 129, footnote 8). Van Leeuwen (2011) posits a mechanism with mental representations whose contents are a combination of images and motor plans. These accounts will be elaborated on in the next section.

Importantly, the belief-based and the imagining-based accounts do not consider other options, for example, that the shelf pieces at hand may 'dictate' to us how to be put together in terms of how they fit (like pieces of puzzle)[84], that we could be building the shelf with other people, following their lead, or figuring out how to

[83] I am thus setting aside the question of how pretenders *know* what they're doing, because it might be that they do not need to 'know' what they are doing in the sense that requires mental representations.
[84] Our exploratory behaviour with the shelf pieces may do the trick given the internal possibilities for combination.

build the shelf together based on what we have heard about building shelves. These options are in line with the possible positive alternatives to what guides pretence behaviour that will be shown in section 6.3.

Therefore, so as not to foreclose on the alternative possibilities, in this chapter the term 'guider' is used the broad sense as that which determines, shapes or structures the behaviour of an agent.

There exists an account of pretence guiders that does consider factors such as other people or social norms in explaining what guides pretence. Such account is of Funkhouser and Spaulding (2009). They emphasize the role of what they call "external scripts" in guiding pretence behaviour, making a clear distinction between internal and external guiders. They consider an external script (or "script *outside* the agent") to be "a physical script, the behaviour of another individual, or a social norm" (310).[85] However, they argue that the external scripts guide pretence *in conjunction with* imagination, or the "internal script". Thus, they also commit to there being internal guiders (which they define as 'mental scripts' or "maps by which we steer; directors; means selectors" (p. 307)) as the necessary guiding mechanism, which may only at times be augmented by the external one. Their internal guiders, considered as mental scripts, involve mental representations such as mentally represented scripts or maps.

The alternative proposed in section 6.3 is similar to the 'external scripts' of Funkhouser and Spaulding, but not exactly alike. The alternative emphasizes the dynamic structure of cognition, hence, guiders such as physical scripts or other objects, behaviours of others or social norms should not be strictly considered as external to what makes pretence, but as part of the animal-environment dynamic that forms a wide and situated mechanism of pretence.

### *6.2 Cognitivist proposals: the belief-based and the imagining-based accounts*

This section describes in more detail the two importantly different cognitive accounts posited to explain how pretence is guided: Nichols and Stich's (2000, 2003) belief-based account of guiders, and van Leeuwen's (2011) imagining-based account of

[85] Aside actual scripts, whether behaviours and norms count as a genuine scripts *per se* depends on one's notion of a 'script'; they can, however, be thought of as guiders in accordance with the minimal description given earlier in the paper.

guiders. This section does not aim at setting the stage for providing knockdown arguments against these cognitive accounts of guiders, as this is not the aim of the thesis. Instead, it aims to clarify how exactly these guiders work, in order to allow fair comparison of these accounts of guiders that posit mental representations to possible alternative account that does not posit mental representations. Those accounts can be fairly compared because in both, guiders are left to play the same functions – guiding what is to be pretended, guiding how acts of pretending unfold, and guiding how acts of pretending are elaborated – albeit by entirely different means. Presently, I engage in elaborating on the way guiders play their designated roles in the two cognitive accounts.

*a) The belief-based account*

As Meinhardt et al. (2012) explain, according to Nichols and Stich, "[pretence] is a form of situation-based behaviour, that is, 'behaving in a way that would be appropriate if P (the counterfactual situation) were the case' … Thus, to engage in [pretence], the young child needs to construct multiple models of one situation (what is appropriate in reality; what is appropriate in fiction)…" (2012, p. 623). Arguably, constructing models of appropriate situations requires the appropriateness to be specified by mental contents.

Nichols and Stich propose that guiding is done by a mechanism that posits mental representational contents in form of 'conditional beliefs', such as "if X were the case, then Y". They understand guiders in terms of mental scripts, which are formed of conditional beliefs. They are clusters of mental contents whose role is to be "detailing the way in which certain situations typically unfold" (2003, p. 34). The clusters represent not just singular premises, but whole scripts. Nichols and Stich compare the scripts to *plans for actions*. For example, they turn to the function of plan-construction to account for how one can aim to pretend a 'train' and end up making 'chugga' sound. They claim:

One of the things that the mental mechanisms responsible for reasoning and inference can do is to construct *plans*. As we envision it, plan construction is a process of means-ends reasoning: given a goal or a set of goals, the part of the inference system that is responsible

for constructing plans comes up with one or more ways to achieve these goals (*idem,* p. 13-14).

The idea seems to be that when one decides to play X (e.g., a tea party), one is directed to the goal represented as X (enact "tea party"), which activates an inference mechanism in a form of a plan, specifying how to achieve this goal. The plans are there to specify how things unfold and to specify what is the appropriate behaviour to be engaging in, also in pretence.

As clarified in section 2 of Chapter 2, Nichols and Stich postulate a cognitive architecture with a set of functionally interconnected mechanisms, such as the Belief Box, the Possible World Box (PWB), and the Script Elaborator. By their lights, applied to the 'tea party' pretence, the mental mechanism works as follows. Information about tea parties is drawn from the Belief Box; as they claim, the pretender "must have some beliefs about what typically goes on at tea parties" (2000, p. 126), such as, for example, 'in tea parties we sip slowly from the cup'. Then, the PWB spells out what the world would be like in the imagined counterfactual scenario. It then produces a counterfactual belief, something like 'if a tea party was taking place, I would be sipping slowly from the cup'. Finally, they add to the cognitive architecture a planning mechanism called the Script-Elaborator, which determines how the premises in the script are to be elaborated; its job is to "fill in those details of a pretence that can't be inferred from the pretence premise" (2000, p. 127), enabling the inference to 'fill out' the PWB description in relevant ways. The Script Elaborator accounts for novel and creative acts during the tea party play, such 'dancing cups'. The idea is that, for example, one starts off with a belief that 'in a restaurant we eat with cutlery', but then, during play, the actors can elaborate on this by pretending the knife is a 'sword'. According to Nichols and Stich, in that case the Script Elaborator should have a content of the sort: 'the knife becomes a sword'. Hence, the PWB is to provide this content with on-the-spot suggestions about what the world would be like if the counterfactual scenario held, and the Script Elaborator is to provide further instructions on how to elaborate on that content.

While Nichols and Stich do not spell it out, conditional beliefs forming the initial premises (and scripts) are most likely to be propositions. Propositions are good candidates to act as rules or instructions. For example, the conditional belief "if I were in a restaurant, I would be eating with cutlery" could be understood as forming an

instruction or rule "in restaurants eat we with cutlery". Similarly, instructions could make conditional beliefs into propositions. As beliefs are propositional attitudes, their belief-based account should be understood as involving mental representations that form propositions.

*b) The imagining-based account*

Van Leeuwen (2011) posits an internalised guiding mechanism with mental representational content that are images. He emphasizes the imaginative nature of the guiders. As mentioned in Chapter 5 section 1, imagination is important for guiding pretence, not just for 'acting as if'. On Van Leeuwen's account, it is not beliefs, but imaginings in the form of mental images, which guide pretence. He also augments his proposal by introducing motor plans to guide pretence together with mental images. Hence, in contrast to the belief-based account, the imagining-based account rejects the idea that mental representations guide through sets of beliefs.[86] There are also no initial premises to kick-start the pretence (only perceptual input), and its mediation is not done by beliefs, but by imaginings of various forms.

While van Leeuwen does not use the term 'guider', he proposes the following account of how imaginings direct pretence action, which he calls 'Active Imagination Thesis':

Active Imagination Thesis: There exists a form of imagining that is a continuously updated *forward model* of action in the world, in which action possibilities are constructed in relation to a manifold of largely perceptual representations that can be veridical, nonveridical, or mixed – where *mixed* is a usual and important case. A 'forward model' is an internal representation of motor commands that anticipates the consequences of those commands on bodily motion. The 'nonveridical' perceptual representations are basically *mental imagery*. (…) What is radical about this view, in relation to other views I consider, is the idea that (nonveridical) mental imagery can be *integrated* into the perceptual field and that *this* form of imagining delivers the objects we relate to in constructing pretence action, such as make-believe (2011, p. 56).[87]

[86] This account shows that cognitivism needn't imply beliefs but can get by with belief-like attitudes such as imaginative states of mind (*ala* Currie and Ravenscroft, 2002).
[87] To clarify, on this account, imagery and non-verdical representations that predict outcomes might be thought to inform and guide acts of mere perceiving as well.

He further claims that "the imaginings that are most immediate to the production of pretence are spatially rich; they are perceptually formatted or structured as *representations of bodily movement*" (*ibid*., p. 67, emphasis added). He also proposes that the imaginings he posits "are analogous to the spatial *diagrams* – and the *drawings* of them – while beliefs, desires, and propositional imaginings are analogous to comments" (*ibid*., p. 68, emphasis added). He highlights that this claim "appeals to the traditional idea of mental imagery but also emphasizes that anticipatory motor plans, or *forward models*, can be imaginative" (*ibid*., p. 68) Forward models "are implicated in the planning and performance of motor actions" (*ibid*., p. 73).

To summarise, Van Leeuwen's account of 'active imagination' is a cocktail with various ingredients: forward models with motor commands and mental images with perceptual representations. It seems like the perceptual representations form the mental contents, and forward models are their vehicles. The motor commands and mental imagery are integrated in the perceptual field, and together enable pretending. But how exactly does that happen? As Van Leeuwen claims, forward models and mental imagery combine in guiding as follows. Mental imagery provides the object of pretence, which can then be imitated. As Van Leeuwen claims, "In pretence, what one can *imitate* is a mental image or other imagined content" (*idem,* p. 72, emphasis added). He discusses the game of charades as an example of imitating a mental image:

> What happens, for example, in a game of charades? You read a card that says 'flying bird'. A mental image of a bird flapping its wings pops into your mind. So, playing the game, you imitate the motion of the bird that is represented onto your visual imagination by flapping your arms (*idem,* p. 72).

Moreover, "in addition to providing objects in relation to which forward-model imagining constructs actions, [mental imagery] can set the structure of motion that the forward model models" (ibid., p. 72). This is how forward models come in; they seem to specify the movements to be made by the agent. Let us take as an example the banana-phone case; the idea seems to be that the mental image of a phone (or, more likely, someone holding a phone to the ear) sets the target of pretence and provides the forward commands for the motor plans that guide how to achieve it

(perhaps something along the lines of: 'hold the banana to the ear *like this*', which is at the same time *not* a proposition). The forward model need not be understood as a belief-based instruction; in the weakest sense, the forward model could be understood as a pictorial representation of bodily movement that indicates "an open-ended set of possible actions (a kind of under-specified knowledge-how)" (Cappuccio and Wheeler 2012, p. 27). What is important for van Leeuwen is that the forward commands interact with the image, not beliefs about it, which is why entities like Possible World Boxes need not be posited on his picture.

*c) Summary: specific functions mental representations are said to play in guiding pretence*

If we were to cluster the jobs mental guiders purportedly do in the two accounts discussed above, the following three types of jobs emerge. It is guiding

(a) *what* is to be pretended,
(b) *how* (a) is pretended,
(c) *how* (a, b) get to be *elaborated*.

With regard to guiding (a) (*what* is to be pretended), on Nichols and Stich's account, the Belief Box with clusters of belief-based mental contents allow the pretenders to have some beliefs about "what typically goes on at tea parties" (2003, p. 126).[88] On Van Leeuwen's account, mental images are said to "deliver the objects of pretence" (2011, p. 56). With regard to guiding (b) (*how* what is to be pretended is pretended), Nichols and Stich propose a Possible World Box that is "detailing the way in which situations typically unfold" (2003, p. 34), by spelling out what the world would be like in the imagined counterfactual scenario. Van Leeuwen, on the other hand, posits perceptual representations and motor commands that achieve pretence by "constructing action possibilities"; they "set the structure of motion" (2011, p. 72). How things will unfold or develop is specified on Nichols and Stich's account by an instruction; this seems more open-ended on Van Leeuwen's image account. Finally, while missing from van Leeuwen's account, Nichols and Stich attribute the function

[88] They are also said to "create multiple models of one situation to specify what is appropriate in reality and what is appropriate in fiction" (in Meinhardt et al., 2012, p. 623).

of elaborating what is to be pretended and how it is to be pretended (c) to their belief-based structures; the Script Elaborator is responsible for novelty and creativity of pretence (2000, p. 127). It is likely that Van Leeuwen's account could achieve elaboration without Script Elaborators, but with new perceptual contents.

The next section provides details of possible alternative guiders that do not posit mental representations. It will become clear that the alternative guiders can play the same three functions that the cognitivist guiders claim to play: saying what is to be pretended, how it is to be pretended, and how the pretence can be elaborated.

### *6.3 Alternative guiders*

How else might we explain how acts of pretence are guided if not by appeal to mental representations? Even if we concede that mental representations could do the job of guiding pretence, they are not the only way to go.[89] This section shows that we can conceive of acts of pretend play solely structured by interactions with the external world, interactions that explain *what* we play and *how* we play *this* and not *another* way, as well as how the play can get elaborated. The section gives a possibility proof of providing an alternative account based contingently on some candidates of guiders that are considered to be 'external' by Funkhouser and Spaulding (2009). They are objects in the environment that have relevant affordances, other people in the environment that form the relevant context (actualising the affordance-effectivity pairs that afford further possibilities for action), as well as history of narrative practices, that form relevant effectivities. These will be elaborated on below.

#### *a) Object affordances and subject's bodily effectivities*

One factor that can guide pretence is the object itself that is being used in play. Its affordances shape and guide play. Consider, for example, the case of object-substitution play with a banana. Firstly, the shape and size of the banana affords playing with it as a phone. Bananas could afford to human beings (with right dispositions) holding them to the ear, placing on the head or pointing, which could

[89] It is not actually certain that mental representations are successful in performing those jobs. However, this section will not involve criticisms and problems with the cognitive accounts of guiders.

turn into ‘phone, ‘hat’ or ‘gun’ plays, respectively.[90] However, object affordances structure due to their limitations as well; unlike suppositions and imaginings, which could turn anything into anything else, physical objects afford certain possibilities of acting with them and limit others. For example, even if one were set on pretending with a banana that it is a human shoe, its soft structure would not allow a successful shoe game as the banana would get squashed when stepped on. What would make the banana’s being squashed an unsuccessful shoe game is not the child’s expectations about how the game should go; rather, the game’s success is dependent on the environmental possibilities for action, or affordances, of objects, paired with the bodily dispositions of the child. Szokolsky (2006) rightfully insists on the crucial role of objects, or tools, in pretence. She claims that

> Tools create new opportunities for action by enhancing, extending, or restoring the action capabilities of the actor. Tools focus behaviors and promote the fit of actors to their task environments in more visible ways than actions that do not depend on tools. (…) [They] may help focus behaviour and this may explain why pretense without objects is more difficult than pretense with objects: the difficulty lies not in the lack of external cues (…), but in that there is no material basis that would guide and focus the activity” (p. 81-82).

Moreover, actively exploring objects can guide new pretence play. Embodied explorations have to do with manipulating the object in various ways; the type of manipulation is allowed by both the agent’s dispositions and by the object’s dispositions. Depending on the body of the animal (e.g., having a hand that can grip objects, having a functioning arm that can bend), an object like a banana can be grasped and brought to the head of an animal at a minimal cost, that is, without any effort. This combination of the dispositions of the objects and animals suggests to the animals how to use the objects, as for example, in play context. Consider the pretend ‘rocket’ play with a miniature rocket toy (in Mitchell, 2002). How children play ‘rocket’ is mostly guided by the extend of their arm movement, which makes the rocket toy go up in the air and then down again and to the side, similarly to how children play ‘airplane’. Even older children who may very well know that rockets only go in a straight trajectory upwards (thus, children who have a linguistic concept

[90] There is no need to assume that concepts would be involved, unless we understand concepts as skills. See Noë (2015).

of a 'rocket') often play by moving the rocket sideways as that is what the extend of their arms allow. This is how the bodily dispositions of the animal, paired with the dispositions of the objects, affect what kind of 'rocket' play the miniature rocket invites.

*b) Other people*

Other people can also afford certain actions to an individual agent; the possibilities for actions that other people bring about can also play a guiding role in pretence. Other people can be seen as affording pretend action to a child in two ways: first, in direct engagement, or interaction, with the child, and second, through their mere presence. I will clarify both situations below.

Through direct engagements, others can structure play. The structuring is often done by direct guidance (e.g., adults show how to 'pretend drink' from a cup, which the child imitates).[91] However, it can also emerge in their interaction. When playing together, new affordances get solicited in the action that would not be available to the individual animal. For example, a banana held by a single child can solicit phone, but held by two children, who each hold one end of the banana, can solicit a little swing.

Novel solicitations also emerge through intersubjective engagements with people, such as in dialogical interactions, where, through repeated exposure, the interaction with others shapes seeing things in new light. As an example, consider dialogical therapy. Therapists help clients get out of their destructive routines or habitual ways of looking at and interacting with the world though sustained conversation (Rucinska and Reijmers, 2014). It can sometimes take years of therapy to be able to step away from 'bad habits', but ultimately, through sustained practice and interaction, the client is able to learn to see objects or situations in novel ways.

Moreover, even mere immediate presence of others (who are the spectators of a game, not its participants) affects and shapes the type of performance one is engaged in (for example, how one plays tea party). This is also a case of interacting, albeit not in play itself. Others who are spectators of play produce constant emotional feedback (such as smiling), which is responded to by the pretender who continues the

[91] Mimicry is a likely first step towards individual pretence due to its developmental priority (Stern, 1985; Tomasello 1999).

game. For example, when a child is exploring ways to play 'tea party', the smiles, gestures and actions of caregivers or fellow playmates reassure the child in what he or she is doing. Even when not playing with a caregiver, a child at play is frequently in the presence of a caregiver, who approves or disapproves the play by reacting (e.g., with laughter and encouragement), which asserts to the child what action is acceptable in a game. Negative emotional feedback can also affects the game; other people showing confusion makes one adjust the pretence. How the spectator shapes the play is especially visible in a game of charades (De Jaegher and Di Paolo, 2007).[92] It could be said that different affordances become present to the actor depending on the responsiveness of the teammates. The actors tend to adjust their behaviours in relation to the spectators: seeing that their audience does not understand the act (e.g., 'bird in flight'), the actors adjust their behaviours to accommodate the understanding of the spectators, and explore other means of depicting the same thing (e.g., if flapping hands up and down does not work, one tries something else). In that sense, the reactions of others make novel affordances be inviting to the pretender.[93] However, as Myers (2002) notices, "as long as other players tolerate (the pretender's) cryptic and unaccountable behaviour, [the pretender] need not explain herself or respond to language and so carry on in an idiosyncratic way" (in Mitchell, 2002, p. 159). Thus, being in a shared environment and reacting to other people guides how the game is being played (e.g., the participants veto certain moves in the game).

To summarise, social referencing is a very important factor for pretence, as children constantly check whether the other participants or spectators are aware of the situation being just a game, and whether they accept it or not. Reactions of others in the shared environment make further possibilities for play, or pretence affordances, to become present. Hence, the answer to the question 'what guides pretence?' involves factors other than the object and the agent alone; it can also involve other people as well. How exactly other people fit into the 'wide and situated mechanism' of pretence will be addressed in Chapter 7.

[92] For example, De Jaegher and Di Paolo (2007) discuss the case of playing charades together in the context of Participatory Sense Making, a theory about how we make sense of others through coordinated interaction.

[93] This is supported by recent studies, which show that infant's understanding of others is more robust in interactive contexts. These contexts indicate grave importance of second-person interactions for cognitive and social development (De Jaegher et al., 2010).

*c) Routine engagements and narrative practices*

Finally, another possible factor in what guides pretence are routine engagements of the subject and narrative practices he or she is part of. Engagement in routines (e.g., participating in tea parties) and exposure to narrative practices (watching and hearing stories about tea parties) are both part of the individual's history of interactions. As such, they form relevant dispositions, or effectivities, of the animal that, when paired up with relevant affordances, can guide pretence. I will elaborate on these two factors below.

When it comes to routine engagements, even before being a full-blown language user, engagement with certain types of scenarios could play the crucial role for children engaging in pretence. Where the history of one's past routine interactions is concerned, the child may be able to apply familiar routines, such as having the phone placed to the child's ear during a phone call, to new objects outside typical phone contexts, such as to bananas, once they are in a playful context. To have that ability, the child must be acquainted with how to use phones in the most rudimentary sense.[94] It may be enough that they have seen their mother pick up phones to their ears and imitated such movements. Similarly, acting out 'being a bear' may involve a routine appropriated from watching bears on the television, hearing a book about bears or copying the teacher from preschool who was showing how bears act, and re-enacting what has been seen or shown.

Mere re-enactment of routines, however, is not sufficient for elaboration; narrative capacities (that rely on linguistic representations) are needed for that. It may be that pre-linguistic children cannot elaborate on their pretence through narratives; what guides them to elaborate play in a basic way are embodied explorations of the object and participation in intersubjective play. However, once narratives are in place, they can further elaborate how pretence acts develop.

The elaboration of social routines in pretend play might stem from engagement with narratives; narratives may provide the possibility of going beyond the immediacy of social routines and oil the wheels of elaboration, enabling possible counterfactual engagements. The reason why more complex role-play becomes more frequent in later stages of child development may be because familiarity with

[94] This is something like the 'initial premise', but not intellectualised as a mental representation.

narratives could allow children (and adults) to create new pretence scenarios while using a specific pre-established set of characters and settings (e.g., pretend-playing to be a 'waiter' and a 'customer' in a restaurant scenario), but improvising with the script. Narratives expand the range of acceptable or at least possible norms and practices. Thus, while engagement in routines lies at the heart of pretend play, which starts out as fairly limited, the play can get elaborated through the narrative scaffolds at first, and more elaborating storytelling later. For example, one can engage in a restaurant scenario by enacting what one usually does in a restaurant and elaborating the play inspired by a story about sword-fighters, or exploring, e.g., role-playing to be an elephant with 'flying' (to create 'Dumbo the flying elephant' play). Then, the social context determines whether there is a breakdown in the 'restaurant' play or whether it is accommodated by 'restaurant where we eat with swords instead of with cutlery' play; similarly, the social context determines whether there is a breakdown in 'elephant' play, or whether the flying is accommodated (and can be re-interpreted as playing 'Dumbo the flying elephant' thanks to the known narrative). To take another example, when the child is familiar with stories about non-existing objects or entities (e.g., ghosts), he or she can add them to fuel his or her elaborations, which allow new types of play, such as highly imaginative play like having an imaginary friend. Hence, engaging in acts of pretence guided by narratives may allow children to frame pretence by creating, following and negotiating the external script.

In addition, narratives can create an awareness of the norms followed in the society, and teach about what is right and wrong. Routines also depict a status quo of appropriate behaviour, but with narratives, these are voiced and explained; in stories, we gain reasons for what is taken to be good and bad, what is moral and immoral behaviour. Thus, pretending that involves both enacting social routines (e.g., feeding a baby-doll), and narrating them (e.g., pretending to be a 'good mother') may lead to understanding and accepting institutional norms and rules of conduct in a society later on (e.g., the obligation of child care). Narratives, insofar as they portray unusual or alternative behaviours, can expand on accepted norms and increase the possibilities of play, as well as the possibilities of understanding others who are very different from us (Gallagher, 2013). They can also guide behaviour when there is no group context (absence), and can still structure individual, solitary play. They further allow conceptual blending, use of analogy and metaphors to guide the agent.

In short, history of engagement with routines and learned narratives can do the work of guiding and elaborating pretend play that the mental representational structures were supposed to do. One might hold that one learns how to act as a bear without relying on a set of rules about what bears do based on belief-like mental representations that supply explicit instructions, or a set of images about bears based on pictorial mental representations, but only relies on acting out known routines of playing 'bears' with narratives about bears. Narrative scaffolds allow us to look for explanations of what guides pretence by going wide, not deep. The scaffold of routines and narratives can stand in for mental guiders; they allow elaboration to take place without invoking imaginary maps or Script Elaborators.

*d) Summary: alternative guiders can too play the same functions*

This section proposes that objects themselves, as well as other people and known routines and narratives, guide: *what* children pretend, *how* they pretend and *how they elaborate* on their pretence. It is the affordances of the objects, paired with bodily dispositions of the agents, which both make accessible and limit how the objects can be used. What can be done with the objects need not be pre-planned or imagined by mentally representing; the possibilities show themselves in interaction, also with other people. Finally, the routine engagements can be said to shape a specific 'know-how' of the child without requiring that know-how to be stored as a mental representational content (Ryle, 1949). It is rather one of the capacities, or effectivities, of the child. Then, narrative capacities, which require full blown linguistic capacities and not mental representations, can further explain how pretence is elaborated.[95] This may not be a complete story of all possible guiders of pretence, but it is a story that includes likely and sufficient guiders of pretence that at the same time does not involve mental scripts or mental representations. As such, they are compatible with the enactivist alternative that introduces affordance-based explanations of pretence.[96]

[95] What is involved in understanding and following narratives does not need mental representations. Creating, following and negotiating the external script in pretence may require full blown external representations, which is realised by the actor using language and not subpersonal mental representations.

[96] More work needs to be done to articulate the affordance-based understanding of how affordances guide; it needs explaining if affordances can 'dictate' to the animals how to act. Considering they have many degrees of freedom and many possibilities for action are possible, what explains why this and not

*6.4 Some possible cognitivist challenges to the alternative guiders and rebuttals*

a) Pretence requires following rules

There is a strong intuition that pretence is guided by strongly internalised rules; that is to say that the rules are implicit and coded into mental representations. For example, Rakoczy (2014) follows Walton (1990) in suggesting that "social pretence games are characterized by implicit constitutive rules: When two actors set up a pretence scenario together (e.g., pretending that a stone is a soap), this defines the normative space of the game: the stone counts as a fictional 'soap' in the context of the game and is to be treated accordingly" (p. 12). Yet, there is no argument for why the rules should be understood implicitly.[97] In what follows I will engage in brief critique of the standard proposals to show why an alternative is desirable.

To speak of constitutive rules of pretence is to re-describe all pretence acts as being rule-based. Rakoczy et al. (2005) propose that all pretence *is* inherently structured by a rule *X counts as Y in a context Z*. This rule is constitutive of the game itself, just like in the game of chess, its rules are the game. However, even if all pretence were constitutively rule-based, it would not follow that one has to apply them, or engage in rule-following. These are different claims with regard to applying rules, as made by Mitchell (2004): "applying imagination to objects requires that children *use* rules of behaviour, such that pretence is acting out those rules" (p. 31), or even Vygotsky (1934/1978): "The child imagines himself to be the mother and the doll to be the child, so he must *obey* the rules of maternal behaviour" (p. 94). With regard to explaining what guides pretence, the *use* of rules is relevant, not the characterization of all pretence as a rule-following activity. Hence, we should only be considered with the question of whether *using* rules is necessary in order to pretend.

To that end, both 'initial premises' of the belief-based account and 'forward models' of the imagining-based account were proposed. They reflect the *strong*

another affordance was acted on? This can be explained by an account of why only some affordances are inviting. This will be explained in Chapter 7.

[97] Rakoczy et al. (2014) found that children strongly object to deviations to pretence behaviours; these, however, are children with developed linguistic skills, who have been told what the pretence rule is explicitly. Hence, they would object to its violation.

*internalisation stance*. This is the idea that one has to form stand-in mental representations of the situation when one learns a skill.

If there are rules of pretence, they need not be mentally represented by being coded into mental plans and models, but can be simply voiced. Moreover, one can still be following certain norms even if there is no rule-following in play. For example, we can conceive of the Belief Box as our 'background knowledge' (e.g., of tea parties), but why should that knowledge be seen in terms of propositionally represented beliefs (in the format, "tea parties consist of XYZ") is not explained. How such beliefs were formed is presumably by watching people engage in tea parties, or learning about tea parties through norms. Such norms, for example, may be re-enacted when engaging in pretend play, but there is no argument on the part of Nichols and Stich as to why they should be strongly internalised as propositional representations, such as, e.g., 'in tea parties we sip slowly from the cup.' Representing propositions seems like an unnecessary step when we can rely on a theory of background knowledge to do that job.

Moreover, it is unlikely that rules guide behaviour; too many rules would have to be specified to do that job. For example, if we take Nichols and Stich's propositional account to provide instructions, we are confronted with a frame problem: too many rules would have to be specified about what is to be acted out, and this leads to an infinite regress; every rule would require a further rule for its application. To return to the tea party example, every single manoeuvre of holding a tea cup would have to be specified as a condition (e.g., 'if I want to look like I'm drinking, I should bring my hand to my mouth at this angle,' and then 'to bring my hand to my mouth, I do …'), which would still need to be specified further. Aside the problem of being "forced to posit bizarre, incoherent, or simply unlikely *beliefs* in order to explain ordinary pretence" (Van Leeuwen 2011, p. 60), the mechanism would require an infinite number of conditional beliefs to specify how they should guide pretence. Thus, if conditional beliefs guide through creating potential instructions, they would have to specify even the most basic instructions.

In addition, even if all rules could be specified, there would not be enough room for flexible adjustments during play. The 'tea party' script would normally be based on a real tea party where there is real tea in the real cup. Part of the script rule in such a case would be something like: "When the tea cup is empty, do not take a

sip." That rule would have to be altered to say, e.g., "except in cases of pretence." So there would have to be rules stating when it is appropriate to pretend to take a sip. Somewhere down the line the script would need to be specified in more detail to distinguish between pretend and non-pretend scenarios, which invokes yet another layer of complexity.[98] Thus, the worry is that positing such propositional machinery is explanatorily too costly and does not adequately explain the richness of pretence acts.

Nichols and Stich try to bracket the infinite regress problem by introducing soft constraints on what is being pretended, thereby committing themselves only to a rough set of behaviours being represented. They claim that: "(While mental) scripts can provide the general structure for many pretence episodes, they leave many aspects of the pretence episode unspecified. (…) So, within the script constraints, there are a variety of choices that the pretender has to make. (…) (The mental) script constraints themselves are only 'soft' constraints" (2000, p. 34-35). Perhaps, then, we needn't speak of conditional beliefs as instructions at all. Or, if they are like instructions, perhaps a high level of specificity is not required; for 'tea party' pretence, for instance, the rules of behaviour can be more general (e.g., 'pick up the pot and make a pouring gesture'). However, if that is the case, then it is unclear how conditional beliefs function as *scripts* of behaviours, where the propositions are supposed to be like plans, "detailing the way in which certain situations typically unfold" (*ibid*., p. 34). The mental scripts seem to allow many choices, which implies that many things are not actually specified by the pretence script propositions. Of course, Nichols and Stich can make that move, but if they cannot give their mental scripts a more specific coding, then it does not seem to make much sense to invoke a complex propositional mechanism to guide behaviour in the first place.

b) Are imaginings mental representations?

Another solution is to posit non-propositional models with higher degrees of freedom. This is where Van Leeuwen's weaker proposal of 'active imagination' as a guider

[98] Of course, the same point can be made about following physical scripts like screenplays; even a command "and now sight" does not give one all the details of how to act out a sigh – the actor must already possess embodied skill of sighing, and the actor is guided further (e.g., by the director showing or describing further how to do it). However, invoking subpersonal structures like belief boxes to explain how one's behaviour is guided from the 'inside' through internalised rules of behaviour demands these rules to be more specific.

comes in. However, it is not clear whether his account needs to posit mental representations at all.

When it comes to understanding how behaviour is guided, there are certain aspects of the model account that should worry its supporters. For example, Van Leeuwen claims that "In pretence, what one can *imitate* is a mental image or other imagined content" (2011, p. 72, emphasis added) One worry concerns the idea of 'imitating a mental image'. While a person can be adjusting his/her own movements 'online' to the observed behaviour of the bird, it is far from clear how one imitates an 'offline' image. Imitating is usually understood as copying (the means of) an action one has observed or is observing. When one is not actually observing a flying bird, there can be a delayed imitation (understood as re-enactment) of an actual bird in flight one once saw, rather than an imitation of the mental representation of the bird. However, we should put into question whether imitation is the right mechanism underlying a pretend activity in the first place; playing a 'bird in flight' might also be simply an act of embodied recreating (Currie and Ravenscroft, 2002).

Importantly, acting out of imagination may not be a representational activity in the first place. Re-creating can have novel and creative elements to it, and there is no way of telling whether it 'matches' what actually has been seen, such as the 'bird in flight memory'. Considering also that one can imagine anything about the bird one wishes, there would be nothing constraining whether the imitation was done correctly or incorrectly. So, as there are no conditions of satisfaction to be kept, there is no representing going on.

Consider the thought-experiment of Langland-Hassan (2014): Joe wants buy a new couch. Joe imagines a new couch to fit through the front door. However, when the couch arrives, it does not fit. As Langland-Hassan summarises, "The imagining was a failure. Our conception of its correctness conditions should reflect that fact" (2014, p. 405). As Hutto (2015) comments,

> In being far too open, (…), imaginings are almost always correct, and hence their putative contentful properties are quite disconnected from most uses to which they are standardly put. (…) The root problem is that if the content of basic imaginings is construed as only answerable to what is possible, (…), then the correctness conditions for sensory imaginings are so unconstrained that they turn out to be almost always successful" (p. 75).

Thus, an argument has been made that imaginings do not have *appropriateness conditions* (conditions of satisfaction) to count as mental representations in the first place. Without some kind of semantic description, the models allow 'anything' to go. Hence, images alone are not enough, it is what one can do with them that accounts for how one can pretend.

Also, it is not clear why Van Leeuwen's model requires mental representations to begin with. For example, when discussing the nature of the 'mental images', Van Leeuwen claims that his account "is not a 'pictures in the mind' view; rather, *however* the brain encodes percepts, it can encode imaginary representations in the like manner" (*idem,* p. 73). Such claim leaves a great room for interpretation; there is no argument that mental images must be realised by mental representations; they can be done by whatever will do the job.

If imaginary representations are both encoded and can guide, but are neither a proposition nor in any sense a 'picture', then how are we to understand them and their explanatory functions? Van Leeuwen does introduce 'forward models' as the second part of his story; perhaps they are supposed to take care of how one is directed at the image at hand. Yet, it is not clear what Van Leeuwen makes of the nature of the forward models; he does not specify how percepts are 'encoded' by the brain. Moreover, forward models can be interpreted in many ways (for example, as efference copies), and it is certainly possible to understand them non-representationally as well (as covariant correlations). In other words, invoking forward models in an explanatory story does not justify a representational understanding of them, and more work has to be put to show what role, if any, they play in guiding pretence.

To summarise, both proposals of Nichols and Stich and Van Leeuwen have difficulties; belief-like structures forming rules of behaviour are too rigid to guide, whereas imaginings could guide, but they need not be mental representations at all.

c) Question of appropriateness

Another challenge a cognitivist may raise is that what guides us in pretence must guide us to play *appropriately*. The pretenders do not just act in a way that is random to the situation; their play is usually adequate to the situation. What cognitivists

would say is that what determines this appropriateness of play (that the guiding is not done towards just any specific outcome, but one that is appropriate) is the mental representation. For example, to play 'elephant' game appropriately, the belief-like content 'this is how elephants act' (which also relies on the concept of an elephant), or the imagining of the behaviour of elephants, guide pretence.

To address this worry, it can be argued that in social pretence, appropriateness conditions are determined (and updated) by the social engagements, whereas in individual play, there simply are no appropriateness conditions at all; what the child is targeted in play is play that is 'good enough' to fulfil the goals of the child, such as having fun. These points will be elaborated on in turn.

Let us stick to the 'elephant' game example. Imagine a boy and a girl playing 'elephants' together. The boy is walking heavily, slowly lifting his feet. The girl, however, is stretching her arms and running around. Arguably, her play could count as 'elephant' pretence as well, as long as the boy she is playing with accepts this play as 'elephant' play. What could fix his acceptance is the 'Dumbo the flying elephant' narrative. In this context, both acts are done purposefully, but it is not the case that the behaviour of the boy is objectively 'accurate' (as guided by his mental representation of the elephant), and the girl's is not (due to a 'misrepresentation' of what elephants do that confused her play). That is one interpretation of the situation, but another one is simply that both acts are appropriate as appropriateness is specified by a social agreement (I play elephant like this, you play elephant like that), not the mental representation. The social context can render both pretence acts as appropriate.[99]

To this answer, the cognitivist may object to by saying that some acts of pretence can occur in solitary settings; children are known to pretend play alone, and so the correctness of their play need not be set by the social context. However, in the situation of solitary play, it can be questioned whether there are any correctness conditions to be fulfilled in the first place. Is the boy who is playing 'elephant' by walking heavily playing accurately? It might be that in solitary play, there are no accuracy conditions to begin with; the boy can change his play to stretching his arms, in which case the play could be both 'inaccurate' (misrepresenting the elephant as a bird) and 'accurate' (playing 'Dumbo the flying elephant' game). Saying that it is his

[99] Also, even when not engaging in play, a caregiver can approve or disapprove of the play with smiles or encouragement, determining what is acceptable as a game, which would again make the appropriateness of play socially-established.

intention that specifies this accuracy is post hoc; the boy could first play in a novel way (due to wanting to stretch his arms) and then 'update' his intention accordingly.

Hence, it is not good enough to claim that the content of the intention of children to play 'elephants' before the game determines the appropriateness of the game (*pace* Rakoczy et al., 2004, 2005). As shown in section 3, engagement in intersubjective context can affect the intention of the player to be reset, as in the case of the charades. Why intention could not do the requisite guiding job is because intentions change in action. As Szokolsky (2006) argues,

> Recontextualization in pretense is a dynamic process of relating the affordances of the object to the demands of the pretend intention. The interplay between the pretend intention and the affordances of the object involves the use of affordances that may support the pretend action to various degrees; it may also involve the changing of the affordances in case they are not ideally supporting the pretend action. It may also be that, upon perceiving or conceiving a new possibility for action, the original intention is quickly dropped and replaced by new intention (p. 82).

The alternative Szokolsky suggests is that (solitary) pretend play is not correct, but it can be *good enough*. She claims that the affordances of objects need only allow the pretence to be 'good enough' to fulfil the child's goals. She suggests that a better understanding of pretence will "stem from viewing pretend object play as the proper use of available affordances. Certainly, the available affordances of object differ in their appropriateness to be used as the target object. But children are satisfied with using a good-enough affordance and fine-tune the action accordingly" (2006, p. 69). For example, while a miniature tiger toy may seem to be more appropriate for 'fighting the tiger' play due to their resemblances, a pillow may be 'good enough' for the same purpose (playing 'fight the tiger'), which is why such objects are also used in pretend play. Pillows, due to their affording punching, may even be better suited for 'fighting the tiger' play than the miniature tiger toy. As Szokolsky (2006) clarifies,

> (P)retend objects need to support pretend acts, not real acts; a pretend knife does not need to afford cutting, it only needs to afford *pretend cutting* which is a much less definite act than real cutting. The task of the child is to select an object that is *good enough* to support the enactment. As long as the object functionally fits the pretend act well, the action looks very

much as it would with the real object. When the object is functionally less fit for the pretend act, the child compensates for the deficiency by making the best possible use of the object (…) In neither case is the pretend object 'standing for' the target object as a detached representation. Rather, the pretend object is integrated into the action as a partial embodiment of the target object, supporting the pretend act" (p. 67-68).

There is no pre-determined appropriateness condition for both social play and individual play; what guides play can be goals that are constantly updated by what possibilities for action objects and others allow, or by what the social context determines. Games are spontaneous, so even if one has a goal to 'project making a phone call with a banana', there are different ways to act it out: dial a number on it, or talk to it holding it on one's head as headphones (guided by the narrative 'Skype call'), or even holding it to a foot. This suggests there are no accuracy conditions for 'pretending to be making a phone call'; the accuracy depends on the content of the voiced elaboration, which often does not occur in solitary pretend play or in preverbal play at all.

d) Recognising situations 'as play' is representational

Finally, a cognitivist may challenge the enactivist by claiming that to participate in pretence, the child must first recognise (and so, represent) the situation *as* playful, and represent behaviours of others *as* part of a game. So how is the difference between non-playful and playful context known?

This can also be explained without positing mental representations. For example, the understanding could come from attunement to other people. According to Reddy and Morris (2004), developmental findings suggest that playful moods can be easily picked up on by the children through neo-natal imitation. They conclude that the best explanation of their findings lays in playfulness being directly experienced rather than inferred thanks to mindreading and script-following skills.[100] On the

[100] As Reddy and Morris (2004) write, "Communication presents a major problem for the theory-theory and for all cognitive-developmental views, which see it, first, as a primarily mental activity, divorced from (or only incidentally related to) the body and its actions, and, second, as the activity of one individual subject towards another rather than as something that emerges between them. For example, intentional communication has been described in the developmental psycho-linguistic literature as the intentional transfer of information by an agent who is aware of the information she wishes to send and aware of the receiving agent's ability to receive it and understand it and understand the intention to

alternative view, 'the 'playfulness' of the situation is visible in the immediate interaction with another.

Playfulness is sensed thanks to constant attunement of children to their surroundings and to sharing of emotional space. Children do not need to ponder or question 'is this still play?;' they are capable of stepping out of a pretence context the moment the play does not feel fun any more. In addition, the findings that children with Autism Spectrum Disorder do not join in pretence could be explained better by the attunement theory than the lack of Theory of Mind. According to Fuchs (2010), autistic children's deficits in social and emotional development is best explained by what Fuchs calls a disorder of their 'primary' or 'embodied' intersubjectivity:

> From a phenomenological approach, autism should rather be conceived as a *disorder of primary or embodied intersubjectivity*. This includes basic disturbances of embodiment found in children with autism, namely of (a) sensory-motor integration, (b) imitation and affect attunement, and (c) holistic perception (2010, p. 563).

The disorder of their intersubjectivity is what affects their lack of engagement in pretend play, and not a result of lack of 'Theory of Mind', as proposed by Baron-Cohen.[101]

Moreover, there is no reason to suppose such knowledge of playful context is based on recognising play 'as' play. Again, there is no correctness condition of what form the playful context must take.[102] Rather, such context is pretender- and environment-dependent and created on the spot in dynamic interaction.

Thus, the intuitions that promote the idea that recognition 'must be' representational do not hold up. Instead of recognising the activity by representing it 'as play', I could be said to see in the activity an opportunity for play, without having the concept of play, recognising the play 'as' play.

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send it (…). Such definitions presume the existence of a prior script, the isolation of the communicator from the receiver, and a separation of the act of communication from its content, and make the loneliness of the subject almost insurmountable (…)" (p. 653).

[101] In fact, autistic children show very heightened abilities to rationalise and follow rules. If that was enough to engage in pretence, autistic children should be very good pretenders.

[102] For example, Ramsey (2007) has argued that representing is not necessary for recognition; he claims that if a response to stimulus (in this case, response to a banana in a phone-like way) is one of mere recognition, then is not enough to count as representation. A truly representational skill would imply a possibility of success or failure, but such success condition is not present in recognising the banana 'as' a phone, or recognising the situation 'as' playful. Hence, recognition that it not representational could take place.

*Conclusion*

This chapter first clarified why we engaged in discussing the question of what guides pretending, arguing that it is an important question in proposing an explanatory account of pretending. It then focused on two exemplar accounts to guiders, belief-based account and imagining-based account, both of which posit mental representations in their explanatory proposals. The chapter then suggested a possible alternative proposal to understanding what guides pretence that does not posit mental representations. To conclude, while in need of development, the alternative proposals that involve affordances, effectivities (such as attunement to others), as well as social and narrative practices, form a possible alternative explanation to the guiding role in pretence. This is a tenable account that does not posit mental representations. It prepares the ground for a novel positive account of pretence. More details of how the various factors (affordances, effectivities, and social context) connect in the alternative proposal will be presented in the next chapter.

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# Chapter 7. Elaboration of the Alternative Story

This chapter elaborates on the affordance-based alternative proposal of how to explain pretence that does not involve mental representations. Its purpose is to clarify how environmental affordances work (which is by soliciting actions) and how they only get to work when animal effectivities are involved. It will identify the various factors that play a role in explaining how affordances invite specific actions. This chapter asks the following questions: 1) What is a solicitation with respect to an affordance and why do we need it?; 2) What needs to be in place for an affordance (one of the possibilities for action) to solicit action (to invite particular behaviours that are relevant to the situation)?; 3) What makes specific behaviours inviting that make us act upon one and not another solicitation? Together, answers to these questions provide a tentative answer to how affordance-based account can explain pretence. The chapter supplies a proof of concept that basic pretend activity like playing banana-phone can be explained without recourse to mental representations.

Section 7.1 clarifies what solicitations are with respect to affordances and what they add to the affordance-based explanatory toolkit. This section shows that affordances on their own do not explain why certain actions are taken; explaining that requires further specification of what makes affordances inviting. These are firstly animal's dispositions (effectivities), shaped by history of interactions, and secondly context, which includes other people. These are discussed in the next sections. Section 7.2 explains what factors form effectivities (animal's dispositions). What shapes the animal's dispositions are various historical factors such as biological setup, cultural shaping, or training. These factors influence which affordances are inviting. Section 7.3 explains what actually forms the invitations for specific actions that drive acting upon them. It addresses the question of how the specific affordance-effectivity pair comes about. It discusses the option of primary and canonical affordances in driving specific behaviours, but dismisses this option as adequate explanation for how pretence actions get invited. It then turns to consider how socio-cultural norms and practices make certain acts of pretence possible, and how others who form the intersubjective context shape and influence what and how we pretend. Section 7.4 concludes the chapter by showing that what explains actions like pretending involves

object affordances, subject effectivities and the social context, considered as components of a wide and situated mechanism in which people are parts. The section addresses final worries that cognitivists may have with the alternative account, one of the worries being whether or not the alternative account covertly makes use of mental representations.

Although the account of non-mental representational pretence is not complete, this chapter lends support to the idea that an explanation of pretence that does not posit mental representations can be achieved.

### *7.1 What is a solicitation (with respect to an affordance) and why we need it?*

To set the ground for the argument that affordance-based explanations can explain how pretend play is, for example, guided, this section first clarifies the additional notion related to affordances: solicitations. As explained throughout the thesis, affordances are mere possibilities for action. Solicitations can be introduced into our theoretical vocabulary as those affordances that invite action. This section is about the inviting affordances (solicitations). It asks the following question: how should we understand the idea that the affordance (a mere possibility for action) solicits (or invites) particular behaviours that are relevant to the situation? The section begins with describing some philosophical accounts that speak of solicitations in order to frame this analysis.

Rietveld and Kiverstein's (2014) account serves as a good starting point to discuss the concept of solicitation. Rietveld and Kiverstein make a useful distinction between affordances for 'all' animals of a certain form of life and affordances relevant to particular individuals in specific situations. As shown in Chapter 4 section 2, the affordances in the 'landscape of affordances' exist for animals of a certain form of life. They need not be in any sense noticed by or responded to by a particular animal; they simply exist as possibilities for action for a particular kind of animal. Conversely, the 'field of affordances' consists of the affordances that are relevant to a particular individual animal. Their idea is that the field of affordances could as well be thought of as a field of solicitations; these are the affordances that are relevant to the animal's concerns and solicit (or invite) particular behaviour (Rietveld and Kiverstein, 2014, p. 342). For example, when one has to walk into a building, the

doors of the building afford using them, but between open doors and shut doors, the open doors *invite* walking through more than the shut doors (even though the latter could be pushed open as well).

In Bruineberg and Rietveld (2014, p. 2), we find a description of what a solicitation is:

> This enormous richness [in the landscape of affordances] raises the question how an organism can be responsive to only the relevant affordances in a given situation. Phenomenologically, some of the affordances around us do not leave us cold but move us. In earlier work (…) we have suggested that an affordance can "invite" or "solicit" behavior dependent on the current concerns of the organism and the situation it is in (Withagen et al., 2012). The metaphor of a field is useful here: some affordances stand out more than others. Some are experienced as soliciting immediately, others are experienced as soliciting on the horizon and still others are completely ignored (only the latter do in fact leave us cold). We can distinguish between an affordance, i.e., a possibility for action available in our form of life at a certain location, and a solicitation. A solicitation is an affordance that stands out as relevant in a specific situation lived by an animal (*idem*, p. 2).

As seen on their story, solicitations look like a special class of affordances, which are experienced by the animals in specific contexts as inviting; when they are experienced as such, they can even 'move us'.

Withagen et al. (2012) also speak of solicitations. They endorse the notion of affordances as opportunities for action, but they elaborate their story by giving affordances the quality of inviting (or, of soliciting) behaviour. They say:

> (We) think of affordances as action-relevant properties of the environment that are defined with respect to the animals' action capabilities but exist independently of their needs and intentions. However, by suggesting that affordances can also invite behavior, we move beyond Gibson's original conception of affordances as mere action possibilities. (…) (We) conceive of affordances (…) as action possibilities that can invite (p. 255).

Thus, on both Rietveld et al. and Withagen et al.'s accounts, all affordances relevant to a particular animal are in fact solicitations.

To Withagen et al., introducing the term 'solicitation' is supposed to account for the agent's motivations for actions. They further claim that without some

soliciting role, one has to give an account of how the relevant affordances are selected, and selecting affordances has been characterised as "an ubiquitous and continuous process" (p. 253). Withagen et al. worry that we would need to propose a theory of intention to explain how affordances are selected. Trying to avoid that move, they attribute to the affordance the capacity to become a solicitation. Soliciting may be deemed as an equally mysterious process; the next sections will expand on what makes affordances inviting. However, the basic idea is that when affordances do invite or select particular behaviours, we can think of this selection process as based on the world and partly on the way the organism has developed to respond to certain aspects of it.[103] Introducing solicitations is an important contribution to the field, as it shows that this selection is not just mind-to-world that cries out for mental representations; rather, there is no direction of fit, as the animal capacities and environment mutually affect each other in dynamical interaction.

Let us consider an example to clarify the relationship between the landscape of affordances, the field of affordances and solicitations. Imagine a situation that involves a tree, a cat with a broken leg, and a storm. The tree, in general, has many (almost an infinite number of) affordances to a form of life. For example, to a form of life 'cat', the tree's affordance landscape entails, i.e., 'hiding under', 'climbing', 'peeing on' (but not 'chopping down', which would be included in the human form of life but is not included in the cat form of life). For the particular cat with a broken leg that found itself in a storm, the field of affordances (or what is relevant to it) would include both the tree's hide-under-ability and climb-ability, as both are relevant to its situation where it needs to find shelter from the storm (hence, 'pee-on-ability' would not form its field of relevant affordances). But because the cat's leg is broken, the cat's disposition to climb trees is temporarily impaired and so 'hide-under-ability' is solicited, and once solicited it can drive the cat's behaviour to hide under the tree. Hence, the context of the storm and the impaired disposition (broken leg) affect which action is solicited.

[103] This fits with Withagen et al.'s understanding of solicitations as referring to the animal-environment dynamic. They claim: "How are we to understand these invitations? Are invitations environmental properties, mental properties, or do they, like affordances, "cut across the dichotomy of subjective–objective" (Gibson, 1979/1986, p. 129). We are inclined to a mutualist perspective on invitations – they depend on the relation between the physical properties of the environment and the agent" (2012, p. 255).

There are some clear worries with the solicitation account that need to be addressed. One is that it is unlikely for the affordances in the 'field of affordances' to all *be* solicitations. As the solicitation for action is supposed to be *phenomenologially* present, an actual animal that can be solicited is required. However, affordances, on Rietveld and Kiverstein's (2014) account, are lovely; that is, they exist latently, regardless of there being an animal present (as explained in Chapter 4). Hence, if the solicitations 'move' the animal to action, the animal must definitely be present. It seems like not all affordances in the field of affordances will be solicitations.

Also, it is strange to speak of solicitations as a special class of affordance, making their metaphysics unclear. If solicitations require the interaction of the animal and the environment, solicitations would have to be understood as *constituted* by the environmental affordances and animal effectivities, making their own special ontology. But then, solicitations could not be a class of affordances, which is what they are also said to be. Hence, it is clearer to speak of affordances in the Gibsonian sense as possibilities for action, which are properties of the environment relative to the animal, and speak of these affordances as sometimes soliciting, or inviting, action, when relevant factors are in place; what these factors are will be proposed in the next sections.

Finally, the potential of affordances to invite action does not mean that the affordances always invite behaviour, and just as solicitations are affordances that *can* invite, solicitations are those possibilities for action that *can* drive specific behaviour, but they do not always do. It is possible for an animal not to respond to a solicitation, which is why solicitations should not be thought of as necessarily causing action. Solicitations only drive behaviour when, arguably, the animal is in the right 'frame of mind'. This calls for the work of mutual animal-environment engagement, not just affordances with special qualities of soliciting. Hence, the notion of 'solicitation' does not suffice to be an explanation of behaviour. We still need to explain how the relevant inviting affordances are taken up from all the possibilities for action, and explain how they literally get to 'move' the animals, or what makes the animals act upon them. Something else than solicitations will need to be proposed to explain what actually causes one to move, as solicitations do not cause action. What needs to be in place for there to be solicitations, and what determines that specific actions are invited, will be addressed in the sections 7.2 and 7.3, respectively.

To clarify, why we need solicitations in the explanatory story to begin with is because affordances alone, understood as mere possibilities for action, are not where the explanatory action lies. We need to add to the story certain responsiveness to affordances. What can account for the responsiveness to certain affordances are the dispositions and capacities of the animal; paired up with affordances, they give some of the affordances an inviting character. The effectivities of the animal paired with the affordances of the environment suffice for solicitations to occur, though are not yet sufficient for solicitations to 'move' the animal – this is where the additional contextual factors come in. Nowhere in this story mental representations or any structures that imply them need to be posited. As will be shown in the next section, even when the animal and its history of interactions are involved, the explanation need not require mental representational structures. The next section attempts at further clarifying the role of the animal effectivities in soliciting actions.

### *7.2 What needs to be in place to make affordances inviting? Matching of affordances with the right effectivities*

There are many possibilities for action (affordances) that are relevant to an animal in the situation it has found itself in. This section addresses what animal capacities (effectivities) need to be in place to pair up with the affordances in order for the affordances to solicit or invite action. This section considers the factors that are relevant for solicitations to come about. How affordances (possibilities for action) become solicitations (possibilities for particular action to a particular animal that invite actions) is via a set of dispositions and capacities of an animal, considered under the heading of 'effectivities'. As explained in Chapter 4, the notion of 'effectivities' used in this thesis is broad, in the sense that apart from 'dispositions' narrowly construed (such as mere bodily dispositions), they also encompass all sorts of moods, capacities, biological setup, cultural history and individual history (including training) of the animal that shape up the animal's dispositions. The section first discusses these factors in detail, after which it explains why these factors need not be seen as mental representations.

Firstly, evolutionary or biological set-ups determine what the animal is naturally disposed to do. Consider the case of a fly. It affords 'mate' to another fly of

the opposite sex, but it affords 'food' for a frog. The frog is likely to be fixed in its repertoires, or at least, not as flexible as other animals; frogs are likely to be responsive to the 'food' affordance of a fly in ways selected by evolution. A sub-set of dispositions will be naturally selected for, fixing what the frog should do. It doesn't mean that the frog will always eat the fly; the frog might be disposed to eat the fly but that disposition will not always get actualised (consider a situation where the frog is fed). But, all else being equal, the frog is likely to be *unable* to respond in any other ways to a fly but to eat it; the fly would not only afford, but also solicit 'food' to a frog when it's hungry. It might be a difficult task (if not an impossible one) to teach a frog to 'do something else' with a fly than eat it or leave it alone. What this shows is that natural selection can put processes into play that make it the case that creatures are initially responsive to only certain affordances.[104]

However, through *training,* an animal can develop new dispositions and so expand its initial habitual repertoire. Hence, training is just a special case of a history of interactions that shapes current dispositions. Consider the following case of monkeys using 'reverse pliers' (Umilta et al., 2008). Experimenters were successful at teaching the monkeys to use a counter-intuitive plier (one where the monkey needs to grip the tool to 'open' the plier and let go of the grip to 'close' the plier) to pick food. After 6-8 months of training, the monkeys were able to do it. How did the monkeys learn how to use the new pliers? They responded to the only possibility the new pliers allowed relevant to picking food up, which was to work with them in counterintuitive way. The experimenters concluded that "The capacity to learn tool use appears, therefore, to be based on two elements: the goal-centered organization of primate motor cortex and an appropriate interaction with the external world" (p. 2211-2212). The organisation of the motor cortex of the monkeys can be considered as one of their effectivities, and the reverse pliers as the environmental affordances, which in pair allowed the monkeys to develop the capacity to use the reverse pliers. This explanation allows us to understand the monkeys' behaviour without having to attribute to the monkeys the capacity to manipulate mental contents.

[104] With regard to evolutionary set-up, Withagen et al. (2012) claim that certain affordances were also selected for humans. Consider their example of the solicitation to 'flight' when encountering a lion on a safari: "(Affordances) that are crucial for survival and reproduction (e.g., objects or animals that afford danger, shelter, or nutrition) are likely to attract or repel the agent. For example, a human that encounters a lion on a safari is likely to flee into his car as soon as possible. Such an affordance will be acted upon immediately, irrespective of the intentions of the actor at that moment in time (e.g. to take a picture, to pee)" (p. 256).

What is really different between human children and monkeys is the speed with which the child can shift between affordances; that can be due to the inherent human flexibility. The human child maintains the capacity to learn fast, and switch fast between contexts thanks to a more flexible make-up; perhaps the plasticity of the brain can account for this. In addition, the speed with which new behaviours can be learned can be accounted for by, for example, action readiness potentials in the neural networks.

However, often, mere flexibility is not enough to account for more expert pretence; some training is required as well. That pretend play also needs to be practiced is exemplified by the professional stand up comedians, who can act with the same object as if it is routinely something else.[105] Their innovative pretending is an on-the-spot, embodied activity of switching between many affordances. The object solicits to the actors many strange behaviours, and bringing them forth needs to be practiced. Through repeated exposures to and manipulations of these objects, such creative responsiveness to object's affordances can be developed by the actors.

With regard to the *cultural history* of the animal in explaining how affordances become solicitations, engaging in culturally shaped routines influences how one responds to the environment. For example, a chair is often perceived as something to sit on, even though it affords many other types of behaviour too. In that sense, cultural history is a factor in delimiting and shaping which affordances we respond to. Culture is part of the animal's history of interactions; what participation in patterned practices shapes are one's abilities and concerns (what one cares about). Consider a mailbox; it canonically affords posting letters. That is its purpose, and that is what we have learned to use it for. Although, technically, as a box with a slit it affords treating it as a garbage disposal, not many would act on that affordance, as we were shaped by the society that putting anything else in a mailbox but letters is inappropriate. The history of social interactions disposes us to act in a culturally appropriate way. What follows from the history of cultural interactions is that the objects can present themselves as explicitly and exclusively good for a specific, culturally established purpose, at the same time appearing to be unsuitable for other purposes.

[105] See, for example, the comedians of the show 'Whose Line is it Anyway?'

Finally, *personal history* affects what one is attracted to; clearly, an object may solicit different actions to individuals who are of the same culture, or may solicit different actions to the same individual at different times. Consider Withagen et al.'s (2012) examples:

> Indeed, members of the same culture are often attracted to different objects or are invited by the same object to do different things. As an example, although chocolate may afford eating for the vast majority of people, there is substantial variation in whether and how people are attracted to it. Some people are almost addicted and cannot wait to eat it; others might not like it and prefer to eat something else. It is important to note that the invitation can also vary over time and might change on a moment-to-moment basis. For example, a person who initially liked chocolate but had suffered from gastroenteritis after eating it is likely to be repelled by its affordance for some time (2012, p. 256).

To summarise, the animal dispositions gained from the history of interactions (either biological or cultural) or from training and exposure, explain why certain affordances are seen as inviting. Importantly to the account of non-representational pretence, there is no reason to think that these factors or the effects of these factors need to be *mentally represented*. It is particularly the cultural and personal history of interactions that are often thought to involve mental representations (for example, by forming mental 'traces' in the animal, which could be mental representational contents).[106] But as Withagen et al. claim, the fact that an affordance stands out by result of culture (like a chair's affordance to sit on it),

> (Does) not mean that the inviting character is a mental product. (…) Instead, cultural variations are better thought of as variations in perceptual-motor skills (…) giving rise to a particular responsiveness to certain affordances in the environment. (…) Like cultural variation, individual differences in perception can also be explained in terms of variation in what information is exploited or in the bodily responsiveness to such information (2012, p. 256).

[106] Often traces are understood as mental representations, but this does not seem to be a necessity; traces are simply indications of former existence or presence of actions, and as such, they can take many forms. One of such forms could be understood as 'know-hows' (Ryle, 1949); history of interactions could be considered to leave a 'trace' on the animal in terms of their new capacities and know-hows they acquired. To properly demonstrate that traces do not involve positing mental representations is beyond the scope of this thesis, but this is one way it could be done.

To conclude this section, the affordance-based alternative explanation necessarily involves the concept of effectivity for action, which explains how certain possibilities for action can come about to invite or solicit specific animal behaviours. Affordances of the objects do not, on their own, invite action; animal effectivities have to be matched, as they do an important work relevant in explaining why certain behaviours can take place. The story is not complete without understanding what it is about the animal that needs to coexist with affordances to bring about solicitations for action and explain the animal's responsiveness to solicitations.

Importantly, there is no choosing of any kind done by the animal to which affordances it will respond. Such choosing is usually associated with deliberation, and is explained by positing mental contents. There is simply a mutual attraction of affordances to effectivities. Paired together, the effectivities allow the affordances to be inviting.

Thus, the story can be cast in terms of animal-environment mutuality: just as the objects we shape have a pull on us with respect to how to engage with them (Malafouris, 2008), so the affordances of the environment can invite specific behaviours when the right effectivities are in place.

Yet, this is not the whole story, because solicitations do not necessarily bring about action, and there are still many relevant solicitations that can encourage different behaviours in the same situations. So what actually drives the animal to respond to one solicitation rather than another one? What makes specific behaviours (like pretend behaviours) inviting? These questions will be targeted in the final section, where further contextual factors that explain why this and not that solicitation is acted upon will be introduced. The section will refer to pretence cases specifically.

### 7.3 *What makes specific pretence behaviours inviting? Considering canonical affordances and other people*

From the last section it should be clear that affordances have no soliciting power on their own; it is our histories of interacting that form our dispositions, or effectivities, that allow affordances to invite actions. Thus, our dispositions make it such that in some or even many situations certain affordances are dominant. However, affordance-effectivity pairs alone are not enough to explain the special kind of responsiveness

needed to explain specific behaviours, such as pretend play. There are still many affordance-effectivity pairs that can invite various behaviours. Consider Turvey's (1992) claim:

> X and Z have multiple dispositions - m and n, respectively. To actualize Wpq, the juxtaposition function j must be such as to filter p and q from the array of m x n dispositions possessed by *X* and Z (p. 179).

Applied to a situation involving pretence, the agent (X) and the banana (Z) have multiple dispositions, such as 'softness', 'foodness', 'phoneness' of the banana ('m' collection of affordances) and 'disposition to grab', 'eat', or capacity to play phone with' of the agent ('n' collection of effectivities). To actualise the pretence act, there must occur a juxtaposition of specifically the 'phoneness' of the banana ('p' affordance from the 'm' collection), and of specifically the 'capacity to play phone with' of the agent ('q' effectivity from the 'n' collection).[107] Only this juxtaposition can filter other affordances and effectivities out. Hence, what determines that the right affordance-effectivity pair comes forth?

This section will discuss in detail two answers to this question from the many possible answers. First is that some affordances naturally strongly invite; these are, for example, canonical affordances (Costall, 2012). Second is that it is the presence of other people in the immediate context that specifies which affordances strongly invite. While these are not the only possibilities for what can actualise pretence affordances, both canonical affordances and other people are clear examples of factors that do not posit mental representations.

*a) Canonical affordances*

What makes specific behaviours inviting can be a set of special affordance-effectivity pairs. The idea is that perhaps there are more basic affordance-effectivity pairs, which

[107] For the banana to afford 'phone', it may look like the matching effectivities have to be 'phone-like' as well. After all, how can a child have the requisite effectivities, without positing that the child has 'phone-like' history of engagement with the banana? The worry is that positing 'phone-like' effectivities would be presupposing what we are trying to explain. To address this worry, a solution is that early forms of interaction with the banana do not have to be 'phone-like' per se. It is enough that the child has a history of playing with the banana and using the banana not in a typical to the child 'banana-like' way (such as eating it). With other contextual factors in place (to be discussed in the next section), 'phone-like' behaviour with the banana can occur.

strongly invite. As mentioned in the last section, there might be affordances and effectivities that stand out because of the cultural engagements. These can be thought of as canonical affordances (Costall, 2012). Such affordances are the first to strongly invite, or solicit action. For example, an animal's cultural practices set up the bananas to canonically afford 'eating', at times of winter, it can set them up for 'storing'. The canonical affordances are independent of the present context, but are shaped by wider socio-cultural context, such as past practices.[108]

Canonical affordances can explain some pretence. One way to think about pretence being canonical is thinking of it as stepping into another practice, such as from 'banana-eating' practice to socially established 'banana-phone game' practice. Being part of such practice would require being enculturated in a 'phone' practice, which would amount to having a certain *know-how* to use the bananas as phones, etc., acquired through, for example, interaction with and exploration of the banana, or imitating others who have used the banana as a phone. Just like narrative practices guiding some pretend play (as discussed in the previous chapter), canonical practices of banana-phone game affect that it is the 'phone' affordances of the banana that are solicited. The 'phone play' invites more strongly because the 'phone' narrative practice is an established practice that forms the play context.

However, the canonical 'banana-phone' practice cannot be the whole story; after all, children play in creative ways, such as playing with a banana that it is a hat or a gun, without entering into an established practice. Do all these pretend play scenarios with a banana amount to canonical practices? If so, then we would have to assume that almost all ways of using a banana in play are canonical to that play. Thus, while it is likely that with respect to banana-phone itself, there is a canon of placing the banana to the ear (as this is the most quoted example of pretence in philosophical and psychological literature), referring to canonical affordance of 'phone' for bananas in play context does not explain how children pretend something else with a banana just as easily.

[108] As Costall (2012) explains, "The concept of "canonical affordances" itself alerts us to those important cases where the affordances of some thing are not simply shared between people but also normatively predefined. Yet the affordance of any artifact is not confined to that object in isolation, but depends on a "constellation" (…) of not only other objects but also events. The affordances of artifacts are not usually self-contained but depend upon a wider context of other artifacts (as in the case of a toolkit) but also upon the encompassing practices in which they go together" (p. 91).

Moreover, acting on pretence affordances often requires stepping away from what one is often or normally solicited to do. Pretence acts are not likely to be canonical acts, because in pretence, one treats an object differently than what it usually (or canonically) affords (banana as 'phone').[109] As Vygotsky (1934/1987) notices, in play, children step away from what objects usually mean and make it into something else. This requires explaining how the child inhibits the primary or canonical solicitations of objects when they do something unusual with the objects in pretence. As typically non-pretence behaviours are solicited, this may require a bypassing mechanism to be in place in order to step away from banana's 'eating' affordance. On the standard story, the 'stepping away' from original meanings is explained by a mental representational mechanism like decoupling (Leslie 1987; see also Chapter 2 section 2).[110] Similarly, one would have to explain how the stepping away from the canonical affordances occurs so that alternative affordances can be acted upon. The worry for the present account is that only mental representational structures have been proposed so far to be able to allow the 'stepping away'. (I will call this the 'stepping away' worry).

There are two ways to address this worry. The first is to argue that canonical affordances need not to be stepped away from, as they do not exist in the first place. There are good reasons to think that there are no special kinds of affordances. It may be a mistake to think of canonical affordances as continuously phenomenally present in the first place. Considering affordances are just possibilities for action, they exist equally; bananas equally are possibilities for grasping, eating or pretend phoning with. As all affordances can be said to be equal, canonical affordances, if they exist, should only be seen as one of many affordances, and not special affordances that often solicit. They are just different possibilities for action one can take, like different paths in a forest; we simply take one path as opposed to another. What this move allows is diffusing the worry of 'stepping away'. As there are no canonical affordances in

[109] Unless they are toys or objects, which primarily afford the pretence play (e.g., toy phone for 'phone' pretence, or bear costume for 'bear' pretence). However, having specified toys is not a requirement for typical object-substitution play found in early pretence engagements of young children, and it does not explain banana-phone game.

[110] The meaning is understood as provided by and stored in mental representational content. This mechanism then 'inhibits' the original content to make space for new content, which is achieved by mentally representing both contents. Leslie speaks of the 'primary representations' and 'pretence representations' as their copies. Alternatively, Nichols and Stich (2000) propose that initial premises with primary representations are manipulated in the Possible World Box to make them fit for pretence. See Chapter 2 section 2 for details.

pretence, no decoupling needs to be done; inhibiting the object's 'original' or 'true' affordance is not necessary, because objects don't have such 'original' or 'true' affordances in the first place.

However, one may insist that some affordances may still be responded to in a stronger way, due to, for example, our personal history of interactions. They may not be canonical to our practices, but are still primary to us. It is possible that from constant exposure to similar types of engagements with objects in similar contexts (routine engagements), objects tend to invite first and foremost a certain kinds of behaviours. For example, we may have a habit of eating bananas for breakfast, and as such, this habit most often drives us to 'eat' the banana, because we find ourselves and bananas most often in an 'breakfast' context.[111] Thus, to get back to the example of taking the pathway in the forest, there are factors that do influence which path we take; often the sunnier and wider path would solicit walking it instead of the dark and narrow one, (unless one knows and has a habit of walking the dark path). Some affordances are the first candidates for solicitation. Clearly, the pretence situations will be less common or unorthodox, so pretence affordances are not likely to solicit.

Thus, even if some form of inhibition of affordances were needed, it is not settled that the inhibiting must it be achieved by a procedure that involves mental representations. We seem to have certain culturally shaped tendencies, and even if these do not form canonical affordances or are in any way set in stone, we may still need to answer how we 'step away' from these tendencies in pretence. Importantly, if 'stepping away' needs to be accounted for, it does not require intellectual choice in the way cognitivists presuppose, whereby one represents the banana as a 'banana' and then has to create a new representation of the banana as a 'phone'. This echoes the problem with characterisation of the phenomena (as discussed in Chapter 2). Unless one buys into the cognitivist characterisation of the phenomena, the story that posits mental representations does not look very attractive here.

The second way to address the 'stepping away' worry is that it can be context (including other people in it) that an individual has found him-/herself in, which shapes which affordances are inviting. The way one interacts with things shapes his/her dispositions such that the pretence affordances become more salient or more

[111] This is not a canonical affordance, but one based solely on individual's history of interactions. For example, to a person who grew up with banana trees outside their windows, banana could afford first and foremost 'decoration', even though 'food' is its canonical affordance.

inviting, and, in turn, solicit further interactions. When affordances solicit, they do so in a context (they are *relevant* to a particular animal in a particular situation). One can say that there is no decontextualized situation where a banana affords 'first and foremost' eating; in the right play context, the banana does not solicit eating at all, but only phoning. It is the context that influences and sets the stage for our various ways of acting on things. To make a comparison, consider an example of being in a situation that involves chairs. On their own, chairs canonically afford sitting on; however, in the context of play, that may not be the action they invite; they will instead invite jumping on or piling up to make a fort. So in the right play context, the chair will not invite what it culturally specifies in the first place. The present context one finds him-/herself in with objects will dynamically bring forth new possibilities for action with those objects.

*b) Other people as part of the context*

Other people can also influence the relevant affordance-effectivity pairs to be acted upon. They enable the 'stepping away' from canonical practices, forming the immediate context where pretence affordances can be inviting.

Chapter 6 has spoken of the role of other people in pretence who directly engage with the individual in interaction; in acting together new forms of actions can emerge. It could be said that other agents form a 'self-world-other' structure, or an animal-environment-other dynamic (Froese and Di Paolo, 2009), where in creating an intersubjective context, they directly affect the actions of the individual through immediate interaction. The mutuality effect of individual player and other players on shaping their pretence is clear.

However, what has not yet been proposed it to speak of other people who are *not* directly engaging in interactions, but are simply in the background, as making an important contribution to the animal's actions on objects in their environments. They can form the actualising circumstances that explain why some affordances, like the pretence ones, are found inviting. For example, the 'phone' action is invited from the matching of the banana's affordances and the player's effectivities; the matching then needs to be done in the right context. Something in the immediate context, as other people, completes an explanation of how pretence actions come about. For example,

one is strongly disposed to play phone with the banana when the circumstances are inviting, and such a disposition is brought forth by mere presence of other people who create playful contexts.

To clarify the role of the others in shaping the animal-environment dynamic, consider an analogy to being vulnerable. McKitrick (2003) discusses how objects like sensors can make a city less vulnerable to an attack, or how the presence of bodyguards can make someone who walks in a park alone (let's call her Joan) feel less vulnerable in a dark park.[112] It is the dynamic between the city and its attackers (not between the city and the sensors) that is changed by the sensors; similarly, it is the dynamic between Joan and the park that is affected by the presence of the bodyguards, not the dynamic between Joan and the bodyguards. Joan is less vulnerable because an entourage of bodyguards surrounds her. She is not less vulnerable with respect to the bodyguards themselves (Joan might be scared of or shy with respect to the bodyguards), but is less vulnerable with respect to her environment, the dark park (where someone could attack her). The mere presence of bodyguards 'switch on' Joan's disposition to be less vulnerable in the park. The point is simply that other people (just as objects) can influence the dynamic between the environmental affordances and animal effectivities without being the focus of that dynamic themselves.

Also, *which particular* individual is in the context makes a great difference to which affordance-effectivity pairs are activated. Consider a case of a basketball player (let us call him Kobe) who has the capacity to slam-dunk the ball during high-profile games. Kobe is very confident and secure with his skill. In normal game context (in the presence of known defenders), the hoop invites slam-dunking (as Kobe likes to establish his superiority over these defenders). However, the presence of one particular defender in a game (let us call him LeBron), who, as Kobe knows, is often successful at blocking Kobe's dunks, affects the hoop as uninviting the dunk to Kobe.

[112] As McKitrick explains, "A military target, a city, is protected by a Star Wars-like defense system. The system has sensors that bring out defenses when there is a threat, rendering the city invulnerable. However, the sensors and anti-craft weapons are all located outside the borders of the city and are built, maintained, and staffed by a foreign country. Should the defense system be disabled, or should the foreign power withdraw its protection, the city would change from being invulnerable to being vulnerable. However, the city may remain intrinsically the same, or internally the same in all ways that are relevant to its vulnerability. (…) Changing a thing's environment can make it vulnerable. By adding the defense system, the city changes with respect to its vulnerability. Walking alone in Central Park at night, Joan would be vulnerable. Accompanied by an entourage of bodyguards, she would be less vulnerable" (*idem,* p. 161).

Mere presence of LeBron could be considered as the relevant change of context that actualises new hoop affordance-Kobe effectivity pair: in the presence of LeBron, the hoop becomes more inviting from afar, inviting shooting three-pointers to Kobe (who also has this skill), but no more dunking in. Importantly, it is not necessarily the hoop itself and Kobe's skills that invites slum-dunking (what I called affordance-effectivity pair), it is the additional presence of any defender but LeBron (context).

Similarly, the mere presence of others can drive pretend 'phone' play with a banana. Others influence the context in which the children play, making the context playful. For example, the parents of a child interacting with a banana could make the child's acting on 'phone' affordances more likely by smiling and approving the various ways the child explores the banana. Playing with a banana is certainly not afforded when they parents look angry or seem disapproving.

To conclude this section, calling on other people in the immediate context of play is just one possible way to explain why certain affordance-effectivity pairs strongly invite and drive our actions. This is not the only way to step away from one practice to another; we respond to affordances all the time and so we could switch about even without the presence of others, but due to some new occurrence in our contexts. Also, we may change our moods or attitudes about what practice we take ourselves to be in, and that change could bring about different affordances as inviting as well.[113] Yet, the fact that factors that are not individual's concerns, moods, intentions or explicit choices can also affect the context to be playful needs to be stressed. Such factors are, for instance, other people. They are the ones to make the darker path in the forest inviting; not only if they go with us (and participate in the activity), but also if they watch our backs from afar (and shape the context we interact in). Elaborating on exactly when these factors do the relevant explanatory work, and to what extent they alone or together explain pretence, requires looking at specific acts of pretence of specific individuals.

[113] For example, moods or 'current concerns' (Bruineberg and Rietveld, 2014) could be referred to in shaping the playful context. They are also likely to affect which affordances present themselves as inviting. For example, they determine the perception of the amount of effort that would have to be put by the agent to act on the affordance. In a situation of having to go to the top floor of a building, an agent feeling lazy would feel no inclination to climb a steep staircase if the lift was also present. However, if an agent is feeing active and seeks a challenge or an exercise, such steep staircase would solicit climbing. In the example of taking a path in a forest, a current melancholic mood may bring out the darker path as inviting to an agent who would not otherwise find this path inviting. To refer to the play context, the child must be in the right playful mood to find the banana inviting 'phone' play.

*7.4 Addressing final worries*

This section addresses final worries that cognitivists may raise with this explanatory story of basic acts of pretence.

The first worry may be that the affordance-based story does not clearly explain why a specific pretence action (like banana-phone play) is taking place. For example, the 'pickupability' affordance of a banana only *affords* lifting the banana and placing to one's ear, but does not yet *exclusively* guide to play 'phone' with. Banana could invite numerous things still, such as 'playing that it is whispering to me', or 'playing that it is a radio'. Cognitivists attribute to mental representations the role of determining that the play is in the end 'phone play': there seems to be a need for *content* to specify why my action is *this* action.

To address this worry, this chapter has shown that an affordance-based story involves many different factors such as environmental correspondences, animal flexibility or presence of other people. Specifically, the child's inherent flexibility as well as training (possibly through exploration of objects during intersubjective engagements) can explain how the child can do something else with a banana than what it usually solicits. These factors taken together are sufficient to explain acts of basic pretence. However, it is not necessary for them to be all taking place at the same time. To explain banana-phone pretence of a particular individual, the relevant factors that could be playing the role are: objective correspondences between bananas and phones (their shape and size), matched with relevant capacities of the agent (based on past interactions with bananas and phones), and situated in a context of playfulness shaped by other people (encouragement to explore and toy with the objects). Then, the bodily engagement of the subject with the banana (such as holding it in a hand and bending an elbow) explain why we play 'phone this particular way', by bringing the banana to the ear. These factors can explain why it is particularly 'phone' play that the banana solicits to one particular child, at a particular play moment. In other play contexts, the roles could be played by other factors or by the same factors to a greater or lesser extent.

The second worry is that affordances just invite, but not cause action. Speaking of affordances inviting actions is not an explanation of what *causes* our actions, causation understood in a rigid way. We can still stop ourselves from acting

even on most strongly inviting affordances. For example, Koby could still decide to try a slum dunk on LeBron; presence of LeBron does not always *cause* Koby to shy away from slum-dunking, even if in the presence of LeBron the hoop does not particularly invite such action to Kobe. To address this worry, indeed it must be clarified that affordances are not mechanical causes in the strict sense. In fact, traditionally, affordances are not efficient causes at all, as they do not make us do things (Gibson 1979, Costall 2012), even though some affordance theorists claim that they phenomenologically 'move us' (Bruineberg and Rietverd, 2014). It is clear that we do not *have* to take up invitations. It is possible to decline, refuse or 'block' an invitation. We still need to distinguish between solicitations that we accept and the ones that we do not. We might be refusing one solicitation because we find another one more compelling, or because we can control it purposefully.

To that worry, it might be said that the difference between being invited by affordances to action and being moved by affordances to action has to do with what level of explanation, or what kind of mechanism, we speak of. The wide and situated mechanism, on par with the types of mechanisms proposed by cognitivists as described in Chapter 2, reflect the 'algorithmic level' explanation as proposed by Marr (1982). Hence, a further explanation of what makes one literally 'move' to action could still be provided; that would be an explanation of the 'physical level'. The present account does not propose the right kind of explanatory mechanism needed to explain what causes pretence on the physical level. Indeed, one may have to go deeper into the workings of the human body, including the human brain, to propose such causal explanations. For example, Bruineberg and Rietveld (2014) propose to explain how affordances 'move' us by referring to action readiness potentials of the human brain. Hence, should a further explanation of the 'deeper' causes of pretence behaviours be necessary, the enactive account is open to accommodate a variety of neuroscientific findings.

The final worry is that, for all that has been said, diehard cognitivists might still object to the alternative developed here in the following way: the affordance-based account described covertly relies on mental representations. For it makes free use of notions such as absence, recognition, resemblance, imitating, memory, traces, concepts, know-hows or goals (intentions) in its explanations, and these cognitive phenomena, in the end, require mental representations. Analysing pretence requires a

range of capacities supported by mental representations to be in place, and if these require mental representations, so does pretence in the end (like a house of cards, built on mental-representational scaffold).

To respond to this objection, it must be admitted that in a lot of available literature these concepts are defined representationally, although rarely is positing of mental representations to explain these concepts justified. While it has been suggested how to deal with the notion of 'seeing resemblances' and 'acting in absences' (Chapter 5) as well as with 'recognising' the situation as playful (Chapter 6), many other notions that may be seen as covertly representational were left alone. It is beyond the scope of this thesis to demonstrate that an understanding of each of these phenomena does not, on close analysis, require positing mental representations. It will have to suffice, for now, to note that non-mental representational accounts of these phenomena are being actively developed, e.g.,: the sensorimotor account of *presence in absence* (Noë, 2004), imitating as a tool of mindshaping (Zawidzki, 2013), concepts as abilities (Noë, 2015), or the extensive account of memory (Myin and Zahidi, 2014). In the light of these new developments it cannot be safely assumed that the standard cognitivist accounts of the mental phenomena mentioned above will turn out to be best characterised in mental representational terms.

*Conclusion*

This chapter has shown that an affordance-based story can be provided to explain basic engagements in pretend play. The story involves objects, animals, and context (where we find other people) that make it dynamic.

In bringing about the right pretence solicitations for action, what does the filtering of affordances are the animal effectivities. We are not responsive to all of the possibilities for action that the world affords. Some affordances can invite behaviours. However, they only do so when they are matched with the right effectivities. To understand why an animal finds some affordances inviting requires understanding how features of the item and the animal's dispositions have become mutually connected. The animal both creates and responds to the solicitation; in that sense, the explanation involving solicitations is dynamic.

It should now be clear that there is a possible way of understanding the mutuality of affordances and effectivities without having to posit mental representations. The objects afford many ways of acting upon them; they remain flexible enough to allow variety of interactions. However, objects can also potentially invite specific behaviours, when relevant agential factors, or effectivities, are in play. Importantly, the agent does not have to 'control' what gets solicited; it is the relationship between individual dispositions of the animal and engagement with the environment that can solicit new pretence action, especially when contextual factors contribute to determining which possibilities for actions are found inviting.

It should now also be clear what role intersubjective engagements play, among other contextual factors, in shaping pretence. Once we recognise the need for affordance-effectivity mutuality in dynamically bringing forth, or inviting, responses, we can accept that the relevant explanatory work is done by multiple agential, environmental and social factors. What filters the affordance-effectivity pairs is the context. To explain why specific affordance-effectivity pair is acted upon, we can refer not only to the canonical practices with objects or right moods of the subjects, but also to the intersubjective context, where other people can influence the way certain actions strongly invite, and potentially drive, behaviours.

It is convincing that objects and others play a part in the larger dynamics. If dynamical systems turn out to be mechanisms (*ala* Chapter 3), than this can be construed as a 'wide mechanism': both animals and environments (or objects in it) are likely to form component parts in the overall wide (involving other people) and situated (in a context) mechanism of pretence, which explains why pretence takes place. If not, the dynamical features are still the ones to focus on, and in the best case, might explain pretence in a non-mechanical way. These considerations reveal how understanding the dynamics of interactions and the involvement of others in such dynamics can adequately do the relevant explanatory work of understanding the cognitive basis of pretence without having to posit any mental representational mechanisms.

Overall, this thesis has argued that the affordance-based explanations of cognitive phenomena can be used by the enactivists to explain basic pretending like banana-phone pretend play, without the need to posit mental representations. The affordance-based story is complex, more complex than cognitivist story that only

posits mental representations: it introduces many different factors such as environmental affordances, animal effectivities and contextual factors, all of which are in need of further explication and development. While more work needs to be done to secure that the enactive explanation (positing affordances as explanatory tools) is the best explanation of pretence, the initial sketch provided in this thesis is certainly a viable alternative to the cognitivist proposals. Also, the enactive framework is so far only applied to explaining early forms of pretence. More work is needed to show whether or not it can scale up to explaining more complex pretence of older children and adults. This thesis sets the stage for scaling up the enactivist framework to include more complex pretence. Importantly, this thesis is nontrivial as with the possibility proof that pretence can be explained without positing mental representations, the thesis opens the door to further research on enactive, dynamical and intersubjective explanations of cognitive phenomena, as well as to research on pretending, imagining and make-belief. The promise and impact of the enactive account of pretence are high, and its application has already been shown in therapy (see Rucinska and Reijmers, 2014, 2015).

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